ECO-NUCLEAR PUBLICITY:

A COMPARATIVE STUDY IN FLORIDA AND SCOTLAND

by

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ABSTRACT

This comparative study of the corporate public relations strategies of the nuclear industry in the U.S. and Britain, specifically of Florida Power & Light (FP&L) in Florida and Scottish Nuclear Limited (SNL) in Scotland, examines the use of visitor centres and environmental messages as key components of advocational campaigns designed to influence public opinion and shape public policy in favour of a pro-nuclear agenda.

The study would seem to confirm other research that draws a direct relationship between the function of public relations in an organisation and the degree of input by public relations into corporate policy-making. Moreover, the data also suggest that, given a prominent role within an organisation, public relations can and does develop strategies and programmes to pro-actively manage emerging strategic public policy issues in direct support of organisational objectives

Such programmes, as the study reveals, have been designed specifically around visitor centres as communication vehicles for corporate pro-nuclear messages, carried directly to key publics without gatekeeping by the mass media. Moreover, it would appear that the nuclear industry has been intentionally 'greening' its corporate messages so as to capitalise upon the public's growing concern about the environment. The study also suggests that the nuclear industry is using such centres, as well as newer, emerging advocational initiatives, in a fully promotional sense to circulate and thereby enhance the reputation of the industry.

A comparative analysis of corporate nuclear public relations in the U.S. and Britain suggests a 'cross-national' exchange of intelligence, and in some respects, an outright collusion of efforts. Moreover, it would seem that there exists a further government-industry alliance both within the U.S. and Britain as well as trans-Atlantically. This alliance represents a convergence of government and industry interests in the development of nuclear energy for military and civilian purposes, and further illustrates earlier research of collusion among political-economic elites and the over representation of corporate interests at the expense of unorganised public interests in the government decision-making process.

Finally, the study argues that upcoming public policy decisions on the future of nuclear power in each country will be a measure of the effectiveness of pro-nuclear campaigning in achieving its objectives. The public debate on nuclear power will represent a genuine test of the relative health of democracy in both the U.S. and Britain, nation-states in which, military-industry-government interests mostly have had their way as it has concerned nuclear energy.

Chapter One

INTRODUCTION

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(i) Introduction

In the wake of Three-Mile Island and Chernobyl, perhaps no other industry has had a more troubled history in recent years than that of nuclear power. And yet, despite such disasters, not to mention scores of less dramatic, more localised incidents, the industry, particularly in the U.S. and in the U.K., instead of folding its proverbial tent and slipping away quietly into the night, has counted its losses, regrouped its forces and mounted a pro-active campaign to sell nuclear power to its key publics.

The campaign, conceived, designed and directed by the industry's corporate public relations managers, is a classic exercise in issues management albeit with two extraordinary twists. Firstly, the approach, instead of being strictly one of hard-nosed advocacy, has incorporated elements of public education campaigns, and, as such, can be considered uniquely 'advocational' in design. Secondly, and more important, the industry has increasingly wrapped itself in an 'eco-nuclear' mantle, distinctly promoting nuclear power as an 'environmentally-friendly' energy source. The 'eco-nuclear' message represents a significant new interpretive package in addition to those suggested by Gamson and Modigliani (1989) and Corner (1990a,b), and, as such, frames the nuclear power issue in terms of a societal commitment to environmental stewardship. Certain stakeholders - those publics which have a vested interest in or which are affected indirectly by the actions of a particular organisation - however, label such packaging as 'greenwashing', or 'eco-flim flam'. Various environmentalists, in particular, consider nuclear power to be neither clean, green nor friendly. The advocational approach is an attempt to soft-sell the industry by using a variety of educational-style media, such as visitor centres and speakers' bureaux, to provide the public with information on nuclear power. Moreover, by incorporating and highlighting environmental themes into such media, the industry wishes to capitalise on growing public concern for the environment and build grassroots support for its public affairs efforts.

These initiatives to create a favourable political and financial climate are being conducted with a distinct sense of urgency by the industry in the U.S. and in the U.K. The British Government has announced its intention to formally review the future of nuclear energy in 1994, and the U.S. nuclear industry is urging approval by the U.S. Nuclear Regulatory Commission of a standardised design for future plants by the mid-1990s, with Florida rumoured as the site of the next nuclear station, the first that would be built in the U.S. since 1978.

These corporate efforts, ultimately aimed at positively shaping public policy decisions in favour of the nuclear agenda, are having some measured success in influencing the opinion of certain key publics. With the blessing of the Bush Administration and the Nuclear Regulatory Commission, the industry in the U.S. won Congressional approval of one-step licensing of new nuclear plants in

1992. All Florida members of both the House of Representatives and of the Senate voted in favour of the legislation. This streamlining of the regulatory process will speed up the approval of future stations by requiring only one permit for the construction and operation of a station; two separate permits, one for construction and a second for operation, were required previously and each granted at a public hearing. However, such streamlining will come at the expense of public debate as it reduces the number of public hearings from two to one. The industry says that such streamlining will reduce the costs of building new stations; critics argue, however, that such manoeuvres are designed to stifle public opposition.

The sample corporate groups selected for this study are Florida Power & Light (FP&L), the principal subsidiary of FPL Group, Inc., headquartered in Juno Beach, Florida, and Scottish Nuclear Limited (SNL), headquartered in East Kilbride, a town just outside Glasgow, Scotland. The two companies differ in certain respects - FP&L is an investor-owned electric utility, one of the largest in the U.S., operating coal, natural gas and oil-fired power stations in addition to its two nuclear stations, which together constitute about one-quarter of the company's electricity generation. SNL, on other hand, while vested as an independent company on 31 March, 1990, is owned by the British Government. SNL generates electricity solely by nuclear power supplied through commercial contracts to two investor-owned firms, Scottish Power PLC and Scottish Hydro-Electric PLC, both of which were privatised in 1990.

Nevertheless, for purposes of comparison, both companies and regions are similar in size of service area as well as the nature and extent of nuclear operations. The U.S., for example, now derives 21 percent of its electricity from nuclear power while the U.K. derives 20 percent from nuclear. On the other hand, while Florida derives some 14 percent of its electricity from nuclear, more than 50 percent of Scottish electricity is nuclear generated. FP&L serves approximately 3.2 million customers, or more than 6 million people, representing half the population of Florida and has a service area of some 27,650 square miles in all or part of 35 counties. SNL, in turn, provides electricity to a country of just over 5 million people and has a service area of some 30,400 square miles.

As for its nuclear operations, FP&L employs 1,700 employees at its two nuclear sites, Turkey Point and St. Lucie, each of which has two Pressurised Water Reactors or PWRs. The Turkey Point station (see Figure 1), located 24 miles south of Miami, can generate up to 1,332 megawatts of electricity annually while the St. Lucie station (see Figure 2), located on Hutchinson Island about 8 miles southeast of Ft. Pierce, can generate 1,678 megawatts.

SNL operates two nuclear power stations, Hunterston and Torness, which employ approximately 1,850 people. Each station has two nuclear reactors which are Advanced Gas Reactors or AGRs. The Hunterston station (see Figure 3), located about 35 miles southwest of Glasgow, can generate 1,150 megawatts

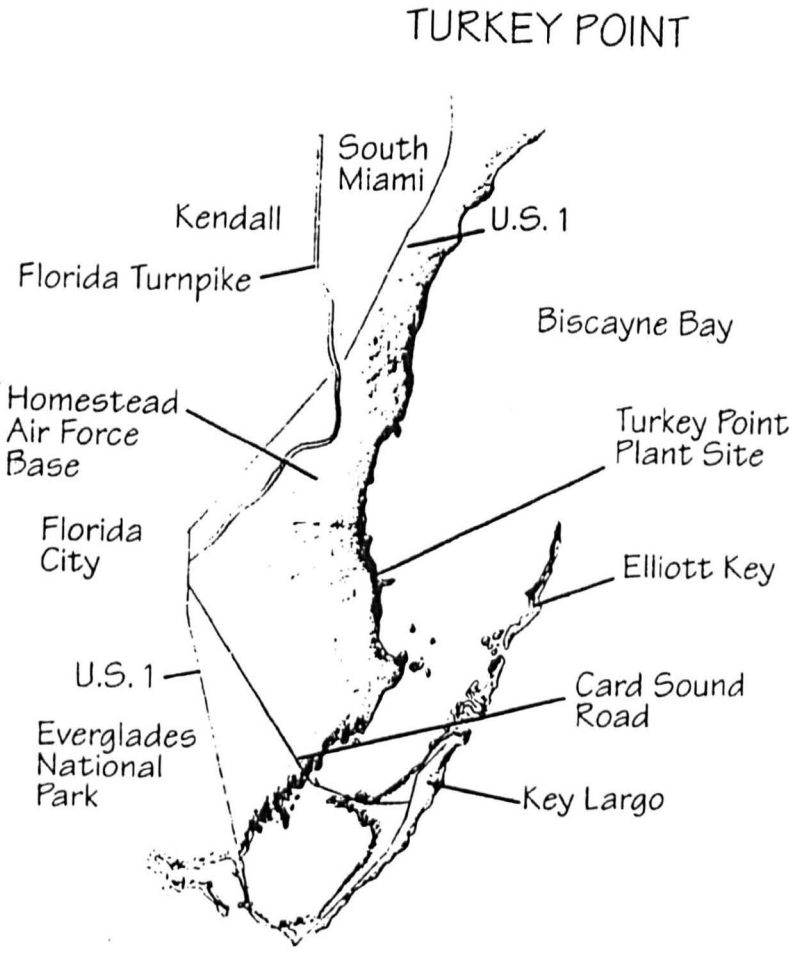
of electricity annually, while Torness (see Figure 4), located on the East Lothian coast 35 miles from Edinburgh, can generate some 1,250 megawatts.

The reactors of FP&L at St. Lucie and those of SNL at Hunterston and Torness are comparable in age while the FP&L reactors at Turkey Point are the oldest of all. The two St. Lucie reactors began operation in 1976 and 1983 while Hunterston was commissioned in 1976 and the two reactors at Torness activated in 1988; the reactors at Turkey Point, however, began operations in 1972 and 1973 respectively. Technically speaking, while FP&L and SNL reactors differ in design, all of them use sea water as an integral part of their reactors' tertiary cooling system - hence the location of each station near a large body of water. Sea water is used for cooling radiated station components, particularly the condenser, thus avoiding the need for large cooling towers onsite. Sea water, drawn into each station from intake pipes located distantly offshore, is circulated through the condenser and then returned in a heated condition to the sea through various outtake pipes. Such discharges from both the Torness and St. Lucie stations are of particular interest to environmentalists inasmuch as the stations are located in biologically diverse areas rich in marine, bird and other wildlife.

This thesis proposes a comparative study of the corporate public relations strategies of the nuclear industry in the U.S. and the U.K. with specific regard to the use of visitor centres and environmental messages as key components of an advocational campaign targeting select publics. A textual analysis of corporate media will examine the various strategies, tactics and messages employed as well as the publics targeted by such media.

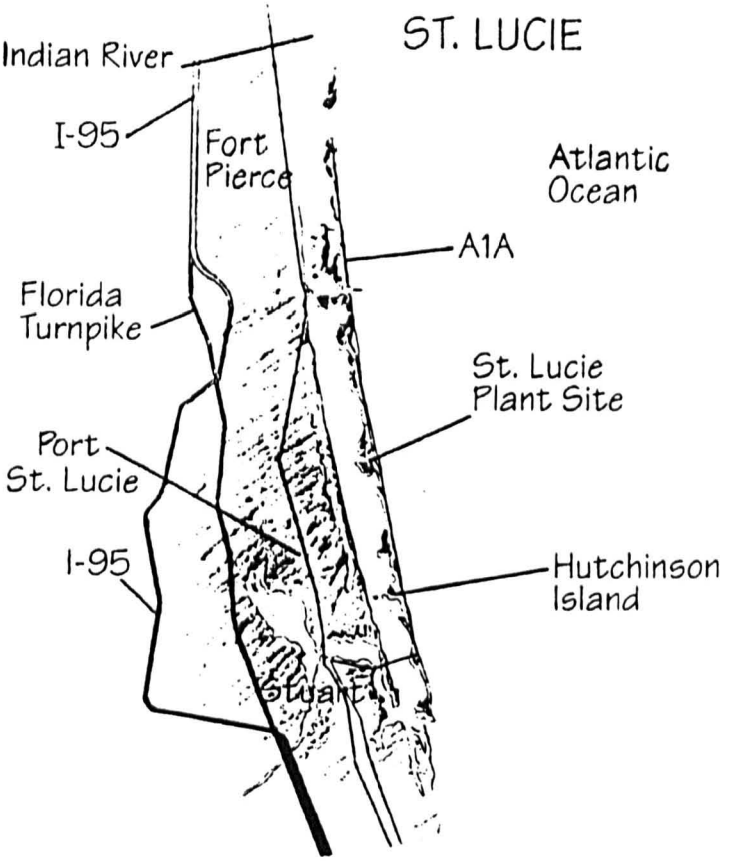
Specifically, this study has a three-fold purpose: 1) to examine the role of corporate public relations in the nuclear industry in the U.S. and U.K. as it relates to the issues management process, 2) to examine the use of visitor centres as an integral part of advocational campaigns and strategic public relations planning in the industry, and 3) to analyze the use of environmental messages in such campaigns.

Figure 1 Turkey Point



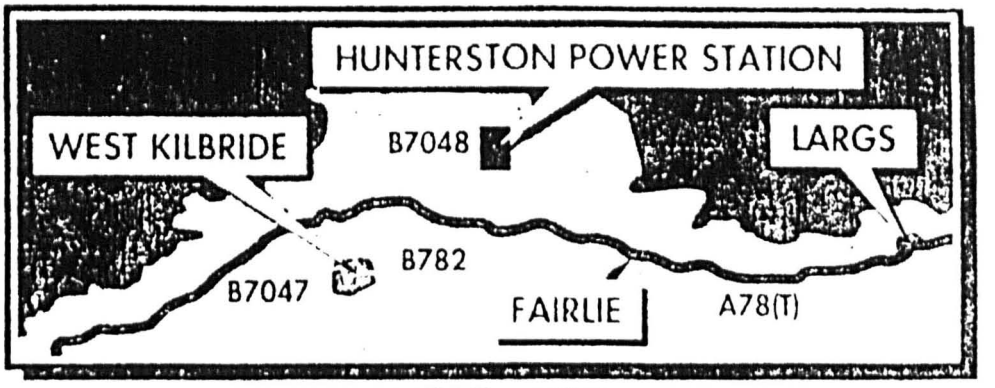
Florida Power and Light, FPL Nuclear Notebook, 1990.

Figure 2 St. Lucie



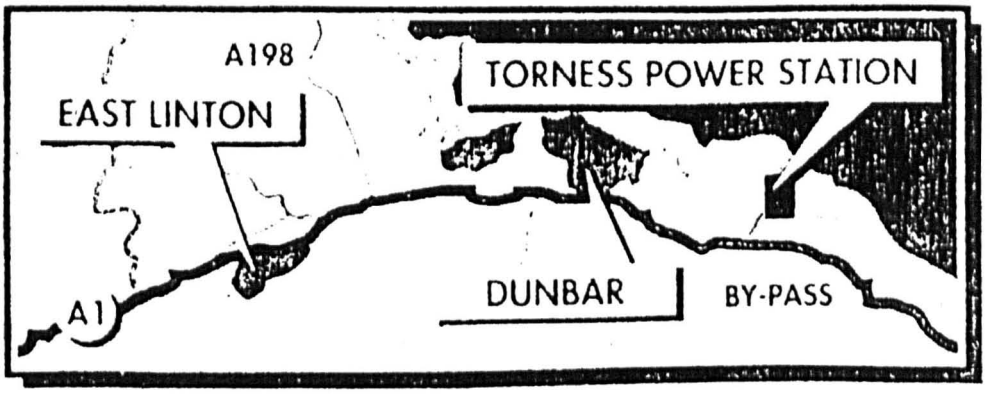
Florida Power and Light, FPL Nuclear Notebook, 1990.

Figure 3 Hunterston



Scottish Nuclear Limited, Scottish Nuclear Come & See Programme , 1991.

Figure 4 Torness



Scottish Nuclear Limited, Scottish Nuclear Come & See Programme, 1991.

(ii) Nuclear Energy: From Inception to World War II

To fully understand the present-day nuclear industry in the U.S. and the U.K., and specifically FP&L and SNL, it is necessary to examine the history of the development of nuclear energy on both sides of the Atlantic. It is a history that underscores the inextricable links between government and industry, government and the scientific community, and military and civilian sectors, and that illustrates the early formation of many current nuclear issues-related messages both pro and con.

The nation-state, in particular the U.S. and the U.K., gave birth to nuclear energy; indeed, no nuclear programme has ever been implemented in the world without the support of the state (Ince, 1988). Moreover, in parenting the technology, the state has created 'Siamese twin' offspring (Erskine and Webber, 1988:73) - civil nuclear power and nuclear weapons. Indeed, the technical process is such that natural uranium as it is mined contains such a low concentration of U-235, the only element that is fissionable, that it must be enriched through a complex chemical and physical process in order to efficiently sustain a fission chain reaction and create usable energy. The enrichment process produces both commercial-grade fuel for nuclear reactors and military-grade fuel for weapons; the degree of enrichment determines the nature of the fuel. But while fuel for both civil and military purposes can and often is manufactured simultaneously, the first nuclear production facilities in the U.S. and U.K. were built to make weapons-grade material for bombs. It was not until after World War II that nuclear power was generated from these same facilities, again under the auspices and direction of the national government. Moreover, post-war U.S. and U.K. 'military and foreign policies required the manufacture of plutonium and a civil programme was needed for this purpose' essentially to mask a 'highly secret decision-making system' (Boehmer-Christiansen, 1990:832). Existing nuclear power systems such as the British Magnox and the U.S. Pressurised Water Reactor were designed for military purposes - to produce plutonium for bombs and submarine propulsion respectively. As Colin Sweet (1990) notes:

> 'From its inception nuclear power was integrated with government at a level higher than that accorded to any other industry. The public interest was placed largely in the hands of state institutions, performing various regulatory roles. The state's involvement has been pervasive.' (1990:408)

It is such official sponsorship that makes full and meaningful public debate over nuclear issues in democratic and pluralistic societies difficult at best, and, more often, impossible.

The atomic age was ushered in by British scientists and British-Government-sponsored scientists who played an important role in unlocking the secrets of the atom in the late nineteenth and early twentieth centuries. Following John Dalton who established the atom hypothesis in the early 1800s, J.J. Thomson in England discovered the electron toward the end of the century. In 1911, Ernest Rutherford, who had come from New Zealand to the Cavendish Laboratory at Cambridge, proposed his nuclear theory of the atom. Later, James Chadwick, also at Cambridge, discovered the neutron, the very centre of the atom, in 1932.

Scientists in other countries working on related experiments, notably the U.S., Germany, France and Sweden, soon reported that bombarding the element uranium with neutrons fissioned the nucleus and released vast amounts of energy. According to some historians, such experiments, particularly those in the U.S., U.K. and France, were pursued in order to develop nuclear power rather than bombs (Gowing, 1987). Indeed, the dual nature of atomic energy - for the benefit or the destruction of mankind - had been presented earlier by Rutherford's English colleague, Frederick Soddy and by others. During a public lecture at Glasgow in 1908 Soddy depicted 'a smiling Garden of Eden' (perhaps the first 'eco-nuclear' reference) as well as a living hell on Earth. In The World Set Free, a 1913 novel dedicated to Soddy, H.G. Wells forecast the use of atomic energy first for industrial purposes and then for bombs in a war against Germany (Gowing, 1987:6-7). If scientific and governmental interest in the U.S. and U.K. was initially directed toward developing nuclear power for civilian purposes such as electric power and ship propulsion, nevertheless the focus of subsequent experiments and political discussions was soon changed to military applications by the rush of events in pre-World War II Europe. As Gowing notes, 'civilian power reactors might have preceded military plutonium reactors if the crucial discoveries had occurred in a disarmament era like the 1920s' (Gowing, 1987:6).

Indeed, the military implications of nuclear experiments were not lost on nations headed toward war. Hungarian physicist Leo Szilard, a refugee in London, had patented his work on the creation of nuclear chain reactions for bombs in 1934 and then assigned it to the British Admiralty for 'safe-keeping'. British physicist George Thomson, son of J.J. Thomson, also began research on fission for bombs at Imperial College in London and suggested the British Government begin stockpiling uranium to the detriment of Nazi Germany. In the summer of 1939, upon the recommendation of a select group of British physicists, the Air Ministry's Scientific Survey of Air Warfare assumed responsibility for exploring the uranium fission process. Soon after that session, Einstein, at the prompting of Szilard, wrote to President Franklin Roosevelt urging accelerated U.S. experiments on uranium fission. An advisory committee was established to study the process with possible applications by the Navy for ship propulsion. U.S. and U.K. nuclear collaboration had begun.

Finally, in early 1940, a report by refugee Austrian physicists Rodolf Peierls and Otto Frisch, both working at Birmingham University, outlined the devastating effects of nuclear bombs and the work of Germany on such technology and suggested that the U.K. develop the weapon as a deterrent to nuclear war. The report led directly to the creation of the Maud Committee, a group of eminent British physicists who began work on building neutron reactors to produce plutonium for bombs with the endorsement of only a small circle of Cabinet ministers and to the exclusion of the Labour members of Cabinet. More important, it was from such early work as this that Britain developed a concept of itself as a nuclear power, 'realizing that the atomic bomb would be the key to post-war national power' (Gowing, 1987:17).

The Maud Report also prompted the U.S. to establish the Manhattan Project, an ultra secret mission to develop the world's first atomic bomb which was conducted by an elite group of American and British scientists, led by J. Robert Oppenheimer and James Chadwick, on a remote mesa in the desert at Los Alamos near Sante Fe, New Mexico. The Quebec Agreement of 1943, signed by Churchill and Roosevelt, led to this collaboration as well as joint exploration and purchase of uranium supplies. Following the Agreement, Britain closed down its nuclear research projects, and its scientists emigrated to the U.S. Less than two years later, in 1945, a plutonium device was successfully detonated at the White Sands testing grounds. In tandem with Los Alamos, production facilities were established at Oak Ridge, Tennessee, to process and enrich uranium for weapons-grade fuel. Oak Ridge soon became Tennessee's fifth largest city, enclosed within a guarded fence; at peak production, the 'secret city used 20 percent more power than New York City' (Thompson, 1992:54). Los Alamos similarly 'became a boom town, albeit a secret one, complete with shoddily constructed housing' (Smithsonian, 1991:102).

Shortly following the Los Alamos explosion, the British Government set up in secret an Atomic Energy Research Establishment at Harwell and a production headquarters at Risley under the direction of the Ministry of Supply. Work was begun in January 1946 by an organisation, later to become the United Kingdom Atomic Energy Authority (UKAEA), to produce fissile materials and, eventually, a British bomb. Most British scientists who had worked on the Manhattan project returned after the war and began work on the nuclear project in Britain. The Atomic Energy Act of 1946 gave the Government control over the use and development of atomic energy in Britain.

(iii) Nuclear Energy: The Post-World War II Era

The decision by the British to create an independent nuclear deterrent was spurred on by several considerations. First, the U.S. passed the MacMahon Act in 1946, which made it illegal to provide classified atomic information to any

foreign country, including Britain. It was not until 1958 with the Anglo-American Military Bilateral Agreement that U.S.- U.K. nuclear collaboration was again permitted, at the express exclusion, however, of all other European allies, in particular France. It has been suggested that the temporary rupture in U.S.- U.K. nuclear relations was due to the fact that Britain had no lobby for its nuclear interests in Washington and that the U.S. Congress disapproved of the Attlee Labour government as a Socialist successor to the Churchill coalition government. In the interim, Britain did maintain certain nuclear ties with the U.S., in assisting with uranium procurement through its influence with governments that controlled such supplies. In the light of postwar isolation from U.S. nuclear technology, Britain then resolved to develop its own military programme, a step that was in keeping with a national sense of pride and hunger for status as a world power. Through nuclear weapons, it was argued, Britain could retain great power status and also manifest its scientific and technological prowess.

Meanwhile, the U.S. forged ahead separately with its nuclear programme, quickly surpassing Britain in the development of new military nuclear technology, including a hydrogen bomb at Oak Ridge and a string of 17 nuclear weapons facilities. Britain, in turn, launched its own programme, building a series of atomic factories at Springfields, Windscale and Capenhurst to produce enriched uranium for bombs and, then, detonated the country's first nuclear weapon in October 1952 off the west coast of Australia. Britain's military requirements for additional plutonium supplies provided the impetus in 1953 for building more reactors like those at Windscale. Thus was born Calder Hall, the world's first nuclear station to feed electricity into a national grid, and the fast breeder reactor programme at Dounreay, Scotland. Officially opened by the Queen in October 1956, Calder Hall served the dual purpose of producing plutonium for bombs and generating electricity for commercial use. While its primary purpose was to produce plutonium, however, the electricity generated as a by-product enabled the British government to present Calder Hall with a pro-civilian 'Atoms for Peace' slogan, which served to conceal its essentially military purpose.

Calder Hall was the culmination of work performed by a team of scientists from Harwell and Risley under the direction of Christopher Hinton, who was to become the first chairman of the Central Electricity Generating Board in 1957. Construction of a reactor at Dounreay that could actually breed its own uranium - an apparent solution to scarce and expensive supplies of the fuel - began in 1955 followed by operations in late 1959. Dounreay was to continue to play an important role in the nuclear power industry, first as a source of electricity for Scotland and, more, recently, as one of two proposed sites as a national repository for radioactive waste.

Calder Hall was a year ahead of its U.S. counterpart, Shippingport, the first civil American power reactor, which began operations in Massachusetts in

1957. Shippingport was a Pressurised Water Reactor, similar to one used in the U.S.'s first nuclear submarine, Nautilus, in 1954. Both were creations of Admiral Rickover, the father of America's nuclear navy, and derived from ideas first proposed to the Navy prior to Pearl Harbour by Enrico Fermi, an associate of Szilard. But the critical difference between Shippingport and Calder Hall was that Shippingport was a solely commercial reactor, and so its technical secrets could be declassified and, in fact, sold to the world. Westinghouse, which designed and built the PWR, began to aggressively market it through technical seminars for engineers throughout the world. Eventually, Westinghouse, and other companies using Westinghouse designs, were to build PWRs throughout the Western and Third World, including most notably, Three-Mile Island in Pennsylvania, Turkey Point and St. Lucie in Florida, and Sizewell 'B' in Scotland.

The foundation for Westinghouse's marketing efforts had been prepared earlier by the Eisenhower Administration. President Dwight D. Eisenhower, in his 'atoms for peace' speech at the United Nations on 3 December 1953, promised to make U.S. nuclear technology available to an international agency so that peaceful uses of nuclear energy could be developed globally. Less than two years later, in 1955, the Geneva Conference on the Peaceful Uses of Atomic Energy encouraged developed and developing nations to adopt nuclear power, preferably American reactors. By sharing its nuclear blessings with the world, America not only developed a national industry, but also, as some suggest (Gamson and Modigliani, 1989; Boyer, 1985), helped to soothe a guilty conscience over its destructive use of the atom on Hiroshima and Nagasaki. Now, at last, thanks to good American know-how, the atom had become 'friendly'.

During the construction of Calder Hall, the British Government began efforts to transfer atomic energy from the Ministry of Supply to a non-departmental organisation that, nevertheless, would remain firmly controlled by the Government. These efforts led to the 1954 Atomic Energy Authority Act establishing the United Kingdom Atomic Energy Authority (UKAEA), a body responsible to Parliament for finance and policy matters but free to carry out its own administration. The UKAEA, which assumed control of Britain's atomic factories and nuclear research facilities, was controlled by an Atomic Energy Executive, one of whose members included Sir Christopher Hinton.

A few months later, the UKAEA announced its plans for Britain's first nuclear power programme. Twelve nuclear stations, based on the Magnox design of Calder Hall, would be built, including reactors at Sizewell, Hinkley Point, and Hunterston (all later designated 'A') and at Chapelcross in Dumfriesshire, Scotland. The Chapelcross reactor, and a second one at Calder Hall, were built specifically for the purpose of producing plutonium and tritium for nuclear weapons (Edwards, 1986; Ince, 1988) while, as with the original Calder Hall reactor, also generating electricity for the national grid.

Several governmental bodies were established in the mid-1950s to own and operate Britain's commercial power plants - the Central Electricity Generating Board (CEGB) in England and Wales, the South of Scotland Electricity Board (SSEB), North of Scotland Hydro-Electric Board, and the Northern Ireland Electricity Service. In 1964 the SSEB brought the Hunterston 'A' nuclear reactor into operation with the blessing of The Queen Mother, who officially opened the station. The UKAEA, however, retained control of its nuclear reactor at Dounreay. That same year, the UKAEA announced the second stage of its nuclear power programme based upon the Advanced Gas-Cooled Reactor (AGR). The first two AGR stations, Hinkley Point 'B' and Hunterston 'B', began operations in 1976, and more recently, Torness in 1988.

The post-war 1950s and 60s also saw the development of the nuclear industry in the U.S., and particularly in Florida. In 1950 Florida Power & Light emerged from the shadow of its parent company, American Power & Light, where it had operated as a subsidiary since incorporation in 1925, and began business as a wholly separate publicly-traded enterprise. The move coincided with the growth of Florida in the early 1950s as major industries began relocating to the state, attracted by the efforts of state government and business leaders, and prompted by the decision by the federal government to build the U.S. spaceport at Cape Canaveral on Florida's east coast. By 1960, Florida was the tenth most populous state in the U.S., and much of the growth was directly due to the spaceport's operations. FP&L supplied power to the Cape, eventually helping to put a man on the moon. FP&L today continues to operate gas and oil-fired stations at the Cape supplying the power needs of the U.S. space programme. In 1965 FP&L announced plans to build Florida's first nuclear power station at Turkey Point; the first of two reactors began operations in 1972.

During the same era, the state of Florida extended the jurisdiction of its Florida Public Service Commission (FPSC) to include regulation of electric (1951), gas (1953) and water (1959) investor-owned utilities. The Commission, consisting at that time of three commissioners elected in statewide elections, was given the responsibility of assuring public safety, adequate service and just, reasonable and sufficient rates. As such, the FPSC sets rates, makes rules governing utility operations, decides complaints and issues written orders similar to court orders, and enforces state laws affecting the utility industry. In 1978 the state Legislature voted to change the commission to a five-member appointed board with nominees selected by a nominating council, appointed by the governor, and confirmed to four-year terms by the Florida Senate. In 1989 the Legislature voted to extend the FPSC's regulatory authority until 1999.

Nationally, the U.S. Atomic Energy Commission, which was succeeded in 1975 by the Nuclear Regulatory Commission, was responsible for ensuring the safety of civilian power reactors, many of which were built in the 1960s alongside FP&L's Turkey Point. It was an era filled with promises by nuclear power

companies of electricity 'too cheap to metre'.

During this time, in 1966, the U.S. opened its first commercial reprocessing station for fuel (à la Windscale, now known as Sellafield) in Ashford, New York. The purpose of the site, owned by W.R. Grace Company, was to extract uranium and plutonium from used, or 'spent', fuel of nuclear power stations. Heavily subsidised by the state and federal government - state taxpayers paid about a quarter of the station's projected construction costs - the station was promoted as a 'techno-economic saviour' for the local community. However, when a lack of commercial spent fuel made the station unprofitable - despite shipments of used fuel from AEC weapons reactors - it closed six years later. Moreover, its reprocessed fuel was 'so impure that none of it was ever used' (Luoma, 1991:91).The low-level radioactive waste dump on the site, managed by contract for the state, also was shut down. Eventually, the waste began seeping underground and into local waterways, creating an environmental nightmare. In 1980 the U.S. Congress voted billions of federal tax dollars to clean up the mess. The clean up, now taking much longer than expected, will extend through the mid-1990s. Today, there are no U.S. facilities that reprocess fuel from commercial nuclear power stations.

Currently in the U.S., nuclear power stations ship low-level radioactive waste to one of three government disposal sites; FP&L sends its waste to a site in Barnwell, South Carolina. However, by the end of 1993 Barnwell and the other sites will be full and will stop accepting waste. In 1980 the U.S. Congress passed the Low-Level Radioactive Waste Policy Act requiring each state to develop an adequate disposal site for its own waste, or to form regional compacts with other states to dispose of waste jointly. To date, Florida has yet to join such a compact. High-level waste, or spent fuel assemblies, are stored onsite in steel-lined concrete pools of water. Such waste, however, will soon fill existing storage space at generating facilities. To remedy the situation, the U.S. Congress in 1988 selected Yucca Mountain in the deserts of southwest Nevada as the site for a permanent national underground repository of high-level waste. However, the governor and state legislature have filed suit against the Department of Energy to stop the project, postponing the original opening date from 2003 to 2010 and tying up the matter in court.

In Britain low-level waste is disposed of by a facility at Drigg in Cumbria. Intermediate-level waste is stored onsite at nuclear power stations, and high-level waste is returned to Sellafield for reprocessing. UK Nirex, Ltd., a company set up by the nuclear industry to develop a disposal facility for future intermediate-level waste and low-level waste not sent to Drigg, has been investigating sites in Sellafield and Dounreay as a national underground repository for such waste. Plans are to open such a site by 2005.

Reprocessing of spent fuel and storage of low and high-level radioactive waste in Britain, originally established at Windscale (see above) in

1952, was transferred from UKAEA's Production Group to a new company, British Nuclear Fuels Ltd (BNFL) in 1971. A state-owned company, BNFL is Britain's sole manufacturer and reprocessor of nuclear fuel. BNFL is organised into three divisions covering reprocessing, manufacture and enrichment. Reprocessed fuel is sent for re-use in power stations, stored at Sellafield, or used in the Prototype Fast Reactor at Dounreay. Also in 1971, BNFL established a consortium, United Reprocessors, with partners from France and Germany, to provide reprocessing services and technology exchange to foreign customers, including European and Japanese electricity authorities. Imported uranium supplies, obtained for the various electricity generating boards by the British Civil Uranium Procurement Directorate, supplement reprocessed fuel. Such ore concentrates are manufactured into fuel elements for the U.K. and foreign customers, including Japan and Italy, at facilities at Springfields. Fuel enrichment is conducted at Capenhurst, using facilities built and owned by Urenco Ltd, a commercial consortium of British, German and Dutch interests. Urenco, the British partner, has a number of long-term contracts to supply enriched fuel to power stations worldwide. Such reprocessed fuel also finds its way into Britain's military arsenal for use in weapons despite the formal separation of weapons and civil energy production programmes (Erskine and Webber, 1988), thus continuing the military-industry collaboration.

In the U.S., although uranium ore is privately mined, the U.S. government enriches it for commercial power stations. Once enriched, the ore is given to private sector suppliers to convert it into fuel assemblies and then sell it to electric utilities. Much of the uranium used in FP&L reactors is processed from waste products of Florida's phosphate mines.

Following the creation of BNFL, the National Nuclear Corporation (NNC) was established in 1975 to consolidate and coordinate the design and manufacture of nuclear power stations. With an executive company, the Nuclear Power Company Ltd (NPC), the NNC has three shareholders - the British Government through the UKAEA, the General Electric Company Ltd (GEC) and the British Nuclear Association (BNA), a group of British nuclear manufacturing companies. The NNC, the overall contractor of nuclear power reactors and station design and construction, subcontracts work to various manufacturers, including GEC, one of the largest electronic engineering companies in Britain.

The Health and Safety Executive (HSE) grants U.K. nuclear stations a licence to operate. The Nuclear Installation Inspectorate (NII) of the HSE is responsible for ensuring that such stations are operated safely. Annually, the HSE, together with local liaison committees (comprising local authorities and other public bodies), conduct emergency exercises at nuclear stations to evaluate emergency procedures.

In the U.S. the NRC is responsible for the licensing, regulation and safety of commercial power stations. State and local governments also have

some jurisdiction regarding site location and other matters. The five-member governing board of the NRC is appointed by the President and confirmed by the U.S. Senate. NRC teams conduct regular inspections of stations and assign resident inspectors to each site. NRC regional offices, such as the one in Atlanta which oversees FP&L stations in Florida, provide resident inspectors with technical support.

Two other bodies associated with the NRC, the Advisory Committee on Reactor Safeguards (ACRS) and the Atomic Safety and Licensing Board (ASLB), have input into the licensing process. The ACRS periodically reviews the work of NRC licensing personnel and makes recommendations to the commission. The ASLB conducts public hearings to consider issues in a pending licensing action.

NRC officials, together with local, state and other federal agencies, such as the Federal Emergency Management Agency (FEMA), conduct annual emergency drills at nuclear stations to assess emergency preparedness. Such drills became mandatory after the Three-Mile Island accident in 1979.

Radiation standards in the U.S. are set by the U.S. Environmental Protection Agency and enforced by the NRC. All nuclear power stations are expected to operate within these standards. The National Council on Radiation Protection and Measurements, formed in 1929, also conducts studies of radiation levels as does the National Academy of Sciences.

In Britain, the National Radiological Protection Board (NRPB) has similar responsibility, having been created by the Radiological Protection Act of 1970 and having taken over from the Authority Health and Safety Branch's (AHSB) Radiological Protection Division, established in 1959 to advise on the formulation of public policy and standards. Members of the NRPB are appointed by the Secretary of State for Social Services and the Secretaries of State for Scotland, Wales and Northern Ireland, and are subject to their directions. The NRPB monitors radiation levels at nuclear stations, together with the Directorate of Fisheries Research of the Ministry of Agriculture, Fisheries and Food which monitors the marine environment, and publishes through the Department of the Environment an annual report of radioactive discharges.

Radiation dose limits for employees in U.S. and U.K. nuclear facilities and the public are set by the appropriate national bodies according to the recommendations of the International Commission on Radiological Protection, a non-governmental body whose members are appointed by the International Congress of Radiology. Other international bodies, particularly the World Health Organization, also study the effects of radiation.

As a member of the European Community and signatory to the Treaty of Rome in 1972, Britain is also part of the European Atomic Energy Community (Euratom) which was established by treaty in 1957. Euratom coordinates the monitoring of Community radiation levels, supervises the effectiveness of such monitoring and establishes Community standards for radiation and safety within

the scope of the International Atomic Energy Agency (IAEA), an organisation set up by the United Nations in 1957 for the purposes of promoting the peaceful development of nuclear energy. Euratom also requires member states to provide data on radioactive waste disposal projects, making recommendations as appropriate and providing necessary financing and coordination of national programmes. Again, as with radiation standards, Euratom radioactive waste standards are based on models established by the IAEA. Concerning nuclear station safety, the agency conducts research on station design, with teams representing national authorities, electricity producers and builders of nuclear stations preparing reports and making recommendations. Euratom also conducts research on nuclear fusion, a major part of which is the Joint European Torus (JET) fusion project, for which Britain operates the host facility at Culham Laboratory.

The main objective of Euratom, however, is the promotion and growth of the nuclear industries in its member states, and all of its activities, including its various research projects, are directed to this end. This justifies funding for its activities which comes from member states. The Community takes a proportion of the VAT collected in each member state and also collects from tariffs charged on food and other items. In turn, the nuclear industry in each member state receives inexpensive loans through the European Investment Bank which was set up by the Community and which is supported by member states. In 1984, for example, £125.5 million in such loans went to the SSEB for the construction of the nuclear station at Torness (Flood, 1988).

On another international level, Britain is one of 23 OECD countries supporting the activities of the Nuclear Energy Agency (NEA). As with Euratom, the main purpose of the NEA is to promote the development and growth of nuclear industries in its member states. NEA conducts research on safety, radioactive waste management and promotes the exchange of scientific and technical information. Concurrent with the development of the international nuclear network has been the reorganisation of the UKAEA, designed to take advantage of the burgeoning global nuclear market. In 1965 the UKAEA was given the authority to conduct non-nuclear research and development and to separate its commercial operations from other activities. The UKAEA's Harwell Laboratory has since become the largest non-nuclear R & D facility in Europe, conducting experiments on lasers and renewable energy, among other areas, for a host of governmental and business clients (Flood, 1988). Such research now constitutes more than 11 percent of UKAEA's budget.

UKAEA also since has aggressively marketed its nuclear expertise, producing and selling fuel assemblies, radioisotopes and other nuclear products. A Trading Fund was first established in 1965 for the purposes of promoting the development of commercial nuclear power in the U.K. and overseas. Most recently, in May 1989, the UKAEA 'launched a major marketing campaign, under

the commercial banner of AEA Technology, to sell its high-tech expertise to industry and business throughout the world', according to its annual report (United Kingdom Atomic Energy Authority Annual Report 1989-1990:65). With government approval, the Authority also restructured its business activities into nine separate businesses - five nuclear and four non-nuclear - covering its most commercially attractive enterprises. Effective from April 1990, each business acts independently within AEA Technology's corporate structure. The UKAEA still is formally responsible to the Secretary of State for Energy, who, in turn, is responsible to Parliament. To assist the Department of Energy in formulating energy policy, and particularly in allocating R & D funding, the Secretary appoints one of the Department's main advisory committees, the Advisory Council on Research and Development for Fuel and Power (ACORD). Membership includes representatives from the conventional fuel industries as well as from the UKAEA and British Nuclear Fuels. It is interesting to note that for many years ACORD was chaired by the Chief Scientist of the Department, and that three out of the last five Chief Scientists have been UKAEA employees (Flood, 1988). Moreover, the current Deputy Chairman of the UKAEA, Dr. Brian Eyre, had served as a member of ACORD until his appointment to head the UKAEA in 1990. Given such positions of prominence on ACORD over the years, it is not surprising that the UKAEA has been able to successfully protect not only its own corporate interests but those of the nuclear industry in general as well.

Concurrent with the UKAEA's restructuring, the British Government began efforts to privatise its electricity supply industry while retaining nuclear power generation in the public sector. As some have suggested (Corner, 1990b), the British Government excluded nuclear power from privatisation in order to attract private investors into the other electricity privatisations, given the tremendous costs involved of building, operating and decommissioning nuclear plant.

The Electricity Act of 1989 created National Power, one of two private companies to assume electricity generation responsibilities in England and Wales from the CEBG, Scottish Power and Scottish Hydro-Electric, two reconstituted and privatised companies to serve Scotland, and two nuclear government entities, Scottish Nuclear Limited and, in England and Wales, Nuclear Electric. Scottish Power was largely formed from the South of Scotland Electricity Board (SSEB), while Scottish Hydro represented a newly formed version of the North of Scotland Hydro-Electric Board (NSHEB). Scottish Nuclear Limited had operated prior to privatisation as a division of the SSEB. All the new companies thus created were formally vested on 31 March 1990, although the accounts of each were drawn up as if vesting had been effective from 1 April 1989, the day on which the privatised companies were incorporated as public limited companies.

With investiture, all nuclear assets and liabilities in Scotland - approximately £2 billion - were transferred to Scottish Nuclear Limited, and a Nuclear Energy Agreement signed requiring both Scottish Power and Scottish Hydro to purchase 74.9 and 25.1 percent respectively of all electricity generated by SNL until 1 April 2005. Other agreements, the UKAEA Agreement and the Dounreay Agreement, require Scottish Hydro to purchase all electricity generated by the UKAEA's fast breeder nuclear reactor at Dounreay. They also require Scottish Power to purchase 74.9 percent of said electricity from Scottish Hydro until April 1994. Financially speaking, the privatised companies in Scotland were most pleased to transfer the tremendous nuclear liabilities - indeed such changes had an immediate positive effect on their financial position. Nevertheless, to ensure the place of nuclear power in the scheme of the nation's energy mix, the British Government had to require its privatised companies to purchase SNL's electricity at a price significantly higher than the cost of electricity generated from each company's generating stations until at least March 1994. Then, prices will be adjusted closer to those currently charged for base load electricity. Moreover, at the initial vesting of Scottish Nuclear, the British Government also agreed to provide a loan extinguishment for SNL of £1368 million and a supplementary agreement to pay up to £716 million in additional grants to relieve the company of some of its long-term costs in decommissioning its Hunterston 'A' station, which was closed in March 1990.

Following investiture, both privatised Scottish companies launched offers of stock to the public on 30 May 1991. Under the present arrangement, each company has its own operating licence issued by the Secretary of State for Scotland, with the Director General of Electricity Supply directly responsible for licensing arrangements and a Deputy Director General responsible for administering said licences and ensuring compliance with licence conditions. Each company has its own Chairman and Board of Directors. Scottish Nuclear also has its own Chairman and Board, and operates as an independent company, albeit with only one shareholder, the British Government, and with the Secretary of State for Scotland, to whom SNL reports, as a Shadow Director of the company. The other nuclear entity, Nuclear Electric, is similar in structure; upon investiture, John Collier, the former head of the UKAEA, assumed the chairmanship of Nuclear Electric. It would seem, then, that despite reorganization, the nuclear lobby ties have remained intact, as such executive posts have been filled internally by staff from other corporate entities. In March 1992, Dr. Robin Jeffrey became the new chief executive of Scottish Nuclear; formerly, Jeffrey was the SSEB's Managing Director of Engineering Resources and Project Manager on the construction of Torness. Prior to that, he had served as Manager of Engineering R&D for Babcock & Wilcox, one of the British companies which is a major shareholder of the National Nuclear Corporation, the overall contractor of nuclear power reactors and station design and construction in Britain.

(iv) From Reorganisation to Public Relations

The British nuclear industry also began reorganising its public relations structure in anticipation of a major campaign to promote a new image for itself. In January 1990, Dr. John Gittus, former director of communication for the UKAEA, was appointed director general of the British Nuclear Forum, and was succeeded by Warren Newman. The move coincided with a greatly expanded public information programme on nuclear energy at the UKAEA on behalf of the Department of Energy, an official function originally provided for in the 1954 Atomic Energy Authority Act.

At the same time, the Nuclear Electricity Information Group (NEIG), set up in 1983 to produce publicity materials on nuclear power, was amalgamated with the British Nuclear Forum. All UK nuclear entities, including Scottish Nuclear, are members of and support the Forum, as they had the NEIG. In fact, some 70 various organisations from the UKAEA to industrial and engineering firms, banks and insurance companies involved in the economic development of nuclear power provide funding for the Forum's public information efforts. As a trade association, the Forum is the voice of Britain's nuclear power industry and, as such, represents it to the British Government.

Shortly following these moves, in the spring of 1990, Scottish Nuclear established its public relations office, headed by Richard Marshall, former head of Information Services at the National Nuclear Corporation, and previously former Chief Publicity Officer in the Scottish Information Office. A strategy was required to promote the new company as well as nuclear power itself, and plans were begun to organise a public campaign. Coincidentally, at Florida Power & Light, plans also were being formulated to promote nuclear power, using a public relations campaign to present a new image to various key publics. In 1987, a Nuclear Information group was created within the company's Corporate Communications department with the purpose of handling public relations for the Turkey Point station, which had grown increasingly troublesome in the light of press coverage of its various operational problems and fines by the NRC for such defects. Tom Veenstra, a manager within the company's Corporate Communications department, was appointed manager of the Nuclear Information group.

By the autumn of 1990, with privatisation in Britain complete and a newly formed nuclear public relations organisation in place both at Scottish Nuclear and Florida Power & Light - not to mention new staffing and initiatives at the UKAEA and the British Nuclear Forum - the only thing lacking was a strategy and an issue for promoting nuclear power. That strategy was soon in hand, as was the issue.

Chapter Two

CORPORATE ECOLOGY AND EMERGING ISSUES

Section One: Source Packaging and Presentation of Issues

(i) Public Policy Issues and Public Discourse

(ii) Public Policy Issues and Corporate Ecology

Section Two: Analysis of the Ecology of Nuclear Power

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Section One

(i) Public Policy Issues and Public Discourse

Given the history of military-nuclear industry collaboration in both the U.S. and Britain, it is not surprising that a pro-nuclear agenda currently is being advanced jointly by government and industry representatives in an effort to launch a new era of nuclear power. In presenting nuclear power as an issue in various arenas of public discourse, nuclear proponents have endeavoured to turn several ecological imperatives and opportunities inherent within the issue to advantage. Particularly, the 'greening' of nuclear power arguments by its proponents is designed to turn the tide of public opinion in favour of the issue by capitalising upon the public's growing concern about the environment. However, the extent of such government-industry association on behalf of nuclear power has focused attention upon the seemingly less-than-democratic nature of the decision-making process on public policy issues, and, as such, raises larger questions about the relative health of democracy in both societies.

The emergence, development and subsequent disappearance of various social problems or issues has been a topic of much debate and interpretation. Some have suggested that 'issues originate in the idea that some real world situation is unsatisfactory and ought to be remedied' (Solesbury, 1976:381) while others have contended that 'a social problem exists primarily in terms of how it is defined and conceived in society' (Blumer, 1971:300).

Whether or not an issue is a genuine reflection of reality, however, it is the packaging, presentation and public debate of such issues that merits closer attention, particularly as it concerns nuclear power. According to Gamson and Modigliani (1989), the nuclear issue, indeed all policy issues, exist within a cultural system that is dynamic in nature and which encompasses a variety of competing interpretations or packages. Moreover, the evolution of the issue is, in fact, 'a symbolic contest over which interpretation will prevail' (1989:2).

The notion that conflict is inherent in the rise and progression of an issue puts the matter squarely in the arena of public discourse. Indeed, as individuals or institutions have competing purposes-at-hand and uses for occurrences, as Molotch and Lester propose, an event will become an issue (Molotch and Lester, 1974). While it has been suggested that 'issues by definition call for responses from government' with policies and decisions 'designed to change the environmental situation giving rise to the issue' (Solesbury, 1976:381), it is worth noting, particularly concerning nuclear power, that often government itself does not only respond to issues but also may package and present them as well. Moreover, such issues 'only begin to become powerful once institutions within the political system become associated with them' (Solesbury, 1976:383). Likewise, powerful economic interests which sponsor a

particular issue may more easily advance it than less dominant sponsors by virtue of their position and economic advantage (Hilgartner and Bosk, 1988). Such political or economic sponsorship serves to give an issue a sense of legitimacy and so thrusts it onto the table for public debate. In the case of nuclear power, both the U.S. and U.K. government have not only formed an association with the nuclear power industry but, as the record will show, both have fully and jointly laboured for its promotion in the public arena, packaging and presenting the issue as part of a grand design.

Indeed, the ebb and flow of each particular issue is largely the work of promoters who package and present issues and who, in fact, define them as problems (Hilgartner and Bosk, 1988). While certain promoters may be interested only in making money - tort lawyers and public relations specialists - as some suggest (Hilgartner and Bosk, 1988), others have a specific agenda and are soliciting a specific action. Obviously, then, which agenda emerges as the dominant one in public debate may have 'profound implications for the future of the social problem... and for policy' (Hilgartner and Bosk, 1988:58). Concerning nuclear power, such implications are not only significant for future policy but for the future of civilization itself.

Inherent within each particular package, of course, are 'succinct messages' presented in 'authoritative and urgent tones' (Hilgartner and Bosk, 1988:62). More important, however, such packages are built around a central idea or within a frame that attempts to give meaning to what is being advanced. Moreover, to the extent that such frames can incorporate or resonate with ideas, language and stories that are part of a society's cultural heritage, the more naturally advantaged they will be in advancing in public discourse (Gamson and Modigliani, 1989; Snow and Benford, 1988).

Over the course of time, several such frames or packages on nuclear power have emerged. Gamson and Modigliani suggest the presentation of a variety of frames both pro and con in media discourse - progress, energy independence, devil's bargain, runaway, etc. - arguing that each package begets a counterpackage or theme. The degree to which each package is developed and advanced, they suggest, is the result of the effect of cultural resonances, sponsor activities and media practices (Gamson and Modigliani, 1989). More often than not, nuclear discourse has been presented in packages underscored by consideration of 'risk' either 'talking up' or 'talking down' risk depending upon the position of the promoter (Corner, 1990a).

However, more recently, a new package, which we shall call 'eco-nuclear', has emerged, as promoted by the nuclear industry, that not only portrays nuclear power as 'environmentally-friendly' but that also 'talks up' the risks to the environment from the further use of fossil fuels instead of nuclear. It is a classic exercise in tables turned, whereby a promoter has usurped an issue from opponents - in this case the 'green' movement - and turned it seemingly to

advantage.

The conceptualisation of the evolution of issues as a process echoing larger cultural themes in multiple forums of discourse raises a number of important points for the study of nuclear power as an emerging issue. Recognizing the existence of 'parallel systems of meaning production' (Gamson and Modigliani, 1989:2) with social problems or issues developing in a set of public discourse arenas which interact, adding cultural value to and influencing each issue, is perhaps a closer reflection of the nature of the public discourse on nuclear power. As such, it represents moving beyond traditional linear, diffusion models of communication into more dynamic models of the social construction of meaning.

Much has been made -some say too much- in the sociology of journalism of media centrism, assigning far more power to mass media channels in shaping public discourse and opinion than some research would indicate (Schlesinger, 1989; Hansen, 1991) while failing to examine the relationship between media and sources 'from the perspective of the sources themselves' (Schlesinger, 1989:284; 1990:61). Given the nature of the process of issue packaging, presentation and competition, it is important to analyze the tactics and strategies used by promoters to gain media attention, and the role of powerful sources as would-be 'primary definers' of issue meaning. Authoritative sources, particularly government and other accredited spokespeople, including major corporate figures who enjoy special status owing to their institutional power or expertise, can dominate media discourse by virtue of having structured habitual access to media channels (Molotch and Lester, 1974). However, as some studies suggest (Sigal, 1986) such status does not always guarantee either access or credibility (Sigal,1986; Schlesinger, 1989). Non-official, even alternative sources, can and do present their particular packages or interpretations on an issue, which may be 'incorporated pre-emptively into so-called "primary definers' definitions", thereby modifying them' (Schlesinger, 1989:69). In fact, concerning the anti-nuclear and 'green' movements, as Schlesinger argues, 'if such groups were of no consequence, the political elites would not actively try to delegitimize them and co-opt their ideas' (Schlesinger, 1989:200). With its new 'eco-nuclear' package, the nuclear industry has managed, in fact, to steal much of the 'green' thunder on the nuclear power issue and may have neutralized the environmental opposition to some extent with its claims of being an 'environmentally-friendly' energy source.

Nevertheless, such a diffusion-oriented perspective focusing solely on the media as a forum for public discourse ignores the role and importance of other forums in presenting and shaping issues and public opinion. Indeed, as Gamson and Modigliani suggest, 'if one is interested in predicting policy outcomes, they [general audience media] are not necessarily the most important fora' (Gamson and Modigliani, 1989:3). Media discourse may reflect and

contribute to the evolution of an issue, but it is just one of many venues, both formal and informal, that present information. As Krimsky and Plough have observed concerning environmental controversies, 'multiple generators of risk information... play a key role in the overall risk communication scenario. Moreover, our analysis suggests that risk communications in their social context resemble tangled webs, in contrast to a parallel series of sender/receiver interactions' (Krimsky and Plough, 1988:298).

Indeed, as this study will suggest, the presentation of pro-nuclear packages and, in particular, the 'eco-nuclear' package, by nuclear promoters in both the U.S. and U.K. is being conducted using a multiplicity of communication channels besides the media in a concerted effort to best reach a variety of key publics. In many cases, direct interpersonal communication is providing the most effective forum for promotion and public discourse. Morever, such fora are, in turn, influencing other fora and channels of communication, including the media, in advancing the nuclear issue.

Such interaction among various fora, and indeed interaction among issues, implies a sense of connectivity that not only 'is central to the process of collective definition' of social problems (Hilgartner and Bosk, 1988:55) but to the creation of the culture of an issue. Just as electrons exist in relation to neutrons in atomic physics, or one element of nature to another in an ecological system, social problems or issues are interrelated as are the arenas in which they are presented and should be examined as such. Hilgartner and Bosk postulate interconnecting 'communities of operatives' in various institutions and arenas concerning environmental issues which scrutinize and feed the activities of one another, 'collectively raising the prominence of the environment as a source of social problems' (Hilgartner and Bosk, 1988:68). Within the nuclear industry there is a network of entities which, most recently, have served to amplify the issue across arenas, ever widening the extent of public discourse and prominence of the nuclear debate in both the U.S. and U.K. It is to such networking that one must look in order to fully appreciate the evolution of the issue.

However, the nuclear issue, indeed any issue, does not exist solely on its own but rather as a problem that is joined to other problems, both internally and externally. As many environmental problems, such as de-forestation and global warming, have become intertwined within and without to other larger questions of economic development, reallocation of wealth and social worth accounting on a global scale, so has the nuclear issue with discussions of nuclear power raising debates concerning nuclear weapons, energy policy and use of resources. Policy decisions on the future construction of additional nuclear power stations cannot be made without also considering directions in long-range energy policy and use of capital and other resources, not to mention the environmental and global impact of such decisions. Indeed, as various nuclear industry promoters present their packages, particularly the 'eco-nuclear' package,

they are couching them in broader terms of other related, and, often larger, issues, recognizing the connectivity of such issues. In fact, it is just such a connectivity between nuclear power and the environment that the industry wishes to capitalize on. By seizing upon a current event, such as global warming or the greenhouse effect, the industry hopes to underscore its message with a sense of urgency and thereby hasten its advancement.

As the nuclear issue has become linked to larger social problems and arenas, the public debate has assumed a much wider discussion of societal values that transcends the nuclear issue. While, as Solesbury suggests, political institutions and ideologies can give an issue a particular frame of reference - to identify zero or low growth with a conservationist ideology, for example - political and ideological rivalries also can escalate a discussion of an issue like nuclear power into a broader debate on the direction of society and the relative health of democracy in such a society (Solesbury, 1974). As policy decisions have been made on nuclear power and the environment, many in certain circles of both U.S. and U.K. society have indeed questioned the less-than-democratic nature of the decision-making process and have called for political reform of existing legislative, judicial and executive procedures of government (Solesbury, 1974).

To properly frame the examination of nuclear power in the U.S. and U.K., then, it is necessary to review the efforts of nuclear industry promoters, in particular as case studies, Scottish Nuclear Limited (SNL) and Florida Power & Light (FP&L). As the research indicates, these companies are endeavouring to present pro-nuclear, and, especially, 'eco-nuclear', packages to multiple audiences in a variety of arenas using various channels of communication including the mass media. Moreover, in examining such efforts, we shall focus on the pro-active, strategic means by which such promoters not only monitor their environment but respond to it in a planned manner, relating interactively with various communities of operatives within and without of their respective institutions. Throughout our examination, we shall observe the connectivity of issues as well as arenas, charting the course of primary packages within a holistic framework of cultural resonances.

(ii) Public Policy Issues and Corporate Ecology

For any organism, or institution for that matter, to survive, it must monitor and respond to its environment in an adaptive manner. In a public relations sense, organisations are said to relate to their 'ecology' or those aspects of their society 'which have brought about the need for and the utilisation of public relations and which, in turn, have created particular problems for the practitioner' (Simon, 1984:51). In monitoring their environment, organisations seek to identify issues of particular importance and relevance to which they must respond to assure their survival and success. Such issues can be often labeled

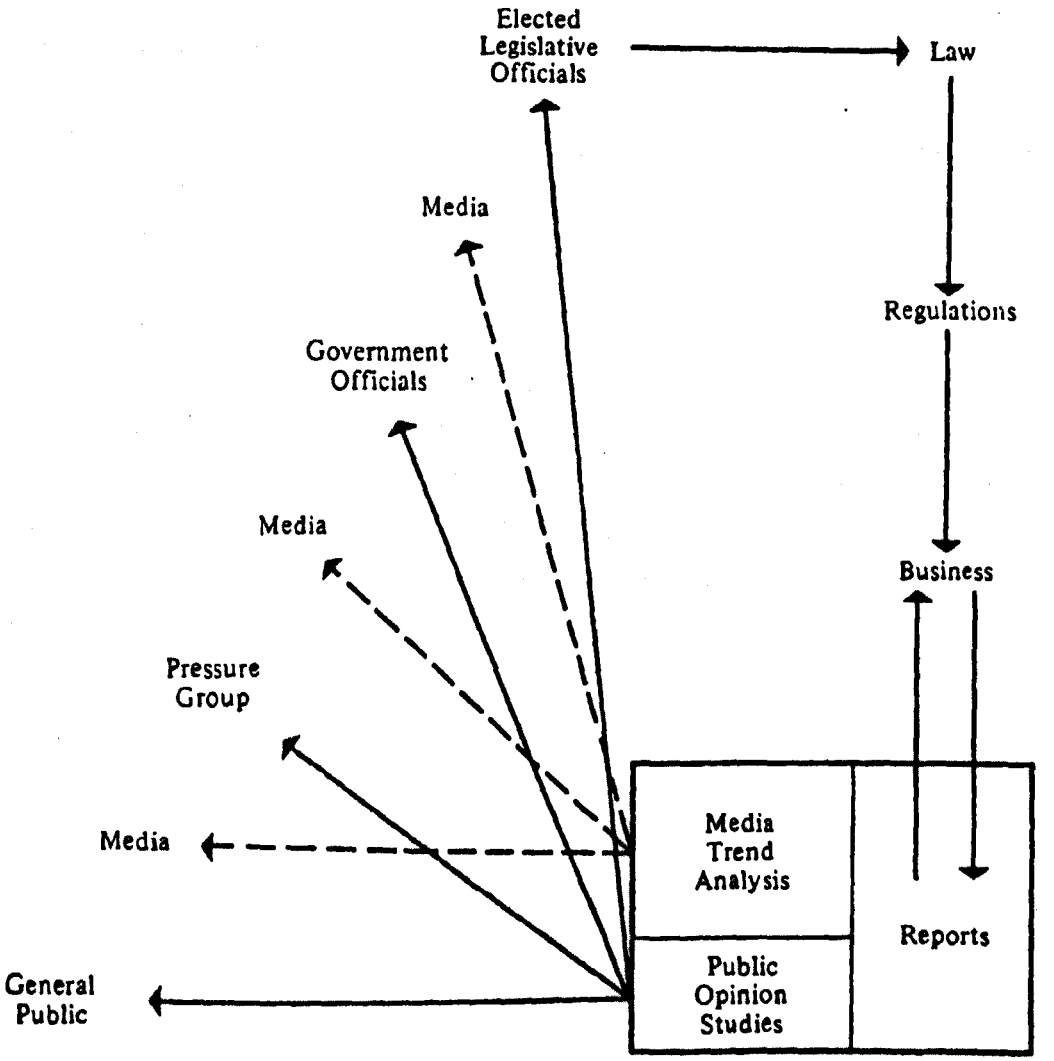
'emerging' or 'strategic'; other issues not crucial to the organisation's welfare may be considered 'public policy' in nature (Moore, 1979:43-44). However, certain issues, such as nuclear power, may encompass all such aspects for an organisation such as a nuclear power company. Hence, for purposes of this discussion, the nuclear issue will be considered an 'emerging strategic public policy issue' (ESPPI) in that it still is in evolution and has both strategic and obvious public policy ramifications for the companies and industry under examination. A corollary ESPPI, that of the environment, shall also be considered, inasmuch as it provides the foundation for the emergence of the industry's 'eco-nuclear' package, which encompasses both ESPPI's.

Organisations must do more, however, than just monitor their environment. Indeed, those corporations considered successful and leaders in their industry are those which respond to their environment in a 'pro-active' rather than 'reactive' manner. Such corporations see external events and issues as opportunities instead of as threats and devise planned programmes of activity to take full advantage of outside developments. In regard to 'green' issues, studies show that pro-active corporations are 'more successful in dealing with long-term strategic issues' than those which merely devise reactive programmes ' (Shell, 1991:6).

Indeed, Ewing (1980) has suggested a model (see Figure 5) to conceptualise the public policy process in which organisations actively monitor and interrelate to various key publics in their environment, collecting data on issues via public opinion studies, reports and media trend analysis, incorporating such data into corporate messages that are communicated to said publics, and, finally, using feedback from such groups to revise corporate communication, ultimately, with the objective of influencing publics and policy decisions in favour of the organisation.

In tracking Scottish Nuclear's and Florida Power's response to the ESPPIs of nuclear power and the environment, as expressed in their 'eco-nuclear' package, it will be useful to take an externalist approach as well as an internalist one. In so doing, an examination shall be made of source behaviour not only from an internal perspective (ie. reviewing media content and journalists' accounts of source-media relations) but also from an external viewpoint in which source documents, activities and the sources themselves are reviewed. Indeed, it has been suggested by Schlesinger that a more proper examination of source-media relations should include a thorough analysis 'of the strategic and tactical action of sources in relation to the media' (Schlesinger, 1990:72). Such a study would better explain how advantaged sources secure access to the media and gain a primary definition of issues over competitive alternative views. In his model, Schlesinger postulates that such sources use various resources - extent of institutionalisation, financial base and cultural capital - by design to maximum effect, which, ultimately, is to:

Figure 5 Public Policy Process Model



R. Ewing, Public Relations Journal, June, 1980.

'affect the various audiences concerned with the policy process by means of influencing the political agenda, to shape the interpretation of current issues, and to respond to events in which a source may be somehow involved.' (1990:79)

As part of their strategy, moreover, sources ideally would have a well-defined message to communicate, have identified the optimal locations for placing each message and target audiences of each media outlet, have assumed preconditions for communicative success and have neutralized or anticipated the opposition (Schlesinger, 1990).

Certainly, source strategies for media can and indeed should be reviewed from such a perspective. Schlesinger's model also may be applied in a broader sense to a study of source strategies across all channels of communication and arenas of public discourse, particularly as it relates to source promotion of packages. Advantaged sources such as Scottish Nuclear and Florida Power & Light can and do use all available resources, as we shall see, in a strategically planned, goal-oriented manner in an attempt to establish primary definitions or packages of issues in particular, the 'eco-nuclear' package in a variety of fora.

Section Two

(i) Nuclear Power as an Emerging Strategic Public Policy Issue

In fashioning a pro-active campaign to sell nuclear power to various key publics, the nuclear industry, and Florida Power & Light and Scottish Nuclear in particular, have seized upon certain ecological imperatives and opportunities inherent in the nuclear issue. In so doing, the industry has recognised specific imperatives - increasing public demand for electricity coupled with aging nuclear station technology - and opportunities - changes in government regulation and new station technology - and devised a corporate strategy at the local, nation-state and international level to take full advantage of such developments.

(ii) Ecological Imperatives for the Nuclear Industry

One such imperative, more so on the American side than the Scottish, is the increasing demand for electricity. During the last two decades, electricity usage in the U.S. has increased 92 percent. Current estimates predict consumption to increase 2.5 percent annually; the U.S. Department of Energy says the nation will need an additional 250 gigawatts or 250 billion watts of generating capacity by the year 2010, or more than one-third more of America's present capacity of 700 gigawatts. The Bush Administration had argued that such growth would require building the equivalent of 250 large coal or nuclear power stations. Moreover, according to the DOE, by the year 2030 the U.S. will need 1,250 more gigawatts than it has now. Federal planners say, in fact, that the U.S.'s current capacity may not be enough to supply peak electrical demand by 1995. Nuclear power proponents argue, consequently, that new stations must be built now in order to meet future demand.

As one of the fastest growing states in the U.S., Florida faces similar challenges. From 20th place in 1950, Florida now has grown to be the 4th largest state in the nation, adding utility customers statewide at an average of 5 percent annually during the last decade. The state's population will increase about 2 percent a year, according to estimates by the University of Florida's Bureau of Economics and Development. Florida Power & Light projects that Florida's population should reach 16.3 million by the year 2000 compared with just over 13 million currently. That will represent an increase in customers for FP&L from 3.2 million to over 4 million.

To handle such growth, the Florida Public Service Commission says that an additional 7,600 megawatts in generating capacity will be required by the year 2000. The Florida Electric Power Coordinating Group, of which FP&L is a member utility, argues that 11,000 megawatts will be needed. To meet future demand, FP&L says it must expand power by one-third by the end of the decade,

adding some 5,000 megawatts by the summer peak of 1999. Current plans call for adding 2,100 megawatts by the summer of 1995.

Although only 6 percent of America's electricity is produced by oil-fired stations, the nation's appetite for energy, particularly imported oil, was brought into sharp focus during the Gulf War crisis, and the debate over energy policy which ensued actually served to thrust the issue of nuclear power back onto the national agenda. The U.S. Council for Energy Awareness, an industry group representing electricity producers and nuclear interests, launched an all-out print advertising campaign in quality magazines arguing that nuclear-generated electricity could help reduce America's dependence on 'dangerously unstable energy sources', and also pointing out that nuclear power 'already cuts America's oil imports by 740,000 barrels every day' (USCEA ad, Time, 29th April, 1991:5). Arguably, however, since oil-fired electricity stations represent only 3 percent of total U.S. oil usage with most oil being consumed by the transportation and industrial sectors, replacing such stations with nuclear ones would do little to decrease America's dependence upon oil. Nevertheless, some nuclear power companies, like FP&L, used the crisis to refocus efforts on nuclear. During 1990, FP&L formed a separate nuclear division within the company to place additional emphasis upon refurbishing and planning nuclear operations, noting in its 1990 Annual Report, that the Middle East crisis 'has awakened a renewed interest in nuclear power' (FP&L, FP&L Group 1990 Annual Report, p.19).

The Gulf War also gave impetus to long-standing criticisms of the military-nuclear industry alliance. Following hostilities, media reports revealed that Britain had 'shipped more than 8 tons of depleted uranium to Baghdad in the two years before the Gulf War' ('Nuclear Bomb Material Sent to Iraq, Paper Says', The Miami Herald, 4th August 1991, p.14a). A former official in Iraq's nuclear industry did confirm that the material was used in President Saddam Hussein's programme to build a nuclear bomb. The reports followed others in January 1990 that revealed the British Government sold civil plutonium to the U.S. for the production of weapons. Former British Energy Secretary Tony Benn remarked that 'every British nuclear power station has become a nuclear bomb factory for the USA' (Ince,1986:28).

The debate continues apace even today in the light of U.S. Department of Energy efforts to reconfigure a smaller, more modern network of nuclear weapons production facilities to replace larger, ageing, expensive-to-operate ones. While having sufficient stockpiles of plutonium, the DOE must continually replace its tritium supplies used in advanced warhead design since the radioactive gas decays quickly. Plans are to build a new tritium production reactor, probably at the Savannah River Site in South Carolina. The heart of the operation, indeed of the entire new network of facilities, would be a new generation of nuclear reactors that also would serve as the centrepiece of a new line of nuclear power stations in the U.S. and possibly abroad as well. In

response to such plans, U.S. House of Representatives Les AuCoin (Democrat-Oregon) and Mike Synar (Democrat-Oklahoma) introduced in Congress in April 1992 a bill - the Nuclear Weapons Materials Production Termination Act (H.R. 3746) - seeking to prohibit future construction or production of nuclear weapons materials.

In Britain, government plans to replace its aged Polaris nuclear submarine programmme with a Trident sub missile system likewise has generated public debate on the nuclear issue. The new system, sporting some 1,000 warheads, would require continuing, if not expanded, nuclear weapons production. With British Prime Minister John Major and the government's Ministry of Defence solidly supporting the new Trident system, it seems likely that such production, indeed perhaps a new host of tritium-generating reactors, may be requested to maintain what Major has described as 'the essential minimum defence we need in this country' (Goldsmith, 1991:12). Given the disappearance of the threat to Western Europe from a Soviet military land offensive, the preservation and amplification of a substrategic nuclear weapons programme seems questionable, however.

That new stations will be needed, if not to provide additional capacity to meet increasing demands for electricity or for military nuclear materiel production then to replace ageing stations, is an ecological imperative for the industry. Most of the 108 nuclear stations currently operating in the U.S. are ageing, and some are nearing the end of their 40 year licence permit granted by the NRC. By the year 2000, 64 stations will be more than 20 years old. As stations reach the end of their life, their reactor vessels become dangerously brittle from long exposure to radioactivity. One such station, Yankee Rowe in Massachusetts, the oldest station in the U.S., was closed in February 1992 after owners Yankee Atomic Electric Company decided it was uneconomic to spend $23 million on testing and analyzing the station's reactor vessel. Earlier, in October 1991, the NRC had expressed concern over the safety of the 32-year-old station. One other station, Michigan's Big Rock station, will not seek renewal of its operating licence; seven others in the U.S. are already closed and await decommissioning.

FP&L's Turkey Point station is a good case in point. The station's two reactors, licensed in 1972 and 1973 respectively, are the oldest of the five nuclear reactors in Florida. The operating licences for both units will expire in April, 2007. Since opening day, the station has been plagued with operational problems, costing FP&L more than $1.5 million in fines imposed by the NRC for safety violations - more in levies than any other station in the U.S. - and eventually giving the station the dubious honour in 1986 of being labelled by the NRC as one of the nation's worst in operations. Again in 1989, Turkey Point was featured in the NRC's 'worst troubled' list.

Adding to its troubles, FP&L in its customer surveys recorded a drop in customer satisfaction of more than 10 percent in 1987. Moreover, the NRC in

1989 threatened to close Turkey Point unless major improvements were made to its equipment. To deal with growing customer complaints, negative media coverage and an employee morale problem at the station, FP&L created a Nuclear Information Manager position at headquarters in 1987 and two Communications Manager positions at the station. Priority was given to improving employee communication and handling media requests. In 1990 FP&L also began a $237 million renovation upgrading security systems and backup electrical supplies at Turkey Point. That same year the NRC removed the station from its 'watch list'. However, the NRC still maintains three on-site inspectors there compared with two inspectors at most other stations. After receiving its highest ratings ever in an NRC evaluation in 1991, Turkey Point has turned around, say FP&L officials. But the report also found continuing problems in solid radioactive waste storage, processing and transportation. In September 1991, a safety system computer that triggers automatic measures, including an emergency station shutdown, failed to function. As recently as April 1992 FP&L had to shut down one of its Turkey Point reactors because a seal on a reactor coolant pump malfunctioned.

In Britain, while the nuclear industry faces less of an ecological imperative than in the U.S. vis-à-vis the public demand for electricity, ageing technology remains a concern, particularly in England. It is this particular imperative that nuclear power proponents are using in defence of arguments for a return to nuclear energy.

Historically, consumption of electricity in Britain has progressed rapidly as it has in the U.S. Since 1960, electricity usage in Britain has increased some 163 percent, or from 99,000 to 261,000 gigawatts. In Scotland, consumption grew at an even more rapid pace during the same period, increasing some 200 percent from 9,000 to 27,000 gigawatts. Such usage averaged 3.4 percent in the U.K. and 4 percent in Scotland annually during this period. Over the past 10 years the growth in usage in both Scotland and the rest of the U.K. has been attributable principally to the development of the commercial market, particularly the services sector.

Electricity demand in Britain is projected to grow at a slower rate in the future, however, averaging 2.5 to 3 percent a year until the year 2000. While in England new power stations will be necessary, particularly to replace old and expensive-to-run stations, Scottish generating capacity will be sufficient to meet demand until the end of the century because of past investment in stations.

In Britain, three nuclear power stations will expire within the next five years even as Sizewell 'B' comes on line in 1994. Moreover, by the year 2005, 14 stations in the U.K. will be more than 30 years old and ready to be retired. SNL's Hunterston 'B', in particular, will expire at that time unless its life can be extended. Robin Jeffrey, SNL's CEO, has noted that the company's long-term strategy requires submitting station replacement proposals to the government during the

first quarter of 1993 in preparation for the full review of the industry in 1994. If SNL cannot successfully argue for an extension of Hunterston's licence - SNL hopes for a five to 10 year extension - then officials say that a replacement station will have to be ready and fully commissioned to take over at that time. As Dick Marshall, public relations manager for SNL, admits, 'One of our main objectives is to start to build a consensus for a new station to replace Hunterston' (Interview, 20th June 1991). SNL Chairman James Hann has argued, in fact, that four new stations for Britain (presumably a Hunterston 'C' plus the three others due to retire) should be ordered as soon as possible. Concerning such requests to consider new stations now, Allan Stewart MP, Scottish Office Industry Minister, commented during the opening of SNL's new visitor centre at Hunterston in April 1992, that 'we will look at any recommendations when they come forward. I think Scottish Nuclear are doing a tremendous job' ('Minister Opens Visitor Centre', Scottish Nuclear News, June 1992, p.5).

(iii) Ecological Opportunities for the Nuclear Industry

Beyond the various ecological imperatives incorporated by the industry in its campaigning in the U.S. and Britain, there are several ecological opportunities which nuclear proponents also have turned to advantage. The keys to modernization - changes in government regulation and the development of new technology - represent such opportunities being jointly pursued by government and industry on both sides of the Atlantic.

Scottish Nuclear may have revealed the government and industry's hand when it reported in the December 1990 issue of its employee newspaper, Scottish Nuclear News, that:

> 'At the American Nuclear Society's Meeting held in Washington in the middle of November, the Nuclear Power Oversight Committee [a Congressional committee] disclosed its strategic plan for building new nuclear power plants. The goal is to place orders for standardised advanced light water reactors (ALWR) in the mid-1990s. The design would either be an evolution of a large LWR - Sizewell B is cited as an example - or a passive design such as SIR. Combined licensing for construction and operation on pre-approved sites is envisaged. A setback would appear to be the recent decision that Congress would need to pass new legislation if pre-operational hearings are to be waived. A second important document will be the USA National Energy Strategy document, to be presented to Mr. Bush shortly. It will identify nuclear energy as an important option. The three prime movers are all close to the President and pro-nuclear.' ('America's Nuclear Nineties', Scottish Nuclear News, December 1990, p.2)

The U.S. Council for Energy Awareness echoed the strategy in a January 1991 document, Advanced Design Nuclear Energy Plants: Competitive Economical Electricity, saying that Congress needed 'to put in place the reforms to the licensing process necessary to provide stability before construction and large capital outlays begin' (1991:8). The USCEA also noted that there was 'strong support for nuclear energy from leading political figures in both parties, and unqualified support in the Executive Branch' (1991:5). Moreover, there was, according to the USCEA, 'a broad-based programme, involving the federal government, the utility industry and the nuclear equipment suppliers, to complete the design and engineering on several advanced designs, and to secure NRC certification for standardized plant designs. The first of the "evolutionary" designs should be certified by the NRC in 1992. At that time, electric utilities would be able to place orders. The new mid-sized nuclear designs should be certified by the mid-1990s' (1991:5).

Since then, the nuclear strategy has gone exactly according to plan. When the U.S. Nuclear Regulatory Commission failed in court to streamline the licensing process into a one-step procedure - previously, a public hearing was required both when a construction permit was granted and when the station was ready to go on line - it turned to the Bush Administration and the Senate to push through the legislation required to reform the process.

In February 1991 President Bush proposed a national energy strategy that called not only for one-step licensing but also for $100 million in government subsidies for work on developing advanced reactor designs, and extensions on station licences near expiration. Additionally, Bush proposed transferring the authority over nuclear station construction and some waste-disposal decisions from the states to federal agencies, and allowing independent producers of wholesale electricity to sell into the national grid to utilities free of state regulation.

Extending the licence of existing stations would keep stations like Turkey Point in business for at least another 20 years beyond their scheduled retirement date. The Department of Energy argues that 70 percent of such plants must be permitted to continue to operate at least two additional decades if the U.S. is to keep up with the increasing demand for electricity. It is expected that most, if not all, of the existing 108 stations will seek relicensing from the NRC under such an extended offer.

The last item in the Bush Administration's strategy, however, is of particular interest as it would permit large nuclear reactor designers like Westinghouse (which invented the PWR) and General Electric together with station contractors like Bechtel and Ebasco to build their own reactors and then sell the power to utilities without interference from state public utility commissions. In fact, Westinghouse and Bechtel have already formed a joint venture with a Michigan utility to buy and operate nuclear stations.

Westinghouse had been courting Florida Power & Light, in fact, as early as 1990 to consider an improved reactor design, ostensibly to replace Turkey Point when it is retired. Business Week reported that Westinghouse 'is at least getting a hearing at FP&L' (Business Week, 23 April 1990, p.101). FP&L officials have said that they 'seriously considered' a standardised mid-sized reactor 'but when we considered the uncertainties of the investment and the negative perceptions that still abound in the public, not to mention the waste issue, we just had to back away' ('A Comeback for Nuclear Power? Our Electric Future', Peter Miller, National Geographic, August 1991, p.87). Jerry Goldberg, president of FP&L's nuclear division, explained, however, that it was largely due to the licensing process that FP&L had no plans to build another nuclear station. 'Unless that part of our business is dramatically changed,' he noted, 'I doubt seriously any utility executive would be willing to risk another nuclear venture' ('Nuclear Economics', Tampa Tribune, 10th June 1991, p.10). At the time, said FP&L officials, the company was planning to build advanced gas turbine reactors, two new stations would be added, and two others upgraded by the end of the decade. Curiously enough, however, at the same time FP&L noted in one of its exhibits at its St. Lucie Visitor Centre that 'As with any technology, ways are constantly being sought to make nuclear power ever better. Reactors of the future will likely be smaller, simpler and even more safe and economical. Some of the new designs are passive. As standardized, advanced reactor designs are developed, nuclear power can help provide the... answer to meet future energy needs'.

With one-step licensing and standardised reactor designs, the industry argues that it could avoid the financial nightmares of the past and in so doing make nuclear power economically competitive with fossil-fuel fired stations. In the case of the Seabrook nuclear station in New Hampshire, for example, the second round of public hearings kept the station from operating for three years, costing the owner utility $1 billion in interest and other expenses. When the station eventually opened, it cost four times the original estimate. Nationwide, the U.S. industry, faced with various public challenges, has abandoned 120 nuclear stations since 1974 resulting in $10 billion of losses for utility stockholders.

Reactor designs also have become more complicated as utilities were required by various regulations and safety concerns to add multiple backup systems. As a consequence, there are 81 different designs among the U.S.'s 108 operating reactors. Construction times for the more complex stations rose to an average of more than 10 years in the 1980s. Delays for repairs also tend to be longer than in other countries like France, which has used a standard reactor design since the mid-1970s. Standardisation also has made it possible for the French government-owned utility, Electricité de France, to build stations in five years with lower investment costs. France, however, has not encountered as much public opposition as elsewhere; some suggest that the traditional

reluctance of the French to question central authority and the general support for a nuclear military policy explain the lack of resistance.

New standardised reactors, such as Westinghouse's AP600 advanced light water reactor (ALWR), would be half the size of current reactors and could be pre-built for on-site assembly. Proponents say simpler 'passively safe' designs could reduce the cost of nuclear-fired electricity by at least half. According to the U.S. Council for Energy Awareness, the completed capital costs for a 1,200 megawatt evolutionary light water reactor (an advanced version of a PWR) would be $1,590/KWE in comparison to stations that have averaged about $3,000/KWE over the last five years. Moreover, estimating that such a station could operate at 75 percent capacity for 30 years, the generating costs including capital outlays could average 4.3 cents per kilowatt-hour, making nuclear power competitive with coal (4.8 cents), gas (6.1 cents) and oil (8.1 cents).

Following the lead of the Bush Administration's efforts on behalf of the nuclear industry, the Senate Energy and National Resources Committee began consideration in early 1991 of legislation to set the nuclear strategy in operation. Coincidentally, in March 1991, the governments of Britain, France, Germany and Belgium jointly pledged their support for nuclear power and agreed to cooperate in the development of new reactors. In early 1992 the Senate approved the energy legislation, and a companion bill passed the House of Representatives in May 1992. President Bush signed a joint version of the legislation into law in the autumn of 1992.

Florida has been targeted by the nuclear industry, say proponents, as the site for the nation's first new nuclear station now that the required changes in regulation are in place. All Florida members of Congress voted for the energy legislation, and Florida Senator Bob Graham, chair of the Senate Subcommittee on Nuclear Regulation, in particular has lobbied for nuclear power. Some say the industry began considering Florida seriously as the site for the nation's next nuclear station in 1989 when Michael Wilson, then chairman of the Florida Public Service Commission, saying he had an open mind about nuclear power, publicly invited the industry into the state. Former Governor Bob Martinez, who appointed Wilson to the FPSC, cut state funding for solar-energy research during his administration. In similar fashion, since 1980 the Reagan and Bush Adminstrations have cut the Department of Energy's solar research funding from $770 million to $219 million in 1992. In comparison, funding for nuclear research was more than $430 million for the financial year 1992.

FP&L has since softened its public stance on ordering new nuclear stations. Following the Senate's approval of the energy legislation, FP&L Spokesman Ray Golden commented that, 'We have no plans for any nuclear construction right now, but we do believe as a utility that the option should be kept open' ('Nuclear Power Backers Focus on S. Florida', Robert McClure, Ft. Lauderdale Sun-Sentinel, 18th May 1992, p.4a).

In the U.K. the British Government and the nuclear industry, as equally concerned about the cost of nuclear-generated electricity as their American counterparts, also are looking to standardisation of nuclear reactor design as an answer to lowering such costs. If nuclear power is to be resurrected, and, indeed privatised, in Britain, sceptical investors must be persuaded that the technology can be cost-competitive with other traditionally cheaper energy sources such as oil and coal. Moreover, if the industry, and, Scottish Nuclear in particular, are to take advantage of marketing opportunities both domestically and overseas, nuclear power must become a competitively-priced technology.

Peter Mackay, Permanent Secretary of the Scottish Office Industry Department, has commented that, 'The economics of nuclear power generation are very important to the Government, and will be reviewed in 1994' ('They Came and Saw', Scottish Nuclear Hunterston Bulletin, June 1991, p.4). Indeed, Jeffrey, SNL's CEO, has admitted that, 'We must be able to prove... that nuclear can compete economically... with other forms of generation' ('Challenges to Take On', Scottish Nuclear News, February- March 1992, p. 5).

SNL Chairman Hann specifically noted at the Wealth of Nations conference in Edinburgh in June 1991 that, 'We need safe, simple and above all standardised "off the shelf" nuclear plants, built under settled licensing conditions with reasonable certainty about cost and construction time which will be competitive with other forms of generation' (Hann, The Vital Necessity of Nuclear Power, 14th June 1991, p. 12). More recently, at a January 1992 conference in London, Hann further explained that, 'If competitive designs cannot be found in the U.K., these must be sourced overseas' ('Filling the Energy Gap', Scottish Nuclear News, February-March 1992, p.8).

In doing so, SNL has been examining various reactor designs, including the ALWR, and may abandon its advanced gas cooled (AGR) technology for the newer reactors. Addressing an Institute of Energy conference in London in March 1991, the then CEO of SNL Richard Yeomans remarked that, 'The next plants will probably be pressurised water reactors. For the PWR, fuel and reprocessing costs will be 0.5p per unit. If sustained, this will make the future of PWR-produced nuclear power very much more competitive' ('How Nuclear Will Fit In', Scottish Nuclear News, April 1991, p.2). Operating costs for SNL's AGRs, including fuel and reprocessing, have been averaging 2.51p per unit.

The 1994 review of the nuclear industry will, in fact, include reconsideration of previous plans for four PWRs that were shelved in 1989 amidst controversy over the economics of the industry and privatisation. Government support for the PWR dates from Westinghouse's efforts to persuade Lord Marshall, at that time chairman of the UKAEA, to adopt the PWR over the U.K.'s own AGR. Eventually, Britain's manufacturing firm, GEC, took out a licence from Westinghouse to build PWRs in the U.K. - a licence since transferred to the National Nuclear Corporation - and in 1987 the Government (with Marshall as

chairman of the CEBG) decided to construct Britain's first PWR at Sizewell 'B'. Curiously, the South of Scotland Electricity Board argued at the Sizewell public inquiry in favour of retaining Britain's AGR technology and against PWRs. Presently, Nuclear Electric is completing construction on Sizewell 'B'. It also is perhaps interesting to note that NE engineers have been conferring regularly with SNL staff about their experiences with building Sizewell.

Given government changes in the nature and structure of the industry, SNL and the two Scottish electricity companies are keeping their options open as it concerns future marketing opportunities. Such opportunities, in addition to possible continuing changes of SNL's status as a government-run entity, may prove to be the greatest impetus for obtaining government permission for the construction of new nuclear stations in Scotland. As part of the privatisation of Scottish Power (SP) and Scottish Hydro-Electric (SHE), both companies were given entry into electricity markets in England and Wales. Under the terms of the March 1990 Pooling and Settling Agreements, SP, SHE and the other 12 regional electricity companies in Britain can sell electricity to each other and can contract directly with large industrial and commercial firms in each others' area to provide electricity. As such, SP and SHE are in direct competition with the regional utilities. However, each utility has a franchise to supply the major part of electricity within its respective area until March 1998, when the franchise will be eliminated and all electric utilities in Britain given unlimited entry into each others' market. To encourage and facilitate the creation of a single market in Britain, the U.K. Government is upgrading the transmission interconnector between Scotland and England. At present, the export capacity of the interconnector from Scotland is about 850 megawatts; upon completion of the upgrade by the end of 1994, the capacity will almost double to about 1,600 megawatts.

These changes will provide enormous opportunities not only for the Scottish utilities to expand their commercial operations but also for Scottish Nuclear. A larger share of Britain's electricity market for SP and SHE also means more business for SNL, from which both Scottish utilities must buy their electricity until April 2005, particularly if SNL can increase output at its Torness station. During 1991 the two reactors at Torness have operated with a load factor of 46.5 and 48.6 percent respectively, ranking them in the 299th and 308th position among reactors worldwide in terms of performance. Such inefficiency compares with SNL's other reactor at Hunterston which operated at a load factor of 89.2 percent during 1991, ranking it 34th in the world in performance.

More important, however, upon the expiry of its exclusive agreement with SP and SHE in the year 2005, SNL will be free to widen its own customer horizons, selling electricity to other utilities throughout Britain and elsewhere. It is this opportunity that SNL is particularly looking to - and strategically planning for - as it develops proposals for additional nuclear stations and more cost-effective reactors.

Moving toward such expanded markets, 'Scottish Nuclear is being run as if it were a plc, not a nationalised industry', says Chairman Hann, 'which no longer needs to follow past operational patterns' ('Looking at the Power Industry Through Different Eyes', The Scotsman, 15th June 1992, p.7). CEO Jeffrey has said, in fact, that, 'It is the strategic intention of Scottish Nuclear that within the foreseeable future - I am thinking of a time-frame definitely before the year 2000 - we believe we could and should be privatised' ('Fossil Fuels Not Answer to Future Generation', Ronald Banel, The Scotsman, 15th June 1992, p.7).

Jeffrey envisages moving SNL into areas of opportunity other than its core business. For example, he has suggested creating an Engineering Resources department as a separate business and building up a portfolio of customers. Hann may have indicated the direction of such an enterprise in addressing the 1992 annual conference of the EETPU. 'We must assist the nations of Eastern Europe and the old Soviet Union', said Hann, 'to improve their technology, safety record, management procedures and to enhance their overall standards' ('The Two Vital Years', Scottish Nuclear News, June 1992, p.7). SNL, in fact, has been doing just that since its inception. Company technicians visited the Bulgarian nuclear industry in 1991, presenting reports on SNL and its safety procedures. The British Nuclear Forum also organised tours of Torness in 1991 for representatives of the Czechoslovakian Nuclear Power Generation Industry. More recently, in May 1992, the Czech purchasing officer for the Nuclear Power Plants Research Institute visited SNL's new headquarters at East Kilbride and spent several weeks studying SNL procedures, systems and and training programmes. During the same time, SNL engineers hosted Soviet engineers from the Smolensk Atomic Power Station, exchanging technical information, and then returned to Desnogorsk with them. Desnogorsk is the site of the training simulator for staff from all RBMK (Reactor High Channel Power-Type) nuclear power stations in the former Soviet Union.

(iv) Nuclear Power and Public Opinion

But while the industry may have garnered the support of government and certain other public policy decision leaders with such pro-nuclear arguments, it has yet to fully convince the public that nuclear power is the preferable alternative to other energy sources. The costs of nuclear-generated electricity and marketing opportunities may be issues of concern to government officials and investors, but the public has other concerns, namely, safety, nuclear waste and pollution.

Public opinion on nuclear power in both the U.S. and U.K. show similar trends, which for the most part have been progressively negative. In general, the public is opposed to building more nuclear power stations. A Gallup poll conducted in the U.K. in July 1988 reported that 64 percent of respondents

opposed more nuclear stations while only 15 percent supported such construction. In August 1991 the Scottish Business Insider reported that opposition had softened somewhat - 55 percent were opposed while 27 percent were in favour - but still remained mainly negative ('Nuclear: The Power Without the Glory', Chris Baur, Scottish Business Insider, August 1991, p.2).

In the U.S. opponents also generally outnumber proponents of new stations. A Time/CNN poll conducted nationwide in April 1991 revealed that 52 percent were opposed to more stations while 40 percent favoured them ('Time to Choose', John Greenwald, Time, 29th April 1991, p.55). A more recent survey by the Safe Energy Communication Council in March 1992 indicates 65 percent are opposed and 27 percent in favour.

A curious note, however, to the Time/CNN poll was the fact that more Americans surveyed said that the U.S. should rely on nuclear power for its increased energy needs in the next 10 years - 40 percent - than all other sources including oil (25 percent), coal (22 percent) and other (5 percent). It would appear, as Time indeed reported, that Americans are ambivalent about nuclear power.

The ambivalence may be explained in part by the public's 'nimby' - not-in-my-backyard - position on nuclear power. Survey data from both the U.S. and U.K. indicate the presence of such a phenomenon, whereby the public may want nuclear power so long as new stations are built elsewhere in the country. When asked if a new nuclear station in their community would be acceptable, respondents in the Time/CNN poll were more strongly opposed -60 percent versus 34 percent in favour - than when questioned about building stations in general. Opposition in the U.S. to building a local station can be traced back prior to Chernobyl in 1986 and Three-Mile Island in 1979. In 1971, 25 percent of the public were opposed to such local stations; by 1978, such opposition had grown to 45 percent. Immediately following TMI, opposition increased to 63 percent in 1980, and after Chernobyl, increased further to 70 percent, as reported in a 1986 Gallup poll. Yet, trends toward increasing opposition are less striking when respondents were asked about supporting nuclear power in general, as Gamson and Modigliani (1989) report. Moreover, following TMI and Chernobyl, while there was an expected jump in opposition to nuclear power in general, such negative opinion soon receded to near pre-crisis levels, although not completely.

Similarly, in the U.K., surveys have shown higher opposition to building local stations than to building stations in general. Gallup polls in May 1976 reported 33 percent opposed to such local stations. Such opposition rose to almost 50 percent prior to Chernobyl and then after the accident to 66 percent. In the year following Chernobyl, however, opposition declined to earlier pre-accident levels, although, again, not entirely. It would seem that, as in the U.S., public opinion in Britain had been growing increasingly negative toward nuclear power in general, and local stations in particular, and that TMI and Chernobyl

accelerated that trend.

Within the nuclear power issue, perhaps the area that elicits the greatest public concern and opposition is nuclear waste, or 'radwaste' as it is referred to in Britain. Of all the issues in building nuclear stations, including workers' safety, the possibility of an accident, and the station's cost, respondents in the Time/CNN poll deemed the disposal of radioactive waste as the most serious problem - 89 percent versus 77, 75 and 56 percent for the other problems respectively. Similarly, in the U.K., the public ranks waste disposal as the top problem - 84 percent indicating their concern - in survey results reported by the Scottish Business Insider in August 1991. Morever, concern over such waste has increased in the U.K. over the years. In 1982, Gallup polls reported that 52 percent of the public were concerned 'a great deal'; by 1985 such concern had increased to 66 percent. In 1990, Gallup polls revealed that 68 percent of the public were concerned 'a great deal'. As expected, when asked about having a variety of facilities in their local community, including a nuclear power station and a chemical waste disposal site among others, most people said they least preferred having a nuclear waste disposal site - 70 percent versus 56 and 37 percent for the other facilities respectively - in a 1986 Gallup poll.

In other related issues, the public in Britain has also expressed concern about nuclear stations contaminating surrounding areas with radioactivity. In the same 1986 Gallup poll, nearly 66 percent of the respondents said they felt such stations polluted the local areas, and 50 percent said the stations were more damaging to the environment than other plants. By 1988, radioactive poisoning ranked in a Gallup poll as the fourth top problem people felt was endangering the future of the planet - 33 percent - with war between big powers (37 percent), poisoning of the environment (36 percent) and atomic destruction (36 percent) listed higher. The Scottish Business Insider confirmed similar concerns, reporting in August 1991 that the public felt nuclear power polluted the atmosphere (54 percent), polluted the seas and rivers (60 percent) and spoiled the environment (65 percent).

Section Three

(i) Public Policy Formation in a Democratic Society

The extent of the government-nuclear industry alliance both in the U.S. and Britain raises serious questions about the nature of public policy formation and the decision-making process in each society. While such issues as safety, waste and pollution have surfaced in the debate over nuclear power, other more fundamental concerns also are coming to the fore - namely, the influence of special interest groups in politics, the growing centralisation of state power, and the ever-increasing efforts by government to limit public participation in the political process. Indeed, as evidence mounts to indicate a decidedly pro-nuclear tilt in the political process, it would seem that early notions of pluralism as a guiding philosophy in governing society in both the U.S. and in Britain have been abandoned in favour of more elitist approaches which grant privileged positions to selected factions. Concerns over such favouritism are prompting a re-examination of the relationship between government and the governed and rearticulating 'the liberal dilemma of finding a balance between might and right, power and law, expert government and popular sovereignty' (Held, 1987:144).

Essentially, the debate over nuclear energy as a public policy issue is a struggle for political power among various factions, both within and without the government. It can be argued that politics is inherently a contest for control regardless of whether a society's system of government is democratic in nature or not. Indeed, as Held (1987) contends:

> 'Politics is about power; that is, it is about the capacity of social agents, agencies and institutions to maintain or transform their environment, social or physical. It is about the resources that underpin this capacity and about the forces that shape and influence its exercise.' (1987:275-77)

Given such factionalism, constitutional government, with its division of federal powers as envisaged by John Locke in Britain and James Madison in the U.S. among others, was founded in both societies for the express purpose of protecting yet controlling the interests of various groups and balancing the power of the state against the rights of the individual. As such, the role of government was intended to be one of mediator, protector and facilitator of public participation in the political process. Indeed, American theorists who subscribe to pluralism as a school of political thought maintain that the strength of the democratic model rests upon the opportunities provided by government for diverse interests to compete for power and influence while, at the same time, not permitting any one particular group to dominate the process.

The political realities of American and British society, however, are in marked contrast with such theories and with the intentions of early constitutionalists. Particularly in the case of the debate over nuclear power, an imbalance can be seen in opportunities for organisational input into policy formation and decision-making and the allocation of resources by government. With the degree of support the nuclear industry has received from government historically and in its recent advocational campaign, it is clear that, rather than being held in balance or treated equally by the state, pro-nuclear groups have assumed privileged positions in the formation of public policy. Instead of being a benign arbiter of political and private interests, government indeed has favoured selected factions to the distinct disadvantage of others. One need only compare the extent of government support given over the years to nuclear research and development with that allocated to alternative energies to note the obvious tilt in public policy.

Some contend that such favouritism to corporate interests is endemic to a society supported by a capitalist economy. As some neo-pluralists like Charles Lindblom (1977) argue:

> 'Because public functions in the market system rest in the hands of businessmen, it follows that jobs, prices, production, growth, the standard of living, and the economic security of everyone all rest in their hands. Consequently government officials cannot be indifferent to how well business performs its functions. Depression, inflation, or other economic disasters can bring down a government. A major function of government, therefore, is to see to it that businessmen perform their tasks.' (1977:122-23)

And yet, while corporate nuclear interests seem to have an undue influence upon government, which would look kindly upon national economic growth fuelled by nuclear power, it cannot be said that the state is merely a passive partner in the process. With the U.S. Department of Energy seeking to modernise its nuclear weapons production facilities and the British Defence Ministry arguing for the development of the Trident submarine programme, it is obvious that government is actively pursuing its own particular interests vis-à-vis nuclear energy and working in tandem with the nuclear industry to that end. As Held (1987) points out:

> 'It would be quite wrong to suggest that democratic institutions are controlled directly by the various economic interest groups with which they interact. In pursuing their own interests (e.g. the prestige and stability of their jobs, the influence of their departments), "state managers"... are more than likely to develop their own aims and objectives.' (1987:203)

(ii) Organised Influence: A Convergence of Interests and Resources

Rather, the government-nuclear industry alliance is a convergence of mutual interests of all partners concerned, with no one particular party being the sole prime mover. In this respect, both government and industry equally are 'political entrepreneurs' attempting 'to use available resources to maximum effect' 'whereby they might in future increase their capital' (Schlesinger, 1990:78-79).

That the nuclear industry brings considerable resources to bear in its pursuit of a pro-nuclear agenda is clearly evidenced by the extent of the industry's networking capabilities both within and without government (a reflection of its degree of institutionalisation), its considerable financial base (which an examination of its visitor centre programme later will underscore), and the 'aura of expertise' with which the industry has sought to surround itself. These various 'forms of capital' (Schlesinger, 1990:78) not only enhance the industry's efforts to wage an effective pro-nuclear campaign, but also give the industry a distinct advantage over other competing factions. As Held (1987) notes:

> 'Many people cannot stand for political office, not because they do not enjoy freedom of discussion but because they do not, in fact, have the necessary resources (whether these be time, organizational skills, money or capital). It is patently clear that there is a large variety of groups who simply do not have the means to compete in the national arena with those, say, who own and control the bulk of economic resources, or who direct powerful political apparatuses. Some do not have access to the minimum facilities for political mobilization of any kind.' (1987:183)

Given the limited financial resources available to most grassroots anti-nuclear organisations, for example, it is unlikely that any would be able to mount a successful political campaign to unseat the nuclear industry's advocates in Congress or Parliament, much less the Presidency or Office of Prime Minister. Such grassroots efforts often are defeated by incumbent politicians who traditionally garner the majority of campaign contributions in elections which are increasingly expensive to stand for. Equally, most anti-nuclear groups would be hard-pressed to launch an advocational campaign to the extent of that of the industry and compete head-to-head with corporate advertising, promotional literature and outreach programmes. While such groups may be able to counter the industry's efforts using other 'resources' (friendly media, grassroots campaigning, etc.), they do so from a starting point that is markedly disadvantaged.

Edelman (1964) notes these two 'broad patterns of group interest activity vis-à-vis public regulatory policy' - one having 'a relatively high degree of organization... a favorably perceived strategic position with respect to reference groups' and the other exhibiting 'a shared interest in improvement of status through protest activity... relative ineffectiveness in securing tangible resources through political activity... little organization for purposeful action' (1964:36). He further points out that the public regulatory policy process facilitates 'the exploitation of resources by knowledgeable organized groups (usually the "regulated") at the expense of taxpayers, consumers, or other unorganized groups' (1964:36). An organisation's resources, then, not only provide the critical edge in competing with other groups, but also allow it to secure an even greater share of future resources.

(iii) Ceremonial Reassurances: The Dance of Regulators and Regulated

That anti-popularist behaviour seems to be the rule rather than the norm in societies that have prided themselves on being beacons of democracy in an otherwise darkened world is not surprising to some who contend that all politics consists chiefly of ceremonial rituals intended to promote public acquiescence, social harmony and political order (Edelman, 1964). As Edelman argues:

> 'Studies of legislative and administrative behaviour {show} that neither of these depends primarily upon election outcomes. So what people get does not depend mainly on their votes... Many of the public programs universally taught and believed to benefit a mass public in fact benefit relatively small groups... What people get from government is what administrators do about their problems rather than the promises of statutes, constitutions, or oratory. Administrators have wide leeway in practice to respond to the interests of groups that can exert economic, political, moral, or organizational sanctions against them.' (1964:3,4,193)

Moreover, contends Edelman, the consensus of public values on the fundamental policy directions in the U.S. throughout history has allowed 'non-governmental groups and organizations {to} enjoy a maximum degree of maneuverability because they are not constantly opposed by adversary groupings, and most of the public remains uninvolved and uncritical' (1964:176).

With the rise of modern industrial society, government has expanded its public bureaucracy accordingly (Marcuse, 1964). While some have argued that bureaucratic management is necessary for the efficient functioning of large-scale

capitalism (Schumpeter, 1976), others have expressed reservations that, in the absence of a system of checks and balances, bureaucratic organisations can become forces unto themselves to the detriment of less powerful private interests and the general public (Weber, 1978). Indeed, theorists on American and British politics since Alexis de Tocqueville and John Stuart Mill have cautioned against the 'dictates of the public administrator infringing upon the liberty of citizens' (Held, 1987:88-90).

As the nuclear industry has developed in the U.S. and Britain so have the government agencies responsible for its regulation, both at the national and local levels. As the history of the industry shows, such agencies have grown to be powerful entities in their own right, often bypassing other government bodies (as in the case of the NRC turning to the Bush Administration for assistance in implementing one-step licensing after being thwarted by the U.S. courts) or excluding them outright (as happened when the Atomic Energy Research Establishment was initiated without the consultation of Parliament). Moreover, recent efforts, as evidenced by U.S. legislation passed in 1992, seek to further limit public input on policy making and to distance the authority of federal agencies regarding decisions on nuclear station construction and waste disposal from intrusions by local and state government.

It has been suggested - as indeed an examination of the nuclear issue bears out - that most public regulatory policies serve the interests of the regulated groups (Herring, 1936; Leiserson, 1942; Truman, 1951; Bernstein, 1955). Moreover, given the degree of symbiosis (some would say incest) between regulator and regulated - often including exchanges of staff as particularly evidenced between Britain's nuclear agencies and industry - the two sides of the same coin 'become necessary instruments for each other' (Edelman, 1964:51). Indeed, as Edelman points out, 'as the industry grows, so does their {the regulators} function and importance' to the extent that, finally, 'those who administer the rules... become in effect part of the management of the organizations they regulate, through roletaking' (Edelman, 1964:57,66). In such an atmosphere, 'enforcement is played as a game... implicitly permitting evasions... inefficient inspection... perspective and values {are} shared.... administrative inactivity {and} conformity {are} encouraged... {and} occasional decisions {made} slapping the industry but not altering the major trend' (Edelman, 1964: 47-67,145). One need only examine the record of FP&L's Turkey Point nuclear station - with its history of more than $1.5 million in fines for hundreds of safety violations since its opening in 1971 - to realise that the NRC only could have granted such a facility permission to continue in operation because the interests and future of both regulators and regulated are invariably intertwined. For the NRC to have forced FP&L to close the station not only would have violated the 'rules of the game', but it also would have produced a strong counter-attack upon the agency by the corporation. Inevitably, the propriety of both

regulator and regulated would have been called into question and sanctions imposed (by another 'competing' government agency) upon all.

And, yet, while enforcement may be only a 'game', sufficient symbolic rituals must be performed to reassure the public that the general will or public interest is indeed being served 'in the face of private tactics that might otherwise be expected to produce resentment, protest and resistance' (Edelman, 1964:56). Accordingly, public hearings or inquiries (as in the recent case of Sizewell 'B') and press conferences are held, statutes enacted (after the Sizewell hearings, the British Government declared it would not allow further stations to be built pending a formal review of the nuclear industry) and fines imposed. In reality, however, while the symbolic activity 'induces a feeling of well-being {in an acquiescent public}... their indirect effect is to permit greater claims upon tangible resources by the organized groups concerned than would be possible if the legal symbols were absent' (Edelman, 1964:38). In this regard, it is interesting to note that in the wake of its Sizewell 'ruling', the British Government proceeded apace with plans to establish Scottish Nuclear and Nuclear Electric as quasi-privatised companies, spending £2084 million on loan extinguishments for SNL alone in the process.

(iv) Information Monopolies and the Control of Power

The masking of hidden realities in the public policy-making process by regulators and regulated alike implies that invisibility facilitates exploitation (Edelman, 1964). Indeed, Edelman observes that such disadvantaging of the general public 'is possible only because {they} do not know what is happening' (1964:36). If information is power, then its control is essential to maintaining dominance of the uninformed.

It would seem that the nuclear industry has endeavoured to achieve such control by claiming an expertise on nuclear issues and by limiting public access to information and participation in policy-making. While the first is perhaps a consequence of the rise of rationalism in modern society and the elevated status of science and technology (Giddens, 1972), it also is a role that the nuclear industry has expressly cultivated. Studies of the information flow following Chernobyl (NOU, 1986; Nohrstedt, 1991; Paine, 1992) have underscored attempts by the industry and various governments (Sweden and Norway in particular) to centralise information dissemination in the hands of 'a very small elite of experts', to couch such information in technical language 'not easy to understand either for journalists or the general public' (Nohrstedt, 1991:480) and to exercise an 'ownership' not only of the 'facts' but of the public problem (Paine, 1992:263-64). However, while respective governments may have retained political control by exercising an 'information monopoly' (Nohrstedt, 1991:480), the Chernobyl experience brought in its wake increasing problems of credibility

owing to the lack of public confidence in government authorities and nuclear power (NOU, 1986; Nohrstedt, 1991). Moreover, the incident at Chernobyl raised a growing question of legitimacy for such administrations particularly vis-à-vis certain ethnic populations (ie. southern Saami reindeer pastoralists in Norway) and the general public as a whole which felt that their consent as 'the governed' had been forcibly appropriated rather than freely given (Paine, 1991:266).

Information control, of necessity, also requires restricting public access to such information and limiting public input in the decision-making process. Again, government responses to Chernobyl in the afore-mentioned studies suggest a distinct pattern of exclusion of citizens' access to information (Nohrstedt, 1991) and of participation by affected groups in choosing solutions to problems of radiation upon health and agricultural livelihoods (Paine, 1992). Such efforts, however, while serving to consolidate government authority, only further exacerbated the growing crisis of information, credibility and legitimacy in each society.

All that notwithstanding, recent legislation enacted in the U.S. by the Bush Administration, as discussed, is an attempt by the government-nuclear industry alliance to maintain control by further restricting public participation in the licensing process of nuclear power stations. By limiting debate to only one public hearing before granting a station permission to operate (instead of two such hearings as required previously), the government may have streamlined the regulatory process, but it also has effectively halved opportunities by interveners to request pertinent information, to question regulators and regulated alike and to present contrasting points of view. Such restrictions and limitations constitute as much an exercise of power as the actual decision-making of government itself inasmuch as they create or reinforce, according to Bachrach and Baratz (1962), 'barriers to the airing of policy conflicts' (1962:947-52; also cf. Schattschneider, 1960). As Bachrach and Baratz observe:

> 'Of course, power is exercised when A participates in the making of decisions that affect B. But power is also exercised when A devotes his energies to creating or reinforcing social and political values and institutional practices that limit the scope of the political process to public consideration of only those issues which are comparatively innocuous to A. To the extent that A succeeds in doing this, B is prevented, for all practical purposes, from bringing to the fore any issues that might in their resolution be seriously detrimental to A's set of preferences.' (1962:949)

(v) The Media and Chernobyl: Accessories to the Crime?

It has been suggested that the media have contributed in part to the 'information crisis' and the 'information monopoly' of the government-nuclear industry alliance as an examination of the Chernobyl experience seems to indicate. Critics point out, for example, that the Swedish media 'had very little knowledge about radiation before Chernobyl in spite of the fact that Sweden had had a plebiscite in 1980 on nuclear energy production' (Nohrstedt, 1991:480). As a consequence, the media added to the general confusion in some cases by publishing 'what in specialist circles would be called disinformation, for example, concerning assumed relations between air contamination and radioactivity levels in vegetables' (Nohrstedt, 1991:492). In Norway, the media indulged in sensational reporting early in its coverage rather than providing much-needed facts on the situation. As Paine (1992) notes:

> 'After the "exposures" from the Geological Survey there was widespread unease, and the media played upon it, sometimes quite insidiously. For instance, a few moments before that televised exchange between the Health Directorate and the Geological Survey, viewers were treated to a lady in distress over her garden chives and rhubarb now that she had heard on the radio that there was, after all, so much radiation in her neighbourhood.'(1992:264)

Such criticism of the media, however, is not unique to either the Swedish or Norwegian media. The Potomac Communications Group, a Washington, D.C.-based media analysis service, has criticised coverage of Chernobyl by the U.S. television networks, 'charging that the networks hyped the story, using the most extreme fatality figures available and the strongest speculation' (Friedman et al., 1992:307). A further study of U.S. media coverage of Chernobyl reveals a lack of information on the Soviet and European nuclear industry (ie. safety records, past accidents, current status) both in the quality press and on the three major television networks (Friedman et al., 1992). As the study concludes:

> 'To account for the lack of information, we can only speculate that US reporters did not follow nuclear issues in Europe and that foreign correspondents for US newspapers did not consider nuclear power a major coverage area and did not know much about the subject.' (1992:312)

More important, however, the media's lack of preparation on nuclear issues, particularly in Sweden and Norway, forced journalists 'to rely upon a very

small elite of experts for their information' (Nohrstedt, 1991:480). Such dependency, in turn, permitted government sources to dominate media coverage at least initially. According to Paine (1992), an analysis of media coverage in Norway shows that:

> 'The media had accepted uncritically information fed to them by the authorities. In other words, they temporarily abandoned their routine of cross-checking and questioning. If anything, responses of the general public to the situation were ahead of those from their media. Broad social and geographical sectors of the public were listening to Swedish and other foreign newscasts... so they wanted to know more.' (1992:264)

A review of media coverage in Sweden similarly indicates that 'the media hardly criticized the authorities and mainly functioned as their megaphones during the first two weeks' (Nohrstedt, 1991:492). According to Nohrstedt (1991):

> 'Westerstahl and Johansson (1987) report that one-third of the actors mentioned in the national or regional news programmes were central authorities. Grondahl found the SSI {National Institute for Radiation Protection} to be the source in 20 percent of the articles studied. As a whole the authorities are quoted in 30-40 percent of the articles. The general conclusion is that there were no difficulties for the central authorities in getting their messages through (Grondahl, 1986; Nohrstedt and Lekare, 1987; Westerstahl and Johansson, 1987).' (1991:491)

The Chernobyl experience thus serves as an illustration of the access the media afford to those sources which are considered 'accredited' or 'authoritative' (Hall et al., 1978:58) 'in virtue of their institutional power, representative standing or claims to expert knowledge' (Schlesinger, 1990:65). As a consequence of such access, these spokesmen can and often do serve as 'the primary definers of topics... {which}.... permits the institutional definers to establish the initial definition or **primary interpretation** of the topic in question. This interpretation then "commands the field" in all subsequent treatment and sets the terms of reference within which all further coverage of debate takes place' (Hall et al., 1978:58; authors' emphases). Indeed, to the extent that Swedish government officials, in particular, were able to dominate media coverage as information sources, Chernobyl was 'framed' more as a Soviet nuclear accident and less as a local crisis for 'the radiation protection system, nuclear power and the relations between citizens and authorities' (Nohrstedt,

1991:491). In providing the primary interpretation of the event - as indeed reflected in the analysis of Swedish national media coverage (Nohrstedt, 1991)- the central authorities further consolidated their position of 'information monopoly' during the situation.

It also has been suggested the media further added to the Chernobyl 'information crisis' by providing uncritical coverage of differing government reports of radiation levels, solutions to public health problems, etc. As Paine (1992) observes about the media in Norway:

> 'Much unease was not being reported by the media, and a great deal of that was over the questionable validity and lack of specificity in the information the government did release.' (1992:264)

More pointedly, Nohrstedt (1991) concludes that in Sweden:

> 'What journalists have been criticized for especially is that they contributed to the confusion by reporting contradictory estimates of the radiation levels or conflicting recommendations from unauthorized "experts" or laymen more often than not the authorities were far from unanimous.' (1991:493)

Some have argued that, at the very least, the general failure of the media to provide full and balanced coverage of Chernobyl may have 'contributed to misunderstandings or lack of knowledge about nuclear power', and, in the case of U.S. media coverage, this may have meant that:

> 'These media organizations passed up a golden opportunity to help readers and viewers better understand a complex technology and more objectively evaluate its risks and benefits for themselves and for society.' (Friedman et al., 1992:321)

More important, the failure by the media to fulfil their appointed role as an aggressive, independent 'forum for exchange of information between authorities, experts and citizens' not only 'could be very damaging for people's confidence in the news media' but 'could be very dangerous for the whole {political and social} system' (Nohrstedt, 1991:492, 495-96). If the public should conclude that the media are merely serving as a mouthpiece for government officials, then 'the authorities might find that they had lost the most important channel of information to the people' (Nohrstedt, 1991:496). Lacking both trust and access to its citizens, such authorities most certainly would face not only an 'information crisis' but a legitimacy crisis of the gravest proportions.

Chapter Three

METHODOLOGICAL APPROACHES

(i) Introduction

(ii) The Comparative Approach

(iii) Research Methodology

(iv) Case Studies and Content Analysis

(v) Field Visits and Observations

(vi) In-depth Interviews

(vii) Survey Research

(i) Introduction

This research study has a three-fold purpose:1) to examine the role of corporate public relations in the nuclear industry in the U.S. and Britain as it relates to the process of issues management, 2) to examine the use of visitor centres as an integral part of advocational campaigns and strategic public relations planning in the industry, and 3) to analyse the use of environmental messages in such campaigns.

The units of analysis, or sample corporate entities, selected for this study were Florida Power and Light (FP&L), headquartered in Juno Beach, Florida, and Scottish Nuclear Limited (SNL), headquartered in East Kilbride, a town just outside Glasgow, Scotland. While the two companies differ in certain respects - FP&L is an investor-owned electric utility whereas SNL is owned by the British Government, for example - both companies and their respective regions are similar in size of service area as well as the nature and extent of nuclear operations (see Chapter 1).

A combination of various qualitative methods were used in this study. A textual analysis of corporate media provided insight into the various strategies, tactics and messages employed as well as the key publics targeted by such media. A textual analysis of antecedent corporate media both in the U.S. and Britain, based upon the comparative case study method, moreover, provided additional data as to the origins of the campaigns under study. In-depth, semi-structured interviews with key corporate figures, followed by written surveys of said figures, also were conducted to further probe the issues management process and the development of corporate public relations strategies. Additionally, a textual analysis of press coverage provided an opportunity to compare such coverage with corporate efforts to communicate key messages to various publics. In-depth, semi-structured interviews with representatives of various government agencies and of the scientific community also were conducted to provide background information about the issue of nuclear energy. Finally, field observations of selected industry visitor centres provided further data on the design and use of such centres.

(ii) The Comparative Approach

It has been suggested that 'the very nature of sociological research is considered comparative, and thinking in comparative terms is inherent in sociology' (Oyen, 1990:3-4).

Indeed, one cannot fully examine the sociology of communication - which has been defined as a process - much less corporate public relations strategies and campaigns without considering the various internal and external components of the communication dynamic in relationship to one another.

A cross-national study of phenomena in Florida and Scotland, or 'trans-national' study as some have labelled such research (Charvat, Stamatiou and Villain-Gandossi, 1988) - using countries or legally recognised 'states' as units of analysis - not only parallels the design of most comparative research since 1945 but 'underpin{s} much of the empirical foundations of contemporary macro social, economic and political theory. They {country comparisons} dominate how we think about political and social systems groups, firms and organizations within countries' (Teune, 1990:40-41). Furthermore, most cross-national studies historically have focused on countries and states in Western Europe and North America (Oyen, 1990:16).

The selection of corporate nuclear organisations in Florida and Scotland for examination, however, was not done merely as a pro-forma methodological exercise but as a purposive comparative inquiry into the growing globalisation of social, political and economic forces and problems in an industry that has had a history of international dimensions since its inception. Indeed, it has been argued that problems which are increasingly global in nature, such as poverty and environmental pollution, are, in fact, directing the course of comparative research more so than other areas which traditionally have been the impetus and focus of sociological research (Oyen, 1990:1-2). While, conversely, it may be debated that certain social phenomena are inherent within a given culture and not the result of diffusion from without, nevertheless, a comparative analysis of corporate nuclear public relations in the U.S. and Britain strongly suggests a cross-national exchange of intelligence. Indeed, the development of nuclear energy in both nation-states is a history of bilateral cooperation with both countries closely modelling their programmes after one another, and of global alliances among many of the Western nuclear superpowers (Teune, 1973, 1990), as a historical retrospect illustrates (see Chapter 1).

Such a macro comparative study of cross-national diffusion of public relations strategies and tactics in the American and British nuclear industry, however, encompasses a micro examination of the particular nuclear organisations concerned. Indeed, the two levels of perspective necessarily imply one another, as 'together they constitute a relational concept, just as "left" is relational to "right"' (Teune, 1990:39). One cannot identify nuclear corporate exchanges, much less compare public relations approaches, without also closely focusing on individual players. In selecting two particular entities for comparative inquiry, the study as such may be considered 'empirically intensive' in nature (Lane, 1990:189; Ragin, 1989).

An examination of the nuclear public relations strategies of Florida Power and Light and Scottish Nuclear Limited also necessarily implies an analysis of corporate relationships with key publics targeted by such strategies, and, particularly, those publics involved in the process of public policy formation. It has been suggested that the 'best observational cut or slice of a country in order

to tap its political system or society' may indeed be 'national elites of various kinds; local governments; the people; political institutions... bureaucracies' (Teune, 1990: 50). In taking such an approach, the problem of equivalence across systems may be mimimalised inasmuch as 'the comparison of countries in which the cultural contexts surrounding the "something" to be compared are as similar as possible' (Etzioni-Halvey, 1990:118), as is the case with the study at hand of two similar corporate entities, industries and countries. Moreover, as Teune (1990) suggests:

> 'One way to reduce the equivalence problem is to compare relationships and change over time within and across systems... In fact, many comparisons among countries are now of relationships within them.' (1990:54-55)

Indeed, a critical review of nuclear campaigning reveals not only similarities and contrasts in corporate relationships with various elites in the U.S. and Britain, but, more important, the national and global implications of such relationships.

While one may argue that American society as a 'contest system' is a structure of multiple elites whereas British society as a 'sponsorship system' features a centralised elite structure (Turner, 1990:136), nevertheless, it is the nature of corporate-elite relationships within the nuclear context, however structured the society, that warrant closer examination. In this respect, the study parallels and expands upon earlier cross-national comparative research of collusion among political-parliamentary-economic elites in Britain and Australia and the overrepresentation of corporate interests at the expense of unorganised public interests in the government decision-making process (Etzioni-Halevy, 1990) by focusing upon such activity from a corporate perspective and by examining such collusion among a multiple of elites.

Given the assumption that no single theory can best explain the complexity of the human experience, a variety of theoretical constructs were used to frame (and, hopefully, to explain) the phenomena under study. Such theoretical pluralism, encompassing a 'family of perspectives' (Galtung, 1990:101) from issues management, social action, concentric circle and agenda-setting theory, does not artifically limit the inquiry to a one or two-dimensional approach but, instead, admits the variety of social reality and the intricate, tangled web of human relationships.

(iii) Research Methodology

In keeping with a pluralistic theoretical perspective, a variety of qualitative research methods were used to gather and analyse data. Inasmuch as any method has its own particular strengths as well as weaknesses, it was decided that a mix of content analysis, survey research, and semi-structured interviews together would serve the inquiry to best advantage. Indeed, as Anderson (1992) has noted:

> 'It should not be a case of choosing between one {research} tradition or the other... previous researchers have successfully combined different methods, such as content analysis and interviews, which have clearly complemented each other (for example, Schlesinger, 1990; Tumber, 1982; Warren, 1990).' (1992:79)

Accordingly, a qualitative content analysis of corporate nuclear organisational materials (ie. brochures, press releases, internal correspondence and advertising), and national press coverage of FP&L and SNL launches of their respective visitor centres was conducted. Certain materials were obtained upon request from corporate figures during face-to-face interviews or obtained by mail from those interviewed subsequent to the meetings. Other materials were solicited by mail from those figures who were unavailable for in-person interviews. In requesting organisational materials, particularly from FP&L and SNL, a concerted effort was made to gather such collateral as would demonstrate the nature and extent to which each corporate advocational campaign was endeavouring to communicate with key publics in keeping with the company's strategic public relations plan. Inasmuch as each corporate entity revealed during face-to-face interviews and in subsequent survey research those publics considered critical to the organisation, requests were made specifically for materials targeted to said publics.

In examining such materials, however, several disadvantages in the use of content analysis were recognised. Traditionally used, content analysis 'depends upon counts of words or phrases' (Turner, 1990:147) which 'does not allow the researcher to analyse the way in which meanings are constructed through language and imagery and the overall context in which they are placed' (Anderson, 1992:80). Moreover, such an approach, while an unobtrusive method of gathering data, is, nevertheless, 'an indirect method of observation because inferences are being made from the analysed communication content to something else that is not observed' (Turner, 1990:146).

As a consequence, textual analysis in this study focused on identifying and tracing various themes or messages throughout the materials rather than on accumulating statistical data on the frequency with which items appear. Inasmuch

as the study concerned itself largely with the 'greening' of the corporate nuclear image, content analysis of corporate organisational materials concentrated on an examination of various 'eco-nuclear' themes or messages (for example, nuclear power as 'environmentally-friendly'). Such an application of content analysis - 'the more difficult identification of themes and plots' - 'is better suited for comparing national world views' (Turner, 1990:148) and for establishing cross-cultural equivalence. Given that the corporate structures to be compared were so similar in nature, the organisational materials generated by these entities were similar as well, which further aided in minimising problems of equivalence. Moreover, tracing themes in corporate organisational materials is particularly appropriate for a study that also is examining cross-national collusion of elites.

To compensate for the two-dimensional nature of content analysis, several field trips were made to examine first-hand the visitor centres of FP&L and SNL, with regard to the content and use of various corporate exhibits and displays. In analysing these corporate communication vehicles, the holistic impact of their presentation - verbal, visual and acoustic - was noted where appropriate.

Finally, to provide insight into the construction of corporate nuclear materials, several in-depth, semi-structured interviews were conducted with key figures from both FP&L and SNL. In Scotland, four such interviews with SNL officials were conducted in face-to-face meetings; in Florida, two interviews with FP&L representatives were conducted face-to-face, and three others conducted through telephone conversations. Similarly, interviews also were conducted with representatives of various government agencies and of the scientific community in Florida to obtain additional background information on the issue of nuclear energy and on FP&L in particular. Two such interviews were conducted through telephone conversations.

To further 'flesh out' corporate interview responses, respondents were asked to complete and return by mail a written questionnaire. The questionnaire was administered following the initial interview with each key corporate figure from FP&L and SNL, and consisted of open-ended, Likert and numerical scale questions addressing new and previously discussed topics in a more structured, focused manner. Following the completion of the questionnaires, a subsequent face-to-face interview with each respondent was conducted to further explore questionnaire responses and new topics of discussion.

Finally, it should be noted that while all the various criteria for such a study pointed to an examination of corporate nuclear organisations in the U.S. and Britain, FP&L and SNL were selected for analysis because they not only were representative of the nuclear industry in both countries but also afforded - and, in the case of SNL, invited - relatively easy access to review. As some researchers have noted (Oyen, 1990), the selection of countries for comparative study is often determined by the accessibility of data.

In the case of SNL, company CEO James Hann invited university researchers attending a lecture in the University of Stirling's Public Relations Lecture Series in Glasgow in April 1991 to make a case study of SNL's public relations strategies. SNL Public Relations Manager Dick Marshall, who also attended the lecture, offered to be the main point of contact for such a study and assured open access and full company cooperation. The invitation was subsequently drawn to the attention of this researcher by Philip Schlesinger, then Head of the Film and Media Studies department at the University of Stirling and supervising professor of the thesis research. A comparative study with the U.S. became a reality following contact with FP&L Supervisor-Nuclear Information Tom Veenstra, a friend and colleague of the Miami Chapter Public Relations Society of America, who similarly agreed to participate in the research project. FP&L, moreover, recently had been awarded a national Silver Anvil Award from PRSA in recognition of a communication programme for its nuclear power station at Turkey Point in Miami. The company's public relations efforts, then, seemed to be particularly worthy of study. Given the comparable size and nature of operations and emerging similarities of public relations programmes, including visitor centres, the two companies seemed ideally suited for a cross-national study. Moreover, familiarity with FP&L's Florida environment and proximity to both company locations via Miami and Stirling, further influenced the choice of organisations, and later served to facilitate and enhance the research process.

(iv) Case Studies and Content Analysis

A critical review of corporate media of both FP&L and SNL, as well as media of antecedent 'case study' and other current corporate nuclear campaigns, was conducted with the objective of identifying key corporate themes, messages, strategies and tactics for comparative purposes. Antecedent and other current corporate nuclear campaigns were identified through literature searches and contacts with corporate nuclear organisations. Specifically, during an initial interview with FP&L's Tom Veenstra, Metropolitan Edison's Three-Mile Island visitor centre campaign was referenced by Veenstra as a 'model' programme and press clippings were provided to that effect. Research into the Three-Mile Island campaign, in turn, led to a review of Pacific Gas and Electric's California campaigns as earlier models for TMI. In a similar initial interview, SNL's Dick Marshall referenced TMI and British Nuclear Fuel's Sellafield campaigns as 'model' programmes warranting closer examination.

It should be noted that in addition to referencing such campaigns, both FP&L and SNL figures also provided information on contacting corporate nuclear sources for materials. Veenstra at FP&L suggested the U.S. Council on Energy Awareness as a source, and SNL's Marshall offered contact information on BNFL and the United Kingdom Atomic Energy Authority. Curiously enough, however,

written requests to these organisations for campaign materials and other information on nuclear power met with a mixed response. While BNFL gladly provided a wealth of media, including a video of various BNFL television commercials for Sellafield, as did UKAEA, the USCEA did not respond at all to the inquiry. Various brochures on nuclear power were finally secured by responding anonymously to a USCEA advertisement in Time magazine offering the general public such materials.

(v) Field Visits and Observations

In order to fully assess corporate nuclear campaigning and use of visitor centres as the primary advocational vehicle in such campaigning, field visits were made by this researcher to FP&L's visitor centre at St. Lucie and to SNL's visitor centre at Torness. Many of the corporate campaign materials of each company - displays, exhibits, films - and organisational collateral provided to the public - booklets, brochures, charts - were viewed within their complete verbal, visual, acoustic and public context. So as to observe the centres and visitors to the centres as naturally and unobtrusively as possible, this researcher arranged to visit the two above mentioned centres with a minimum of assistance from both FP&L and SNL. In the case of FP&L's St. Lucie site, this took the form of a self-guided tour of the facility following an in-depth interview with the centre's director. A tour of Torness, however, had to be arranged through SNL's public affairs office due to the inaccessibility of the site to public transport and the absence of private transportation. Nevertheless, SNL merely arranged for this researcher to accompany a tour group of school children travelling by SNL's 'Come & See' coach from Edinburgh to Torness; in no other way did SNL intervene or guide the visit beyond the normal operations of a public tour. It should be noted that a similar tour of SNL's Hunterston visitor centre also had been scheduled; the visit, indeed all such visits, were temporarily cancelled, however, immediately following a fire at the station, leaving a tour of Torness as the only available option.

As part of the process of textually analysing corporate organisational materials for the purpose of tracing key themes and messages, both FP&L and SNL's public relations managers initially were asked to complete a questionnaire identifying, among other items, the five most important messages their company wished to communicate to its publics as well as the message(s) targeted to each particular public. The questionnaire also asked the managers to rank order the issues of most concern to their company. A list of such issues was provided with the issues having been culled from those represented by the various exhibits and displays at each company's visitor centre (ie. nuclear radiation leaks, nuclear waste disposal, nuclear costs, etc.). The survey responses were then used as a guide in identifying and tracing corporate nuclear themes and messages

throughout corporate organisational materials. Additionally, in the case of SNL, a critical aid was provided in analysing corporate campaign materials. During an initial interview, SNL Public Relations Manager Dick Marshall provided a copy of an internal document which fully outlined the company's public relations strategies, objectives, publics, themes and messages. This document, together with the survey responses which correlated fully with the company's strategic plan, was a veritable roadmap for the campaign and its materials. While no such document was available from FP&L, in-depth interviews of key corporate figures and the completed questionnaire provided the essential direction for interpreting the corporate campaign and organisational materials.

It should be noted, particularly in the case of SNL, which provided certain internal documents considered to be confidential in nature, that at no time did either SNL or FP&L restrict use of such materials by this researcher. Throughout the course of this research project, it was understood by all parties concerned that any and all data provided would be included as part of a doctoral thesis, shared with other researchers and indeed published in journals and other media. All materials provided can be considered part of the public domain.

As has been discussed (see Chapters 6 and 8) both FP&L and SNL consider 'green' themes and messages to be of primary importance and have accordingly fashioned 'eco-nuclear' campaigns to present nuclear power to key publics as an 'environmentally-friendly' energy source, using visitor centres as the communication centrepiece for their advocational efforts. A critical review of each corporate campaign, in addition to a contextual analysis of organisational materials, also included a qualitative analysis of press coverage of the launch of each company's visitor centre programme. As with corporate materials, a content analysis was conducted of three national and two local community newspapers in Scotland, and of three local community newspapers in Florida during the week immediately following the launch of FP&L's St. Lucie Centre (beginning 16th November 1990 and ending 23rd November 1990) and of SNL's Torness centre (beginning 16th May 1991 and ending 23rd May 1991). The newspapers comprised: The Stuart News, The St. Lucie Tribune, The Palm Beach Post, (Florida); the Edinburgh Evening News, the Glasgow Herald, The Scotsman, the East Lothian News, and the East Lothian Courier (Scotland).

The analysis of press coverage, in particular, traced the presence of key corporate themes and messages, as established above, and the extent to which such coverage incorporated corporate information provided to the media for the launch of each visitor centre. A copy of all such materials distributed to the media at the press conference launching each centre - news releases, photos, fact sheets, etc. - was obtained from both FP&L and SNL, and then compared with the press coverage of each newspaper. As noted (see Chapter 8), in many instances such coverage closely reflects corporate materials, and often repeats source information verbatim.

(vi) In-depth Interviews

Between June 1991 and June 1992 a total of 11 semi-structured, in-depth interviews were conducted with corporate figures, representatives of various government agencies and of the scientific community (see Appendix 1). The length of time between the first and the last interview reflects a multiplicity of problems in access traversing trans-Atlantic and intraregional distances, and scheduling conflicts. Moreover, despite an initial enthusiasm, several of the key corporate figures were less amenable (and available) to follow-up interviews. A second interview with Tom Veenstra of FP&L, for example, was subsequently conducted through the telephone as was a follow-up interview with FP&L's Visitor Centre Director Janice Brady.

Interviews of corporate and other figures, while based around a list of questions, were sufficiently unstructured to allow for discussion of interviewee initiated topics and for probing of interviewees' answers (see Appendix 2). In so doing, interviewees were able to present and to elaborate on other issues that they felt were important beyond those being raised on the formal interview agenda. As a consequence, however, it was not possible to ask the interviewees all the questions listed, particularly as most were pressed for time (especially the corporate figures). Only those questions considered to be the most critical for discussion, then, were posed while other questions of less import (simple inquiries seeking facts, figures and collateral materials, for example) were directed in the case of the corporate figures to interviewees in subsequent correspondence or in follow-up interviews.

However, while follow-up interviews with corporate figures did provide additional data, those sessions conducted by telephone, in the case of FP&L as previously mentioned, did not allow for as full a discussion as did the earlier face-to-face interviews. As Tyebjee (1979) has noted:

> 'When the nature of the question requires in-depth probing, personal interviews provide more depth of response than telephone interviews... {moreover}, when observations by the interviewer are an important part of the survey... personal interviews are more suitable than telephone surveys.' (Tyebjee, 1979:71-77)

Initially, the theoretical focus of the first interview (with SNL's Marshall) was on the use of various corporate public relations strategies and tactics to communicate a multiplicity of messages to key publics around which the questions were framed. However, during the interview it became clear that the major thrust of SNL's public relations efforts was centred around the company's 'Come & See' programme; indeed, the internal document previously mentioned

unveiling the corporate strategy was presented during this initial interview. As a consequence, follow-up interviews with SNL figures as well as all subsequent interviews with corporate and other figures focused primarily upon the use of visitor centres as strategic advocational vehicles and the communication of 'eco-nuclear' messages to key publics. Such interviews with FP&L figures only served to further confirm the parallel thrust of corporate nuclear campaigning in the U.S.

Interview questions (both those on the schedule and those which were extemporary) were framed in such a way so as to be as objective and as free of interviewer bias as possible. It should be noted that some informal pre-interview conversation was necessary to establish a sense of trust and to allay interviewee fears about the nature of the research (and the researcher). However, such exchanges also were kept within professional bounds so as not to communicate any personal interviewer bias or to prejudice the interviewee in any manner.

As previously discussed, upon the invitation of SNL to be the subject of a research study, a letter was sent to Marshall at SNL briefly outlining the thrust of the research and requesting a mutually convenient time for the initial interview. In responding to the request, SNL also forwarded a variety of corporate materials (annual report, employee newspapers, public brochures) which provided helpful background information on the company, points for discussion during the initial interview and a necessary orientation to interpreting interview responses. A follow-up interview (one week later) was arranged at the conclusion of the initial interview. In the case of FP&L, initial contact was made by telephone following the completion of both SNL interviews, and an interview scheduled at that time. A follow-up letter further explained the research project and posed several questions for discussion during the interview (see Appendix 2). These initial corporate interviews generated additional corporate contacts / interviewees - eg. the director of FP&L's Speakers' Bureau, SNL's public and community affairs officer - while further research on corporate activities identified key scientific and governmental figures who, in turn, were contacted and interviewed by telephone due to travel distances involved.

The face-to-face interviews lasted, on average, for about two hours while the telephone interviews were about three-quarters of an hour in length. None of the interviews was tape-recorded for a variety of reasons. For instance, it was not technically possible to record the telephone conversations, and certain corporate interviewees expressed reservations about being tape-recorded. However, detailed notes were taken of all interviews that were as complete as possible. The face-to-face interviews took place in office settings. All interview notes were later transcribed from their shorthand form to full transcript and reviewed for accuracy.

In analysing the transcripts, an approach, best characterised as 'ethodiscursive' (Corner, 1990b) was taken, given the cross-national nature of the study and its focus upon 'eco-nuclear' advocational messages and campaigning.

Respondents' uses of 'green' promotional rhetoric within the context of American and British public discourse on nuclear power was of particular concern.

In identifying emerging themes, key issues and relationships between concepts in the interviews, three notions were helpful. The first, that of interpretive 'packages', has been applied to the analysis of the social construction of meaning within the context of media discourse on nuclear power (Gamson and Modigliani, 1989). Within the context of this study, however, interviewee comments and respondent answers to subsequent survey questions can be viewed as reflections of individual framing of nuclear issues. Such 'frames', likewise, can be expressed in a variety of packages - 'progress', 'runaway', 'public accountability' (Gamson and Modigliani, 1989) - and, of course, 'eco-nuclear'. Similarly, respondent remarks also may be seen as representing a 'civic', 'political', 'personal' or an 'evidential' frame (Corner, 1990b) according to the manner in which each person receives, evaluates and responds to the various nuclear issues being presented for discussion. Such an approach has been useful in analysing public response to television discourse on the issue of nuclear energy (Corner, 1990b).

Moreover, respondent discourse, particularly regarding the nuclear debate, can be viewed within the context of 'risk' with opinions reflecting a personal bias of either 'proof' or 'probability' vis-à-vis the issue (Corner, 1990a). Indeed, both corporate nuclear and anti-nuclear activist discourse and promotional materials often dramatically articulate each side of the question in this light. As Corner (1990a) notes in his study of textualising risk and television discourse:

> 'So the choice is between "talking up" an effects scenario, maximally into probability so convincing it amounts to proof, or talking it "down" into mere possibility, improbability or even impossibility.' (1990a:123)

In analysing the interview data, it was apparent that, given the main points for discussion as presented by the interviewer, respondent comments tended primarily to cluster around these key areas. Such focal topics included: nature and perceptions of source-key public relationships (see Chapters 8 and 10); issues management (see Chapters 4 and 7); campaigning strategies, messages and tactics (see Chapter 8); perceptions of alternative/opposing messages and campaigning (see Chapter 10); extent and competitive position of source resources (see Chapters 7 and 8); and networking of intelligence (see Chapter 4). Quotes appropriate to each of these areas were extracted from the transcripts and inserted to illustrate, support or introduce various points of discussion.

A final note should be made that it was particularly interesting to observe the unfolding of each corporate campaign. As interviews with each

company were spread over the course of five months (FP&L) to one year (SNL), it was possible to chart messages, strategies and tactics from initial presentation during interviews through to implementation and subsequent revision. Ultimately, this not only made for a genuinely dynamic, synergistic interview process but also offered a truly rare opportunity to observe corporate manoeuvrings first-hand.

(vii) Survey Research

To add further structure and focus to the data-gathering process, a survey questionnaire was administered to selected corporate respondents following the in-depth interviews. Corporate figures for both FP&L and SNL were asked to complete a Nuclear Information Strategic Management Survey (Appendices 3 and 4). The survey instrument was designed to elicit data that would complement data gathered from the in-depth interviews.

The questionnaire is divided into three distinct sections - Public Policy Issues and Policymaking; Company Involvement in Environmental Issues; and Corporate Relations with Publics. Each of the sections has 16, 10 and 14 questions respectively. The research objectives of the survey were: 1) to determine whether or not the corporation has a formal method of issues management, the nature and extent of the method, and the role of public relations in the issues management and decision-making process; 2) to identify the issues which the corporation considers of concern presently and in the future, and corporate perceptions of key publics' concerns about such issues; 3) to determine whether or not the corporation has an environmental policy in place, how such a policy is formulated, administered and communicated to employees; 4) to identify specific practices used by the corporation in its environmental affairs strategy; 5) to determine corporate perceptions of existing and pending environmental standards and role in affecting the development of future standards; 6) to identify the publics which the corporation considers of importance, corporate perceptions of its relationships with said publics, and corporate strategies and methods used in such relationships; and 7) to identify the messages which the corporation considers of importance and those messages being targeted to each public.

The questionnaire further probed interview topics as well as solicited comments on new topics of discussion. The survey was mailed to corporate respondents who were asked to return their completed survey by mail. In total, two corporate figures (FP&L's Tom Veenstra and his counterpart at SNL, Dick Marshall) were solicited; both corporate figures responded. Given the extremely small size of the sample, it is recognised that the data cannot be considered statistically valid; however, the intention of the survey research was rather to 'flesh out' interview responses than to gather data quantitatively at statistically acceptable tolerance and confidence levels.

The questionnaire was constructed following prescribed guidelines on proper survey design (Wimmer and Dominick, 1983). A variety of question structures have been used - closed and open-ended questions in immediate combination; rating scales; and checklist questions which permitted a certain ease of data tabulation while also allowing for sufficient opportunities to probe for respondent meaning. Questions were kept short, as unbiased as possible in their phrasing and noncompound in nature. No leading or potentially embarrassing questions were in the survey. Rating scale questions had five responses valued from one to five, with one being the most positive and five the most negative. Rank order questions varied in item number from five to 12 items, with one being the most important or highest value. Checklist questions were limited, on average, to no more than eight items so as to not lose the respondent, and yet enough items were included in order to fully explore respondent concerns and interests.

Given cultural differences in language between American and British respondents, survey questions were modified to reflect whichever culturally appropriate phrasing was necessary. Moreover, survey questions also were adapted to reflect cultural differences in key publics, media outlets, regulatory and political structures and parties, as well as differences in corporate structure. For example, 'federal' and 'state' government in the U.S. survey represent the American political context, while references to 'national' and 'regional' government in the U.K. survey represent the appropriate (and roughly equivalent) political entities in Britain. Also, whereas FP&L is queried concerning its 'customers' as a key public, SNL, a state-owned company which does not have customers per se, is queried as to its 'local community groups'.

Finally, the research design of the survey also took into consideration each respondent's right to privacy - each respondent had an opportunity to refuse to answer a question, and all data was considered confidential.

Chapter Four

PUBLIC RELATIONS AND CORPORATE DECISION-MAKING

(i) Public Relations: As Process and Function

(ii) Nuclear Public Relations and Issues Management

(iii) Industry Issues and Agendas: Contrasts and Similarities

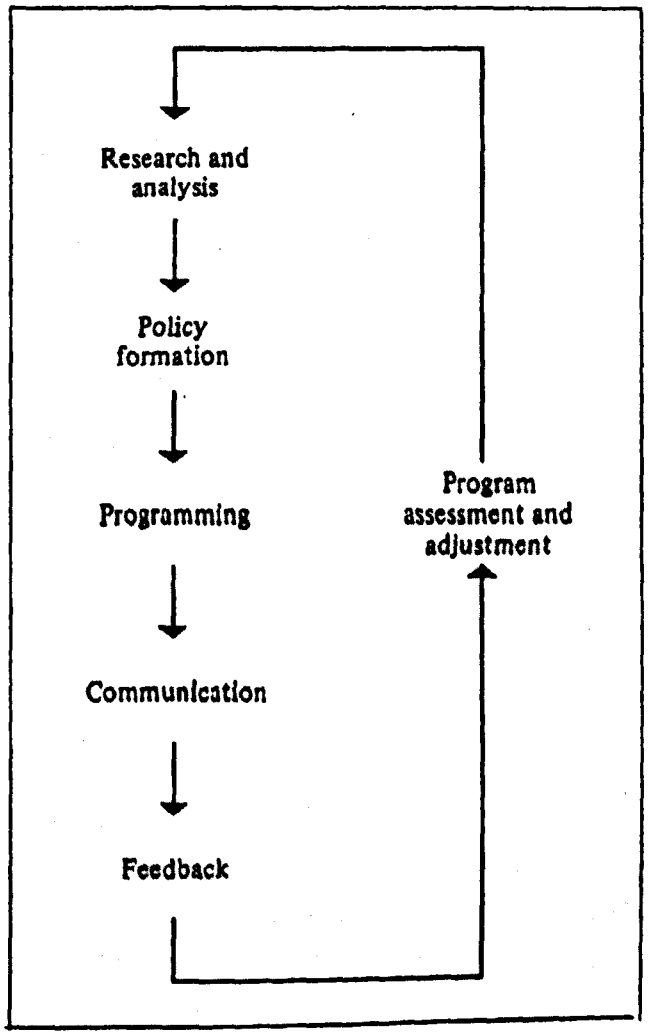
(iv) Networking of Nuclear Industry Intelligence

(i) Public Relations: As Process and Function

If ESPPI issues such as nuclear power can be described as incoming blips on the corporate radar screen of the nuclear industry, then in a classic sense public relations should serve as 'an early warning system' for the industry 'to help anticipate trends' using 'research and ethical communication techniques as its principal tools' (Harlow, 1976:34-42). While such is the case in terms of nuclear public relations activity, it is not the nature nor role of industry public relations that has been a point of public contention but, rather, the intent of such activity. To properly examine the industry's public relations in this regard, then, it would be best to consider such activity as both process and function (Simon, 1984) with a view toward ultimately discerning its purpose.

Public relations has been described as a process that harmonizes long-term relationships among individuals and organisations in society (Seitel, 1992). Indeed, a sense of accommodation is inherent in definitions of public relations offered by the Public Relations Society of America - 'Public relations helps an organization and its publics adapt mutually to each other' (PRSA, Public Relations: An Overview, 1991, p.2) - and by the British Institute of Public Relations - 'Public relations is a deliberate, planned, and sustained effort to establish and maintain mutual understanding between an organization and its publics' (Seitel, 1992:9). The method of the 'planned effort' has been conceptualized using a variety of models, among the first being that by John Marston who proposed a four-step process of Research, Action and Planning, Communication and Evaluation (Marston, 1963). Subsequent views have suggested that public relations is a cyclical and continuous process (see Figure 6) utilizing feedback in the Evaluation stage to not only assess programme effects but also to modify such activity and create new programmes accordingly (Wilcox, 1989).

Figure 6 Public Relations Process Model

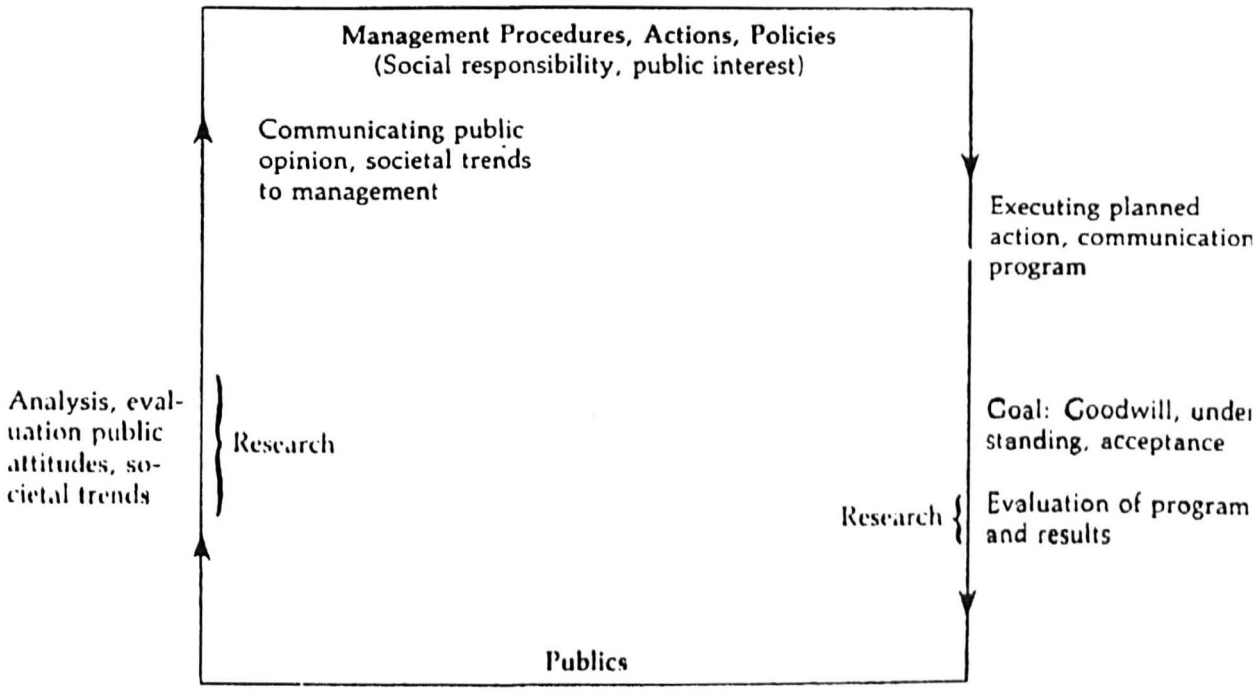


D. Wilcox, P. Ault, and W. Agee, Public Relations Strategies and Tactics, 1989.

Public relations also can be described as both a 'managing' and a 'management' function. In one respect, it 'seeks to manage the interdependencies of a client individual or organization and the constituents - other individuals and organizations - which make up its environment' (Simpson, 1989:1). In so doing, however, public relations often is seen as a management function, informing the management of an organisation - as part of the management team - of public opinion and societal trends and counselling management 'so as to insure that an organization's policies, procedures are socially responsible and in the mutual interests of the organization and its publics' (Simon, 1984:7). Again, various models have conceptualized public relations as a management function (Simon, 1984; Komisarjevsky, 1982) in order to illustrate the role of public relations in the decision-making process. As with models depicting public relations as process, such management models (see Figures 7 and 8) show the function as an ongoing one, with research, planning, communication, evaluation and programme adjustment as links in a continuous chain of activity. Initially, research is used to evaluate public opinion and societal trends (Figure 7) while yet other data is gathered from a variety of sources (Figure 8). The information is then presented to the organisation's leaders/management who measure institutional procedures and policies against such 'inputs' (Figure 7). After discussion and evaluation of alternatives, a plan of action is developed and communicated using various corporate and mass media channels (Figure 8) with the ultimate objective being to gain the goodwill, understanding and acceptance of the organisation's publics (Figure 7). Research is used to evaluate programme effects (Figure 7), and feedback from a variety of sources provides new 'inputs' into the process (Figure 8).

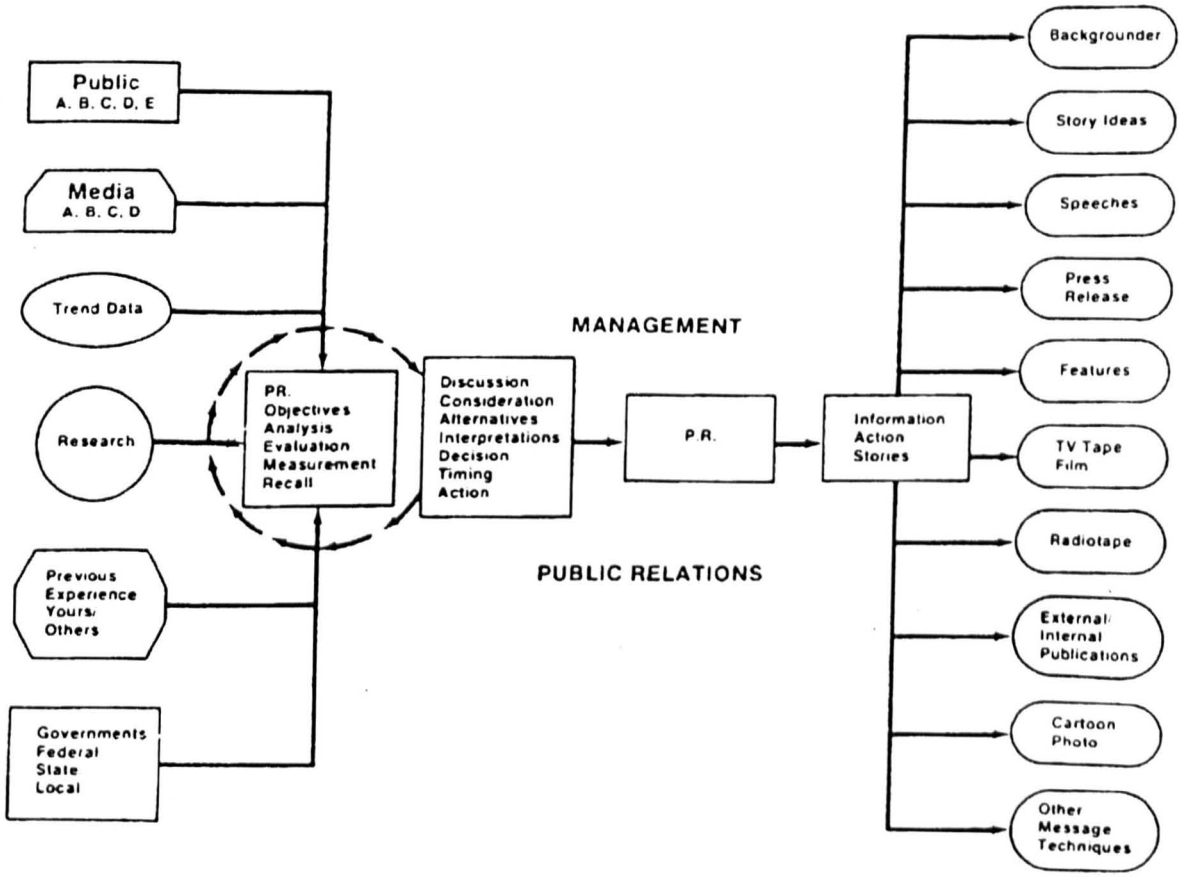
There has been some debate in recent years, however, about the ultimate purpose of public relations, giving rise to other views and definitions of the profession. It is within the context of these newer interpretations that the public relations of the nuclear industry as process and as function should be viewed, given the nature of the industry's approach to the various issues confronting it.

Figure 7 Public Relations Management Process Model



R. Simon, Public Relations Concepts and Practices, 1984.

Figure 8 Public Relations Management Process Model



F. Wylie in R. Simon, Public Relations Concepts and Practices, 1984.

While survival is understandably the primary objective of any organisation, newer definitions of public relations focus less on the need to harmonize organisational and public interests and more on the propagandizing of such publics by an organisation in order to achieve organizational goals. For purposes of discussion, such organisationally-centred approaches to public relations may be labelled 'corporately responsive' while other, more externally - oriented approaches may be characterised as 'socially responsive'. Those who subscribe to a 'corporately responsive' view argue that 'public relations is a communication function of management through which organizations adapt to, alter, or maintain their environment for the purpose of achieving organizational goals' with public relations goals 'the consequence of organizational goals, not the reverse' and 'public relations programs complementing organizational survival through communication management activities' (Long and Hazelton, Jr., 1987:6-7).

More recently, following criticism of the public relations counselling firm of Hill & Knowlton for fabricating stories of Iraqi atrocities in order to build support in the U.S. for the Kuwaiti government during the Gulf War crisis, the Public Relations Society of America has declared that:

> 'the role of public relations is to help organizations - even individuals and governments - exercise fully, however controversial the subject might be, their basic right of free speech... It is part of the American process of bringing issues and ideas to the court of public opinion.' (PRSA, Letter to Membership, May 1992, p.1)

Indeed, it would seem, as Roger D'Aprix has suggested, that the purpose of public relations activity is to identify, define and articulate the major issues that an organisation must address if it is to be successful (D'Aprix, 1984). For management, according to D'Aprix, 'the task is to select the issues of major importance and then use them to drive the content of every one of the organization's communications programs' in order to achieve the desired effect, which is the solution of organisational problems related to the organisation's mission (1984:55).

Such an approach interprets public relations as a function within a process of strategic management that identifies and evaluates issues and their associated publics, formulates a plan with specific goals and objectives, and finally implements programmes in a pro-active manner so as to influence the issues being debated publicly. Essentially, such activity is an exercise in 'proactionary issues management', viewing issues as either 'opportunities or threats to the organization' and preparing and executing a plan of action 'representing its interests within the public policy process' in order to 'influence the issue before the issue influences the organization' (Meng, 1992:24). Given

such a view of public relations, universal harmonization of an organisation with its various publics is not a priority, much less a consideration. Rather, the ultimate objective is 'to broaden the debate,' 'fight an idea... with another idea,' and 'influence the issue and avoid formal constraints on its actions' (Meng, 1992:22).

The nuclear industry, and Florida Power & Light (FP&L) and Scottish Nuclear Limited (SNL) in particular, subscribe to such a strategic and pro-active use of public relations to manage issues and achieve organisational goals. Indeed, former Tennessee Valley Authority (TVA) Chairman Marvin Runyon has called for 'a bold spirit of confidence' in the industry's public stance on nuclear issues. FP&L President Stephen Frank echoed that sentiment in announcing in November 1990 the opening of the company's new 'Energy Encounter' visitor centre:

> 'We want to play a lead role in energy education... Facilities like this can help us inform the public about the benefits of nuclear power.' (FP&L, FP&L News Release, 15th November 1990, p.1)

Scottish Nuclear has been even more explicit about its approach, with Chairman James Hann declaring in the company's first annual report in 1990 that, 'Scottish Nuclear intends to play its full part in encouraging the debate... to ensure that the industry is ready to meet the demands of the future' (SNL, Annual Report and Accounts 1989-90, August 1990, p.6). Simply put, as Hann told the University of Stirling's School of Management in an April 1991 address, that means 'presenting the case for nuclear power' so as 'to influence public opinion', using public relations as 'a constantly influencing factor' (Hann, Handling Public Relations in the Nuclear Industry, 4th April 1991, p.3). SNL Public Relations Manager Dick Marshall underscored the company's pro-active approach in an address to senior management in May 1991 by saying that, 'we need the public to know all the issues' (Marshall, Improving the Image of Nuclear Power, 11th May 1991, p.5).

(ii) Nuclear Public Relations and Issues Management

Public relations is an integral part of strategic management in both FP&L and SNL, as reflected in the process and function of each company's communication activities. The function of public relations in FP&L and SNL - as reflected in organisational structure, access to management, communication policy, staffing and budget - is one that is highly regarded within each organisation. SNL Chairman Hann has described the company's public relations as 'one of the most important areas of business activity' and has urged the whole management team to 'give public relations the highest possible commitment' (Hann, Handling Public Relations in the Nuclear Industry, pp.11-15).

Such support is as essential to a pro-active approach to issues management as it is to any public relations activity. As Frank Corrado notes, 'Without the blessings of senior management, a corporate communication program has little real chance of success' (Corrado, 1984:13).

An organisational structure in which the director of public relations reports to top management (see Figure 9) is one such 'blessing', as it usually provides access and input to corporate decision-making (Wilcox, 1989). At FP&L the Vice President of Corporate Communications reports directly to an Executive Vice President, who, in turn, reports to the company president. Such an organisational structure (see centre example, Figure 9) places public relations in an important position in the corporate hierarchy, equal in rank and status to the heads of other departments.

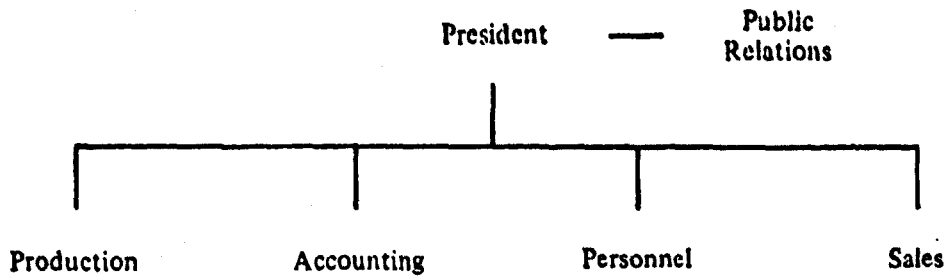
Similarly, the Public Relations Manager of SNL reports directly to the company's chief executive. Such a reporting configuration (see first and third illustration, Figure 9) eliminates all intermediate levels of management and places public relations in an even higher position in the organisation. The elevated level of reporting has given public relations in both companies access to top management. For example, SNL's Public Relations Manager, Dick Marshall, has daily contact with the chairman and chief executive and regularly attends weekly meetings of executive management and monthly meetings of the board of directors to brief senior management on public relations activities and to provide counsel. Also, when SNL finalized its public relations plan in early 1991, the company's Public Relations Manager briefed senior managers on the plan at company headquarters and at both of the company's nuclear power stations.

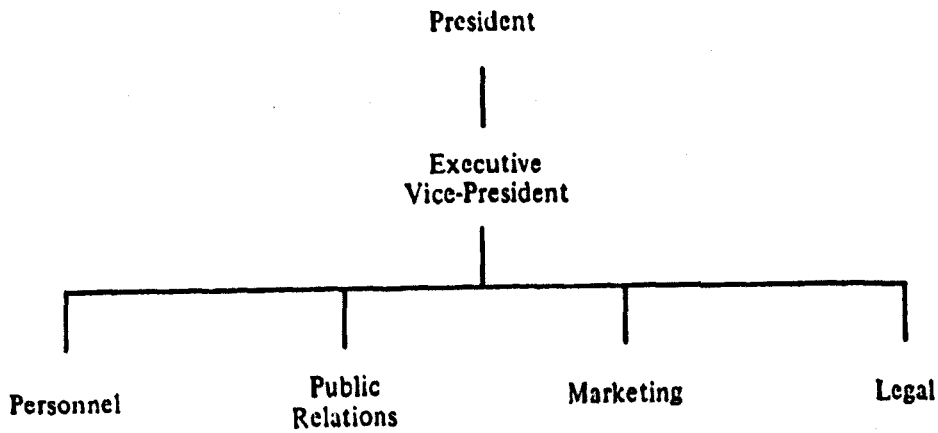
Such access also gives public relations in each company an opportunity to provide input into corporate policy-making. On the surface, this is perhaps best reflected in each company's corporate mission statement and communications policy, which, in turn, also are indicative of management's view of public relations.

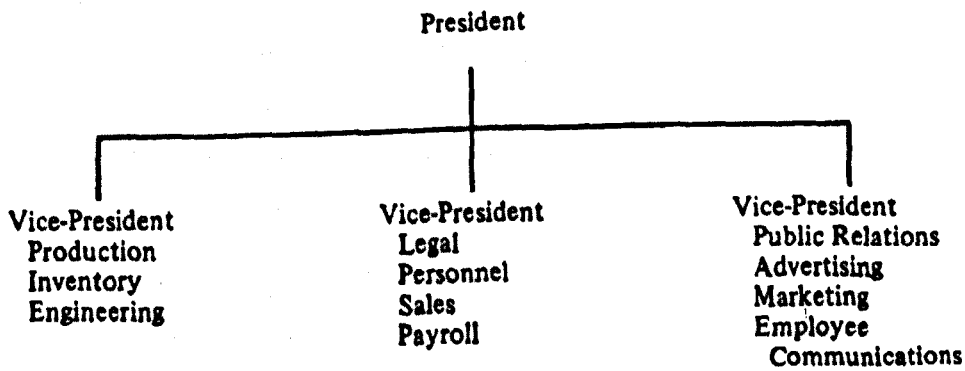
In 1990 FP&L drafted a new 'vision statement' with input from various teams of employees, including Corporate Communications. The teams developed a mission statement encapsulating a new corporate direction and identity. FP&L's new mission was:

> 'We will be the preferred provider of safe, reliable, and cost-effective products and services that satisfy the electricity-related needs of all customer segments.' (FP&L, FP&L Group 1990 Annual Report, March 1991, p.4)

Figure 9 Public Relations Organisational Structure Models







D. Wilcox, P. Ault, and W. Agee, Public Relations Strategies and Tactics, 1989.

The corporate objectives and identity of SNL also reflect the input and importance of public relations in the organisation. Among the six corporate objectives outlined in the company's first annual report was an objective 'to improve significantly the image and public perception of nuclear power generation' (SNL, Annual Report and Accounts 1989-90, p.12). In meeting that objective, the company further pledged itself in its first corporate brochure to a policy of 'honest and straightforward communication with our employees, customers, suppliers and the public' in keeping with a dedication to its newly fashioned corporate motto of 'Quality, Safety and Excellence' (SNL, Quality, Safety, Excellence, 1990, p.1). The corporate objectives, communication policy and corporate motto were fashioned at various brainstorming sessions of the company's board of directors, which were also attended by SNL's Public Relations Manager. The motto, in particular, was selected by then CEO Richard Yeomans from several submitted by board members and public relations.

Similarly, SNL's corporate identity - its name, Scottish Nuclear, and its logo which depicts in red and blue the grid pattern of the steel blocks on the pile cap at the Torness power station - also was designed with input from public relations. As Public Relations Manager Dick Marshall has commented about the company's new image:

> 'We wanted a name which would... encapsulate who we are and what we do - a Scottish company dedicated 100 percent to the generation of nuclear energy. We needed a bold presentation... which suggested confidence and professionalism.' (Interview, 20th June 1991)

The nature of SNL's corporate identity - which is, according to Marshall, 'a Scottish firm... a cornerstone of the Scottish economy... that uses Scottish creative talent exclusively' (Interview, 20th June 1991) - is also by design in keeping with management's desire to capitalise on an ever present (and growing) sense of Scottish nationalism and to distance the company from the rest of Britain's nuclear industry. SNL's public relations indeed counseled such a position in an internal strategy paper:

> 'The communication initiative on nuclear power over the past few years has been largely ineffective in countering the anti-nuclear lobby... a comprehensive industry strategy on public acceptance... to date... has achieved little in real terms... Scottish Nuclear needs to formulate its own community communication strategy... If its implementation is successful, Scottish Nuclear will nationally help the industry. If it is successful, it will help to keep Scottish Nuclear independent of a "nationalised" UK nuclear industry.' (SNL, Towards a New Image: A Community Communications Strategy Paper, October 1990, p.2)

It should be noted, however, that in contrast to FP&L and SNL, not all companies consider public relations to be an integral part of management. A study of CEOs in the U.S. (Campbell, 1993), for example, reveals that 'the support that CEOs... give to public relations often falls short of including public relations theory and practice in the strategic management of the company' (1993:14). Moreover, according to the study, 'a majority of the CEOs... had difficulty defining exactly how public relations contributes to the bottom line' (1993:14). Similarly, a survey of CEOs in the U.S. by the Public Relations Society of America found that:

> 'While... public relations is increasingly being used as a strategic management tool... the profession has not yet made its way into a majority of boardrooms on a par with specialties such as accounting, law or finance. Public relations professionals often ignore... to make a case for including public relations in the decision-making process at the top.' (Winokur and Kinkead, 1993:16,23)

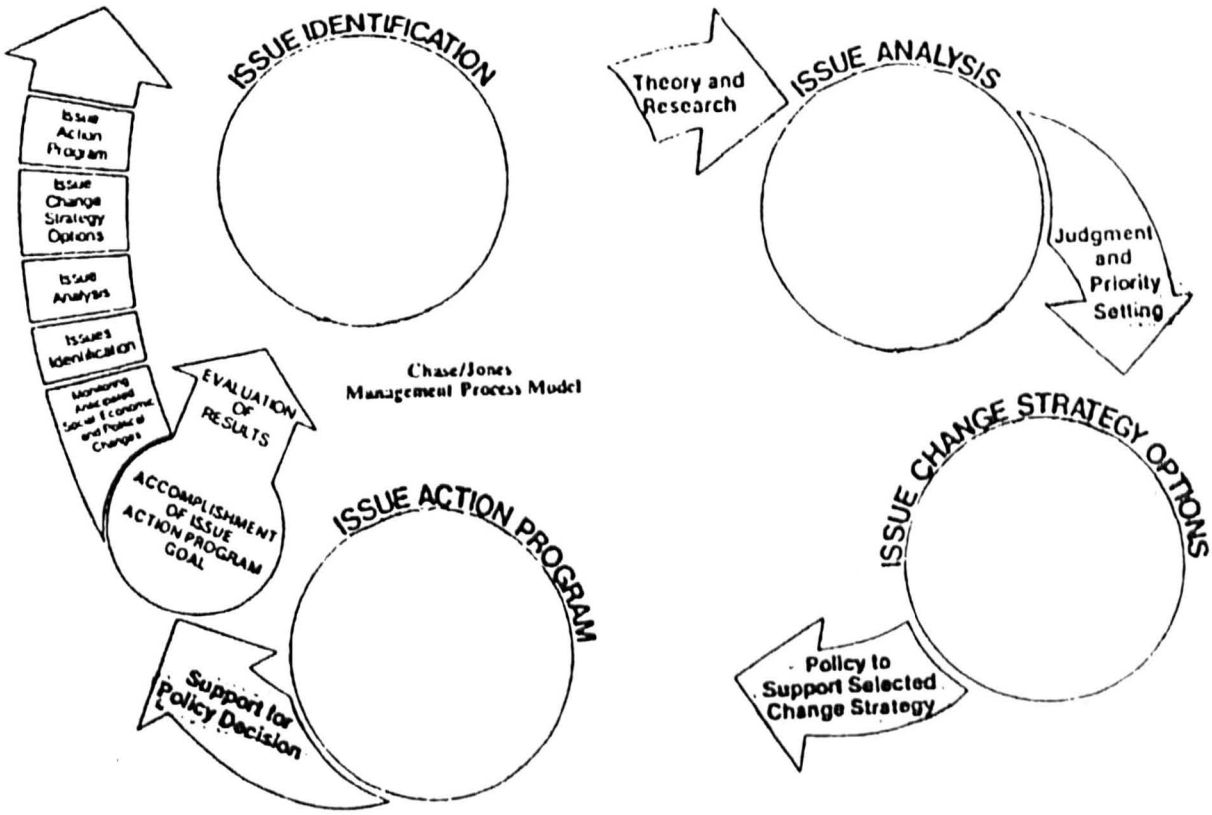
While the level of support that public relations in FP&L and SNL enjoy certainly is not unique, nevertheless, such respect may reflect, in part, a new-found corporate appreciation for the function in the light of industry disasters such as Three-Mile Island. As Seitel (1989) notes:

> 'Prior to... {Three-Mile Island}, most of the nation's electric utilities had little use for public relations and preferred a low key business style, out of the public spotlight and off the front page... Perhaps the only bright spot in the otherwise dim immediate future of the industry was the boon Three-Mile Island provided to public relations. Because of Three-Mile Island, the industry did, indeed, come out of the closet.' (1989:453-454)

In forging a corporate vision, identity and a communication policy, both FP&L and SNL began a formalised ongoing examination of emerging strategic public policy issues. In so doing, each company has developed public relations strategies and programmes which directly support organisational objectives to pro-actively manage such issues. With access to top management and input into corporate decision-making, public relations has played a critical role in the shaping of policy and strategy on these issues.

The process of issues management, as conceptualised by Howard Chase and Barry Jones (see Figure 10), is in essence an elaboration of Marston's RACE approach to public relations problem solving, using research to identify and analyse issues crucial to the organisation's survival, formulating strategy options, policies and action programmes for each issue, implementing such programmes using various communication channels and, finally, evaluating the results of such activities (Chase and Jones, 1980). But, it is in the formulation

Figure 10 Issues Management Process Model



W. Chase and B. Jones, 1977, in R. Simon, Public Relations Concepts and Practices, 1984.

of objectives that support basic organisational goals where issues management departs from traditional public relations approaches and begins to approximate to more strategic methods of planning such as MBO (Management by Objective) and ROPE (Research, Objectives, Programme, Evaluation). In such methods, problems are identified - problems defined, for example, as 'the absence of communication or a communication effect that your organization feels is necessary' (Grunig and Hunt, 1984:115) - objectives set which describe solutions and specify the audience and desired effect on each public, programmes fashioned denoting themes, messages and communication channels, and effects evaluated given the objectives specified (Pearson, 1987; Hendrix, 1989). Inherent in the process 'is the idea that issues management involves input from all levels of the corporation and must have the complete commitment of top management' (Wilcox, 1989:331).

Moreover, 'in a strategically managed organization, the public relations officer is part of the planning process.... and the value of public relations is clear to senior management' (Forbes, 1992:32).

In responding to a survey on strategic management conducted as part of this study, both FP&L's former supervisor of nuclear information, Tom Veenstra (now FP&L Financial Communications Advisor), and SNL public relations manager Dick Marshall reported that their company has a formal method for identifying and tracking policy issues. However, the FP&L method was qualified as being 'in development' and not fully operational. While SNL has been formally tracking issues since the inception of its public relations department (March 1990), FP&L formed issues management teams in early 1991 and, more recently, established 'issues experts' in Corporate Communication in May 1992. It should be noted, however, that while FP&L has only recently been formally tracking issues, the company has been managing issues on a smaller, perhaps less institutionalised basis for a number of years. For example, as part of the strategic planning process in 1990 which produced FP&L's new corporate vision, specially appointed teams including Corporate Communication conducted an analysis of future costs, technology, regulatory and legislative trends and customer needs. Their analysis projected a view of FP&L's future business environment and produced a vision statement expressing the new corporate direction. Perhaps, it is as a consequence of having a formal method 'under construction' that FP&L only rates its issues management abilities as 'average' whereas SNL rates its methods as 'good'.

While both companies differ somewhat in their methods of issues management, public relations is clearly an integral part of the process, as is top management. Given the larger size of operations and staff than at SNL, FP&L's method of identifying, tracking, and formulating action plans for issues is a much broader corporate exercise. At FP&L all departments are required to identify policy issues in their annual business plan along with tracking, target dates and

action plans for each. In turn, the departments submit their business plans to the company's Planning and Resource Allocation department which reviews and approves the budget for each plan. As a department within the corporation, Corporate Communication also prepares its own business plan following the same procedure. However, given its responsibility for centralising all corporate communication efforts, Corporate Communication also reviews departmental business plans and develops a corporate view of issues with such input from its business-unit managers. As an adjunct to this process, interdepartmental teams of employees - with Corporate Communication managers playing an active role on the teams - were formed in early 1991 to study and recommend actions on a variety of issues previously identified by virtue of the business plan process. Each team is charged with formulating a one-year plan in response to a specific issue. The teams submit their recommendations to the various department heads. FP&L's team approach follows classic methods of issues management - 'issue analysis can be accomplished by forming ad hoc task forces or teams. These teams should consist of managers and staff from various line divisions. The teams can also be used in formulating position papers and strategies to try to successfully influence issues' (Meng, 1992:24).

Despite a team approach to issues management, however, Corporate Communication managers at FP&L have considerable input into the process as members of the various teams and collectively as a department. As noted previously, Corporate Communication identifies and tracks issues on a corporate level, using business-unit input as well as input from other sources such as quarterly surveys of general and specific customer groups and industry associations, and, accordingly, develops 'white papers' and other corporate media on such issues. While Corporate Communication does not prepare a formal agenda of issues per se for review by senior management, it does present its intelligence data to top management for discussion. As part of this process, Corporate Communication surveys top management for its views of critical issues at quarterly management meetings, and presents the results of these studies along with other issue-related data at such meetings. Again, while not an overly formalised method, the approach involves Corporate Communication significantly in the process and provides opportunities for access to top management and input into the decision-making process. However, as in any organisation, such decisions are the proper domain of top management, and both FP&L and SNL report not only that their CEO's participation in the process is 'very significant' (FP&L) or 'significant' (SNL), but that policy decisions made as a consequence of such input are made by either the CEO or Chairman of the Board.

Conducted on a smaller scale, given organisational size, issues management at SNL follows a somewhat different path. SNL's public relations manager tracks issues as a member of the Management Executive Committee which, collectively, as the company's senior management, identify, analyse and

formulate action on issues. In anticipation of these meetings, which are held on a weekly basis, public relations prepares a report of communication activities as well as a formal agenda of issues for review by senior management. It also incorporates input on such issues from the company's business unit managers as well as from customer surveys, industry associations and other sources. SNL's public relations manager also participates in monthly board of director meetings, as noted earlier, providing a written report of communication activities and issues for discussion. In all such meetings, SNL's public relations manager reports that he plays a 'substantial' part in issue analysis and discussion and is 'very closely involved' in the decision-making process.

Again, however, in contrast with FP&L and SNL, public relations in many other companies does not play as strategic a role in the issues management process, if, indeed, such a function exists. A Conference Board survey of public affairs officers in the U.S. and Europe, for example, reveals that only one-half of companies have a formal issues management tracking system, and only 44 percent of such officers prepare a formal issues agenda for review by top management. Moreover, in companies that formally track public policy issues, only slightly more than one-half of the officers polled rate their 'early warning' systems as 'good', while 22 percent rate them as 'average' to 'poor' (Conference Board, 1989:29-30). Again, given the heightened industry sensitivity to such incidents as Three-Mile Island, it would seem that companies such as FP&L and SNL are making a conscious effort to track nuclear issues formally and to do so as an integral part of the public relations and strategic management process.

(iii) Industry Issues and Agendas: Contrasts and Similarities

While FP&L and SNL have taken somewhat different approaches in managing issues, they have emerged from the process with similar lists of priority issues and agendas for pro-actively fomenting public debate. Although certain issues are inherent within the nature of any organisation or industry, a similar ranking of issues suggests a dynamic beyond the natural order and a possible networking of intelligence concerning which agendas should be advanced and how. When asked to rank 12 different issues concerning nuclear energy in order of the most concern to their company in 1992 and 1993, both FP&L's nuclear information supervisor and SNL's public relations manager ranked the same five issues as being the ones of most concern - safety of nuclear power production, national energy policy, nuclear worker health and safety, nuclear power production/planning long-term development, and costs of nuclear generated electricity. It should be noted that, while FP&L ranked these issues from one to five in order of priority, SNL ranked all of the issues equally as being number one in priority. Additionally, SNL ranked the issue of honesty and openness of the nuclear industry as a number one priority issue, while FP&L ranked it as ninth in

priority. Similarly, SNL ranked the issue of transportation of nuclear waste in its second tier of issues as a number two in priority, while FP&L ranked it as tenth in priority.

Such differences in priority may reflect in part differences in public debate in the U.S. and Britain on these issues, given differences in the industry's history, and, in the case of waste disposal, differences in nuclear procedures. Ever since the Windscale fire in 1957 and the official secrecy surrounding the accident at the nuclear station, the openness of the industry has been at issue in Britain, and has been raised by opponents in recent years at various public inquiries on nuclear station construction (Sizewell 'B'- 1984-85; Hinkley Point 'C'- 1988-89). In contrast, while the openness of the industry in the U.S. was called into question during and immediately following the accident at Three-Mile Island in 1979, the issue has not been raised by opponents in recent years, inasmuch as there have been no public hearings nor requests for new nuclear station construction since then, and no other accidents of any consequence. Likewise, with the transportation of nuclear waste, SNL and other nuclear utilities in Britain send all waste by transport from their stations, while FP&L and other U.S. nuclear utilities only transport low-level waste, storing high-level waste onsite. As a consequence, the transportation of nuclear waste in Britain - particularly high-level waste with its highly radioactive content - has been a matter of public concern and debate for many years. In contrast, there has been little public discussion of the issue in the U.S., and, particularly, in Florida. In both the U.S. and Britain, the disposal of such waste is very much an issue of public debate, and both FP&L and SNL reflect that public concern in their prioritisation of issues, ranking nuclear waste disposal of medium concern. FP&L ranked the issue as sixth in priority, and SNL ranked it in its third tier of priorities. Conversely, the reprocessing of such waste is not an issue of concern for either FP&L or SNL, both ranking it toward the bottom in importance (FP&L as number 11, SNL as number eight in the bottom tier of priorities). FP&L does not send any waste for reprocessing nor does any U.S. nuclear utility, and SNL has requested permission from the British Government to end reprocessing and store high-level waste onsite as do U.S. nuclear utilities.

FP&L and SNL also differ in their ranking of the issue of nuclear radiation leaks, FP&L ranking it at the bottom as number 12, while SNL ranked it in its second tier of priorities. Neither company has had any major incidents of radiation leakage at its stations, yet SNL's relatively higher concern for the issue may reflect a sensitivity to publicised reports in recent years of scientific studies (the Gardner Report in 1990 being among the most recent) suggesting possible links between nuclear radiation and confirmed cases of leukaemia in Britain. Moreover, inasmuch as the levels of radioactive fallout from the Chernobyl accident in 1986 were much higher and had a greater confirmed impact upon agricultural products in Britain than in the U.S., radiation as an issue is

understandably of greater concern, generally speaking, to SNL and the British nuclear industry than to their American counterparts.

(iv) Networking of Nuclear Industry Intelligence

In identifying, analysing, prioritising and formulating a position on such issues, neither FP&L nor SNL have relied solely on their internal staffs and resources. Rather, both companies use a variety of outside industry contacts to provide intelligence on nuclear issues and to brainstorm the development of both positions and approaches for critical issues. FP&L contributes funds to support the Electric Power Research Institute, the Florida Electric Coordinating Group, and the U.S. Council on Energy Awareness, industry associations that have an interest in energy and electricity issues. The U.S. Council, in particular, is a self-proclaimed advocate for the nuclear power industry, and, as such, has attracted numerous industry utility, engineering, construction and consulting companies as members. Likewise, SNL supports the British Nuclear Forum, the industry's advocate in the U.K., both UNIPEDE and FORATOM indirectly through membership in BNF, the European Nuclear Society, and the Nuclear Utilities Chairmen's Group in Britain. Such industry associations are both information resource centres and 'think tanks' for nuclear public relations strategy. SNL regularly receives information on nuclear issues in Europe via NucNet, the European Nuclear Society's news/information communication network in Berne, Switzerland. Similarly, the FORATOM office provides SNL with information on energy related developments within the EC. Conversely, SNL's public relations manager has assisted industry public relations colleagues from France, Germany and Sweden in developing a new UNIPEDE brochure on nuclear power. The brochure, a four-colour glossy publication promoting the benefits of nuclear power - and discussing safety, radiation, energy policy, waste, the environment and other issues - also coincidentally sports a photo and description of SNL's Torness power station on the centrespread.

Of greater consequence to SNL's issues management process, however, is the company's participation in the Nuclear Utilities Chairmen's Group (NUCG), of which Nuclear Electric, British Nuclear Fuels and AEA Technology also are members. As such, NUCG is a network for information exchange and strategic planning on nuclear issues. NUCG established in 1990 intra-industry committees to study and draft position papers on four issues - Health and Safety, Nuclear Economics, Research and Development, and Decommissioning and Waste Management, the last being chaired by SNL Chairman James Hann. The conclusions of each committee, in turn, were reviewed in 1991 by NUCG's Public Presentation Group - of which SNL's public relations manager was a member - which worked on developing the public relations aspects of the positions on the various issues. Similarly, in another forum with many of the same players, the

public relations directors of SNL, BNFL, AEA Technology, Nuclear Electric and British Nuclear Forum regularly meet to plan and coordinate public relations initiatives in Britain. The purpose of such exchange is expressly to mount a concerted pro-nuclear effort in Britain, according to SNL Chairman Hann :

> 'A new and very healthy development is taking place in the nuclear industry - we are beginning to work... together to identify the issues that cause concern - working together so that we can speak on the issues with one voice - working together to improve public acceptance of nuclear.' (Hann, Handling Public Relations in the Nuclear Industry, p.6)

While FP&L's participation in intra-industry activities is less visible and less well documented, traces of networking can be found. The most obvious linkage is perhaps the most recent, whereby FP&L hosted on February 24-25, 1992 a national workshop for the U.S. Council for Energy Awareness at the company's nuclear power station in St. Lucie, Florida. USCEA members, particularly those interested in establishing or refurbishing corporate visitor centres, toured FP&L's Energy Encounter Visitor Centre at the station and attended 'how to' sessions on initiating and promoting such centres. Curiously enough, within just a few months following the workshop, the USCEA began running a full-colour advertising campaign in the June 1 issue of Time and other major U.S. quality magazines. This depicted a sea turtle swimming off the waters of St. Lucie and claimed that the nuclear power station and the turtle were evidence that nuclear energy can 'peacefully co-exist with the environment'. The industry partership had already 'issued' forth its latest fruits.

Such cross-fertilisation in the industry has produced other interesting results with brochures, speeches, advertising and visitor centres reflecting remarkable similarities in issue selection, information content and visual portrayal, both nationally and trans-Atlantically. For example, SNL's brochures for both the Hunterston and Torness power stations include photos courtesy of AEA Technology and BNFL and discuss the issue of radiation in a manner that is thematically similar to a June 1990 AEA brochure on the same topic, both of which suggest that the largest sources of radiation are natural and man-made but not nuclear. Similarly, an exhibit panel at FP&L's St. Lucie visitor centre treats the issue of radiation in parallel fashion with an April 1991 USCEA brochure on the subject. 'The earth has been surrounded by radiation since time began,' explains the brochure (USCEA, Radiation in Perspective, April 1991, p.1). Says the FP&L exhibit, 'Everyone who has ever lived on Earth has been exposed to radiation'. Like the AEA and SNL brochures, the USCEA and FP&L presentations also depict natural and man-made sources other than nuclear power as greater sources of radiation than nuclear, and radiation as a 'natural part of life' (FP&L) and 'around us all the time' (USCEA).

It is also interesting to note that a curious sequence has evolved in the publication of USCEA and UKAEA informational brochures on critical nuclear issues. The issues selected and presented include all of the ones considered the most important in priority by both FP&L and SNL as one would expect given any intra-industry collaboration. But it is the timing, and, in some cases, the content, that is surprising. In June 1990 the AEA published a booklet on radiation and its effects; in July 1990 the USCEA also published a brochure on radiation. Again, in March 1991 the AEA published a booklet on nuclear waste, which was followed in April with a brochure on the same subject by the USCEA. Interestingly enough, both pieces referenced a site in the Gabon Republic in West Africa, where a natural nuclear chain reaction two billion years ago created tonnes of radioactive waste that has since rested 'safely' underground despite earthquakes and torrential rainstorms. Both brochures contend that underground disposal of nuclear waste is safe and should not be a public concern.

Given the dynamics of both an organisational and collective issues management process with input from public relations at all stages and levels of the process it is little wonder that the corporate vision, objectives, communication policy and programming of FP&L and SNL reflect the various issues identified and targeted for a pro-active response. The new corporate vision of FP&L, with costs and future nuclear power production identified as priority issues as previously noted, expresses a refocusing of company efforts to 'cost-effective products and services that satisfy the electricity-related needs of all customer segments'. The new mission statement also pledges that such products and services will be 'safe' and 'reliable', a reflection of other priority issues - safety of nuclear power production and nuclear worker health and safety.

Similarly, the corporate objectives of SNL incorporate many of the issues - safety, costs, future production, honesty - identified as priorities by the company. As stated by the then Chairman Richard Yeomans in the company's 1989/90 annual report, SNL's objectives include:

> 'The continued safe operation of Scottish Nuclear's power stations at Hunterston and Torness... an improved financial performance...To improve significantly the image and public perception of nuclear power generation... To investigate improved generating methods, particularly reactor and related technologies for the future.' (SNL, Annual Report and Accounts 1989-90, p.12)

It should be noted that in classic fashion SNL's objectives not only reflect but also incorporate public relations input. Ideally, as illustrated by Komisarjevsky in his communication matrix, which depicts communication as a management function (see Figure 11), communication staff concerns are factored into corporate decision-making equally with financial, marketing and other business considerations (Komisarjevsky, 1982). Given the elevated nature of

public relations in SNL in terms of lines of reporting and access to top management, such results are not surprising.

As a consequence of the issues management process and corporate objective setting, both FP&L and SNL have fashioned their communication policy - with its objectives and messages - accordingly. Such alignment again follows classic methods, whereby a 'firm's communication policy is reflective of its overall vision and directed toward achievement of its goals' (Corrado, 1984:15). SNL's public relations manager echoed such an approach in an October 1990 communication strategy paper for management:

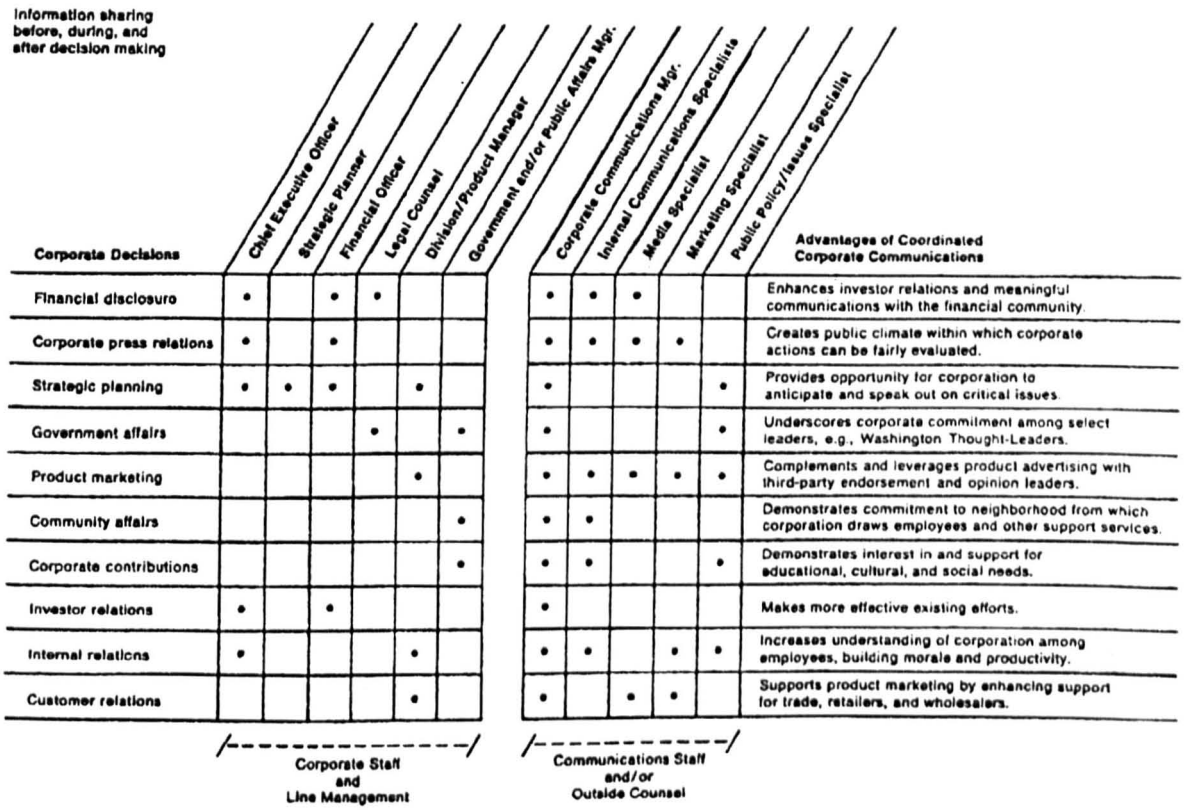
> 'The Scottish Nuclear vision will be the thrust of our communication strategy.... Our communication programme is crucially interwoven with company business. Success in one area cannot be achieved without success in the other.' (SNL, Towards a New Image, p.2)

SNL's communication policy clearly supports corporate objectives, addressing the issues considered as priorities, including appropriate messages for such issues and setting communication objectives to advance the company's position. As SNL's communication strategy paper explains:

> 'The core of our community communication activities will reflect Quality, Safety and Excellence {the corporate motto discussed earlier}. Our strategic communications thinking will be based on the belief that Scottish Nuclear is a reputable company, a quality company, professional and reliable in every way and one which the public can respect and in which it can place trust... We must convey a commitment to nuclear power and its undoubted place in a future balanced energy policy. Nuclear Power must achieve public acceptance as a clean, efficient, modern, long lasting and economical source of energy.' (SNL, Towards a New Image, p.2-3,13)

When asked, 'Considering the issues facing your company, what are the five most important messages you wish to communicate to your publics?' SNL's public relations manager reflected the company's priority issues and communication policy messages listing 'safety', 'efficiency', 'nuclear power as necessary', and 'no need to be afraid' as among the key corporate messages.

Figure 11 Communication Matrix



C. Komisarjevsky, The Journal of Business Strategy, Winter 1982.

Similarly, FP&L's public relations manager identified several messages echoing corporate concerns over various priority issues - 'safety', 'consequences of electric utility deregulation for customers' {one of the factors pressuring a redirection of the business}, and 'energy conservation programs' {which impact upon costs and long-term production development}.

The process of issues management and strategic planning at FP&L and SNL have, in turn, produced not only corporate and communication objectives and policies but also action plans and programmes to support the corporate mission. For example, as part of the process to draft a new vision statement for FP&L, a management team - also with input from Corporate Communication - forged a strategic plan detailing the means by which the company would attempt to make its vision a reality. Included in the plan was a complete reassessment of the company's lines of business, including several which were non-utility related, as well as organisational structure and staffing. As a consequence, FP&L completely reorganised and streamlined its operations in 1991, eliminating 2,300 full-time and contract employees and selling a non-utility business, Colonial Penn, which had been a financial drain (losses of $391 million in 1990) for the company. The cost-cutting measures - which eventually increased the company's market value by more than $1 billion the following year - also included a downsizing of Corporate Communication from 50 to 40 employees with the elimination of all supervisory-level managers and the dissolution of the Nuclear Information Division. However, while Corporate Communication was streamlined and reorganised, key functions were retained and nuclear information responsibilities delegated to remaining managers. Moreover, those public relations programmes considered vital to corporate objectives remained intact with funding and personnel.

In response to the issues of costs, waste disposal, and decommissioning, SNL formulated and submitted in mid-1992 a plan to the Scottish Office requesting permission to build dry fuel stores adjacent to its nuclear power stations. SNL plans call for the first dry fuel store (Torness) to be in operation by 1994 or 1995. According to SNL, such on-site storage of high-level nuclear waste would save the company £50 million a year, which represents current costs for reprocessing spent fuel at Sellafield. In a similar move, SNL also asked the British Government to relax the requirements on decommissioning nuclear stations. SNL maintains that decommissioning a station such as its Hunterston 'A' Magnox station down to a greenfield 'is no longer necessary' and that such sites can be secured safely in a less expensive manner. Again, SNL has argued that such changes in operations would make nuclear power 'more cost-effective' and 'truly competitive', inasmuch as the combined provisions for reprocessing and decommissioning add £2 billion to annual expenses while 'other competing fossil fuels are not subjected to the same costing method. If coal and oil had to account in full for their impact on the environment, the relative

economies of nuclear power would look a whole lot better' ('Filling The Energy Gap', Scottish Nuclear News, February-March 1992, p.8).

In support of its application for the dry fuel store scheme, SNL public relations prepared a proposal on the promotion of the concept including a public brochure detailing the scheme and submitted it as well to the Scottish Office for approval.

Such issues and formal proposals are, however, by nature 'dry' and neither excite public interest nor inspire public confidence, both of which are vital to the industry if it is to revitalise itself. The Hinkley Point Inquiry, for example, 'attracted very little national newspaper coverage, especially in the tabloids, except on the opening day. The inquiry was not regarded as being very newsworthy because many of the issues had been raised before at the Sizewell B Inquiry and because of the rather humdrum nature of the proceedings' (Anderson, 1991:467).

While government applications, Congressional bills and official proceedings may be necessary steps in resurrecting the industry, they do not necessarily instil public confidence. As Marvin Fertel, the USCEA's vice president for technical programmes, has admitted, 'Legislation can't enhance public acceptance' ('Reactors Redux', Susan Q. Stranahan, Audubon, January-February 1992, p.26). Safety, nuclear waste and radiation are all legitimate areas of public concern that have made many hesitant, if not fearful, to embrace any additional nuclear stations, particularly in their backyard. Industry executives recognise that they must deal with and try to allay such concerns if they truly hope to succeed. Indeed, former SNL Chairman Richard Yeomans admitted as much, commenting that 'with our colleagues in the nuclear industry, we will also aim to re-establish public confidence in nuclear power as a viable and safe source of energy' ('In the Big League', Scottish Nuclear News, April 1990, p.2). Allan Stewart MP, Scottish Office Industry Minister, in explaining the parameters of the government's 1994 review, confirmed the importance of public sentiment as well as operational considerations - 'We'll be looking at a whole range of factors - finance, environment, public attitudes' ('Wheels of Industry', Scottish Nuclear News, June 1992, p.5). Similarly, as Jerry Goldberg, president of FP&L's nuclear power division, has remarked, 'Between now and the next nuclear power plant lies a daunting public relations job' ('Nuclear Economics', Frank Ruiz, Tampa Tribune, 10th June 1991, p.13).

What the industry has needed to recapture public support for nuclear power has been the right approach, the right message, the right argument and the right issue that would sound a common call, attract interest and rally sentiment around its cause. There has been one issue in particular that has captured the public's - and the media's - attention in recent years and one which the nuclear industry finally has chosen to capitalise on as part of its master plan to resurrect nuclear power. That issue is the public's growing concern for the

environment and for all creatures great and small. In the course of two summers - 1987 and 1988 - public and media attention was drawn to environmental concerns as never before, and the industry found the issue it needed to resurrect itself.

Chapter Five

NUCLEAR POWER AND THE ENVIRONMENT:

EMERGING ECOLOGICAL OPPORTUNITIES

(i) Eco-Disasters and the Environment as an Emerging Issue

(ii) The Environment and Public Opinion

(iii) The Greening of the Marketplace

(iv) Greening of the Political Agenda

(i) Eco-Disasters and the Environment as an Emerging Issue

Separate events on opposite sides of the Atlantic during the summers of 1987 and 1988 provided the spark that reignited public, media and political interest in environmental issues as legitimate concerns. The incidents which 'marked an issue threshold for environmental matters' (Anderson, 1991:465) included a dolphin die-off along the U.S.'s Atlantic coast in June 1987, a seal plague in the North and Baltic Seas and North Atlantic, hospital waste washing ashore on New Jersey beaches and a cargo of toxic waste carried by the freighter Karin B in Britain in August 1988.

The enormity of the dolphin and seal plague, in particular, was unprecedented, and the suspected reasons for their death provided grist for public debate. It is estimated that in the summer of 1987 the Atlantic coast lost nearly 50 percent of its dolphin population. During the summer of 1988 some 17,000 European harbour seals died, the largest die-off in recorded history. The dolphin deaths, which continued along the Gulf of Mexico in 1990, and the seal plague were attributed by many biologists to industrial pollution, particularly toxic PCBs, which, in the case of the seals, made them more susceptible to a virus related to canine distemper. In many of the dolphins PCB levels were so high that the animals constituted hazardous waste. Nevertheless, a U.S. National Marine Fisheries Service investigation concluded that a natural poison produced by marine plankton was the reason for the dolphin die-off, a report that scientists quickly criticised as too narrowly focused.

In the case of the seal plague, the media, particularly The Daily Mail, took up the cause of the animals. It launched a 'Save Our Seals' campaign in August 1988 to raise money to help the seals, which were dying in record numbers on both coasts of Britain, and to call public and political attention to the environment as an issue. The plague, 'with its emotive, visual appeal', provided all the right news values required to capture and sustain media attention, and, according to many journalists, marked 'an important turning point in the media coverage of environmental affairs' (Anderson, 1991:464).

Increased media interest in the U.S. on 'green' issues dates from the first stories of dolphin die-offs and medical waste washing ashore, according to various environmental spokespersons. For example, Brian Erwin, a Sierra Club spokesperson, notes that during 1988 news directors began to assign more reporters to environmental beats, increasing the number of media inquiries to Sierra and other environmental groups. Also in 1988, in a rare departure, Time chose the 'Endangered Earth' as its 'Man of the Year', devoting an entire issue to environmental issues, as did National Geographic, which, in its December 1988 issue, asked, 'Can Man Save This Fragile Earth?' Moreover, according to the American Center for Media and Public Affairs, U.S. network news programmes broadcast an average of one environmental story every three nights in 1987; in

1988, the figure had risen to one every two nights. By 1989, two stories were being broadcast a night. Similarly, a 1989 NEXIS NEWS MONITOR study of top U.S. daily newspapers, wire services and business and trade publications found environmental issues dominating print coverage, receiving more attention than any other issue over a five-year period.

Such sustained and increasing national coverage of the environment was fuelled, in part, by events such as the dolphin and seal plagues, and the Exxon Valdez accident in 1989, but also, and more important, by something which has been noticeably and continually changing for the past several years - the weather. Time reported that in the fall of 1987 when Colorado Senator Timothy Wirth held congressional hearings on the greenhouse effect, only 'six or seven people {attended}, and two or three of them were lost tourists' ('Feeling the Heat', Michael D. Lemonick, Time, 2nd January 1989, p.36). By the following June, however, with Washington sweltering in 99° F weather, forest fires sweeping across Yellowstone National Park and Midwest farms drying up, Wirth's hearings had standing room only. At those hearings James Hansen, the director of NASA's Goddard Institute for Space Studies, made front-page news by announcing what many scientists already knew - that the greenhouse effect and global warming were no longer just theories but proven, scientific fact. The media, including The New York Times, which put the story on page one the next day, gave extensive coverage to the issue throughout the summer, putting it on the national agenda.

On the other side of the Atlantic, while Congress conducted its hearings, scientists in the Climate Research Unit at the University of East Anglia were reporting their findings - 1987 was the warmest year on record in the world with global warming averaging about 0.5° C since 1860. Oddly enough, however, the data also showed temperatures dropping over a large part of northern and eastern Europe, with Britain cooling by about 0.25°C over the past 20 years. Scientists explained that such cooling was an intermediate stage, and, that as the oceans began to warm, Europe and Britain would heat up during the 1990s. Most important, they argued, Britain needed to take the greenhouse effect into consideration in its long-term planning on energy and other issues.

It was not only the heat but also the predictions of natural cataclysms to come that added to the drama. If present trends continued, said the U.S. National Center for Atmospheric Research, world temperatures could rise between 3° and 5° F by the year 2080, parching farmland and forests, drying up rivers, melting polar ice caps, raising sea levels and flooding most coastal areas. Miami would need dikes to hold back the sea, and, in fact, most of South Florida eventually could be underwater.

As early as 1986, the U.S. National Oceanographic and Atmospheric Administration reported that from 1931 to 1980 South Florida measurements indicated that the sea was rising at about eight or nine inches a century.

Moreover, the Department of Natural Resources confirmed that the east coast of Florida was sinking at twice the rate of the world, and predicted a two-foot rise in the sea level along Florida's east coast in the next century.

The Miami Herald, recognizing local interest in such predictions, produced a three-part front page series in October 1988. The articles related a list of grim scenarios - the ocean rising from one to four feet, tides reaching 16 feet sweeping Miami Beach with a wall of water, and more frequent and dangerous hurricanes (a killer storm, Hurricane Andrew, did indeed hit Miami in August 1992, causing $20 billion in damage and claiming 15 lives, the worst natural disaster in U.S. history). The series also focused on measures recommended by scientists, government and industry officials to solve the problems - improving energy efficiency, promoting energy conservation and developing nonfossil energy sources. The series concluded that the best answer would be a coordinated global effort by 'the U.S., the Soviet Union, the European Community and Japan to attack the problem... the annual economic summit conferences might prove a model' ('Fending Off Climate Crisis Won't Be Easy', Robert A. Rankin, The Miami Herald, 16th October 1988, p.16a).

Similar grim predictions for Britain were made by scientists and subsequently reported by the media. The New Scientist in May 1989 related predictions by the Unit of Comparative Plant Ecology at the University of Sheffield that as Britain's climate becomes warmer and drier, fires would become more frequent, the land would dry out and open spaces would expand. In a special section of The Sunday Times Magazine, further warnings of rising sea levels and major storm surges overwhelming Britain's coastal defences were related. Low-lying areas like the Cambridgeshire Fens - 'a tidal timebomb' - would be inundated and the map of East Anglia rewritten overnight. Indeed, with more storms produced by global warming like the hurricane that swept across southern Britain in January 1990, which killed 39 people and felled thousands of trees, 'we don't actually have to wait for a rise in sea levels for the Fens to be at risk', said Dr. Michael Tooley, Britain's expert in sea-level changes, 'They are at risk now' ('Waiting for the Flood', Brian Jackman, The Sunday Times Magazine, 30th June 1991, p. 30).

(ii) The Environment and Public Opinion

Marine animal plagues, the accumulation and announcements of scientific evidence about the Earth's destruction and the subsequent media coverage of such stories did much to raise public awareness of the environment as an issue, even as scientific and media interest mirrored growing public concern over environmental issues. Indeed, opinion polls in Britain and elsewhere in the West reveal that such concern has been increasing for quite some time (Anderson, 1991; Anthony, 1982).

Opinion polls in both the U.S. and Britain have tracked the 'greening' of public sentiment over the years. Roper surveys record public concern over pollution tripling in the U.S. during the 1980s, and, by 1990, environmentalism becoming a truly mass movement with 78 percent of Americans ranking the environment as the most serious issue facing the U.S. - an issue only surpassed in priority by crime and drugs, AIDS, and health care costs. By July 1991, a Chrysler Corporation survey of Americans ranked the environment as the nation's third top issue (51.9%), only preceded by education (73.6%) and the economy (52.1%).

The 1990 Roper survey also noted growing public concern over the destruction of the ozone layer and the greenhouse effect - the latter climbing in rank as a 'serious issue' since 1988 from 33 to 49 percent - saying that 'the torrid summer experienced throughout much of the nation that year {1988} and increasing media attention to the "greenhouse effect" since then served to heighten public sensitivities' (Roper, The Environment: Public Attitudes and Individual Behavior, July 1990, p.5). A 1991 Time survey subsequently reported an increase in public concern over global warming, with 53 percent of respondents saying that they were 'seriously concerned' (Time Insider, 1991, p.8).

The Roper survey also noted that popular demand for more government regulation on the environment more than doubled since the 1980s with 72 percent of Americans (versus 29 percent in 1979) calling for government to do more to ensure that business acted in an environmentally responsible manner. The majority of respondents blamed pollution on both business and government for not enforcing environmental regulations. Interestingly enough, a 1990 Ford Motor Company survey of leaders in business, education, government and environmental groups confirmed such sentiments. Some 85 percent of leaders said the federal government 'should take the lead in setting environmental standards', inasmuch as 'industry will not voluntarily take steps to protect the environment' (70 percent). More than 90 percent ranked the environment as the public's 'top priority in the 1990s' and cited preserving the ozone layer as the top national and international priority (79 percent) (Public Relations Journal, June 1990:16).

Results of a survey of South Florida residents conducted by The Miami Herald in January 1992 echoed national sentiments. As an issue in the autumn 1992 U.S. presidential campaign, 79 percent of respondents rated the environment as either 'extremely important' or 'very important', placing it sixth in importance behind the economy (99 %), health care (92%), education (92%), crime (87%) and drugs (83%). Politically, the issue divided along party lines with 45 percent of Democrats calling the issue 'extremely important', while just 32 percent of Republicans considered it so. More important, a majority of all respondents regardless of political affiliation did not feel the environment should

suffer to save the economy. As The Miami Herald noted, 'By a 57 percent to 30 percent majority, South Floridians reject the notion of sacrificing the environment to boost the economy'. Moreover, when given a choice between protecting the environment or protecting jobs, 65 percent of respondents said 'protecting the environment is foremost, even if it means losing jobs' ('What Worries People', Tom Fiedler, The Miami Herald, 9th February 1992, p.20a). Such public endorsement for the environment was particularly noteworthy in the light of the fact that the U.S. Department of Labor had just announced that Florida's January 1992 unemployment rate was 8.7 percent, the second highest among the nation's most populous 11 states, and, that in South Florida, joblessness reached 9.5 percent, with few prospects for a quick recovery.

In Britain, opinion polls have shown similar trends. Public concern about the environment has risen over the years. U.K. Gallup poll respondents in 1982 'worried a great deal' about water pollution in rivers, lakes and streams (27%), chemical waste disposal (45%) and pollution of seashores and beaches (45%). By 1990, however, Gallup polls showed a higher degree of public concern about such issues - respondents were 'worried a great deal' about water pollution (52%), chemical waste disposal (69%), and seashore and beach pollution (67%). In a 1989 Gallup poll respondents ranked the environment as the third most pressing national problem (40%) following drugs (64%) and AIDS (42%).

The greenhouse effect was of particular note as a single issue during this period. Only 28 percent of respondents in 1982 were 'worried a great deal' about atmospheric damage by fossil fuel emissions. However, in subsequent Gallup polls such concern rose dramatically; the percentage of respondents who were 'worried a great deal' increased to 34 percent in 1985, 50 percent in 1988 and to 59 percent by 1990 (ozone depletion was added to the question as an issue in 1988). Yet, when asked in the 1990 poll about environmental issues people could make a personal impact on, respondents said they could affect global warming and acid rain the least (6 and 2% respectively) but felt they could do something about the vanishing ozone layer (42%). It would seem, then, that as these issues grew in prominence on the national agenda, so did public concern about their consequences on the environment. And yet, while many people apparently were able to see a connection between their personal behaviour (using CFCs in aerosols, for example) and ozone depletion, no such link was made between individual actions (ie. driving vehicles, using lead-free gasoline) and global warming. Clearly, the greenhouse effect was an important issue awaiting someone to articulate a solution that the public could internalise and personalise.

Surveys in Britain also have noted similar criticism of both business and government for environmental destruction and greater demands for government action. In a 1990 Gallup poll, 83 percent of respondents said business was doing an 'only fair or poor' job of keeping the environment clean as

was government (88%) including local councils (72%). Moreover, respondents felt the government had been biased in favour of industries that pollute (54%). When asked in a 1988 Gallup poll whether industry could be trusted to regulate itself or whether government should produce laws to regulate companies, 88 percent said government should regulate industry.

As in the U.S. there has been little public sentiment in Britain for sacrificing the environment to boost the economy. In the 1990 Gallup poll 83 percent of respondents said it was important to protect the environment even if it meant increased government spending and higher taxes, raising requirements and standards, making environmental improvements regardless of cost or losing jobs in their community (55%). Over the years public opinion has always favoured the environment even if it meant holding back economic growth (70 percent in 1988, up from 49 percent in 1982) or raising prices (74 percent in 1988, up from 50 percent in 1982).

It should be noted that there is one particular difference in American and British public opinion on the environment - concern about the preservation of the countryside, which The Economist has called 'something peculiarly British, growing, perhaps, from Britain's early urbanisation, which gave Victorian middle-class town dwellers a romantic view of rural life.' As The Economist noted, 'The environment has fed into British politics through three distinct channels: concern about the countryside and conservation; the anti-nuclear lobby; and concern about public health and pollution' ('The Greening of British Politics', The Economist, 3rd March 1990, p.35). Indeed, when UK Gallup pollsters have queried respondents about their 'green' behaviour, such questions have listed various 'countryside activities' in addition to consumer actions like recycling or buying 'green' products, whereas U.S. surveys exclusively list only consumer activities for respondents to choose from. In a 1988 UK Gallup survey, in fact, respondents ranked their top 'green activities' as 'watching TV about wildlife and nature' (73%), 'walking in the countryside' (66%), 'feeding birds in the winter' (62%), 'visiting parks/gardens' (56%), and 'avoiding uprooting wild flowers' (41%).

(iii) The Greening of the Marketplace

The 'greening' of public opinion in the U.S. and U.K. perhaps has been most evident in recent years at the cash register, in environmentalist ranks, and at the voting booth, particularly in Britain. In the U.S. a market research poll in 1989 by The Michael Peters Group, a design and new products consulting firm, reported that 89 percent of Americans were concerned about the environmental impact of the products they purchased, and that 78 percent would pay more for a product packaged with recyclable or biodegradable materials. As a consequence, 77 percent said their purchases were affected by a company's

environmental reputation, and 53 percent said they had declined to buy products over the past year out of concern for the effects the packaging would have on the environment. A Gallup poll in 1990 confirmed the 'greening' of consumer attitudes, adding that 60 percent of consumers would change brands for environmentally safe packaging. Moreover, a 1990 'Greenwatch' survey by J. Walter Thompson further revealed that consumers (29%) had boycotted a company's products because of its poor record on the environment, were recycling newspapers, glass and aluminum (78%) and were carpooling or using public transport (42%).

Companies have been quick to jump on the 'green' consumer bandwagon so as to cash in on public opinion. By 1991 there were 1,357 U.S. trademarks with the word 'Green' in a company name, service, good or package, 1,148 trademarks with the prefix 'Eco' and 586 trademarks including the word 'Enviro'. Leading the pack was the U.S.'s number three retailer, Wal-Mart Stores, which, in 1989, became the first retailer to publicly call for more 'environmentally-friendly' products from vendors and to tag shelves to highlight 'green' products and packaging.

But not all U.S. companies that have wrapped themselves in a 'green' marketing mantle have been genuinely 'green', and the most transparently 'green' have not stood up well under close consumer scrutiny. Mobil and First Brands which claimed their Hefty and Glad rubbish bags were degradable soon were met with consumer boycotts led by the Environmental Defense Fund, a Federal Trade Commission investigation, and, in the case of Mobil, a multistate lawsuit for deceptive advertising and consumer fraud. Both companies eventually rescinded their claims after being unable to scientifically substantiate them.

In a 1990 survey by Environmental Research Associates, nearly 50 percent of respondents said they 'view environmental claims as mere gimmickry' ('Creating a 'Green' Ad Campaign Risks Making Consumers See Red', Joann S. Lublin, The Wall Street Journal, 5th December 1990, p.5a). A similar survey in 1990 by Abt Associates, Inc., echoed consumer scepticism - respondents said they were 'least likely' to believe corporate advertising claims about environmental performance and 'most likely' to believe national and local environmental groups (53% and 43% respectively), followed by a government study reported in a newspaper or on TV (37%) and a newspaper or TV news story (23%). Respondents ranked product packaging (52%), newspaper or magazine articles (32%) and radio or TV stories (25%) as the top sources for information on product environmental attributes (Abt, Associates, Inc., Consumer Purchasing Behavior and the Environment: Results of an Event-Based Study, November 1990, p.6).

J.W. Thompson, through its 'Greenwatch' surveys, suggests that such scepticism may be rooted in a new consumer trend of viewing a company's products (and activities) in a holistic way. A product cannot be truly 'green', say such consumers, unless it is 'green' throughout its total life cycle from extraction, manufacture and use to disposal. There are environmental consequences for each stage of a product's history, according to Thompson, and 'companies that ignore the harmful potential of their products at any stage are at risk in today's more environmentally aware market' (J.W. Thompson, Greenwatch: Rethinking the Product From Cradle to Grave: An Environmental Perspective, Autumn 1990, p.14). Most important, counsels Thompson, 'What you do and what you say you do must not conflict because it will come back to haunt you even if there's a short-term gain' ('Consumers Turning Green: JWT Survey', Gary Levin, Ad Age, 12th November 1990, p.74)

Many U.S. companies are taking a hard look at their operations, as a consequence, and using public relations counsel to do so. A 1990 report by Shandwick plc, one of the largest public relations firms in the world, says environmental services will be more in demand than any other specialty in the 1990s. A 1991 survey of Fortune 500 companies by another public relations counseling firm, E. Bruce Harrison Company, Inc., reports that 75 percent of the companies have published environmental policy statements 'setting corporate goals for environmental management' ('The Greening of Environmental PR', Daniel Kagan, Insight, 18th March 1991, p.39). In related developments, the Public Relations Society of America (PRSA) established in 1992 an Environmental Section for counsellors, corporate and other practitioners involved in environmental public relations to exchange information, ideas and attend special seminars. A similar association, The Earth Station Foundation, was founded in Florida in 1992 to help public relations professionals in networking on environmental issues.

In addition to 'greening' their consumer behaviour, Americans have become more active in various environmental groups in recent years. The 1990 J.W. Thompson 'Greenwatch' survey reported that 'over three million Americans belong to at least one environmental organization' (J.W. Thompson, Single Issue Marketing, January 1990, p.3). In addition, 49 percent have contributed money to such organisations, and 16 percent have done volunteer work for an environmental, conservation or wildlife preservation group. According to the Public Relations Journal, 'there are more than 200 organized environmental groups in the United States today with some 10 million members overall' ('Working With Environmental Groups', James T. Harris, Public Relations Journal, May 1992, p.24). These groups, reports PRJ - with the exception of Greenpeace - are becoming partners with corporations in a variety of ways, including sponsorships, technical assistance and political coalitions. Corporations offer a ready source of funds and environmental groups offer the opportunity to obtain

positive publicity and gain access to group members' (1992:p. 24). Such partnerships also provide corporations with credibility and, in political coalitions, 'substantial clout' as environmental groups offer 'large memberships and lobbying expertise' (1992, p. 24).

In Britain, there has been a similar 'greening' of consumer behaviour and increased environmental activism in recent years. Taylor Nelson Applied Futures, a marketing research firm, reported in 1989 that 36 percent of the U.K. population are considered to be 'green' consumers who are prepared to pay more for products which do not pollute or damage the environment, and, as such, form the fastest growing social group in the U.K. In a May 1989 MORI poll, 42 percent of respondents said they had purchased a 'green' product at least once in the past year - more than double the number of those who had in 1988. A 1990 survey by Mintel, another market research firm, further revealed that some 12 million British shoppers would pay a premium of 20 percent or more for 'green' products. As The Economist noted, 'The growing ranks of British green consumers cut across all social classes, ages and regions. Even the largest population group, those older than 55, are starting to change buying habits of a lifetime' ('The Perils of Greening Business', The Economist, 14th October 1989, p.109).

Perhaps the first 'eco-ad' in Britain was the national television campaign launched during Christmas 1988 by Alberto-Culver UK. The company, which manufactures VO5 hair products, promoted its 'ozone-friendly VO5' which 'doesn't cost the earth' by claiming 'you're not destroying the atmosphere'. The £2 million campaign, which included point-of-sale advertising, was targeted at 16-34-year-olds in all social categories. Alberto-Culver since has reported an increase in sales of its styling range, and company surveys indicate 81 percent of the public said the company's message was an important element in their purchasing decision. Other company research shows that the second generation of future consumers - 12-16-year-olds - are also 'very concerned about the environment'. As New Statesman and Society notes, 'By 1999 when they are adults, it is estimated that consumer spending will be over £200 billion (at 1980 prices) and on average they will be spending 40 percent more than in the mid-eighties' ('Green Goddesses', Julian Kossoff, New Statesman and Society, 27th January 1989, p.41-42).

As in the U.S., other companies in Britain have been quick to colour their images 'green' with some managing to further taint them at the same time. Sainsbury's, the British supermarket chain, introduced a line of 'green' products - à-la Wal-Mart - which included CFC-free aerosols and dolphin-safe tuna. Body Shop, a manufacturer and retailer of natural cosmetics which also are not tested on animals, found a responsive consumer market in Britain and overseas, eventually becoming not only a very profitable enterprise, but a lauded one as well, receiving the Environmental Management Award in 1991 sponsored by the

Environmental Foundation, the Department of the Environment and Shell UK. On the other hand, tissue paper manufacturer Scott was heavily criticised by environmentalists, and Friends of the Earth in particular, during this same period for its TV advertising campaign in 1990, which claimed that the company's policy of replanting trees it cut down was helping alleviate the greenhouse effect. Scott argued that young trees absorb up to three times as much carbon dioxide as mature trees; so, using more paper means planting more trees from 'ecologically sustainable' sources in areas like Scandinavia, thus improving the environment and mitigating global warming. Scientific studies indicate, however, that commercial forestry in countries like Finland may actually be causing more annual carbon dioxide emissions than the national consumption of fossil fuels, as peatlands are drained and massive levels of carbon dioxide stored in them released. After receiving a flood of complaints about its ad campaign, Scott withdrew the commercials.

British boardrooms, as American ones, increasingly have sought counsel to guide them in their 'greening'. In 1988 Environmental Data Services published a directory listing 125 environmental consultants in Britain. Two years later, a second edition was released, nearly double in size, with the names of firms offering environmental auditing services to corporations, most of which are manufacturers and many of which are European companies more accustomed to considering the complete life cycle of their products and its impact upon the environment.

The 'greening' of public opinion in Britain also is evident in the growth of membership of various environmental organisations. Two of the largest and longest standing of the groups, the National Trust, with approximately 1.8 million members, and the Royal Society for the Protection of Birds, with 680,000 members (as of 1990), have grown since 1981 from roughly one million and 400,000 members respectively. Other newer groups, however, have grown much faster - Greenpeace in 1990 had 327,000 members, six times as many as in 1985, and Friends of the Earth grew even faster from 39,000 members in 1988 to 190,000 in 1989 - perhaps as a consequence of their younger image and more aggressive campaigning style.

(iv) Greening of the Political Agenda

Accidents, plagues, media coverage, 'green' consumerism and activism aside, perhaps it was the 'greening' of the then Prime Minister Margaret Thatcher in the autumn of 1988 that most visibly - and decisively- put the environment on the political, media and public agenda. Her 'green' speech to the Royal Society on 27 September 1988 politicised environmental issues (Anderson, 1991), and, according to Europe, sent the opposition Labour Party 'scrambling to present a coherent policy on the environment and "green" issues

in general' ('The Greening of Britain', David Lennon, Europe, November 1989, p.10).

It has been suggested that the media only began to consider the environment as legitimate news once Mrs. Thatcher had publicly addressed the issue (Anderson, 1991). While most quality newspapers had environmental correspondents prior to her speech, it was not until after Thatcher's conversion from iron lady to 'green' goddess that mid-market and popular papers added such journalists. Television, particularly the BBC and ITN, did not appoint environmental correspondents until early 1990, when it was finally clear that environmental issues were ongoing news (Anderson, 1991).

While The Daily Mail's 'Save Our Seals' campaign in August 1988 may have increased Mrs. Thatcher's awareness of public concern on the environment (Anderson, 1991), there were certainly a number of other factors that had an equal amount of influence, if not more, on her decision to voice her party's concerns. As The Economist noted, 'Mrs. Thatcher's antennae have picked up the increasing interest in ordinary voters in environmental issues' ('The Greening of Margaret Thatcher', The Economist, 11th March 1989, p.25). Indeed, popular support for Britain's Green Party had been growing and soon reached a point where it could no longer be ignored, as the 1989 elections to the European Parliament proved. While the British Greens only garnered 0.5 percent of the vote in the 1984 European Parliament elections, in 1989 they captured two million voters and 14.5 percent of all ballots cast, becoming the third largest party in Britain. As UK Gallup polls had indicated as early as October 1988, 17 percent of respondents said the Greens' views on the environment best represented their sentiments, as opposed to the other political parties in Britain. Other polls showed the Labour party closing on the Tories in political strength, and suggested that 'green' issues could tilt the balance. However, while the Greens won the hearts of voters, they gained no seats in the European Parliament, because Britain does not have a system of proportional representation. During 1989 the Green Party in Britain continued to attract members; by December of that year, membership had grown from 9,100 to 18,000.

Such success, marking the party's high water mark, however, was shortlived. The Greens' swelling political waters soon receded, with the party garnering only 1.3 percent of the vote in Britain's general elections in April 1992, followed by an equally poor showing (1.5%) in local elections in May. In the autumn of 1992, the party's troubles continued as its chair, Sara Parkin, and several other members of its executive chose not to stand for party re-election. With party finances that could 'only afford the most minimal operations for a national political party' and membership that had since dwindled to 7,500, Britain's Greens entered their annual national conference amid 'bitter infighting' and 'deep political and cultural differences' ('Clouded Outlook', New Statesman & Society, 4th September 1992, p.26). The waning of the party may have

reflected, in part, a return by the electorate to traditional party lines (as evidenced by the Conservative Party's victory, Labour's gain of 42 seats in Parliament and the drop in popular vote for the Liberal Democrats in the general election) amid public concern over the country's longest recession since the 1930s and 'voters' fears and uncertainties over the prospects of a socialist government or a hung parliament' ('British Prime Minister Major Reelected; Conservatives' Majority Trimmed in Fourth Straight Win', Facts On File, 16th April 1992, p.261).

In the autumn of 1988, however, such a dramatic reversal in the Greens' future political fortunes certainly did not seem to be in the cards. As popular concern over the environment grew, the visibility of Mrs. Thatcher and the Conservative government on 'green' issues became extensive. In October of that year Mrs. Thatcher addressed 'green' issues in her speech to the Tory party conference. In March 1989 she hosted an international conference in London on the ozone layer. In May 1989 she chaired yet another international forum to discuss global warming. In December 1989 the government published its Environmental Protection Bill, which legislated tougher air, water and land pollution controls for the first time in an integrated manner. Later, in October 1990, the government and Secretary of State for the Environment, Chris Patten, released a long-awaited policy paper on the environment, This Common Inheritance. While the policy was criticised by opposition parties and environmental pressure groups alike for being long on rhetoric and short on specifics, its publication did focus political, media and public attention on environmental issues, stoking the fires of debate.

The eventual 'greening' of Mrs. Thatcher and the Conservative government may also be attributed in part to growing pressures from 'other politicians in Europe taking environmental issues more seriously' (Anderson, 1991:463). Politically speaking, Green parties in continental Europe grew to legitimacy in the 1980s, raising their number of seats from 20 to 39 in the 1989 European Parliament elections, and winning representation in the national legislatures of Italy, Portugal, the Netherlands, Luxembourg, Austria, Switzerland, Sweden, Finland and Germany. Their stunning victories, particularly in West Germany, forced Conservatives and Social Democrats to address environmental issues. As the EC noted, 'Barely a week after the {1989 European Parliament election} results were announced the European Summit of EC leaders concluded their meeting in Madrid with a stronger than ever declaration that the Community must play an active role in environmental protection, both in terms of EC legislation and through participating in international initiatives' (Commission of the European Communities, Environmental Policy in the European Community, March 1990, p.15). As Europe commented on the election, 'leaders across the Continent heard the voters' emphatic message that environmental cleanup was not merely a matter of aesthetics but a serious political issue' ('Greens Gain Votes', Jay Walljasper, Europe, October 1990, p.15).

When asked about the growing environmental conscience in the EC in recent years, Carlo Ripa di Meana, the EC's Commissioner for the Environment, commented that, 'We can symbolically say {it} began with the publication of the famous cover of Time magazine of the planet in danger. That is when environmental policy, which had developed in Europe especially in a few countries, became the patrimony of all' ('The E.C.'s Green Guru', Europe, Niccolo D'Aquino, June 1992, p.6). Concurrently, with that issue of Time, the European Council at its December 1988 Rhodes Summit put 'green' issues at the top of its agenda with its Declaration on the Environment. Among other environmental actions, the Declaration urged EC countries to work together to limit emissions of greenhouse gases, eliminate CFCs harmful to the ozone layer, and end ocean dumping of wastes. The Summit also was the capstone of the EC's European Year of the Environment (March 1987 to March 1988) during which the EC attempted to publicise its 'green' efforts and mobilise popular support in Member States through information campaigns, sponsorship of major projects and new legislation.

Actually, however, the 'greening' of the EC has a relatively long history with Community countries first adopting environmental protection policies during the 1960s which finally became the foundation for a common policy ratified by the various Heads of State or Government at their Summit in Paris in 1972. The European Commission drew up the first action programme on the environment adopted in 1973 which since has been followed by four other action programmes, including a fifth considered the turning point of the Community regarding the environment. Under these programmes - given legal and political support in July 1987 with amendments to the Treaty of Rome known as the Single European Act - the EC has enacted some 200 directives, regulations and decisions to preserve, protect and improve the quality of the environment and to eliminate distortions of competition by 'greener' countries within the Common Market which could be effective non-barriers to trade.

Gradually, the EC has been establishing the infrastructure necessary to coordinate and enforce its environmental regulations, actions and policies. In May 1990 the EC created a European Environment Agency (EEA). While the EEA will not have powers of enforcement, it will represent, as di Meana has explained, 'the first stage and the basis of a worldwide network of environmental agencies that will ensure the monitoring of international and domestic commitments' (D'Aquino, Europe, June 1992, p.6).

The EC Commission also proposed in early 1992 an 'eco-audit' regulation that, although voluntary, would have industrial companies conduct self-assessments of their environmental performance based on criteria outlined in the regulation. The assessments would be subject to external verification by independent auditors, and findings would be made public. In a related move, the EC Commission in early 1991 agreed to institute a Community-wide 'eco-

labelling' scheme to help consumers choose 'green' products that are genuinely 'green' throughout the entire life cycle. The EEA would establish the criteria on which products would be judged, and a centralised jury of representatives from each Member State would judge the products and award the eco-labels.

As Britain and the EC have marched (and sometimes stumbled) toward 'greener' political agendas, the U.S. - has in the eyes of environmentalists, the media and various political leaders - marched backward in eco-time toward a 'browner' agenda. While the 1970s marked a landmark era of federal environmental legislation in the U.S., including the Clean Air Act, the Clean Water Act and the Endangered Species Act among the most notable of the statutes, it would appear that the 1980s and 1990s, under the Reagan and Bush Administrations, has become an era of rolling back all such environmental rules and regulations in the name of economic recovery. The anti-'green' movement - dubbed 'wise use' by supporters and 'resource abuse' by critics - includes the Alliance for America and other umbrella organisations that boast hundreds of member groups and thousands of individual members. Such groups, in turn, have been led and encouraged by the Bush Administration through various anti-'green' political appointments to government posts, anti-'green' directives by such appointees, and anti-'green' actions by The Council on Competitiveness, chaired by Vice President Dan Quayle and assisted by the Treasury Secretary, the Commerce Secretary, the Attorney General, the Budget Director, the Chairman of the Council of Economic Advisors and the White House Chief of Staff.

Described by environmentalists as a 'shadow government', the Council was established in 1989 to ensure that federal regulations did not inhibit the competitiveness of U.S. businesses by placing 'unnecessary burdens' on them; since then, however, that has been increasingly interpreted to mean 'free of all government regulation'. The Council, at the request of business executives and corporate interest groups like the Motor Vehicle Manufacturers Association, has intervened dozens of times to modify, undermine and overturn regulations of other federal agencies, including most notably the Environmental Protection Agency. For example, the Council has proposed more than 100 changes to the Clean Air Act (which was reauthorised by Congress in 1990), thereby diluting and lowering tough air quality standards, and also has blocked 59 provisions of the new Act from being implemented by the EPA. Such efforts have scuttled provisions for recycling standards and acid rain regulations and permitted companies to increase toxic emissions above levels authorised on operating permits, permission which, by law under the Clean Air Act, requires prior public notification and hearings. The Council has called such hearings 'a burden' for industry and eliminated them.

The Council's 'business friendly' actions have served as a rallying call for environmental groups from the Center for Marine Conservation to Greenpeace to the National Wildlife Federation urging members in direct mail appeals to write

letters of protest to their Congressmen, the various department secretaries and the White House, and to fund activist efforts including legal challenges. Indeed, in July 1992, a federal judge in New York ruled that the White House was violating the Clean Air Act by not putting the law into effect, and a federal appeals court in Washington blocked an order by the Council allowing municipal incinerators to burn car batteries containing toxic lead. Likewise, political opponents have mounted investigations in seven Congressional committees of the Council's actions. Commented one Congressman, Rep. Henry Waxman (Democrat-California), 'They {the Council} are trying to evade and undermine the law' ('Council's Gutting of Clean Air Act Beginning to Arouse Public Outrage', Tim Weiner, The Miami Herald, 2nd August 1992, p.8a).

Perhaps the most visible sign of the 'browning' of the U.S. and the Bush Administration's 'business friendly' attitude was at the Earth Summit in Rio in June 1992. After its conclusion, EPA Administrator William Reilly, chief of the U.S. delegation at Rio, sharply criticised the Administration for being slow to engage crucial issues, late in assembling a delegation and unwilling to devote sufficient resources to the meeting. ('EPA Chief: Administration Mishandled Earth Summit', The Miami Herald, 1st August 1992, p.1a).

One such issue - the Summit's biodiversity treaty to preserve imperiled species and ecosystems - was summarily dismissed by the Bush Administration, which refused beforehand to consider and later to sign the treaty, much to the objections and lobbying of Reilly to reverse its position. In a sense, the Administration's position was in keeping with its domestic view of biodiversity. Its efforts to undermine, if not scuttle completely, the 1973 Endangered Species Act through a special pro-business Cabinet-level Endangered Species Committee, are well documented. The Committee, chaired by Interior Secretary Manuel Lujan Jr. - dubbed the 'Stealth Secretary' by environmentalists - has voted on numerous occasions to override the Act to allow various government agencies, such as Interior, to permit intrusions into previously sacrosanct wilderness areas ('The Stealth Secretary', Ted Gup, Time, 25th May 1992, p.57).

The Rio Summit was the latest in a series of political attempts to find a globally acceptable way of reconciling environmental protection and economic growth. Earlier, in 1989, the United Nations had held an international forum to bridge the divergence of viewpoints on solutions, using a 1987 report from the World Commission on Environment and Development as a starting point. The Commission proposed the notion of 'sustainable development' and a scheme in which developed nations would pay developing nations to sacrifice some growth for the sake of the environment. In their Declaration on the Environment at the EC Summit in Dublin in June 1990, the various EC Heads of State and Government agreed that the approach and objectives of EC environmental policy over the next decade 'will be developed on the principles of sustainable development'. Moreover, they declared, 'The Community must use more effectively its position of

moral, economic and political authority to advance international efforts to solve global problems and to promote sustainable development and respect for the global commons' (Hull, 1991, p.21).

Such an approach to environmental problems put the European nations on a collision course with the U.S. at the Rio Summit, particularly as it concerned crafting an agreement to combat global warming. Prior to the Summit, the EC proposed cutting carbon dioxide emissions to 1990 levels by the year 2000 - which EC nations in 1990 already had decided to do by 1997 - but the Bush Administration refused to consider such a deadline, arguing that a reduction in emissions would damage industrial production and cost jobs. As a consequence, a compromise text, fashioned to suit the U.S., simply asked nations to reduce emissions to 'earlier levels' by 2000 and made a rollback to 1990 levels a voluntary goal.

The Summit also gave a forum to many divergent proposals for solutions, including a strategy announced by Japan to stabilise carbon dioxide emissions in that country - the construction of 20 new nuclear power stations by the year 2000 and 40 by 2010. In so doing, Japan had used the Summit to make an interesting point - one which linked environmental benefits with nuclear power - that echoed the new approach the nuclear industry was taking to the issue. As such, the Summit marked the formal introduction to global society of the debutante nuclear strategy.

Following the Summit, Japan and the European nations were hailed as heroes for their willingness to support its agreements 'while the U.S. was perceived to have squandered an opportunity to exercise its leadership' ('Rio's Legacy', Eugene Linden, Time, 22nd June 1992, p.45). Whatever the virtues of the European nations 'they are still not very good about enforcing their anti-pollution laws' (Elmer-Dewitt, Time, 1st June 1992, p.54) and the vices of the U.S. (which pledged $75 million to help developing nations find a way to reduce greenhouse gases), the Summit did promote debate and focus world attention on environmental issues on an unprecedented scale. Moreover, the forum underscored a genuine global shift - political and popular - in attitudes toward the environment and a readiness to implement workable solutions, given rising concerns about global warming and other issues. The Summit also provided a soapbox for the presentation of such solutions and the hook of 'green' issues on which advocates like the nuclear industry could hang their collective hats.

Chapter Six

EMERGENCE OF THE 'ECO-NUCLEAR' AGENDA

(i) Initial Greening of Nuclear Issues Management

(ii) 'Eco-Nuclear' Messages: From Reactive to Pro-active

(iii) Public Opinion and the 'Eco-Nuclear' Agenda

(i) Initial Greening of Nuclear Issues Management

The 'greening' of the industry's pro-nuclear messages, particularly those of FP&L and SNL, can be traced back well prior to the Rio Summit. The development of such 'eco-nuclear' messages through the process of issues management - part of a carefully devised strategy to take advantage of media attention and public concern about the environment - often has occurred simultaneously on both sides of the Atlantic, suggesting a possible networking of intelligence.

In response to the survey on strategic management (Tilson, 1992), both FP&L and SNL rank 'nuclear energy and the environment' as an issue of medium concern to their company in 1992 and 1993; FP&L ranked the issue eighth in order of priority on a list of 12 issues, and SNL ranked it among several other issues in a second of four tiers of issues. Yet, both companies consider nuclear energy and the environment to be one of the priority messages they wish to communicate publicly. When asked to identify the messages each consider 'most important to communicate' to their publics, both FP&L and SNL ranked the environment among their top five messages. SNL ranked 'environmentally-friendly' as the second most important message it wishes to convey about its operations, and FP&L listed its 'environmental programs/efforts' as its fourth most important message. It would seem, that while both companies do not consider the environment per se to be as threatening an issue as nuclear safety or radiation (although accidents involving both do have a direct and negative impact upon the environment), they have recognised the opportunity to capitalise on 'greening' public sentiment and are shaping their pro-nuclear messages accordingly.

Both companies monitor 'green' issues and develop strategic plans of action - as they do with all ESPPI issues - through the process of issues management. FP&L has an interdepartmental team expressly reviewing 'green' issues (one of the several teams established in early 1991 to track key issues) and developing corporate positions and responses to such issues. As with the other teams mentioned, FP&L's Corporate Communications department plays an integral part throughout the entire process as a member of the team. FP&L also monitors such issues at a national level as part of a special industry-wide task force. The task force tracks the development of federal government environmental policies as they relate to the nuclear industry, formulates action plans in response, and attempts to influence the shaping of such policies through its lobbying efforts of Congress and various federal agencies.

The Management Executive Committee of SNL, which includes public relations, tracks environmental issues as a team and also through its Safety Directorate (Nuclear Safety Department). Moreover, as such issues concern the EC, SNL monitors their development through its contacts with FORATOM and other European industry associations. SNL Public Relations Manager Dick

Marshall believes, in particular, that the monitoring of such EC developments is essential to the company's future inasmuch as 'political power is shifting from Whitehall to Brussels' and that 'our company's activities will be significantly affected by the movement toward EC-wide environmental standards'. As Europe moves toward a federal political system, Marshall explains, 'we want to have input into policy-making processes and also promote the reputation of Scottish Nuclear in Europe and globally' (Interview, 20 June 1991).

In the course of fashioning a corporate response to 'green' issues, FP&L has institutionalised its efforts to a greater degree than has SNL, owing in part to its greater longevity as a company but also as a consequence of external pressures. Unlike SNL, FP&L has developed a corporate environmental policy statement with practices and guidelines for implementation and monitoring, and sets specific annual environmental goals and objectives. Pledged to 'conduct business in an environmentally responsible manner' (FP&L, Commitment to the Environment, 1989, p.1), FP&L several years ago established an Environmental Affairs Department - headed by Chief Ecologist Dr. J. Ross Wilcox - to coordinate and monitor the implementation of corporate policy on the environment. The Environmental Affairs Department also is responsible for developing and monitoring a variety of research projects throughout FP&L's service area. For example, since 1971 FP&L, through a contract with Applied Biology, a private research firm, has monitored sea turtle nesting activity on the beaches and other areas adjacent to its St. Lucie nuclear power station. Applied Biology also collects data on turtles drawn by offshore intake pipes into the station's cooling canal system. Environmental Affairs and the company's Land Utilization Department also maintain and monitor special holding tanks onsite to study lobsters which also are drawn into the station by the offshore pipes. At its Turkey Point nuclear station in Miami, FP&L has been monitoring crocodile nesting and other activity within the station's cooling canal system since 1977. Hatchings are caught, weighed and marked for identification and tracking, and then released. Projects at other power stations similarly monitor the Florida manatee, the panther, the southern bald eagle, and the wood stork.

While FP&L has taken a good deal of credit - and accepted awards, including the Florida Audubon Society's 1985 Corporate Award for Outstanding Achievement in Environmental Protection - for its 'environmental leadership' and 'stewardship' of such programmes, it should be noted that most of the research has been initiated at the direction of various federal and state agencies in an effort to ensure that the operation of FP&L power stations does not negatively impact on the surrounding environment. FP&L, in fact, admits that for the most part its environmental policy decisions 'reflect a response to legal and regulatory requirements' (Tilson, 1992) rather than a response to a corporate sense of social responsibility. Similarly, such 'requirements' are not so much the products of enlightened government but, rather, responses to public concerns about

environmental issues. Most of the wildlife being monitored by FP&L, for example, are considered by law to be either endangered or threatened species, and, as such, are protected under the Endangered Species Act from injury or harm by commercial or other activity. As previously discussed, the Act, passed by Congress in 1973, was a product of lobbying by environmental activists and other public groups concerned about the destruction of natural habitats and wildlife.

Similarly, in 1970, to comply with the National Environmental Policy Act, the Nuclear Regulatory Commission and the Environmental Protection Agency, in granting a construction permit for the St. Lucie station, required FP&L not only to submit a report on the environmental impact of the station but also stipulated that FP&L monitor sea water temperatures and turtle nesting activities. To comply with the directive, FP&L contracted Applied Biology to conduct the research. According to Eric Martin, director of Applied Biology, such studies have demonstrated that the station has had minimal impact on both sea temperatures and turtle nesting, satisfying the requirements of the federal permit for water quality in 1985 and turtles in 1986. Monitoring of sea temperatures ended in 1985, but Florida's State Department of Health and FP&L's Chemical Department continue to collect samples. The monitoring of sea turtles also continues.

It was during the public hearings on licensing the St. Lucie station in the 1970s that FP&L was keenly made aware of the public's concern about environmental issues in Florida and began responding with a variety of programmes and activities to demonstrate the company's environmental sensitivity. In August 1970, during public hearings by the Atomic Safety and Licensing Board on environmental issues pertaining to the construction of St. Lucie Station 1 (hearings required by the National Environmental Policy Act), representatives of 24 Martin County conservation organisations including local Audubon Society chapters testified as to the negative impact of the station on the local environment. Again, in October 1973, conservation representatives also testified at AEC public hearings to determine the issuing of an operational licence for the station. As one of the consequences of the public debate, FP&L was forced to make several changes in the station's design, including the intake-discharge format of its cooling system, in order to further ensure the protection of marine life, particularly sea turtles. In October 1974, during similar public hearings on FP&L's application for a construction permit for St. Lucie Station 2, conservationists brought a legal challenge to the application, expanding the hearings to three different sites - Martin and St. Lucie counties and Miami - and, together with Florida International University, produced a study critical of FP&L's Environmental Impact Report on the station. Pursuant to a state law passed in June 1973 requiring state certification of a nuclear station's location, Florida's Department of Pollution Control (which had authorised the FIU study) held public hearings on site suitability for St. Lucie Station 2 in June 1975, during which the Florida Audubon Society and local conservation groups testified in opposition to the

station. In October 1975 the Florida Department of Environmental Regulation recommended certification of the site.

In the years following certification FP&L responded to public concerns about the environment with a barrage of booklets and 16mm films about Florida's wildlife and the company's efforts to protect the environment. FP&L offered such materials free of charge to schools, the general public and various community groups, including conservation organisations, explaining in its literature that it maintained 'an active environmental awareness program to demonstrate to the public and regulators that utility power plants and other facilities can be built and operated compatibly with the environment... We need to prove we can build and operate the facilities necessary to bring you the power you demand, without harm to the animals with which we coexist' (FP&L, Florida's Wood Storks, 1985, p.ii).

(ii) 'Eco-Nuclear' Messages: From Reactive to Pro-active

Throughout the 1970s and 1980s FP&L's 'green' message clearly was reactive in nature and designed to communicate that nuclear stations could operate 'without harm' to the environment. However, by 1990, the company's environmental message had changed from one that was risk-oriented in content to one that promoted nuclear energy as 'beneficial' for the environment. Indeed, the exhibit signage prepared in October 1990 for the soon to-be-opened visitor centre at the St. Lucie station included a display proclaiming that 'nuclear power can help provide the environmentally acceptable answer to meet future energy needs'. A more confident, pro-active message had been fashioned which directly tied pro-nuclear and pro-environmental messages together into a 'eco-nuclear' package promising mutual benefits. It was not a message that was original to FP&L, however, but one that had been developed by the nuclear industry internationally.

Perhaps the earliest argument for nuclear power as an 'environmentally-friendly' energy source was made by the EC in a booklet, Nuclear Energy in the European Community, published in November 1987. Citing the IAEA and Euratom throughout the publication, the EC extolled the many advantages of nuclear power - economic as well as environmental:

> 'From an environmental point of view, the production of electricity by nuclear power stations causes no pollution, apart from the release of water vapour. The use of electricity does not pollute either. Nuclear power therefore has the merit of ensuring not only greater security of energy supply, but also a reasonable diversification of the ecological risks arising from energy production, in regard to atmospheric pollution, for example.' (Commission of the European Communities, Nuclear Energy in the European Community, November 1987, p.5)

In Britain the nuclear industry quickly echoed and elaborated on the 'clean green' nuclear theme. In 1989 the UKAEA assembled a team to assess air emissions of various energy sources and their impact on the greenhouse effect, and presented its findings to the House of Commons Select Committee on Energy. This concluded that nuclear power, as the only non-carbon dioxide emitting energy source other than hydro-power, not only does not contribute to global warming but can help effectively to reduce it. The UKAEA turned its study into a booklet, Nuclear Power and the Greenhouse Effect, published in January 1990, which argued that:

> 'If the world's nuclear power programme was pushed hard, nuclear stations could be generating half the world's electricity by 2020 and reducing energy-CO2 emissions by about 30% of what they would otherwise have been effectively reducing global warming by 15%.' (UKAEA, Nuclear Power and the Greenhouse Effect, January 1990, pp.26-30)

The USCEA simultaneously published a scientific report in January 1990, Reducing Airborne Emissions with Nuclear Electricity, which explained that nuclear power stations already reduce national emissions of not only carbon dioxide but also of sulphur, nitrogen oxides and other gases that contribute to the greenhouse effect and acid rain. 'Nuclear electricity emits no airborne pollutants', concluded the report, 'and has virtually no impact on the atmosphere' (USCEA, Reducing Airborne Emissions with Nuclear Electricity, January 1990, p.i). A second report released in February 1990 echoed the UKAEA study's findings that 'nuclear energy (along with hydroelectricity) is the only major practical energy source that does not emit CO2' (USCEA, Energy Use and Global Warming, February 1990, p.8). In a subsequent brochure, Nuclear Energy and the Environment, the USCEA explained its position to the public in simpler terms:

> 'How can we produce the energy we need, yet protect our environment and preserve our natural resources? For the answer, we must look to energy sources that are good for the environment that don't cause urban smog or acid rain or emit the "greenhouse" gases that may cause global warming. Nuclear energy, for example.'(USCEA, Nuclear Energy and the Environment, 1990, p.3)

To help celebrate Earth Day 1990, the USCEA continued its 'eco-nuclear' publicity campaign with a full-page ad in quality magazines and newspapers in April 1990 explaining that, 'Every day is Earth Day with nuclear energy. Nuclear energy doesn't emit greenhouse gases. Because nuclear plants generate electricity clearly every day nuclear energy helps reduce greenhouse

gas emissions from utilities by 20%'.

As previously noted, FP&L was quick to incorporate the 'clean green' message into its public communication, as was SNL in Scotland. In SNL's first issue of its employee newspaper, Scottish Nuclear News, published in April 1990, the then CEO Richard Yeomans sounded the 'eco-nuclear' message for the first time:

> 'In view of the growing concerns around the world about the effect on climate and the environment of burning fossil fuels... I believe nuclear generation must be considered again as an important source of electricity for the future.' ('In the Big League', Scottish Nuclear News, April 1990, p.2)

SNL later was to institutionalise its 'green' message as an integral part of its publicity campaign. In the October 1990 internal document previously mentioned, SNL's public relations manager proposed the strategy:

> 'The second stage {of our campaign} will be the... need for nuclear power in an environmentally conscious world, with an enormous appetite for energy. The long term objective is for Scottish Nuclear to be regarded as an open and honest organisation which cares for the environment... Nuclear Power must achieve public acceptance as a clean, efficient, modern, long lasting and economical source of energy - the only environmentally-friendly source of base load electricity.' (SNL, Towards a New Image, October 1990, p.2, 13)

UNIPEDE (International Union of Producers and Distributors of Electrical Energy) echoed the 'eco-nuclear' theme in a brochure, Electricity From Nuclear Energy, prepared with assistance from Scottish Nuclear:

> 'Environmental problems resulting from carbon dioxide emissions and the emissions of oxides of nitrogen and sulphur have led to a growing concern towards the burning of fossil fuels.... Nuclear energy is the main "environmentally-friendly" source of base load electricity.' (UNIPEDE, Electricity From Nuclear Energy: A Sense of Proportion, 1990, p.3)

At the Rio Summit, the nuclear industry used a world platform to communicate its new 'green' theme. In an address to Summit delegates, Hans Blix, director of the International Atomic Energy Agency, proclaimed:

'Nuclear power, as a non-CO2-producing energy source, can have an important role to play in combating climate change. It is becoming increasingly evident that expanded use of nuclear power must form part of our attempt to meet growing energy needs in a safe and environmentally sustainable way.' ('Nuclear Power Advocates Hope for Comeback', Sam Dillon, The Miami Herald, 8th June 1992, p.9a)

(iii) Public Opinion and the 'Eco-Nuclear' Agenda

Opinion research indicates the public shares many of the concerns and perspectives expressed in the industry's 'eco-nuclear' message. A quantitative survey of 1,020 households conducted in February 1991 for SNL by Market Research Scotland indicated a high level of concern about the environment (49% of respondents saying they were 'quite concerned') and about global warming in particular (42% of respondents considered it to be an 'extremely serious problem'). Moreover, 42 percent of respondents agreed that nuclear power 'does not cause acid rain like fossil fuels' 'nor does it pollute the air' (54%).

SNL Chairman James Hann reflected on the direction in which the survey pointed and in which SNL was already heading by commenting in an address to the University of Stirling's School of Management:

'The most valuable input from the initial results shows how important it is to highlight the environmental benefits of nuclear - especially when compared with other fuels - and how important it is to mount awareness campaigns on such topics...' (Hann, Handling Public Relations in the Nuclear Industry, 4th April 1991, p.12)

But while the SNL surveys indicated that the public might be receptive to an 'eco-nuclear' message, the surveys also revealed a deep, continuing distrust of the nuclear industry (as had a 1987 FP&L survey which reported a 10% drop in customer confidence, attributable in part to Chernobyl and to the company's publicised problems at its Turkey Point nuclear station). The SNL quantitative poll showed 55 percent of respondents 'not in favour' of nuclear power in Scotland; of these respondents, 38 per cent were opposed because they felt nuclear power was 'dangerous (general)'.The main 'dangers', respondents said, were 'waste' (84%) and 'radiation leaks' (68%). In its qualitative study, Market Research Scotland concluded:

'Nuclear power is certainly not trusted and there is a belief that they have not been telling the truth for years and this is especially true of leaks and the link between nuclear power stations and leukaemia... There was a total lack of trust of Scottish Nuclear and a belief that they

have been telling lies for years.' (Market Research Scotland, Report: Corporate Research Qualitative Survey April 1991, pp.8-9)

Indeed, various opinion polls have indicated a lack of public confidence in the nuclear industry in Britain, particularly in the wake of Chernobyl; a July 1986 UK Gallup poll reported that three in four respondents felt 'the British nuclear power industry is too secretive' (Wybrow, 1989:144). According to John Corner, leaked documents in 1989 show that following Chernobyl the role of the Film and Video Branch of the CEGB 'became of greatly heightened significance' as 'the attempt to win back public confidence in nuclear energy became... a priority within the CEBG' (Corner, 1990b:29). Subsequently, the CEGB produced various promotional videotapes like the programme, Energy - The Nuclear Option, 'to address the increased public anxiety about nuclear energy... and to put the case for the economic necessity of nuclear power and for the acceptability of the levels of safety maintained by the industry in Britain' (Corner, 1990b:16).

In his address to the University of Stirling's School of Management, SNL Chairman James Hann summed up the industry's problems:

> 'Unfortunately, over the years, there has been a gradual reduction in public support and acceptance of nuclear power. Very largely as a result of the industry not answering genuine concerns - and worse still, being over secretive - even arrogant about the public's need to know anything about nuclear power.... A cloud has been cast over nuclear power in recent years which has caused public confidence in the industry to be shaken. A cloud that will only be removed by presenting the case for nuclear power... in honest, straightforward and understandable language.' (Hann, Handling Public Relations in the Nuclear Industry, 4th April 1991, p.3, 5)

Having recognised, then, that it was necessary to advocate its position to the public - and to do so using the environment as a central issue - the industry required a strategic plan of action. In developing a 'green' advocational campaign, both SNL and FP&L again looked to public opinion and organisational research for direction and to earlier pro-nuclear campaigning for successful models to emulate.

Chapter Seven

CORPORATE ADVOCATIONAL CAMPAIGNING AND NUCLEAR ISSUES MANAGEMENT

Section One: Advocacy as a Corporate Strategy

(i) Advocacy as Research-Based Strategic Management

(ii) Corporate Advocacy: Business as a Societal Change Agent

Section Two: Emergence of Nuclear Advocational Campaigning

(i) Pro-Nuclear Advocational Campaigning in the U.S.: Early Models

(ii) Education as a Social Control Strategy

(iii) Pro-Nuclear Advocational Campaigning in Britain: Early Models

Section One

(i) Advocacy as Research-Based Strategic Management

'Proactionary' issues management, as previously discussed, requires a pro-active rather than a reactive approach by an institution to its external environment. If the nuclear industry, and SNL and FP&L in particular, entertained any hopes of restoring public confidence, and, in the process, successfully managing the ESPPI issues surrounding it, not only was it essential to 'present the case for nuclear power', as Hann had suggested, but to do so boldly, taking matters into its own hands. In mapping out a strategic approach to issues communication, both SNL and FP&L have relied on a variety of public opinion, industry and organisational research to provide direction. And, in the process of doing so, both companies have emerged with a distinctively new communication design - one we shall call 'advocational' - that represents a hybrid of classic corporate advocacy and public education campaigns.

The survey research conducted by SNL and by FP&L in Florida - as well as informal research done by both companies in the course of managing the various ESPPI issues - suggested several elements necessary for a plan of communication aimed at restoring public confidence. In its summary of recommendations for the 'promotion of nuclear power', Market Research Scotland urged SNL to launch 'a major educational process' promoting the benefits of nuclear energy as 'environmentally-friendly', the limited supply of fossil fuels, the inability of alternative energy sources (wind, solar, etc.) to provide the levels of power needed, and the safety of nuclear power generation and waste disposal. Respondents demonstrate 'a lack of knowledge and understanding, and, indeed, ignorance... towards nuclear power' according to Market Research. In the SNL quantitative survey, when asked, 'Do you know enough about Nuclear Power?' 84 percent of respondents said 'no'. Such an effort, however, must be more than merely informational, said Market Research; the public needs 'to be persuaded and convinced that the nuclear industry has very much got its act together and that there is a much reduced likelihood of any form of disaster or leakage'. What is needed is a pro-active approach that 'expels the fear of... nuclear power' (Market Research Scotland, Report: Corporate Research Qualitative Survey April 1991, p.9,25). Indeed, when respondents were asked, 'Would you like to know more about Nuclear Power?' 54 percent said 'yes', seemingly inviting SNL to come forward to fill the void.

In a sense, the approach suggested by SNL's survey research seems to approximate to that of the CEGB in producing its video, Energy - The Nuclear Option. According to John Corner, the CEGB regarded the film 'as a pro-active piece of promotion' unlike the 'reactive' materials produced directly following Chernobyl (Corner, 1990b:29). Moreover, in the video Lord Marshall, the then

Chairman of the CEGB, explains that the public has been suspicious of the nuclear industry because the 'CEGB has been neglectful of public education and has not been open with the public about the real (and safe) nature of nuclear processes as they should have been' (Corner, 1990b:19). All that is needed to quell public anxieties, it would seem, according to the CEGB, is a presentation of the 'facts'.

However, as focus group response to a viewing of the CEGB video (Corner, 1990a,b) and SNL survey research indicates, corporate promotional/ educational efforts do not automatically win for themselves 'the licence to be "one-sided"'. Viewers of the CEGB video, like SNL survey respondents, expect the nuclear industry to be balanced 'in addressing a national audience on a controversial topic' (Corner, 1990b:50).

The SNL survey research, in fact, specifically suggests that any company or industry effort to educate or to persuade be balanced and totally open. According to Market Research, 'respondents want to see a level of openness about the nuclear power industry and an explanation of the pros and cons'. The industry must 'be seen as less secretive and more open' and show that it 'has nothing to hide'. As Market Research concludes, 'Scottish Nuclear needs to promote itself as a less secretive and more open organisation' providing 'some explanation of the pros and cons of nuclear power' (Market Research Scotland, Report: Corporate Research Qualitative Survey April 1991, pp.9-10).

In order to 'promote itself', then, SNL needed to launch a pro-active campaign to inform or educate the public on nuclear power, presenting the issues persuasively but in a balanced and open manner. And, yet, as the survey research indicated, there were some other distinctive roadblocks hindering such a campaign which, in a sense, also indirectly suggested another element necessary for a successful communication campaign.

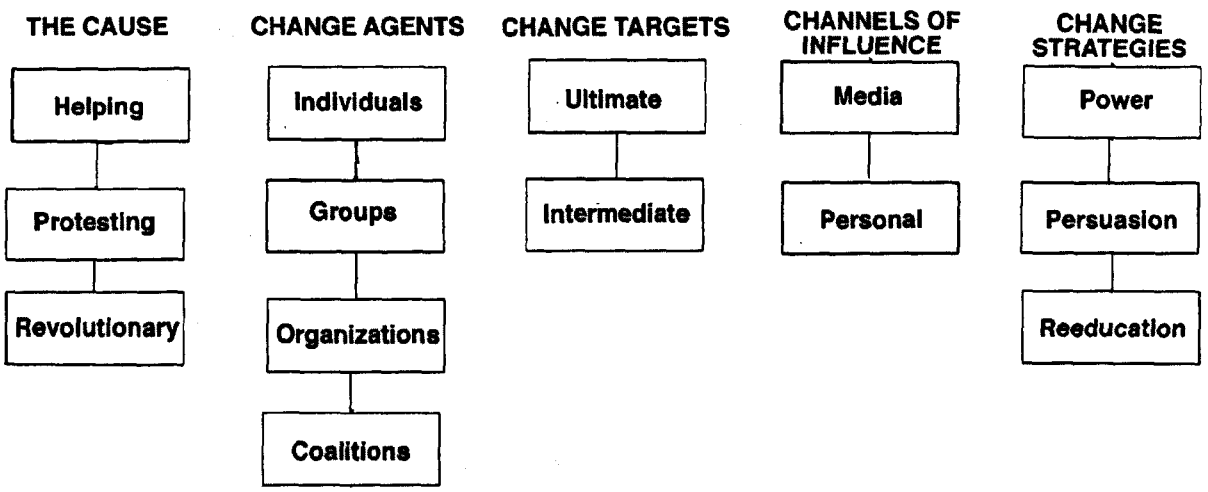
SNL survey respondents reported that their two main sources of information on nuclear power were television (75%) and newspapers (55%), with these same sources also providing most of their information about Scottish Nuclear - television (55%) and newspapers (28%). Moreover, 34 percent of respondents said that they felt such information conveyed about nuclear power was 'mostly against' the industry. Similarly, FP&L in-depth interviews in 1987 revealed that 66 percent of customers relied on the media for information about nuclear power, and that 'the utility was not reaching them directly' ('Nurturing the Nuclear Option', Public Relations Society of America 1992 Silver Anvil Winners, p.9). Clearly, then, in order for both SNL and FP&L to fully present their 'case' to the public, they needed to turn to other communication channels in addition to or in substitution of the mass media.

(ii) Corporate Advocacy: Business as a Societal Change Agent

Pro-active campaigns to present the corporate 'facts' in a persuasive manner represent a novel twist on social action theory. As has been noted earlier, much of the literature on the sociology of journalism is media-centric, with little, if any, examination of agenda setting by sources. Similarly, as with Philip Kotler's model of social action (see Figure 12), most social action theory tends to focus on coalitions, groups and organisations of community activists (whether social, political, consumer or environmental) as 'change agents' who rally their forces for social change. Using 'change strategies' of power, persuasion and reeducation through media and personal 'channels of influence' to affect intermediate targets (government and the public), such activists ultimately hope to modify the actions or behaviour of 'ultimate change targets' which, more often than not, are business (Kotler, 1972). As a fuller examination of media theory should include a review of institutions as media sources and agenda setters, so a more critical study of social action theory should likewise include a view of business as change agents, using their various organisational resources to effect change in government or the public in answer to a perceived social problem (ie. government ownership of or restrictions on nuclear power, public opposition to or distrust of nuclear power, etc.). If, indeed, news can be viewed as the purposive behaviour of various sources (Molotch and Lester, 1974), so can social actions, such as pro-business legislation, government regulations or consumer support, be seen often as the fruits of business-initiated activity.

Corporate advocacy has a long history, particularly in the U.S., as such efforts concern 'big business' and especially 'extractive' industries such as oil and utilities. Corporate advocacy represented an attempt originally in the 1970s by U.S. companies to restore public confidence which had fallen from 50 to 60 percent in the mid-sixties to about 30 percent by 1974 in the wake of Watergate, a national recession, an energy crisis and various corporate scandals. In conducting their advocacy campaigns, companies often sought to confront Congressional and regulatory assaults, counter anti-business groups, squelch demands for corporate social responsibility and bypass a press perceived to be unwilling to tell business's 'side of the story' by taking its message directly to the public (Waltzer, 1988). Such campaigns on public policy issues were aggressive responses to critics and used a mix of personal contact and paid print editorials - advertorials - in quality newspapers, magazines and journals.

Figure 12 Social Action Model



P. Kotler in G. Zaltman, P. Kotler, and I. Kaufman, eds., Creating Social Change, 1972.

Perhaps the best example of corporate advocacy is that of Mobil Oil, which, like other U.S. oil companies in the 1970s, was criticised for profiting from the nation's oil crisis and worldwide shortage. Mobil, as did other oil companies such as Texaco, decided to fight back by pro-actively presenting its position to the general public and to targeted key publics - politicians and their staffs, opinion leaders in education, the sciences, commerce and industry, community influentials and 'receptive' media. Following the decision in 1970 by The New York Times to accept advertorials for its op-ed page, Mobil launched a $21 million-a-year campaign to communicate its point of view on the energy crisis. Each Thursday Mobil ran a full-page ad in the Times and in other quality national newspapers criticising Congress, the Federal Energy Administration and other government agencies, consumer and environmental groups, and the media for their alleged bias in coverage of energy matters (Simon, 1984).

In addition to advocacy advertising, Mobil also assembled a team of company spokespersons to present the company's position to service clubs, environmental groups, public interest consumer groups and business organisations nationwide on issues Mobil considered to be critical. And, in a further attempt to polish up its public image, Mobil also sponsored a variety of cultural projects, such as public television programmes and art exhibits. At one point, oil companies such as Mobil were sponsoring so many programmes on the Public Broadcasting System, critics jokingly referred to PBS as the 'Petroleum Broadcasting System'. While Mobil considered these other endeavours to be important elements in its campaign, nevertheless, the company directed two-thirds of its public relations budget to its advertorial barrage (Center and Walsh, 1981).

Regarding the success of such efforts, it should be noted that following the advocacy campaign by the oil companies, oil and natural gas prices were deregulated, permission for offshore drilling was granted, various environmental regulations considered 'overly restrictive' by the industry were relaxed, and a bill to break up the oil companies failed in Congress. As for Mobil, a 1976 Louis Harris poll reported that 'Mobil was regarded somewhat more favorably than some other oil companies. Of the people who were familiar with Mobil, 69 percent regarded it as a "progressive, forward-thinking company", compared with an average of 66 percent for all the oil companies in the survey. On the question of "helping to improve the quality of life," 60 percent thought well of Mobil compared with an average of only 53 percent for all the companies' (Seitel, 1989:312). Moreover, in an Opinion Research Corporation study of the attitudes of editors at major newspapers, magazines, wire services, television and radio stations toward major companies, including Mobil, Exxon, Shell and Texaco, results indicated that 'the editors regard Mobil more favorably than they do the other oil companies. In fact, Mobil received higher favorability ratings than most of the 23 companies, including many in industries not normally subjected to harsh media

examination' (Center and Walsh, 1981:262).

Given the apparent success of such advocacy efforts, many companies in the U.S. have since proceeded to launch their own campaigns, particularly those in the nuclear industry. Nationally, the most visible advocate for nuclear power has been the U.S. Council on Energy Awareness (USCEA) which, with an annual advertising budget of nearly $20 million, has been placing full-page advertorials (initially in black and white, and, more recently, in 1992, in colour) in national quality newspapers and magazines like Time and National Geographic. Typically, the ads are unabashedly pro-nuclear, calling for the nation to build more nuclear stations 'to meet the demands of a growing population and economy' and 'to bolster our independence from dangerously unstable energy sources'.

As the nuclear industry has begun 'greening' its message, the USCEA has reflected the 'eco-nuclear' theme in its advocacy advertising. Following the announcement of President Bush's pro-nuclear national energy strategy in February 1991, USCEA ads introduced visuals, first of clean lakes, forests and mountains, later of similar lakes and forests adjacent to a nuclear station, and, most recently, of a baby sea turtle crawling along a golden sand beach. Ad copy proclaimed that 'nuclear energy helps reduce airborne pollutants', that 'nuclear plants produce no greenhouse gases... and don't pollute the air', and that 'around the nuclear electric plant on Florida's Hutchinson Island, endangered wildlife have a safe haven. The baby sea turtles hatching on nearby beaches are more evidence of the truth about nuclear energy: it peacefully coexists with the environment'. The new series of 'green' ads continue to argue for more nuclear stations 'to help satisfy the nation's growing need for electricity without sacrificing the quality of our environment' and close with the tagline, 'Nuclear energy means cleaner air'.

In another, more expanded, advocacy campaign, the American Nuclear Energy Council, the industry's lobbying arm (the USCEA being the public relations group), launched a $8.7 million advertising and lobbying campaign in September 1991 designed to neutralise political opposition and to persuade Nevada citizens - most of whom are opposed - about the need and safety of a high-level radioactive waste storage site in the state's Yucca Mountains. The first phase of a planned three-year campaign, funded by nuclear utilities nationwide, featured veteran Nevada television broadcaster Ron Vitto in a tv commercial citing various scientific studies which attest to the safety of waste transportation and storage at the proposed site. Radio and print media advertisements also are planned as is a 'media response team' of industry executives and scientists from the U.S. Energy Department, who will be used to counter media coverage which the industry feels is inaccurate, misleading or unfair. The 'response team' would reply to the media in subsequent advertising and work with public relations consultants to generate positive free media coverage. ('Nuclear Industry Plans

Ads to Counter Critics', Keith Schneider, The New York Times, 13th November 1991, p.18a). To further combat such 'misinformation', the DOE has begun conducting day-trips to Yucca Mountain from nearby Las Vegas for interested parties and community groups. The outings, offered once a month, are part of what the DOE calls its 'public education campaign' to present the public with the 'facts' ('America on the Edge: Five Litmus Tests of the Environmental President's Record', Tom Huth, Conde Nast Traveler, September 1992, p.192).

The ANEC/DOE campaign represents a continuation of the twin-barreled advocacy approach used by Mobil in placing advertorials and sending out 'SWAT teams' of expert speakers to personally present corporate views and 'correct' media 'misreporting'. Both campaigns are purely advocatory, and provide neither the 'openness' nor 'balance' that opinion surveys indicate the public wants to see on the issues. The ANEC/DOE campaign, however, has introduced a new element into such advocacy approaches - 'show and tell' tours for public groups. Although the groups taken on the tours are carefully selected by the DOE - which reserves the right to refuse requests for the tours - the outings are a step beyond more traditional methods of advocacy such as those used by Mobil and other companies. In a sense, it is an attempt to use other, less strident models of communication beyond those of mere advocacy that clearly are needed if the nuclear industry has hopes of 'communicating effectively', as SNL Chairman Hann has promised. Indeed, SNL Public Relations Manager Dick Marshall recognised as much in an address to senior management - 'The nuclear industry message, and our target audiences, are far too complex to be handled by a straight-forward, conventional advertising and PR programme... Our approach must be a "softly, softly" campaign... a "Come and See" programme' (Marshall, Improving the Image of Nuclear Power, 11th May 1991, p.8).

Section Two

(i) Pro-Nuclear Advocational Campaigning in the U.S.: Early Models

What SNL and FP&L both envisioned - and since have developed simultaneously - was less a campaign of advocacy and one more of 'education', as indeed Market Research Scotland had suggested to SNL. And yet, while such a campaign was to be more 'instructional' and personal in nature than advocacy advertising, and less aggressive than 'media response teams', it was designed to ultimately persuade key publics as to the benefits of nuclear power. As such, the campaign was to be 'advocational' in design, and would follow in the footsteps of several notable previous attempts on both sides of the Atlantic.

Pacific Gas and Electric Company, a multi-billion dollar utility in California, and one of the largest power companies in the U.S., launched a major 'advocational' campaign in the late 1960s to persuade public opinion on the need to construct a nuclear power station at Diablo Canyon in the San Luis Obispo area.

PG&E determined that its campaign would be 'cut along textbook lines. It promised to be a model for possible emulation by other utilities confronting similar situations' (Center and Walsh, 1981:81-82). After conducting extensive geological explorations at Diablo Canyon, which were reviewed and approved by the Atomic Energy Commission and the U.S. Geological Survey among others, PG&E obtained a construction permit and proceeded with its advocational campaign.

The campaign, which included regular media contacts, employed specific communication vehicles to reach targeted key audiences with a particular emphasis on using 'educational' materials in a personal, face-to-face manner. PG&E officials conducted VIP tours of the construction site, made personal contacts with special interest groups that had voiced their opinion either pro or con on the proposed station, presented seminars for public officials, and served as speakers in a company Speakers' Bureau, giving public talks to community organisations. Advertisements advocating the need for and safety of the station were run in the local press as well as in national quality magazines.

The centrepiece of the campaign, however, was a visitor information centre, that served as an advocational magnet, drawing invited individuals and groups to the site. PG&E guides conducted tours of the centre which featured various scale models of the proposed station and exhibits explaining in a 'factual' albeit confident manner the workings of the facility and the nuclear process in general. The centre also included an 'overlook' area, where visitors could view the site and the adjacent offshore sea, and a picnic-playground area. From its inception, the centre clearly was designed not only to simulate a museum but was 'family-oriented', where learning was 'fun'.

As an outgrowth of the centre, a variety of other advocational activities and 'support materials', such as brochures on the station, the visitor centre and issues such as nuclear waste, were developed. Moreover, the design and use of these communication vehicles confirmed PG&E's intention to specifically conduct an advocational campaign and to target community groups, particularly schools, in its campaign. PG&E speakers conducted assembly programmes in schools, lent free films such as 'BWR - The Boiling Water Reactor' (produced by General Electric which was to build Diablo Canyon's reactor), provided manned portable exhibits on the station for school assemblies (and other public meetings), invited area youngsters to a National Youth Conference on the Atom, and sponsored local Scout group activities, so youngsters could earn an Atomic Energy Merit Badge. In addition, PG&E developed and toured a mobile atomic energy exhibit to area shopping centres, fairs and other venues of interest, where visitor traffic would be heavy. The manned school exhibit also was used at various public meetings and community club functions, as were the free films used in the schools.

The Diablo Canyon nuclear station eventually was granted a licence to operate by the Nuclear Regulatory Commission, which concluded its final public hearings two months prior to the accident at Three-Mile Island (TMI). In the wake of that accident, and the precipitous drop in public confidence in nuclear power locally and nationally, the management of Metropolitan Edison, which operated TMI, decided to launch its own advocacy campaign, using Diablo Canyon as a model.

Criticised by the media, community activists and even the government of Pennsylvania for a 'lack of credible information', with 'sources and public information people... hard to reach' (Sandman and Paden, 1979:47) during the TMI crisis, Metropolitan Edison beefed up its public relations function. Whereas originally, there had been no media relations managers at TMI and relatively few managers in the holding company, General Public Utilities Corporation, trained to deal with the media, Metropolitan Edison added public affairs and public relations managers at the headquarters and local community level (Griswold, 1988). While initially the response was wholly adversarial in nature, with Metropolitan Edison 'launching "truth squads" to tour the country... and debate on radio and television the virtues of nuclear power' head-to-head with anti-nuclear activists (Seitel, 1989:454), the approach soon changed from being overtly aggressive to being 'advocational'. By July 1979 - the accident had occurred on 28 March of the same year - Metropolitan Edison guides were conducting regular tours of TMI's control room and other non-radiated areas. Within a year of the accident, Metropolitan Edison officials were inviting the media 'on a tour of the renovated facility in anticipation of hearings on the possible restarting of the unit' (Seitel, 1989:454).

The tours soon became an ongoing, expanded, pro-active effort with Metropolitan Edison adding a visitor centre à la Diablo Canyon adjacent to the reactor site. The visitor centre - the centrepiece of the new Metropolitan Edison campaign - was replete with displays, interactive exhibits and energy games, all geared to families with children and designed to be 'fun'. As Stuart Diamond reported in The New York Times, '"We get people coming in on Easter, in their church clothes", said Daphne G. Lucas, a tour guide' ('Public Meets Atom in Reactor Tours', Stuart Diamond, The New York Times, 2nd September 1984, p.18a). To encourage visitors, the centre is open to the public daily except Christmas and New Year. By 1988, more than 600,000 people had visited the centre, and another 70,000 had taken tours of the nuclear station. Metropolitan Edison also arranges for groups to be bused through the site.

As with PG&E, Metropolitan Edison has targeted specific audiences for its campaign. 'Clubs, college students, religious groups, tourists, politicians and foreign officials have all visited the site' (The New York Times, 2nd September 1984, p.18a). Among the visitors have been groups of Boy Scouts attending programmes designed to help them earn their Atomic Energy Merit badges, an idea that harkens back to PG&E.

Diablo Canyon and TMI are among 68 sites in the U.S. and Canada which have visitor centres. According to The New York Times, 'Most of these sites do not offer tours as ambitious as Three-Mile Island's. But all have "energy centers" next to the reactors, with such diversions as energy games, films, picnic areas, lectures and exhibits. The Atomic Industrial Forum, the nuclear industry's trade association, has been touting the centers as summer recreation.... Utilities have had energy centers for years, but many refurbished their facilities, widened plant tours and increased their publicity after the Three-Mile Island accident' (The New York Times, 2nd September 1984, p.18a). And, in keeping with a 'softly, softly' campaign of advocation versus mere advocacy, 'the primary emphasis of the visitor centers is education' with an ultimate aim 'to build public confidence in nuclear power' (The New York Times, 2nd September 1984, p.18a). As Leslie Ramsey of the Atomic Industrial Forum commented, 'Public opinion will only be improved if people get the opportunity to see the inside of the plants and realize they are not big, scary monsters' (The New York Times, 2nd September 1984, p.18a).

As a complement to its visitor centre and tour programme, Metropolitan Edison also began a Speakers' Bureau at TMI which, with some 80 company members, is one of the largest nuclear Bureaux in the U.S. In a typical year, company speakers address some 40 community organisations and 1,700 people.

TMI also publishes a quarterly publication which is mailed to homes and businesses within the station's service area. The publication provides updates on station activities and the nuclear industry in general and invites

readers to tour the station and visitor centre.

As a consequence of its visitor centre, tour and other public affairs programmes, Metropolitan Edison now reaches most key opinion leaders at the local, state and federal level as well as specific audiences at the grassroots community level. Such pro-active efforts have not been without their effect. According to Metropolitan Edison, opinion surveys show a marked improvement in customer attitudes since the TMI accident. A 1986 survey of PENELEC (Pennsylvania Electric) customers, for example, reported that 79 percent of respondents had a favourable impression of the company, higher than for other utilities. In addition, many financial analysts have since classified the company's common stock as a top utility.

Such 'advocational' efforts have not gone unnoticed nor unreplicated by the nuclear industry worldwide. Utilities in many nuclear nation-states operate visitor centres, conduct public tours of facilities, and include other 'educational' activities in their public relations programme mix to build support for nuclear power. According to National Geographic, among the most notable of such campaigns is that of Electricité de France (EDF), the government-owned utility. In Cattenom, a village of some 3,000 people in northeastern France, EDF conducts daily public tours of its four PWRs - one of the largest nuclear complexes in France. Some 18,000 people visit the nuclear stations each year. 'The French utility has generally been able to site its nuclear stations without the kind of public opposition that U.S. power companies have dreaded... Some say this is due to the traditional reluctance of the French people to question central authority and to their support for a nuclear military policy. Others point to EDF's information campaigns...' ('A Comeback For Nuclear Power? Our Electric Future', Peter Miller, National Geographic, August 1991, p.77).

(ii) Education as a Social Control Strategy

Using 'education' with a 'softly, softly' veneer of advocacy is a strategy of social control that has been used in the U.S. only recently by government and community organisations conducting public communication campaigns on behalf of some social issue (Paisley, 1981). It is one of three such strategies - engineering and enforcement being the other two - conceptualised in a paradigm of social control and applied by the U.S. Forest Service (Kurth, 1981). According to Paisley, earlier eras were marked by the use of the other two social control strategies - engineering in the 1960s, with welfare and other social programmes to combat community problems, and enforcement in the 1970s, with regulations to require social compliance. Public dissatisfaction with both engineering and enforcement solutions, particularly evident in the 1980s, has led to an emphasis upon education as an alternative approach to solving such problems (Paisley, 1981). Campaigns that employ education as a social control

strategy are by nature 'communicated appeals', and approximate to such classic models of public relations planning and programming as Management by Objectives and Marston's RACE formula:

> 'Modern campaigns draw upon the techniques of journalists, media producers, educators, group counselors, and others. The campaign planner synthesizes these techniques into a matrix of possible approaches to target audiences. Combinations of approaches are pilot tested, and the campaign evaluator... feeds back information on which approaches are working well, which approaches might work well after revision, and which approaches are not working at all.' (Paisley,1981:26)

The Forest Service notes that 'fire prevention education is the first step taken by most fire prevention officers to prevent forest fires and is the universal core fire prevention program utilized by the Forest Service' (Kurth, 1981:141). It would seem, then, that educational efforts, rather than ones of engineering or enforcement, are the central strategy of the Forest Service, as they are of the nuclear industry.

The Forest Service's fire prevention education campaign is similar in design to the nuclear industry's various advocational campaigns. Emphasis is upon interpersonal contact with community groups, particularly schools, through fire prevention spokespersons and mobile manned exhibits and displays incorporated into public talk programmes or as part of presentations at community events, shopping malls, etc.. Literature and other collateral, - films, public service advertising and media contacts - provide communication support. It should be noted that since 1945 the Forest Service has used a character, Smokey the Bear, as its symbol and spokesperson, a distinctive and popular image that has become the very embodiment of fire prevention.

As with the nuclear industry's advocational campaigns, many of the Forest Service's efforts are geared toward reaching youngsters. Through research, the Service has determined that youngsters are responsible for a number of wildfires every year, whether through playing or experimenting with fire or through malicious intent. The Service hopes to instil good fire use habits in youngsters through its educational campaign. In school areas visited by Forest rangers, the Service reports 'substantial reductions in fire occurrence', indicating that they are indeed targeting their audiences correctly (Kurth, 1981:151).

Similarly, the nuclear industry, both in the U.S. and Britain, has determined the importance of communicating with young adults, and, by so doing, turning some of the negative tide of public opinion. Surveys taken in the U.S. during the late 1970s and 1980, for example, show stronger opposition to

nuclear power among respondents aged 18-25 (40%) than among all other age groups (Gamson and Modigliani, 1989). The 1991 survey by Scottish Nuclear also indicated that respondents aged 18-24 were 'relatively more concerned' about nuclear power in Scotland (50% opposed) than most other age groups. Interestingly enough, the direct mail promotion by the CEGB of its film, Energy - The Nuclear Option, concentrated on the young adult market; half of the 30,000 leaflets promoting the film were sent to academics in U.K. higher education, and 60 percent of the film's distribution was to colleges and schools, with half of the total viewership being in the 16-18 age range (Corner, 1990b).

Given the emphasis upon youth in the various campaigns discussed, it would seem that the Forest Service and the nuclear industry have designed their efforts specifically to reach such an audience for obvious reasons. It also should be noted that such an approach has a ripple effect; by reaching young adults, and particularly children, a campaign also communicates its message indirectly to parents, whether through take-home literature from visitor centre tours or school presentations, or directly to parents and educators who join such tour groups or attend classroom programmes. As the Forest Service observes, 'Smokey the Bear is always a big hit with the children as with the adults' (Kurth, 1981:152). It would seem, then, that the hope of both the Forest Service and the nuclear industry for its adult publics is that 'a little child shall lead them'.

Public communication, education or information campaigns (à la EDF in France) are perhaps misnomers for such efforts. While such campaigns convey information - even if it is in an instructional manner, with demonstrations, displays and exhibits - the primary intent is to ultimately modify beliefs or behaviour (Fleming, 1982) and, as such, should be distinguished from efforts that seek merely to convey unbiased information. Educating the public about the risks of wildfires or air pollution problems of fossil fuels involves promoting individual or collective benefits, with the objective of persuading individuals to be careful with fire or to support nuclear power. Inasmuch as such campaigns advocate a particular position and specific action on an issue and go beyond campaigns that are purely informational in nature, they should be considered 'advocational' in design. Indeed, as some have argued, any system of competitive exchange, whether it be a money-mediated market for commodities, electoral politics, or the marketplace of public discourse, is by nature 'a contest not only with respect to price and quality, but also with respect to information... wherein... the exchange of information between buyers and sellers is the basis for promotional... competition between the sellers' (Wernick, 1991: 143-44). In this respect, nuclear power proponents are competing in the marketplace of ideas with advocates of traditional energy sources oil, gas, coal and with those who are promoting various alternative sources such as wind, solar and hydro. Given the competitive nature of social exchange in arenas of public discourse, it should not be surprising that the ultimate objective of such communication -

particularly in the case of pro-active, pro-nuclear campaigning - is 'to persuade potential customers that the publicized product or service is worth at least the price of purchase. This is the underlying logic of any sales pitch' (Wernick, 1991:27).

Moreover, inherent in the process of promotion is 'the mobilization of affect through the invocation of values' as a 'tool' for the purposes of persuasion (Wernick, 1991:25-26). However seemingly 'informational', a public campaign may be, the messages communicated - ie. 'Only You Can Prevent Forest Fires' or 'Nuclear Energy Means Cleaner Air' - are not only persuasive in nature but also ideologically coloured, inasmuch as such efforts are designed to persuade by appealing to 'the values, norms, goals and dreams of those to whom it is addressed' (Wernick, 1991:26). Each of the aforementioned messages certainly is far from being value-neutral; each, instead, speaks directly to its audience, promising collective benefits which are not only 'good' but 'necessary' for a better, brighter future. Such messages - indeed all 'imagistic promotion' - can be said to be 'value-laden', inasmuch as they concern 'the circulation and distribution of ideological values' (Wernick, 1991:24-25).

The question of whether or not a campaign is essentially informational or advocational has been at the heart of public debate over efforts in Britain by the UKAEA to publicise civil nuclear power, efforts which, along with the entire nuclear industry in the U.K., have taken a decidedly advocational turn in recent years.

(iii) Pro-Nuclear Advocational Campaigning in Britain: Early Models

As discussed earlier, the UKAEA was established by the 1954 Atomic Energy Authority Act, which empowered it as the British Government's nuclear research and production entity. The Act also charged the UKAEA with the authority 'to distribute information relating to, and educate and train persons in matters connected with, atomic energy or radioactive substances' (Flood, 1988:9).

By its own admission, the UKAEA believes a 'vigorous campaign of public information and education, dealing not only with nuclear power but also with the full range of energy sources is required to restore support for nuclear power' (UKAEA, UKAEA Memorandum to the House of Lords Select Committee on the European Communities, 13th February 1986, Paper iii). An examination of the UKAEA's efforts during the last several years seems to indicate that it has launched just such an 'advocational' campaign.

Coincident with corporate restructuring - including a new Director of Communication - and the launch of the UKAEA's new trading name, 'AEA Technology' in May 1989, as previously noted, AEA began 'an expanding range of work' covering corporate and employee communication and 'an extensive

public information programme'. The effort was aimed at 'helping the public to become more knowledgeable on the basic facts about nuclear energy, in order to make an informed judgement as to its benefits, safety and environmental impact' (UKAEA, AEA 1989/90 Annual Report, December 1990, p.56). AEA added two new booklets to the range of printed material available to the public - 'Nuclear Power and the Greenhouse Effect' and 'Radiation Around Us'. As previously noted, the former booklet argues that nuclear power 'has a vital role to play in combatting the greenhouse effect'; the latter continues the traditional position that nuclear radiation levels are minimal and that the public receives far greater doses of radiation from the natural world and other man-made sources. In their presentation of nuclear 'information', such booklets, as other AEA materials, advocate a pro-nuclear position on such issues and are hardly 'balanced' in their approach.

The new booklets are part of a much larger AEA advocational campaign that is similar in design to its American counterparts at PG&E and Three-Mile Island, and, in keeping with the U.S. Forest Service's social control paradigm and application of education as a social control strategy. Most materials and programmes are directed at community groups, families with children, and youngsters in particular, with the centrepiece of the campaign being AEA's Exhibition Centre at Dounreay.

AEA regularly organises a number of seminars, talks and lectures for schools, trades union officials, and community groups. The programmes feature a presentation by an AEA speaker, often with accompanying films and other audiovisuals, on various nuclear energy topics. Students usually comprise the majority of the audience reached. AEA also has developed several travelling exhibitions, such as 'Nuclear Power in Britain', which are toured to various large public venues, shopping malls and to other smaller community locations.

Through AEA's Education Service, school presentations on nuclear energy are arranged, schools and colleges are supplied with printed and other material, including videos on such topics as radiation and nuclear waste. AEA develops these materials specifically for the education market - ie. videos feature pop music and teenage on-air talent. Most materials are provided free of charge except videos, which are sold at subsidised prices. On average, some 1,500 videos are sold and 400,000 publications distributed annually. AEA also sponsors an annual schools essay competition encouraging students to write about a specific energy topic.

It is AEA's Exhibition Centre at Dounreay, along with smaller centres open to the public, such as Harwell Laboratory and Winfrith, which form the major advocational thrust, however. As with the American visitor centres cited, Dounreay features free admission, scale models, hands-on exhibits and other interactive displays, videos, guided tours and a picnic area - all designed to make a visit 'educational' as well as 'fun' and something that, as AEA's

Dounreay Exhibition Centre brochure exclaims, 'will interest all the family'. From the Centre, AEA also conducts tours of its Prototype Fast Reactor. While the Centre is open to the public, AEA particularly encourages school and community groups to visit, mailing literature promoting the Centre and helping to arrange transportation. Moreover, since its reorganisation, AEA has been promoting Dounreay as a tourist attraction - much as the U.S. Atomic Energy Forum promoted Three-Mile Island - placing specially prepared flyers on the Centre in various Tourist Information Centres, particularly in Scotland. The four-colour flyer features a view of waves rippling across the sea in the foreground with Dounreay in the background underneath a blue sky. The publicity seems to have generated a good deal of traffic. During 1989-90, the Centre attracted 112,000 visitors, while 18,000 people visited other AEA sites.

While AEA seemingly has conducted an effective advocational campaign - certainly in terms of numbers of visitors attracted and copies of materials distributed - the premier campaign in Britain for many years has been that of British Nuclear Fuels Limited (BNFL), centred around its visitor centre at Sellafield. While its campaign and centre echo much of the AEA's efforts and that of its American counterparts, BNFL has taken its advocational campaigning to the next level in promotion. More important, it has served as the British model for future nuclear programmes, especially that of Scottish Nuclear.

As with PG&E and TMI, BNFL launched its campaign in response to a crisis, so that initially its efforts were reactive in nature. In a background paper on its campaign, BNFL explains the impetus behind the effort:

> 'In the mid-1980s the anti-nuclear campaign in the U.K. came to a head following an incident at Sellafield involving an unscheduled release of radioactivity into the Irish Sea. Many miles of the coastline were affected. A storm of adverse publicity followed... Nuclear fuel reprocessing and nuclear power itself all appeared threatened. Something clearly had to be done. Our BNFL campaign started with extensive opinion research in 1985 with less than good results... Sellafield was seen as a dangerous place and the Company as secretive and dishonest.' (BNFL, Public Acceptability Advertising, 11th June 1991, p.1)

Research also revealed that the public wanted BNFL to be open and honest about its activities (echoing SNL's survey results), and, so, BNFL decided to focus upon an 'open door policy' in its campaign and to build the campaign around its visitor centre, which had been attracting modest numbers of visitors for several years. As BNFL noted, 'Sellafield was the obvious focus - more people had heard of the site and there was an established exhibition centre' (BNFL, Sellafield Visitor Centre, p.1). BNFL, in fact, had offered for years a full

package of tours at all of its sites, exhibits, and publications explaining its operations. However, BNFL felt a full-scale effort was now needed, because 'our message was clearly not getting across. More needed to be done' (BNFL, Sellafield Visitor Centre, p.1).

Initially, BNFL relied exclusively on advertising to promote its visitor centre. The company launched its advertising campaign in July 1986 - just six weeks after Chernobyl - with a 50-second television commercial, broadcast throughout the U.K. and a double-page advertisement in the colour supplements of a number of Sunday newspapers. The advertisements underscored the 'open door' approach - the television commercial noted that, 'Millions will be invited this year to come and see for themselves', while the print ad explained that, 'Behind our invitation, then, is the hope you may drop in on us yourself, in the near future'.

However, while the company promised the 'facts' on nuclear issues, the advertisements did not exactly suggest a 'balanced' approach to the presentation of such information. The print ad explained a few of the 'facts':

> 'The Sellafield nuclear fuel reprocessing plant... one of five sites... form the backbone of Britain's nuclear fuel programme... helps generate some 20% of the U.K.'s electricity....Some may hope fossil fuels will last forever. They can't. Others believe an alternative source of energy will turn up. It hasn't yet.'

Clearly, visitors to Sellafield would get the 'facts' about nuclear energy, but with an advocational twist designed, as the ad explained, 'to help people understand the importance of nuclear power'.

The advertisements also visually show the Sellafield complex amidst the pastoral splendour of the Lake District. The double-page print ad depicts a foreground of cattle and rolling green meadows basking in the warm glow of a summer morning with Sellafield in the distance all beneath a clear blue sky. The television commercial opens with one panoramic sweep after another of the green hills, valleys and lakes on its winged approach to Sellafield. Visually, the approach is similar to the opening of the CEGB film, Energy - The Nuclear Option, with 'its depiction of the Sizewell coastline... its portrayed beach, sunny and "alive" with fishing activity and family walkers' (Corner, 1990b:41). Indeed, the Sellafield panoramas were to be used later to open a programme, 'A Life or a Living', broadcast on BBC1 on 18 June 1989 as part of the BBC series, Heart of the Matter. Over shots of the same landscape, the presenter, Joan Bakewell, begins the programme by saying:

> 'The beautiful countryside of the Lake District. What a wonderful place to live and bring up children. Most of us cherish an idyllic vision of the

countryside and this comes as close to it as any. The natural life, the good life. Well, that's how it looks.' (Corner, 1990b:24)

The question of appearance versus reality - 'the contrast between the beauty of the natural landscape and the highly un-natural threat potentially posed by the nuclear industry located within it' (Corner, 1990b:24) - is, of course, at the 'very heart of the matter'. The BBC programme investigates the story of a mother living in the Sellafield area who is suing BNFL for damages in respect to her child's leukaemia that was allegedly transmitted via the father, an employee at Sellafield. The 'positive naturalness' of the countryside has been countered by an image of threat which unsettles confidence with negative contrariness and seemingly challenges 'the facts' presented at the visitor centre (Corner, 1990b).

Such debate aside, the advertising campaign had a substantial effect on visitor traffic to Sellafield - increasing from 30,000 visitors in 1985 to 104,000 in 1987 - so much so that BNFL built and opened a new, larger £5 million centre in 1988. Advertisements continued to highlight the 'come and see for yourself' theme over the next two years. Print ads offered to give the public 'the inside story' and television commercials encouraged viewers to 'just drop in. We're open every day of the year'.

With the launch of the new centre in 1988, BNFL extended its national advertising campaign to address the benefits of nuclear energy over fossil fuels, using the theme, 'The Greenhouse Effect - We have the power to help prevent it'. BNFL also produced a film, Visitors, on energy and the environment in 1989, principally aimed at and distributed to a teenage school audience. BNFL finally had jumped on the 'eco-nuclear' bandwagon to take advantage of public concerns about the environment. Now, instead of allowing the public to infer from its advertisements that nuclear power was 'environmentally-friendly', BNFL proclaimed its 'greenness'.

In building its new visitor centre and launching the second stage of its advocational campaign in 1990, BNFL not only borrowed a page from previous industry campaigns on both sides of the Atlantic but went beyond such efforts in the nature of its themes and activities. According to BNFL's plans, the centre was designed to include 'the range of facilities visitors expect to find in a tourist attraction - restaurant, shop {gifts and souvenirs}, mothers' room' plus a cloakroom, toilets, lecture rooms, audiovisual facilities, walkways giving views over the site to the sea and ample parking (BNFL, Sellafield Visitor Centre, p.2). Inside the centre itself, as BNFL's Sellafield brochure describes, a full array of working models, computer games and quizzes, multi-screen presentations, displays, interactive exhibits, a walk-through 'Fission Tunnel' simulating a chain reaction and a life-size walk-in model of a nuclear reactor core would present 'an atmosphere voyage of discovery' that would be 'both exciting and educational' in a 'futuristic style' setting. Major display themes would include

energy, the birth of the atom, radioactivity and non-nuclear uses of radiation, the fission process, nuclear safety, the full range of BNFL operations and the 'need for nuclear power'. Moreover, 'friendly guides' also would be on hand to assure visitors of a 'warm welcome', to answer questions, and to give them a brochure about Sellafield upon their departure (BNFL, To Find the Answers to Your Questions on Nuclear Energy, Look Inside..., 1990, pp.2-4,7). In addition, as yet another BNFL brochure on Sellafield describes, visitors could 'take advantage of a free guided tour of the site on luxury Sellafield Sightsee coaches with on-board videos describing the complex's various operations' (BNFL, Sellafield Visitor Centre: A Window on the Nuclear World, p.5). Guided tours of the fast breeder reactor station, allowing visitors to see operations at firsthand, also could be organised by prior arrangement.

In April 1990 BNFL launched the second stage of its advocational campaign to publicise Sellafield, placing press advertisements and commercial radio spots (for the first time) in the northwest of England. New television commercials also were broadcast nationally. Campaign themes - 'Have fun finding out' and 'To find the answers to your questions on nuclear energy look inside... the Sellafield Visitor Centre' - continued the 'open door' message but also suggested the excitement that awaited. To further appeal to families, advertisements featured parents and their children enjoying the exhibits and 'a perfect day out for all the family'.

A third stage in the advocational campaign in 1991 focused on Sellafield exclusively as a tourist destination. Advertisements, both print and commercial radio, were placed once again in the northwest of England, and television commercials also were broadcast nationally with the same theme. Concurrently, BNFL prepared and distributed special promotional mailings on Sellafield initially to all schools in Cumbria and later to secondary schools nationwide. Inasmuch as the visitor centre was designed with youngsters in mind - an early BNFL brochure on the centre described the facility as 'particularly suitable for educational visits by school parties or other groups' (BNFL, Sellafield Visitor Centre: A Window on the Nuclear World, p.5) - it was a natural step in the campaign to begin pro-actively inviting schools to Sellafield. To encourage attendance, BNFL offered schools assistance with transport to the site.

BNFL's campaign represented the next generation of advocational efforts by the nuclear industry in Britain to tell its side of the story, and, in so doing, regain public confidence. However, once the trail had been blazed by AEA and BNFL, it remained for one other company - Scottish Nuclear - to journey farther than anyone else in the U.K. previously had ventured. Meantime, on the other side of the Atlantic, another company - Florida Power & Light - also prepared to travel down a similar path opened earlier in the U.S. by industry pioneers PG&E and TMI.

Chapter Eight

VISITOR CENTRES AND THE NUCLEAR CAMPAIGN TO INFLUENCE KEY PUBLICS

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Section One

(i) Visitor Centres as Strategic Advocational Vehicles

Following in the footsteps of PG&E, British Nuclear Fuels, Ltd. and other pro-nuclear predecessors, FP&L and SNL both launched an advocational campaign in early 1991 to pro-actively present the 'facts' on nuclear power to key publics. While the campaign, coloured in an 'eco-nuclear' hue of green (which since has become increasingly greener), uses multiple communication channels to reach its publics, it is designed strategically around one channel in particular - visitor centres. These centres are being used as the advocational strategic vehicles for carrying key corporate pro-nuclear messages to targeted publics in both Florida and Britain.

Such efforts are quite intentional in their design and timing. As early as October 1990 - less than seven months after SNL was vested as a separate entity - a comprehensive public relations strategy already was in place to communicate with key publics. As SNL Public Relations Manager Dick Marshall noted in the previously mentioned white paper:

> 'We will have an education programme aimed at management and employees, customers, suppliers, Government, decision-makers and the community at large... The physical interface with the public is vital... The proposed action outlined in this document will set in place an effective, controlled community communications strategy covering the period from 1990 to 1994 to ensure Scottish Nuclear is able to continue in business as Scotland's nuclear power generation company beyond the 1994 Government review on nuclear power generation.' (SNL, Towards a New Image, October 1990, pp.1-3)

Four days prior to the official launch of its visitor centre programme on the 15th of May 1991, Marshall detailed the company's 'education programme' to a meeting of senior management.:

> 'Our approach must be a ... campaign designed to answer queries; to clarify misunderstandings and to overcome those feelings of disquiet or unease towards nuclear... The public has a right to know - and we need the public to know **all the issues**... Much of the work is by individual contact which we prefer to handle in our own offices or at the nuclear power stations... We believe the most effective of all will be our "Come and See" programme - the visitors' programme to our nuclear power stations.' (Marshall, Improving the Image of Nuclear Power, 11th May 1991, pp.5-11)

FP&L, which launched its visitor centre programme on 28 January 1991 - less than four months prior to that of SNL - also had determined as early as 1988 that a programme of 'energy education' was needed 'to promote support for nuclear power'. Echoing Marshall, his counterpart at SNL, Tom Veenstra, nuclear information supervisor at FP&L, noted that:

> 'Energy is an important issue, and the public has a need to know about the subject. There also are many misconceptions about nuclear power. In fact, our research shows that one of the most effective ways to improve public attitudes about our nuclear operations is for them to visit our plant sites...' ('FP&L Energy Encounter On the Horizon This Fall', Synergy, Fall 1990, p.1)

(ii) Research-Based Advocational Campaigning and Early Trials

As with SNL, the launch of FP&L's advocational campaign was a timely response to external conditions. As noted previously, in 1987 FP&L surveys recorded a decline in customer satisfaction in the wake of operational problems at its Turkey Point nuclear station and negative media stories on the difficulties - all less than a year after Chernobyl. In retrospect, FP&L noted that:

> 'Continued erosion of public confidence would affect FP&L's ability to consider the nuclear option in the future, clearly an important consideration since FP&L serves six of the nation's fastest growing metropolitan areas. In fact, the situation could have jeopardized current operations. Customers identified safe nuclear performance as one of 22 critical service elements for the company. Other states where satisfaction was declining faced nuclear plant shutdown referendums.' ('Nurturing the Nuclear Option', Public Relations Society of America 1992 Silver Anvil Winners, p.9)

The emergence of both FP&L and SNL's visitor centre advocational campaigns is a strategy built upon and finetuned by corporate and industry research, and an approach that had been already pretested by each company prior to launch. Public relations executives from both companies had closely monitored the progress of their own prototype efforts as well as that of visitor centres being used by industry colleagues and incorporated the more effective features and strategies into their campaign. Indeed, in commenting about SNL's centre, PR Manager Dick Marshall briefly noted that 'Three-Mile Island and Sellafield have a visitor centre,' and that 'Sweden has a visitor centre at its waste disposal site' (Interview, 20 June 1991). Similarly, Tom Veenstra, nuclear information supervisor at FP&L, in discussing his company's visitor centre, also

referenced the TMI centre as a model facility - providing, in fact, a reprint of the previously discussed New York Times article as testimony - and further noted that a trip to visitor centres in Japan by company executives in 1987 'prompted the idea of building our own' (Interview, 14 August 1991). Foreshadowing the nature and purpose of FP&L's centre, Veenstra explained that:

> 'Energy information centers are valuable components in the public information and education programs of many utilities and other energy-related companies and institutions... Research has shown that information centers are one of the most effective ways to directly enhance the understanding and perception of nuclear power with the public, plant neighbors, educators and students. The U.S.Nuclear Regulatory Commission also strongly endorses the operation of these centers because of their effectiveness in communicating nuclear information.' (Memo, 17th August 1990, p.1)

Subsequent to the trip to Japan, FP&L assembled a task force, including representatives from Corporate Communication, to research the feasibility of building a visitor centre in Florida. Over the next year, the task force investigated 'economical ways to develop a center while others in the department contacted more than 20 educational-type centers to identify "lessons learned"' ('Nurturing the Nuclear Option', Public Relations Society of America 1992 Silver Anvil Winners, p.9).

Earlier company survey research also had suggested the idea of using visitor centres as a strategic communication channel. In-depth customer surveys in 1987 had revealed that only three percent of respondents received information about nuclear power directly from the company. Moreover, 20 percent said they knew nothing about nuclear power (much like SNL respondents), indirectly inviting a corporate advocational response. Corporate Communication later was to note, 'it became clear the company had no vehicle to directly reach its customers with sustained information about nuclear power' ('Nurturing the Nuclear Option', Public Relations Society of America 1992 Silver Anvil Winners, p.9). Paralleling SNL's research, further FP&L studies also had suggested that, 'as public knowledge of nuclear increased, attitudes toward it improved; younger customers were more negative than older ones; women - particularly mothers - were more concerned about nuclear power' ('Nurturing the Nuclear Option', Public Relations Society of America 1992 Silver Anvil Winners, p.9)

As a follow-up to these studies, FP&L's Corporate Communication conducted 'a sophisticated statistical quality control experiment; the department measured communications tools to promote support for nuclear power and

found the most effective was on-site plant visits'. Corporate Communication concluded: 'Yet it was clear that if long-term, lasting gains were to be made, an activity of this type would have to be accessible and available to large numbers of people' ('Nurturing the Nuclear Option', Public Relations Society of America 1992 Silver Anvil Winners, p.9)

As a consequence, FP&L's task force recommended to senior management that the company develop a visitor centre at its St. Lucie nuclear power station. The company already had been planning to expand its training centre facilities at the station, and 'personnel at the company's largest and newest nuclear station offered to design a facility that could be incorporated into the facility's current training center. It was located at the center of FP&L's service territory, in the midst of the fastest growing customer segment'. Such a centre, argued Corporate Communication, would be 'accessible to residents and tourists (who frequently become permanent residents)' ('Nurturing the Nuclear Option', Public Relations Society of America 1992 Silver Anvil Winners, pp.9-10).

As early as 1980, FP&L had been experimenting with visitor tours at its St. Lucie site, programmes which eventually gave the company the encouragement to try similar schemes on a grander scale and with a 'green' theme. In 1972 the company purchased a 400-acre cypress swamp adjacent to its St. Lucie nuclear station (two years after construction began on the station's first reactor). Later, FP&L built a boardwalk through the area and began conducting public and group tours, particularly for schools.

Similarly, prior to launching its visitor centre programme, SNL had conducted public tours at both of its nuclear stations - Hunterston and Torness - escorting school groups, Scouts, local government officials, nuclear industry executives and various community organisations. In 1990 more than 6,000 people visited one of SNL's stations. Additionally, each station's Local Liaison Committee - comprising councillors and officials of regional, district and community councils, Scottish Office departments, and representatives from local police, fire, health boards and government inspectorates - had met twice annually at the station for tours and briefings by SNL senior staff. As with FP&L, such onsite personal interface between key publics and company officials was to provide the foundation upon which SNL was to build its 'Come and See' campaign. Indeed, SNL's strategic communication plan called for the upgrading of visitor facilities at its nuclear stations and an increased pro-active effort to invite key publics to tour the sites:

> 'We will be continuing our open policy with visits to sites and will improve facilities at these sites. Our public education will include increasing the number of school party visits to sites and developing visits by other organisations.' (SNL, Towards a New Image, October 1990, p.6)

Work on a visitor centre at Torness, in fact, already had begun in 1990 with a grand opening scheduled for the spring of 1991. 'A similar facility is required at Hunterston', argued SNL's public relations manager, 'and a permanent exhibition will be installed at East Kilbride {SNL's new headquarters which opened in March 1992}' (SNL, Towards a New Image, October 1990, p.8). Preparations also were underway by public relations to support the effort with promotional materials, including videos and brochures on each station and on the company.

Quantitative and qualitative surveys conducted by Market Research Scotland in February 1991 assisted SNL in finetuning its campaign and gave further impetus to the visitor centre programme by confirming the advocational direction as the approach the company should take. The quantitative survey revealed that only three percent of respondents had visited a nuclear power station (and only two percent had toured one of SNL's stations). The research also indicated that:

> 'There was widespread knowledge amongst respondents that you could actually visit one of these power stations and the local and television advertising for Sellafield demonstrated this quite aptly. Indeed, not only did the ad have widespread recall, it was widely accepted by respondents as a genuine attempt by the nuclear industry to open its doors and, indeed, it was felt that this was the way that it should progress, by trying to educate people and show that it had nothing to hide.' (Market Research Scotland, Corporate Research Qualitative Survey, April 1991, p.26)

Commented Market Research, 'Visits to the nuclear power stations was praised as an attempt by Scottish Nuclear to be more open....Certainly this openness needs to be continued as does some explanation of the pros and cons of nuclear power' (Market Research Scotland, Corporate Research Qualitative Survey, April 1991, p.10). However, while MRS urged that SNL undertake 'an education process' to persuade public opinion of the merits of nuclear power, it cautioned that such a programme would encounter:

> 'great concern that you would only be shown what Scottish Nuclear wanted you to see and they would still be hiding things... Indeed, in each group there were perhaps one or two respondents who had been on a visit and, whilst they found it very interesting, still believed that there were other things that they were not told.' (Market Research Scotland, Corporate Research Qualitative Survey, April 1991, p.10, 26)

One respondent, in commenting about the tours, pointed in the direction that seemed to be the most promising for SNL and which was to become a critical focus of the 'Come & See' programme:

> 'Perhaps it would be good to take a school round it instead of us who are stuck in our ways and, as such, didn't like it." (Market Research Scotland, Corporate Research Qualitative Survey, April 1991, p.26)

(iii) Implementation of the Visitor Centre Proposal

With the approval of the visitor centre programme by senior management at FP&L and SNL, both companies allocated the necessary funding and staffing required for full implementation. Construction of FP&L's visitor centre and the concurrent expansion of the company's training centre began in October 1989. The 23,600-square-foot training facility, which houses the 6,000-square-foot visitor centre on the lower level of the building, cost $1.7 million; the cost for the centre's exhibits and audiovisual systems was $670,000. According to FP&L, capital costs for visitor centres in North America range from $200,000 to more than $3 million depending on size (from 1,000 to about 20,000 square feet). A local construction firm was the building contractor; however, Lynch Industries, a New Jersey exhibit vendor, designed and fabricated FP&L's visitor centre. It should be noted that Lynch has designed more than 40 such visitor centres for utilities throughout the U.S. The first-year operating and promotion budget was $260,000, with start-up advertising representing 28 percent of the total budget.

Oddly enough, the Florida Public Service Commission, which is charged with regulating utilities such as FP&L, has never kept track of the expenses incurred in the construction, operation and promotion of the St. Lucie visitor centre, even though such costs are currently being charged to ratepayers (both commercial and residential customers). When asked to provide a copy of public relations expenses incurred by FP&L as they relate to the visitor centre and the company's Nuclear Information division from 1986 to the present, the Commission responded by admitting that it 'does not routinely require the utilities to file their expenses at the level of detail necessary to answer your specific questions... The Visitor's Center has never been specifically addressed as an issue' (John Slemkewicz, Memo, 21 November 1991).

It should be noted that in 1990 FP&L's Nuclear Information division was one of eight departments with a total staff of 50 people. At that time, the annual operating budget, including advertising, for the division alone was $4 million, as revealed by Jose Llerena, a University of Miami public relations student, in a 7 November 1990 report, FP&L's Corporate Communication Department. Given its many departments and programmes, it is conceivable that

the 1990 operating budget for the entire Corporate Communication office exceeded $30 million - expenses certainly of a magnitude deserving the attention and monitoring of state regulators, not to mention the interest of ratepayers.

The cost to build and equip SNL's visitor centre at Torness, as reported by the Edinburgh Evening News (16th May 1991), was £400,000. The Evening News also reported that SNL's 'Come & See' programme - including advertising, other promotional materials and necessary operational support - initially cost an additional £200,000. The cost of the initial 'Come & See' advertising component of the overall campaign, according to SNL, was almost £83,000. The cost of upgrading the visitor facilities at Hunterston - and more recent costs to build a fully-fledged centre at Hunterston (which opened to the public on 30th April 1992) - are unknown inasmuch as information relative to such expenditures has been unavailable from SNL.

As with FP&L, SNL's 'Come & See' programme is but one component of the company's public relations department. The total operating budget for SNL's public relations department in 1991 was approximately £2.7 million, £1 million of which was held in contingency by senior management for use by public relations on an as needed basis. Included in the department's budget, in addition to monies for 'Come & See' advertising, were allocations for a corporate identity advertising campaign, which public relations had hoped to launch in late 1991. While the amount of funding earmarked in 1991 for the latter campaign is unknown, SNL did not launch such a campaign until May 1992. That campaign, a combination corporate identity-public information-'Come & See' effort, cost £1.3 million.

To make their advocational campaigns fully operational, however, both FP&L and SNL not only allocated the necessary funding but also increased their public relations staffing levels - even as, in the case of FP&L, the company was preparing to reduce its overall employee population and its public relations department in particular. As has been noted, FP&L created its Nuclear Information Division in the wake of problems at its Turkey Point nuclear station in 1987. The company hired two public relations managers in February 1988 to enhance employee and public communication at Turkey Point. Tom Veenstra, a manager on FP&L's Corporate Communication staff, joined the division staff in February 1989 as Nuclear Information supervisor, charged with overseeing the implementation of the company's visitor centre advocational campaign. At the time, Nuclear Information was one of eight departments within Corporate Communication. In classic centralised organisational fashion, the supervisor of each department reported to a manager of Communication who, in turn, reported to the Executive Vice President of Corporate Communication.

On a smaller scale but one similar in structure to that of FP&L, SNL began to build its public relations staff in October 1990. The staff was to consist of a department head (Marshall) overseeing a press officer, an assistant press officer (who also would handle all employee communication), a publicity officer (in charge of all paid publicity including advertising), and a community affairs officer (to coordinate the visitor centre advocational campaign and other outreach activities). The department head, in turn, would report directly to the chairman of SNL. By November 1990, the first four posts were filled, and the final manager was added to the staff by February 1991, three months prior to the launch of the 'Come & See' programme.

Such an organisational structure, in which the communication programme is centralised at the vice presidential or departmental level, allows not only for the effective coordination of a total communication strategy (Wilcox, 1989) but, more important, 'acknowledges that communication is a full-time management function and centralizes responsibility in one place' (Corrado, 1984:21).

Pro-active corporate initiatives, such as the visitor centre advocational campaign of FP&L and SNL, require a strategic coordination of multiple communication functions, from advertising to Speakers' Bureaux to media relations, and, as such, can best be conducted effectively and efficiently within a centralised management structure. Indeed, the launch and development of the advocational campaign by both companies demonstrate the importance of orchestrating selected corporate messages across a variety of channels to targeted key audiences to effect similar responses.

Such direct line reporting by public relations to top management, as it has been noted, also reflects the elevated perception of the function by the organisation. In the case of FP&L, such corporate support of public relations and the visitor centre programme, in particular, was indeed evident, as internal task forces began preparing major organisational and staffing changes in 1990 even as public relations was increasing its staff and budget in preparation for the launch of its advocational campaign. During that year, the company fully staffed its visitor centre at the St. Lucie nuclear station, hiring a supervisor, a manager and clerical support. It should be noted, however, that both managers were employed as contract workers in an effort to keep the total head count of the department to a minimum. In addition, plans were made to staff the centre on Sundays and during special events with employee volunteers, again, with the intent of minimising administrative expenses. Some 20 company volunteers were recruited to assist in manning the centre. Similarly, SNL recruited a staff of volunteer tour guides - most of whom are the spouses of SNL employees - to service the visitor centres at Hunterston and Torness.

FP&L began eliminating management, union and contract employee jobs by late 1990 and continued to cut staff through the next two years,

eventually cutting 2,300 full-time and contract positions companywide. The public relations department suffered a 20 percent decrease in staff - from 50 to 40 employees - and was completely reorganised in the process. One of the remaining departments, External Affairs, retained responsibility for nuclear information duties, including overseeing public relations operations at the St. Lucie visitor centre and Turkey Point.

(iv) Formulating a Strategic Plan of Action

In developing a plan of action for their visitor centre advocational campaigns, both FP&L and SNL applied fundamental elements of the concept, Management by Objectives (MBO), to the planning process. As Wilcox has noted, such 'a systematic process of determining what must be done and why provides focus and direction for producing effective program plans and public relations materials' (Wilcox, 1989:168). In formulating such an MBO plan, Nager and Allen suggest that a general purpose for the communication be established, target audiences identified, specific objectives set, and messages, media channels and communication strategies appropriate for each audience determined (Nager and Allen, 1984). Such an approach is designed to produce a working blueprint for a public relations campaign. Through an examination of FP&L and SNL records, such an application of the MBO concept to the planning for the visitor centre programme can be traced.

In proposing to senior management that the company build a visitor centre at the St. Lucie nuclear station, FP&L's task force and Corporate Communication department argued the underlying purpose for such a centre:

> 'Special focus would be placed on youth and education, building long-term, in-depth understanding (and thus support) of nuclear power. Attention to youth represents a communications path to parents, thus a method to encourage present customer support through a family learning experience as well as instilling support in the "customers of tomorrow".' ('Nurturing the Nuclear Option', Public Relations Society of America 1992 Silver Anvil Winners, p.9).

Indeed, a fact sheet indicates that one of the main purposes of the centre was 'to dispel misconceptions and provide facts on energy and nuclear power' (FP&L, Fact Sheet, 15th November, 1990, p.1).

The other purpose of the centre - and perhaps the primary one - as announced by FP&L President Stephen Frank at the centre's opening is to 'play a lead role in energy education by assisting area educators in supplementing classroom information on energy' (FP&L, News Release, 15th November 1990, p.1). Indeed, the managers who administer the centre were selected for their

experience with public education programmes. Centre Director Janice Brady coordinated school tours and classroom lectures at the Tennessee Valley Authority's Sequoyah nuclear station and visitor centre near Chattanooga, Tennessee. Her assistant, Deborah Ferris, previously served as the education curator for the South Florida Science Museum in West Palm Beach, a community adjacent to the Port St. Lucie area, and was a science instructor in middle schools in Palm Beach and Martin counties.

Moreover, in designing the centre and the school presentations which the managers conduct, FP&L organised a committee of Florida educators to provide direction and feedback. As Brady explained:

> 'Working with the educators, we have tried to make the Energy Encounter an enlightening educational experience. And just as important, we've attempted to make it a fun and memorable experience as well.' (FP&L, News Release, 15th November 1990, p.2)

The nature and thrust of SNL's visitor centre advocational campaign - as well as its purpose - are parallel in many respects to that of FP&L. Following the recommendations set forth by PR Manager Dick Marshall in his communications strategy proposal of October 1990 and approved by senior management, the 'Come & See' visitor centre programme was developed as a consequence, according to Chairman James Hann at the unveiling of the programme on 15 May 1991, 'with the aim of demystifying the whole subject of nuclear power' (SNL, News Release, 15th May 1991, p.1).

By inviting the public to tour its visitor centres 'and see for themselves our levels of safety, the professionalism of our staff, and the technology we use', says Hann, such trips will increase 'public awareness of the true facts about the industry' (SNL, News Release, 5th April 1991, p.1).

Such an approach, according to SNL, not only 'is the best way to create better understanding', but demonstrates in a visible manner another central purpose for the programme - a new 'open door' manner for SNL and the industry, both of which have been criticised heavily for the secrecy of operations as has been noted previously (SNL, News Release, 15th May 1991, p.1). In taking a cue from the British Nuclear Fuels visitor centre campaign for Sellafield - indeed, the 'Come & See' name can be found in BNFL ads inviting the public 'to come and see for themselves' - Chairman Hann commented at the launch of SNL's programme that, 'We are going to reinvent openness... We have absolutely nothing to hide... We are eager to answer any and all of their {the public's} questions about nuclear electricity' ('Scottish Nuclear "Come & See" Programme', The Nuclear Engineer, July/August 1991, p.100).

With the opening of a new visitor centre at Hunterston on 30 April 1992, SNL's orientation toward youth as a central purpose for its visitor centres

became more pronounced, as did the campaign's emphasis upon providing visitors with an entertaining as well as 'educational' experience.

As Station Manager Peter Robson commented in opening the centre:

> 'Our new Centre isn't all about education, though. We hope that it will also be a lot of fun. Children and adults alike will find it a whole new experience.' (SNL, News Release, 30th April 1992, p.1)

As SNL pointed out in its opening day news release for Hunterston:

> 'Several local organisations and schools have already shown a keen interest in visiting the new facility and among the Centre's very first visitors were two Primary 7 classes from West Kilbride and Fairlie Primary Schools.' (SNL, News Release, 30th April 1992, p.2)

As has been noted, however, neither FP&L nor SNL envisioned launching a visitor centre campaign merely to inform or raise public awareness of nuclear issues. By design, the intent of each campaign is to advocate a pro-nuclear position, albeit in an 'educational' and 'entertaining' manner. In his strategy paper, Marshall clearly calls for an SNL campaign 'to promote the advantages of nuclear power' (SNL, Towards a New Image, October 1990, p.2). SNL explains in an article about the 'Come & See' programme in its employee newspaper, Scottish Nuclear News, that, 'We have to convince the public of the benefits of the technology' ('Nothing to Hide', Scottish Nuclear News, June 1991, p.1).

The rationale for such an advocational campaign, according to FP&L and SNL, is to take 'the case for nuclear power' directly to the public, inasmuch as corporate survey research has shown that most audiences receive their information about nuclear power from non-company sources and primarily from the media.

(v) Visitor Centres and Nuclear Power as Promotional Commodities

Both FP&L and SNL intended their visitor centres to be used expressly as a marketing tool to promote nuclear power to key publics. As has been noted, such promotion is inherent in any system of competitive exchange, such as the public marketplace of ideas or a commercial economy, wherein sellers compete for buyers. Moreover, that the nuclear industry should be quick to employ an advocational strategy rather than a strictly informational one illustrates 'the generalization of promotion itself as a communicative mode' (Wernick, 1991:147). Indeed, as Wernick contends:

> 'Promotion has culturally generalized as commodification has spread... What... industrialization has brought into being, then, is not just an apparatus for the mass generation and transmission of value-laden meta-messages, but a dense communicative complex which envelops all imaged goods." (1991:94-5, 182, 186)

As 'imaged goods', then, the visitor centres, with their adjacent nuclear power stations, may be considered 'promotional commodities' (Wernick, 1991) that at once serve as a product to be sold (nuclear-generated electricity, nuclear fuel for weapons, corporate consultancy skills) and as a self-advertisement for both FP&L and SNL and for the industry in general. In this sense, the corporate public relations strategy to launch a pro-active campaign with visitor centres as the central communication vehicle is an attempt at 'commodity imaging', which fuses a 'promotional sign' together with the actual commodity, transfering in the process 'meanings on to a product from the outside, through repeated imagistic association... {the result being} a dual-character object, the **commodity-sign**, which functions in circulation both as an object-to-be-sold and as the bearer of a promotional message. As the latter, it serves to advertise both itself (on the shelf) and (wherever displayed) all the other produce to which, by brand and style, it is imagistically linked' (Wernick, 1991:15-16).

The nuclear industry's 'imaging strategy' is perhaps more an effort at 're-imaging' a product. With visitor centres and other promotional vehicles promoting nuclear power as 'fun' and 'environmentally-friendly', it would seem that the industry is trying to publicise its product as one that is 'new and improved'. In so doing, proponents are careful to filter out all past negative associations (war, radiation) and emphasize those positive attributes that play upon changing public attitudes toward the environment.

Such 're-imaging' or 're-packaging' of the nuclear product is not unlike that previously undertaken by the auto industry in the early 1980s. As Wernick (1991) points out:

> 'The oil crisis of the mid-1970s, growing traffic congestion,and unease with rampant road construction changed mass attitudes to the car itself... these developments undermined the car's symbolic identification with individual freedom... Cars materially, then, became a bad sign of what they had earlier celebrated; and just as cigarette promoters had to exorcise the cancer scare, car promoters found themselves having to deflect the negative associations with which *their* product had become endowed.' (1991:78)

As popular disaffection grew with automobiles, and with technology in general in the wake of 'cultural upheavals, economic dislocations and

technological implosion of the past two decades', there began a 'wholesale resuscitation of Nature as the repressed Other of all-conquering Industry' (Wernick, 1991:56, 78). The auto industry was quick to capitalise upon the new counter-culture sensibilities and re-imaged its product:

> 'Rather than portraying cars as the pinnacle of urban civilization, ads placed them in green meadows as the embodiment of countryside. Rather than representing world-conquering technology, they were linked to nature as balm and escape.' (Wernick, 1991:78)

Similarly, nuclear energy, with its frightening imagery of Hiroshima, the Cold War arms race, Three-Mile Island and Chernobyl, has been greatly in need of a 'make-over' to exorcise its apocalyptic associations and to present a warmer, softer, more 'user-friendly' side. Hence, the industry's 'eco-nuclear' campaign attempts and its 'open door' invitation for the public to visit its sites; nuclear power stations are no longer the ominous, Gotham-City-like monoliths looming manevolently over the landscape; rather, they are veritable 'theme parks', co-existing in harmony with Nature (and even benevolently assisting in Her work), and beckoning all to 'Come & See' the magic and wonders inside.

It can be said that the visitor centres and other more recent promotional devices, such as mobile displays and Speakers' Bureaux, are product, publicity and showroom all rolled into one. Even as they convey specific promotional messages about their product, they simultaneously serve as 'salesrooms' to woo potential customers (individuals, businesses, nation-states) interested in purchasing the many by-products of nuclear energy (electricity, weaponry, a 'cleaner' environment, etc.). Indeed, to the extent that these 'salesrooms' increase business, additional promotional vehicles can be created to further advertise nuclear power and attract even more customers. As such, the production and operational expenses of such vehicles are happily subsidized by FP&L and SNL in return for their promotional value.

(vi) Establishing Campaign Objectives and Targeting Audiences

With the rationale and purpose for the visitor centre advocational campaign in place, FP&L and SNL, as part of their strategic planning process, set objectives and identified target audiences for their programme. FP&L established the specific objective of attracting 10,000 visitors to its St. Lucie visitor centre during its initial year of operation. SNL aimed 'to generate a full programme of visits' to both of its visitor centres 'during the months May to September' of the initial year (McColl McGregor, Visitor Centre Programme Proposal, 19th May 1991, p.1). Previously, in 1990, nearly 6,000 visitors had toured station facilities at Hunterston and Torness.

In targeting specific as well as general audiences to 'educate', both FP&L and SNL relied on corporate survey research and internal organisational resources. As noted, FP&L surveys indicated that younger customers were more negative about nuclear power than older ones and that women - particularly mothers - were more concerned about nuclear power. Clearly, then, youth and parents would be two prime target publics for the company's campaign. Similarly, SNL's quantitative survey revealed that younger Scots (ages 18 to 24) were relatively more concerned about nuclear power than other age groups, as were respondents who held senior or intermediate positions in a profession or in industry. SNL qualitative surveys also indicated that respondents holding an intermediate or a junior position in the professional or business world (including clerical workers and students) were the most concerned about the environment and industry's impact upon it. Generally, these respondents were geographically located in Glasgow, Edinburgh and Aberdeen. Additionally, skilled manual workers and trades union members seemed to be the least trusting and most fearful about nuclear power, and, according to Market Research Scotland, which conducted the surveys for SNL, the 'most misinformed about nuclear power' (Market Research Scotland, Corporate Research Qualitative Survey, April 1991, p.8). These groups tended to be located in Glasgow and Edinburgh.

In developing the company's strategic communication plan, and prior to conducting the public opinion survey research, SNL's Public Relations identified the specific audiences to target. The results of the qualitative and quantitative surveys later served to confirm the general direction of the organisational identification process. In addressing the University of Stirling on 4 April 1991, one month prior to the launch of the 'Come & See' programme, SNL Chairman Hann previewed some of the audiences targeted for the campaign:

> 'An absolutely vital case {must be made}, in my opinion, to the decision-makers... and through the media to the general public... it is then essential that we identify the third party multipliers, people or groups through whom we can address our largest audience - the general public. These obviously include politicians, both MPs and MEPs as well as local authorities - Government, including the Scottish Office, Department of Energy, Department of Environment, Treasury; - the Trade Unions - the CBI, Chambers of Commerce and other powerful industry bodies; - consumer groups - leaders in both the business and the financial communities, educationalists - both schools and universities, environmental groups, health and medical groups.' (Hann, Handling Public Relations in the Nuclear Industry, 4th April 1991, p.13)

By February 1991 SNL Public Relations had compiled a list of some 60,000 specific target audiences - both individuals and groups - for its campaign in Britain. An outside firm, McColl McGregor, was retained to create and maintain the master database of target groups for the visitor centre programme and to mail literature on the centres to such groups. SNL was to be responsible for coordinating the booking of group visits and providing subsequent reports to McColl McGregor on the success of the operation, information that would be used to update the database and track the effectiveness of mailings and advertising by group category. Among the first groups created on the master database by McColl McGregor were schools and colleges, leisure groups and Scottish companies.

While the short-term objective of the process was to identify a sufficient number of contacts to generate a full programme of visits to SNL's two visitor centres during the months of May to September 1991, the long range intention of creating such a database was to target key groups for a later, more expansive campaign of direct corporate contact via mailings, public talks and invitations to presentations, exhibitions and facility visits. This campaign was to target audiences both in Britain and continental Europe. Although the campaign was not implemented for Europe, further initiatives to key groups in Britain have been launched by SNL following the unveiling of the 'Come & See' programme. Such efforts both have complemented and cross-promoted the visitor centre campaign.

While the process of audience identification by FP&L cannot be equally detailed (inasmuch as the necessary documentation is unavailable), the groups considered to be central to the company's visitor centre campaign can be inferred, in part, from certain internal sources, opening day preparations, and responses to a survey on strategic management procedures.

In an issue of Synergy, FP&L's employee magazine, published just prior to the opening of the St. Lucie visitor centre, Janice Brady, coordinator of the facility, noted that the programme was:

> 'the best way to reach... school groups, FP&L employees and their families, residents, community and professional organizations, and tourists.' (FP&L, Synergy, Fall 1990, p.1)

Company invitations to the grand opening of the centre on 28 January 1991 were sent to state and local political officials, business and community leaders, key educators and other local dignitaries. The extensive pre-opening preparations, including a preview of the centre by local educators, suggests the creation of a database for the programme, and subsequent promotion of the centre and of additional outreach activities (similar to those of SNL) further implies the maintenance and expansion of a master list and target audiences.

(vii) Corporate Perceptions of Relationships With Key Publics

A survey of both FP&L and SNL's relationships with and attitudes toward various corporate publics confirms the audiences considered as key targets for the visitor centre advocational campaign. When asked to rank the importance of nine various publics to the company, FP&L ranked 'customers' first and 'other industries in the same region' second. In contrast, SNL ranked 'national government', 'regional government' (the equivalent of state government for FP&L), 'other companies in the same industry', and 'the media' as publics equal in importance and of foremost priority. The rankings reflect the differences in nature between the two companies - FP&L being a publicly-held utility with ratepayers and SNL a national government-owned entity - as well as differences in corporate perceptions, in the case of the media, of particular publics given past experiences.

FP&L, for example, ranked 'the media' seventh in priority. As has been noted in regard to its Turkey Point nuclear station, FP&L has received considerable negative media coverage of its operations. Given such coverage, perhaps it is not surprising that FP&L would rank the media toward the bottom of its audience priorities and design an advocational programme to take its message directly to customers. Conversely, while the media have been critical of the British nuclear industry, SNL, generally speaking, has enjoyed (until recently) a honeymoon period with the media owing, in part, to its relative newness as a corporate entity and absence of nuclear incidents. The priority ranking of the media by SNL also may reflect a personal bias on the part of SNL's Public Relations Manager, Dick Marshall, who responded to the survey. A former journalist with the Glasgow Herald and the Evening Gazette on Tees-side, Marshall has worked closely with the media throughout his career as an information officer in various government posts prior to joining SNL and considers his relationship with the media to be 'productive'. Moreover, the fact that Marshall indeed has 'friends in senior positions at the BBC, the Evening Times, and the Glasgow Herald' may, in part, explain the positive reception from the media which SNL generally received initially following its launch as a company (Interview, 20th June 1991). This is not to say that SNL would rely exclusively on the media to tell its story - company survey results parallel those of FP&L, hence, the corporate 'Come & See' effort to take the company's case for nuclear power directly to the public. But, given the differences in perceptions and experiences with the media between FP&L and SNL, the two companies would use the media differently in the overall communication mix of their visitor centre advocational campaign.

In ranking other publics, FP&L considers 'state government' to be third, 'financial community' fourth, and 'local government' to be fifth and next in the order of importance. Again, as a state-regulated, publicly-held utility paying local

government franchise fees for right-of-way access to its facilities, such a ranking is to be expected. SNL ranks 'local government', 'local community groups', and 'environmentalists' equal in importance in a second tier of priority, while ranking the 'financial community' at the bottom of its list. Least in importance to FP&L are the 'federal government' (ranked sixth), 'environmentalists' (ranked eighth) and 'other companies in the same industry' (ranked ninth). Again, differences between SNL as a national government entity and part of a nationalised industry and FP&L as a publicly-held state utility may explain differences in audience priorities.

In further describing its working relationship with various publics, FP&L indicates it has a moderate-to-strong 'pro-active' and 'educational' relationship with federal, state and local regulatory agencies, customers, the media, other industries in the same region and with both the Republican and Democratic Parties, although to a slightly lesser extent with the latter than the former. It has the most 'pro-active' and 'educational' relationship with the 'financial community' and 'environmentalists in general'. Moreover, FP&L says it has a moderate-to-strong 'pro-active' and a strong 'educational' relationship with five of six specific environmental groups named; not surprisingly, the exception was Greenpeace.

In contrast, SNL did not select any other category offered ('pro-active', 'educational', 'reactive') other than 'adversarial' to describe its relationship with either 'environmentalists in general' or any of the specific 'green' groups listed in the survey. In fact, SNL did not describe any of its relationships with its publics as being 'pro-active' and only ranked the 'financial community', 'local community groups', the 'Labour Party', and 'other companies in the same industry' as publics with whom it had a moderate-to-strong 'educational' relationship. Inasmuch as an analysis of its visitor centre campaign and other advocational efforts demonstrates a pro-active/educational approach across the board with all key publics, it is difficult to fathom SNL's survey responses in this respect. However, SNL's responses may be simply a matter of semantics; efforts to communicate messages, while viewed as 'pro-active' in nature by some, may be simply considered 'educational' by SNL. As noted earlier, the question of whether a campaign is 'educational' or 'advocational' is a matter of interpretation and one that has been the subject of some debate.

Given the priority rankings of publics and descriptions of working relationships with such audiences, it would be expected that SNL would pro-actively approach political, business and community leaders, the media, various activist organisations, including environmentalists, trade unions, education groups, and, lastly, the general public. FP&L, in turn, would be expected to particularly target its customers, political, business and community leaders, education groups, tourists, and, to a lesser extent, the media and environmentalists. This did indeed prove to be the direction and focus of each visitor centre campaign, from its initial launch to subsequent advocational efforts.

In so doing, both companies followed traditional advocational strategies of their predecessors in the nuclear industry, with one notable exception. The advocational campaign for nuclear power of both FP&L and SNL communicated a message that was entirely new within the context of industry visitor centres - namely, that nuclear power is 'environmentally-friendly'.

Section Two

(I) Strategic Messages of the Visitor Centre Programme

In any public relations campaign where there are multiple target audiences, a multiplicity of campaign messages can be found - each designed for a particular public - positioned as variations around a central underlying theme. Such messages address the identified needs and concerns of their target publics as well as those emerging issues considered strategic to the organisation fashioning the campaign. While an examination of the visitor centre programme of both FP&L and SNL reveals a variety of such messages - as expressed in each centre's features and in other advocational vehicles used to communicate with target publics - in each case the programme is centred around an 'eco-nuclear' theme.

In fashioning its communication strategy, SNL selected several key messages to convey - the company is 'an open and honest organisation'; nuclear power is 'a clean, efficient, modern, long lasting and economical source of energy'; nuclear power must be 'the cornerstone of a future balanced energy policy'; and nuclear power 'is essential to the future well-being of Scotland'. SNL further decided that it should conduct its advocational campaign 'to promote the advantages of nuclear power' 'in the context of Global Warming and the environmental issues'. The central underlying theme of the campaign, then, would be to promote SNL as a company 'which cares for the environment' (SNL, Towards a New Image, October 1990, p.2,13).

Indeed, as discussed previously, in response to the survey on strategic management specifically designed for this thesis, SNL identified the top messages it wishes to communicate as: 'safety', 'efficiency', 'environmentally-friendly', 'nuclear power as necessary', and 'no need {for the public} to be afraid'. SNL noted that it wished to convey the first three messages to all but two audiences - the financial community and its colleagues in the nuclear industry. To these two publics, it would stress only the messages of 'efficiency' and 'necessary' (financial community) and 'safety' and 'efficiency' (the nuclear industry).

When asked to identify its corporate environmental affairs strategy, SNL confirmed the centrality of the 'eco-nuclear' message in its advocational campaign. Such a strategy, says SNL, called for 'promoting nuclear power as "environmentally-friendly"' to the media, environmentalists, elected and appointed government officials, in public talks, in industry-wide efforts, in advertisements, and in company exhibits and displays.

In its response to the same survey, FP&L said that it regards 'utility deregulation', 'state fuels tax', 'FP&L energy conservation programs', 'FP&L environmental programs and efforts', and 'safety' as the most important messages it wished to communicate. However, there are only two messages that

FP&L said it wanted to communicate across the board to a majority of its key publics -'deregulation' and its 'environmental programs and efforts'. Moreover, of the various issues facing the company, FP&L ranked 'nuclear energy and the environment' as either a 'prime' or significant' issue of concern to all of its key publics. As a consequence, when asked about the company's environmental affairs strategy, FP&L echoed SNL's plan to 'promote nuclear power as "environmentally-friendly"' - adding 'bill inserts and other customer literature' as a further tactic with two exceptions. FP&L said it would not use advertisements to promote its 'eco-nuclear' message nor communicate its 'greenness' to environmentalists. An examination of the second phase of its advocational campaign shows, however, that FP&L is indeed promoting its 'environmental programs and efforts' to both environmentalists and to the general public through a corporate advertising campaign.

(II) Visitor Centre Design Features

FP&L has replicated certain 'past lessons learned' in designing its visitor centre at St. Lucie. The centre is divided into 28 exhibit areas and organised thematically around the idea of a visit as an 'energy treasure hunt' (FP&L, An Exciting Journey Through the World of Energy, p.1). At the entrance of the centre, visitors are given a scorecard with various questions about energy and welcomed à la Disney World (which is only a two-hour drive from St. Lucie) by 'Hutch', a three-foot tall, animated parrot-pirate (see Figure 13) who invites them to search the exhibit area for the answers. Visitors can turn their scorecard in at the end of the tour and receive a 'free treasure' if they have answered most of the questions correctly.

Centre Coordinator Janice Brady, explains the 'treasure hunt' motif:

'Hutch is outfitted in pirate's garb to characterize the history of Hutchinson Island involving mysterious pirates and elusive treasure. He explains that today's treasure is energy and invites visitors to take part in an energy treasure hunt.' (FP&L, 'FP&L Energy Encounter on the Horizon This Fall', Synergy, Fall 1990, p.1)

As FP&L explains in a promotional brochure for its visitor centre:

'Come with us on a magical journey - an expedition that will enlighten and entertain you...You'll discover interesting displays and exhibits, intriguing games and demonstrations... Share the secrets of the atom, and look firsthand at nuclear power.' (FP&L, FP&L's Energy Encounter: A Journey Through the Exciting World of Energy, p.1)

Figure 13 Hutch

Florida Power and Light, Energy Encounter Program Guide 1991-1992.

As modern-day Adams and Eves, then, visitors can explore FP&L's nuclear 'wonderland' with Hutch leading the way to the 'secrets' of the atom. The visitor centre has become a contemporary Paradise (a technological Garden of Eden), and Hutch a high-tech seducer, enticing the public to 'eat' of the new Tree of Life, nuclear power. As such, Hutch is both a signifier for the biblical Serpent and the presenter for the company's nuclear 'product'. But rather than being a wily, deceitful personification of Evil, Hutch is a colourfully garbed, smiling, whimsical creature, who could at once serve as host on a television game show and celebrity promoter during the programme's commercial interruptions. Much as the auto industry sought to reimage its technology with 'eco-commercials' and friendlier names for its products like the Volkswagen Rabbit, so the nuclear industry has re-packaged itself as a 'kinder, gentler' technology. In the case of FP&L, gone is 'Ready Kilowatt', a 1950s electric bolt stick figure personification of its product, who seemed perfectly skeletal and sinister; in his place now is a more playful and lovable character-presenter.

Moreover, that Hutch and his high-tech wonderland setting should be so reminiscent of Disney World in Orlando (where one of the most popular attractions, 'Pirates of the Caribbean', features animated pirates and talking parrots) further accentuates the fun-filled, paradisiacal atmosphere of the visitor centre. Through its promotional imaging, FP&L seeks to simulate Disney World, which has come to epitomise 'family fun, childhood enchantment, and the story of America as Freedom and Progress, itself written as the story of the world' (Wernick, 1991:149). Indeed, the picture of a nuclear-powered world as presented by FP&L in its visitor centre echoes Disney's eternal optimism:

> 'In the Town Square at Disneyland there are no muggers, no Soviet missles, no budget deficits... and the Disney staff are trained to pounce upon the slightest sign of litter or social deviation.' ('Mickey Taking Trip for George', Michael White, The Guardian, 6th September 1988, p.9a)

According to FP&L, the centre's exhibits 'were designed to be high-tech, hands-on - consistent with children's expectations today' ('Nurturing the Nuclear Option', Public Relations Society of America 1992 Silver Anvil Winners, p.10). Most of the promotional literature features children and their parents enjoying and operating the centre's exhibits, and closely resembles that used by BNFL in its promotion of Sellafield.

The interactive nature of many of the centre's exhibits is in keeping with recent changes in museum displays, particularly those in science and technology museums. Whereas, traditionally, such museums had only static displays (charts, photos, mobiles, etc.), the impact of computer games, videotext and other interactive technologies upon modern society has forced a rethinking of exhibit design and use of presentation space. As a consequence, today many

museums are veritable amusement parks/video arcades, offering a full array of computer-chip-driven electronic exhibits that blink, talk, move and otherwise react to visitor input. FP&L's visitor centre sports exhibits that range from computer games to energy treadmills to working models of nuclear reactors - all colour-coordinated in various shades of blue, grey and black and illuminated by track lighting, in keeping with good museum decorative standards. To further the interactive effect of its visitor centre, FP&L, during the summer of 1993, leased from the Oregon Museum of Science and Industry an entire wing of such exhibits:

> 'The 18 hands-on exhibits allow visitors to view life-like holograms, split white light into a rainbow of colors, bend a laser beam on the laser interaction table and discover the physics of reflection.' (FP&L, FP&L Energy News, May 1993, p.3)

The overall effect of FP&L's visitor centre is that of a high-tech fun house or penny arcade. While this may be the principal forum of public discourse that FP&L wanted in order to communicate its message directly to key publics, it also is show business and corporate theatre par excellence.

But underlying all the 'fun' are several serious key messages which FP&L hopes to convey to visitors. Among the many exhibits are three which expressly communicate the company's 'greenness'. The first exhibit, 'From Swamps to Sea Turtles', explains that the St. Lucie nuclear station is:

> 'home to more than 180 species of birds and mammals. That's because FP&L operates its power plants in partnership with the environment. FP&L meets strict air and water quality standards and takes extra steps to protect the natural habitat.'

The exhibit features photos and diagrams of several endangered species living in the area - the brown pelican, loggerhead sea turtle and manatees which 'frequent the waters surrounding several FP&L power plants to bask in the warmth of the plant's discharge water'.

Two new exhibits - added in November 1991 - further promote nuclear energy as an 'environmentally-friendly' energy source ('the environmentally acceptable answer to meet future energy needs'), and FP&L's environmental programmes, such as the 'turtle walks' company volunteers conduct on adjacent beaches for the public to see loggerhead, green and leatherback sea turtles lay their eggs during the summer months.

A visitor's guide booklet to the centre emphasises FP&L's efforts in 'safeguarding nature's future', maintaining that the company 'has taken steps to ensure and promote an ecological balance for posterity.. {including} surveys

which confirm that the plant is having no adverse effects on sea turtles' (FP&L, Welcome to the St. Lucie Power Plant, p.6). A full array of FP&L nature booklets also are available at the centre's main desk; each booklet focuses on a particular endangered species in the area and describes how FP&L is working in conjunction with various environmental organisations to 'safeguard' the creature.

Other exhibits communicate that nuclear power is 'safe', 'clean', 'reliable', 'practical', and 'cheap'. Specific displays on the station's operation, nuclear radiation, waste disposal, alternative energy sources and costs promote the benefits of nuclear power.

As an added attraction at the centre - and as a means to further communicate pro-nuclear messages - FP&L presents multi-image videos and other 'educational' programmes on various energy-related topics in a 70-seat auditorium equipped with state-of-the-art audiovisual systems. To accommodate visitors, bus parking, restroom facilities and sheltered picnic tables (which can be reserved for lunches) are available.

The advocational campaign and two visitor centres of SNL - at Hunterston and Torness - represent an evolution of the efforts by BNFL and AEA to reach key publics with pro-nuclear messages in an 'educational', 'fun' manner. Moreover, the Hunterston centre, which opened nearly a year after the one at Torness, is a further refinement in design and content on its predecessor. In keeping with the operation of Sellafield, SNL's visitor centres are open to the public daily all year.

As with FP&L's visitor centre at St. Lucie, the centre at Torness was planned as part of the original design of the power station; nevertheless, it is a free-standing facility, whereas the St. Lucie centre is incorporated within the station itself. In keeping with the 'museum-look' of other centres, Torness contains a variety of exhibits with diagrams, photographs and models illustrating both the station and nuclear power. While some of the displays have audio-visual presentations of material, there are fewer of these than at St. Lucie. Similarly, there are several interactive displays at Torness - an energy bicycle, a geiger counter 'hunt' for radioactivity exhibit, and a third display where visitors can push buttons to see how safety systems 'prevent' nuclear accidents - but, again, such displays are not as numerous as at St. Lucie. Also colour-coordinated in shades of blue, grey and black and illuminated by track lighting, the centre conveys the museum-like appearance of FP&L's facility.

In contrast, the newer centre at Hunterston, also a purpose-built facility, incorporates many more high-tech, hands-on exhibits than Torness. Visitors can ride an energy bike, walk into a simulated nuclear reactor, and use interactive computers to access various nuclear information displays. Hunterston also has an array of passive exhibits on nuclear power similar to those at Torness. While identical to Torness in its interior lighting and colour-scheme,

Hunterston projects a more 'fun' atmosphere, given its many interactive exhibits.

The visitor centre programme of SNL in comparison to that of FP&L has several additional promotional dimensions which, while distinctive to visitor centres in Britain, also represent a progression in pro-active campaigning. In inviting the public to 'Come & See', SNL has provided a convenient way for individuals and groups to do so free of charge. The company has commissioned several 41-seat luxury coaches - 'the key to the programme', according to SNL - to transport visitors to both of its visitor centres. Sporting the red and blue corporate SNL logo and a large blue and red sign on both sides, 'Scottish Nuclear Come & See', the white coaches give an impression of being a Union Jack on wheels, which is to say the programme is conservative, patriotic and, of course, very Establishment. These 'nuclear buses', as SNL describes them, collect passengers at various points throughout Scotland - either at public locations such as Waverley Bridge in Edinburgh or Queen Street Station in Glasgow or at a group's respective location (ie. a school or college) - and convey them return to the visitor centres. En route, passengers are shown a 10-minute video about SNL and the particular power station they will visit and are served coffee, tea and biscuits. Upon arrival at the visitor centre, visitors are ushered into an auditorium to view a 20-minute film about SNL, nuclear power and the station. The overall effect is of a pleasant day trip to a local tourist attraction, much like an outing with a travel excursion agency to visit Hampton Court or Kew Gardens outside London.

Groups or individuals may reserve a coach by telephoning a central Freephone number; each visitor centre also has its own Freephone number for visitors needing more information on the centre to call. SNL public relations staff schedule the bookings for each coach.

In addition to receiving a tour of the visitor centre, groups also are escorted through selected areas of the power station to view the turbine hall, the reactors and the control room. In each viewing area passive displays provide information on the particular aspect of the station in question. The guides who conduct the station tours, as well as the couriers who accompany visitors on the coaches, are either SNL employees or family members of employees. Interestingly, all are women, and are smartly dressed in dark blue blazers and skirts, one of SNL's corporate colours.

As with the presentation of nuclear information at FP&L's St. Lucie centre, SNL strives to create an 'educational' yet 'fun' atmosphere in its visitor centres (albeit with less theatrics than FP&L). Similarly, the messages which SNL endeavours to communicate reflect - and also try to allay - the serious concerns of its key publics, as previously noted. Such messages are incorporated in the full array of visitor centre promotional material, from the video and film presentations to the displays and a companion guide booklet on the particular nuclear power station. It is also not surprising, given the networking of

intelligence within the nuclear industry globally, that SNL's messages are similar, and in several cases identical, to those of FP&L.

SNL addresses the issue of safety, as does FP&L, by emphasising the company's attention to such concerns at every step in the nuclear process. As the narrator of the coach video notes, 'safety supersedes all other considerations', and again at the conclusion, 'It is a tried and true technology... AGRs are inherently safe'. To further comfort the faint-hearted, SNL employees reassure viewers of the safety of the station for workers and the public alike, repeating the corporate motto throughout the video, 'Quality, Safety and Excellence'. All of the company employees shown in the video, of course, are smartly dressed, either in conservative business attire or in immaculate white lab coats, exuding an air of confidence in their appearance and stage presence as well as in their comments; moreover, many are young adults, which further conveys a sense of youthful optimism for the future. Public concerns over safety, as the video's narrator points out, have been planted by 'anti-nuclear activists seeking publicity... The nuclear industry has been much maligned'. Indeed, as the film at the visitor centre reiterates, such 'scare stories' are 'myths', inasmuch as nuclear stations like Torness are 'much like a big kettle' and not to be feared. Certainly, anyone who is sceptical, says SNL, should visit the stations, 'become knowledgeable... and see that there is nothing to be afraid of'. An 'open door' with 'no secrecy' awaits, says SNL - 'we have nothing to hide'. The film notes 'the extensive training of the staff' at the station, the 'minimal' amounts of radiation released - 'the prescribed limits have never been reached' - and 'the safe transport to Sellafield' of flasks filled with nuclear waste. To further convey a sense of calm, SNL has scored its film and video discussions of safety with confident, stately music, much in the style of a Sir Edward Elgar. The measured, upbeat pace of the corporate melodies, together with the employee testimonials, communicate the impression to the viewer that all indeed is well and under control, as SNL moves assuredly forward into the future. Displays at the centre also echo such soothing messages, including one on the decommissioning of Hunterston 'A' which, says SNL, is proceeding smoothly and on schedule.

Other displays - as well as the video and film - convey that nuclear power is 'necessary', 'reliable', 'efficient' and 'good'.

But it is SNL's 'eco-nuclear' message that is the predominant theme of the centre, much as it is at FP&L's St. Lucie facility. Both the coach video and the film at the visitor centre begin with SNL's 'green' message. Each laments that fossil fuels are 'polluting our world' and 'harming the environment' by emitting carbon dioxide and sulphur. 'We need to be a good neighbour to the world', comments the narrator in the coach video; hence, we need nuclear power which is 'environmentally-friendly'.

The visitor centre displays and the companion guide booklet emphasise the 'eco-nuclear' message in a variety of ways. One display explains:

'A coal-fired power station generating the same amount of electricity as a 1364 megawatt nuclear station like Torness will also contribute over 7 million tonnes of the "greenhouse gas" carbon dioxide to the atmosphere. Burning oil as fuel will produce over 5.6 million tonnes of CO2, while natural gas will create about 4 million tonnes.'

Another display on nuclear power's impact upon the environment concludes that 'a nuclear power station produces none of the gases which contribute to acid rain'. And, as yet another display notes concerning the economics of nuclear power, 'Its case will be assisted as competing fossil fuels absorb the financial impact of the plant improvements needed to meet growing concern over global warming'.

Both the booklet and the visitor centre film conclude with the 'eco-nuclear' message. The booklet argues nuclear energy's 'small impact on the environment' and cites public concern for 'the greenhouse effect, which is increasingly being seen as the greatest global threat facing mankind' (SNL, Torness Power Station, p.14). The film closes with a parting shot of SNL's nuclear power station framed in the foreground by a field of green grass and flowers. Appropriately pastoral music, buoyant yet serene and reminiscent of Beethoven's Sixth Symphony, swells up to complement the final frames in a crescendo of 'green' audio-visual communication.

To further emphasise the 'greenness' of the Torness station, SNL constructed a coastal walkway along the station's seawall. The walkway follows the beach and forms part of the coast path, which is planned to extend the full length of the East Lothian shoreline. Information panels at fixed intervals along the walkway provide details about the surrounding coast, wildlife and the Torness station. The area is particularly rich in birdlife, and SNL has prepared for visitors a brochure, explaining the types of sea birds and marine life which may be seen from the walkway.

Both SNL and FP&L are using their visitor centres as a strategic communication vehicle in their campaign to 'present the case for nuclear power' to various key publics. As has been noted, certain audiences have been targeted by both companies for 'individual contact'. While specific audiences vary, generally FP&L and SNL are pro-actively approaching government officials, the media, business and community leaders and other 'influentials', educators and school groups and the general public.

(iii) Government as Key Public and Co-Presenter

Given the importance of the U.K. Government to SNL as a public - particularly in the light of the impending government review of the nuclear

industry in 1994 - one would expect the company to target key government officials with its advocational campaign. However, while SNL has indeed invited such officials to tour its visitor centres and nuclear stations, evidence seems to suggest that senior government officials already are pro-nuclear and that such visits are not intended to persuade the government to embrace nuclear power beyond 1994 so much as they are intended to further consolidate the industry-government alliance. Given the history of industry-government relations in Britain, such a continuing partnership and the positive effects the liaison seems to be having on national policy are hardly surprising.

With the 1994 review in sight, moreover, it may be argued that the government wants and needs the nuclear industry to be successful in its advocational efforts. SNL Chairman James Hann has said that:

> 'It is a clear and stated objective of Scottish Nuclear and our colleagues throughout the industry to create the correct climate for decisions which are best for the country.'(SNL, SNL 1990/91Annual Report, p.8)

Peter Mackay, Permanent Secretary of the Scottish Office Industry Department, has suggested that the 'correct climate' the government needs in order to make a pro-nuclear 'decision' is one of positive public opinion:

> 'While economics will play a major part in that review, public attitudes towards the industry will also be important. That is why this visitor programme is so important.' (SNL, 'They Came and Saw', Scottish Nuclear News, June 1991, p.4)

Allan Stewart MP, Scottish Office Industry Minister (to whom SNL is directly responsible), arguing in favour of the visitor centre programme at the opening of SNL's Hunterston visitor centre in April 1992, sympathetically sounded a clear call to nuclear proponents:

> 'The industry must get across the facts to ordinary people. There are a lot of fears not based on fact. There is disinformation from other people.' (SNL, 'Wheels of Industry', Scottish Nuclear News, June 1992, p.5)

It would appear that the government not only remains pro-nuclear, but is hoping that, through the visitor centre advocational campaign, SNL will be able to create a positive climate of public opinion so that a decision favourable to the nuclear industry can be easily made with few negative political consequences. Indeed, SNL Public Relations Manager Dick Marshall, in

addressing senior management, underscored such a strategy:

> 'the industry must be seen to have improved its public image if we are to win the Government's support and look forward to a developing future for the industry.' (Marshall, Improving the Image of Nuclear Power, 11th May 1991, p.2)

Throughout its brief history, SNL, and its predecessor, the SSEB (South of Scotland Electricity Board), have enjoyed the support of the U.K. Government. HM Queen Elizabeth, the Queen Mother, formally opened the Hunterston 'A' nuclear station in September 1964 and, in March 1990, sent a note on the occasion of the decommissioning of the station, congratulating SNL's staff for their 'splendid service to Scotland and to the United Kingdom' (SNL, 'Royal Message', Scottish Nuclear News, June 1990, p.3). HM Queen Elizabeth opened SNL's new Yard Headquarters in Glasgow in March 1991. Prime Minister Margaret Thatcher, in turn, performed the official opening ceremony for the Torness station in May 1989. Less than a year later, upon the launch of SNL as a new company in March 1990, the Rt. Hon. Malcolm Rifkind, the then Secretary of State for Scotland, sent a special congratulatory message to SNL staff, expressing his support for the company and nuclear power.

While such gestures may be dismissed as little more than required ceremonial protocol, it is interesting to note that on 27 June 1991, in SNL's 1990/91 Annual Report, SNL Chairman Hann happily reported:

> 'We have identified where we want to go in the next decade and how to get there and our plans enjoy the support of our shareholder, the Secretary of State for Scotland.' (SNL, SNL 1990/91 Annual Report, p.3)

Just prior to that, on 25 March 1991, the U.K. Government, together with the governments of France, Germany and Belgium, issued a joint declaration extolling 'the substantial contribution nuclear power makes to diversity and security of European energy supplies'. The governments also recognised 'the environmental benefits of nuclear power' and 'the role it can play in helping to stabilise carbon dioxide emissions' (SNL, 'Nations Agree', Scottish Nuclear News, April 1991. p.3). Clearly, the nuclear industry in each country not only had the support of its respective government, but also had managed to convert officials into becoming outright spokespersons for the industry's 'green' promotional messages.

The U.K. Government soon underscored its pro-nuclear position - and the new 'eco-nuclear' theme - in a variety of forums, even as SNL was preparing its visitor centre programme (with its 'green' messages) for launch. In

answer to a Parliamentary Question, the then Energy Secretary John Wakeham said:

> 'Britain would emit around 15 1/2 million tonnes more carbon if the electricity currently provided by existing nuclear power stations were to be generated by coal, increasing total UK emissions by nearly 10 percent.' (SNL, 'Nations Agree', Scottish Nuclear News, April 1991, p.3)

Wakeham earlier had endorsed nuclear power as an 'environmentally-friendly' energy source at an address at on 2 February 1991. His remarks subsequently formed the basis for a booklet, Energy: Looking to the Future, released publicly on 1 May 1991. In the booklet, Wakeham strongly states the 'eco-nuclear' case:

> 'Nuclear power also has the very considerable environmental advantage that it is the only established technology for baseload power stations which emits no greenhouse gases... For similar reasons, I cannot easily conceive of the world being able to meet the anticipated rise in future energy demand without adding to global warming in the absence of a continued contribution from nuclear power... In the present circumstances, nuclear energy clearly remains an important environmental insurance for the future of this planet.' (Wakeham, Energy: Looking to the Future, 1 May 1991, pp.3-10)

SNL and the British nuclear industry were quick to report the Government's support. SNL included an article on the joint governments' declaration in the May 1991 issue of its Torness Bulletin, a quarterly publication which is mailed to all addresses in communities within a 20 kilometre radius of Torness. SNL also obtained copies of Wakeham's booklet, offering them to employees, and reported his remarks in the June 1991 issue of the company's employee newspaper. The UKAEA also reported excerpts from Wakeham's booklet in the July/August 1991 issue of its magazine, Atom, which is distributed within the industry, to the business and financial community, schools, universities, members of Parliament and selected members of the public. Atom also reported in the same issue the keynote remarks of Energy Minister David Heathcoat-Amory who, in addressing an annual conference of BNFL, echoed the pro-nuclear sentiments of Wakeham ('Minister Exorts Industry to Focus On Making Nuclear Economic', Atom, July/August 1991, p.4).

Just prior to the official launch of its visitor centre programme on 15 May 1991, SNL Chairman Hann hosted visits to the Hunterston nuclear station and visitor centre by Allan Stewart MP on 28 March and by A. Rosling, who was

representing Prime Minister Thatcher's Policy Unit, on 4 April. SNL reported the visit by Stewart in its June 1991 Hunterston Bulletin (the counterpart of the Torness publication, which together have a combined circulation of 452,000), noting that Stewart 'was very pleased with the company's new policy of increased openness' (SNL, 'Minister Meets Board', Hunterston Bulletin, June 1991, p.2).

SNL also reported the visits by Stewart and Rosling in its 16 April 1991 issue of News Hunterston, a newsletter distributed fortnightly to local and Scottish newspapers and broadcasting organisations, libraries and community centres and to all members of the nuclear station's Local Liaison Committee which includes councillors and officials from District and Regional Councils, government agricultural and industry departments, local health boards, senior police and fire officers. At the launch of its 'Come & See' programme, SNL prevailed upon Mackay, Permanent Secretary of the Scottish Office Industry Department, to officially open the visitor centre at Torness. SNL reported the opening in its newsletter for both Hunterston and Torness and in the June 1991 issue of its Hunterston Bulletin, including in the latter excerpts from Mackay's remarks:

> 'In Scotland, we are proud of the performance of our nuclear power industry. I am sure it will continue for many years to provide a significant proportion of the electricity which Scottish customers need, day in and day out.' (SNL, 'They Came and Saw', Hunterston Bulletin, June 1991, p.4)

If there had been any doubts about the U.K. Government's position on nuclear power, the unveiling of SNL's visitor centre at Hunterston on 30 April 1992 by Allan Stewart MP, Scottish Office Industry Minister, surely dispelled all such notions. In reporting the ceremony in its employee newspaper, SNL noted Stewart's support:

> ' We are very lucky in Scotland in having a third of our electricity generated by nuclear stations... I think Scottish Nuclear are doing a tremendous job.' (SNL, 'Wheels of Industry', Scottish Nuclear News, June 1992, p.5)

SNL duly reported the unveiling by Stewart in a press release on the launch and in the May 1992 issue of its Hunterston Bulletin. The company also noted in both that, 'Visitors can... learn... how nuclear power is one of the most environmentally-friendly ways of generating electricity' (SNL, 'New Visitor Centre Opens', Hunterston Bulletin, May 1992, p.1)

(iv) Influentials as Promotion

In showcasing such visits by senior government officials in its corporate publicity, SNL is essentially using such officials as celebrity endorsements to promote its nuclear product to key publics and to the general public. The visits by Stewart, Mackay and Members of Parliament, then, are none other than advertisements which SNL is quick to circulate to opinion leaders, the general community and the media via company newsletters, bulletins, and press releases in an attempt to attract customers.

The use of one key public to influence others is a promotional tactic most commonly used, of course, in commercial advertising with its celebrity endorsements and testimonials; however, such methods of persuasion also are often used by organisations, such as SNL and FP&L, in a non-commercial sense. For example, as noted previously, Mobil Oil, in launching its advocacy campaign to communicate pro-industry messages to selected publics and to the general public, focused its efforts initially and primarily upon influencing various opinion leaders in government, industry, education, the sciences and the media. As Mobil gained converts in a particular circle of decision-makers, it used such 'endorsements' to leverage support in yet other circles and in the public at large through 'those who influence thought in their communities' (Schmertz, 1983:18).

In his 'Concentric Circle Theory', public opinion analyst Elmo Roper conceptualised the method used by Mobil and others as a process that moved forward from a centre of 'Great Thinkers' (Einstein, Adam Smith) to 'Great Disciples' (Oppenheimer, Lincoln), 'Great Disseminators' (national figures in politics, media and industry), 'Lesser Disseminators' (local editors, educators, clergy, union leaders), 'Politically Active' (civic leaders), and, finally, to the 'Politically Inert' (popular majority) (Roper, 1954).

According to Roper, a company could influence the members of any one particular circle - who would, in turn, influence others in their circle and those in the next adjoining circle - by directing 'a message... {to the immediate target group} in a medium they understand and respect' (Roper, 1954:31). While Roper contends that such messages can be communicated via quality or 'class media', he also observes that the 'interaction of neighbor upon neighbor' often serves to disseminate ideas throughout society 'without any apparent influence of' the mass media (Roper, 1954:25). The best approach, concludes Roper, would be to use influentials 'respected by the particular target group' in a mix of interpersonal and mass-mediated communication (Roper, 1954:32). That SNL should use government officials as promotional 'endorsements' in corporate publicity and in its visitor centres in an attempt to persuade other key publics is a classic application of the concentric circle theory of public opinion formulation.

However, while SNL may enjoy the support of the U.K. Government - indeed, the company rates the Conservative Party's position on nuclear power

as 'very positive' and describes its working relationship with the Party as 'productive' - it recognises that other political parties are not as enthusiastic in their support. Indeed, SNL characterises the position on nuclear power of both the Scottish National Party and the Liberal Democrat Party as 'somewhat negative' and that of the Green Party as 'very negative'. Moreover, SNL describes its working relationship with all three parties as 'adversarial'. While SNL considers the Labour Party to be in the middle on the issue (neither 'very or somewhat' positive nor 'negative') SNL Public and Community Affairs Officer Jill Kent feels, that 'most Scots are Labour and more anti-nuclear than Conservatives' (Interview, 17th June 1992). As for its working relationship with Labour, SNL describes it as 'educational'.

In an attempt to persuade political opponents, and achieve what SNL Public Relations Manager Dick Marshall describes as 'political control', SNL has been making 'constant offers of visits and talks... in relaxed, hospitable environments... dinner, etc.' to key Members of Parliament (Tilson, 1992). According to Marshall, this has meant 'targeting the shadow Cabinet... mostly Labour and Scots', and approaching MPs who represent energy matters as well as those who represent the constituencies surrounding both Torness and Hunterston (Interview, 27th June 1991). It is not surprising, then, that visitors to Torness have included John McAllion MP (Labour member of the House of Commons Select Committee on Energy), John Home Robertson MP (Labour MP for East Lothian), while at Hunterston SNL has hosted David Crossan (Scottish National Party prospective parliamentary candidate for Cunninghame North), Brian Wilson MP (Labour MP for Cunninghame North), Adam Ingram MP (Labour MP for East Kilbride and Parliamentary Private Secretary to the then Party Leader Neil Kinnock), and Allan Stewart MP (Conservative MP for Eastwood and Scottish Office Minister for Industry). Such visits, usually hosted by SNL Chairman Hann, Marshall and the respective station manager, have been reported in the bulletin and the newsletter for each station as well as in SNL's employee newspaper. More important, the visits are not without their effect. SNL Public and Community Affairs Officer Jill Kent describes both MPs from the Hunterston area (Cunninghame North and South) as 'pro-nuclear', and, after his tour of Torness, McAllion reportedly said:

> '(he) found his visit very interesting, particularly because of the important place which Torness plays in Scotland's economy.' (SNL, 'MP Sees Safety System', Scottish Nuclear News, September 1990, p.1)

To reach the majority of MPs, as well as Trade Union representatives, however, SNL officials attend each Party's annual conference, where they host a

company stand in the exhibition area. At the conferences, company executives meet with and make arrangements for MPs to visit SNL's nuclear stations. For example, at the Scottish Labour Party conference in March 1991, SNL officials arranged tours of the stations for local MPs and met several key Labour leaders. Later, in a quarterly Public Relations Department report, SNL Public Relations Manager Marshall described the conference as 'extremely successful' (SNL, PR Quarterly Report, 23rd May 1991, p.2).

SNL also is using its 'Come & See' approach to reach key members of the European Parliament. According to Marshall, the company regularly requests the director of the FORATOM office for assistance in inviting MEPs to tour SNL nuclear stations. Also among its 'targets' are members of the EC's Energy Office (Interview, 20th June 1991).

Lastly, SNL endeavours to maintain 'an ongoing constructive dialogue' with District and Regional councillors and with officials from various local government departments. As mentioned previously, both Torness and Hunterston nuclear stations have respective Local Liaison Committees with official representatives of the community serving in an advisory role to SNL. Each committee meets twice annually to review station operations and to be briefed by SNL executives. Committee members also receive copies of SNL's Bulletin for the station and SNL's fortnightly newsletter. Committee meetings are reported in both publications for the benefit of a wider circle of key SNL publics.

While SNL considers local regional government to be 'adversarial' - indeed, 'most local councillors are anti-anything', according to Kent (Interview, 17th June 1991) - visits to the company's nuclear stations can have a calming effect on such relations. For example, in January 1991, representatives from Cunninghame District Council visited the Hunterston nuclear station and met SNL officials to discuss an aerial survey prepared for the council by the Scottish Universities Research and Reactor Centre. Survey results had detected radiation levels in the air above a precipitator tower at the station. Councillors 'had expressed concerns' about the radiation, but SNL officials 'ensured that the radiation doses were not in excess of those permitted by Government legislation'. As SNL's Hunterston Bulletin observed:

> 'Following the meeting, the council representatives noted that there is no hazard to either the public or station staff from the precipitator tower.' (SNL, 'Councillors Discuss Survey Report', Hunterston Bulletin, March 1991, p.3)

FP&L, similarly, has used its visitor centre at St. Lucie as a forum in which to tell its corporate story to key government officials at the local, state and national level. FP&L Nuclear Information Supervisor Tom Veenstra explains that 'lobbying activities, VIP plant tours and meetings' are among the 'most effective

methods in communicating' the company's message to political leaders (Tilson, 1992).

Among FP&L's staunchest supporters is U.S. Senator Bob Graham (Democrat-Florida). Graham was among the political elite invited to tour the St. Lucie visitor centre in November 1990, just prior to its official opening in January 1991. Graham not only visited the nuclear station but spent time 'working' at the site, as it has become his political trademark in visiting construction areas, offices and other locations. As has been noted earlier, Graham not only is favourably disposed to nuclear power but also chairs the Senate Subcommittee on Nuclear Regulation.

In planning its grand opening at the visitor centre, FP&L invited a bevy of national and state legislators, such as Graham, as well as county and city government officials. More than 100 such leaders attended the unveiling ceremonies, hosted by the company's president and CEO and vice president of nuclear operations. Since the opening, 'many local and state representatives, county commissioners and mayors have visited' the centre, according to FP&L's Nuclear Information Supervisor Veenstra, at the company's invitation '(Interview, 14th August 1991). Such visits also have included representatives from the Nuclear Regulatory Commission in Washington, D.C. As the national agency directly responsible for overseeing FP&L's nuclear operations, it is, of course, in the company's best interests to maintain a good working relationship with the NRC and also to demonstrate its efforts to foster public understanding of and enlist support for nuclear power. Inasmuch as the NRC endorses the use of visitor centres by utilities, it would be particularly gratifying for NRC officials to be invited to tour such a centre, not to mention it being a politically astute manoeuvre on the part of FP&L.

(v) Business and Community Groups as Strategic Audiences

Both FP&L and SNL also are using the personal approach in communicating with other influentials in industry and the community. In promoting the launch of its visitor centre, FP&L Public Relations provided local Chambers of Commerce with brochures and other literature on the centre which the Chambers, in turn, distributed to area business leaders. A number of local Chamber members also were invited to the centre's unveiling as were other community leaders. Similarly, FP&L has sent direct mail invitations to tour the facility and/or to request a company representative to address a meeting of the group to community organisations within the tri-county area surrounding the visitor centre. FP&L also offers community groups use of the auditorium in its visitor centre afterhours by appointment.

SNL also is pro-actively approaching key influentials and doing so rather successfully in terms of response. While SNL has hosted numerous other

companies in the energy industry on tours of both Torness and Hunterston - Shell UK, British Petroleum, Scottish Hydro-Electric, the Nuclear Utilities Chairmen Group, to name but a few - Chairman Hann has been expressly inviting the directors of Scotland's leading companies and business organisations not only to tour SNL's facilities but to also hold their board meetings at the nuclear stations. SNL provides hospitality (often lunch) and a company executive to brief the group and escort guests on the tour. SNL invites 12 to 15 such executives per week.

Several such companies and organisations since have accepted SNL's offer - Royal Bank of Scotland, United Distillers, British Petroleum, Scottish Enterprise, East Kilbride Development Corporation and Insider Publications, for example - a fact which SNL keenly publicises in its media releases, its quarterly Bulletin and Newsletter for each nuclear station (the Bulletin is mailed to all businesses in the respective area), and in such industry publications as The Nuclear Engineer. Perhaps the most positive publicity to date on SNL's invitation scheme has come as a result of a visit to Torness by Alastair Balfour, publishing director of Scottish Business Insider magazine, and his Board of Directors in June 1991. The group came to the station at the invitation of Hann, held their meeting onsite, enjoyed a courtesy lunch and a presentation from the station's management and toured the facility. The scheme was later promoted in the August issue of the magazine.

Balfour also wrote a glowing article on his visit in the Glasgow Herald. As he noted in the article:

> 'Torness nuclear power station... It's the only place to hold your board meetings these days... this is an industry that deserves to be better understood in Scotland... The fact that business people can now spend a day in a nuclear power station, with an opportunity to cross-examine its managers, reflects a sea-change in the attitude of an industry previously characterised by aloofness.' ('Nearest Thing to the Legendary Free Lunch', Alastair Balfour, Glasgow Herald, 22nd June 1991, p.13)

As noted earlier, SNL compiled a master list of organisations and other audiences, including various community groups, to target with its visitor centre advocational campaign. Since the launch of 'Come & See', the company has mailed promotional literature on its programme to such groups, generating bookings and visits. According to Chairman Hann, the initial response was such that:

> 'Within a week of the launch, 120 groups comprising 3,400 people had made bookings for the coach. These groups covered the whole

spectrum of society - schools, business clubs, social organisations, leisure and youth groups, and a considerable number of parties from companies all over Scotland. Throughout the summer, bookings continued at the rate of up to 2,000 people per month.' ('Scottish Nuclear Come & See Programme', The Nuclear Engineer, July/August 1991, p.100)

In support of its plans to expand overseas and diversify into business areas other than nuclear electricity generation (ie. consulting, engineering), SNL is hosting foreign delegations of nuclear scientists, engineers and business people on tours of its visitor centres and stations. Tour groups to Hunterston have included Chinese and Danish engineers, while Ukrainian business people and members of the Czech Nuclear Power Generating Industry have visited Torness. Such tours coincide with a schedule of presentations by SNL at trade exhibitions and other business venues overseas. SNL executives, often including Public Relations Manager Dick Marshall, greet government and business conferees at a company display (often including a model of the Torness station). SNL has exhibited at such events as the European Nuclear Exhibition in Lyon, France in September 1990 (visitors included U.K. UnderSecretary of State for Energy Tony Baldry) and the World Energy Conference in Madrid in September 1992.

Also, as a consequence of such visits, as well as publicity of the 'Come & See' programme in trade publications such as Nucleonics Week, several overseas nuclear organisations interested in launching their own advocational campaigns have asked SNL for more information about its visitor centres. Moreover, SNL has made a press pack available to nuclear power proponents through NucNet, the nuclear news network of the European Nuclear Society. As noted in the 23 May 1991 issue of NucNet, the pack which contains sample news releases, pamphlets, advertisements and Hann's invitation to companies 'will provide ideas for anyone launching similar visitor programmes and other nuclear public awareness projects' ('Come & See Scottish Nuclear', NucNet, 23rd May 1991, p.91). Similarly, in its February 1991 issue, Electricity, Light & Power, a U.S. trade pubication, promoted FP&L's visitor centre as a model 'education program'.

SNL ensures it publicises such visits by community groups and foreign delegations both in its quarterly station Bulletin and in its fortnightly newsletters, again, it would seem, with the intention of demonstrating to key publics and the general public support of its operations by various 'influentials' within and without the community. As noted earlier, such figures are essentially celebrity endorsements for SNL's nuclear product, and their visits little more than promotional advertisements.

(vi) Educators and Students as Key Publics

Such publics aside, however, both FP&L and SNL have made a concerted effort to target educators and students with their visitor centre programme. As has been noted, in designing the centre, FP&L officials met with an advisory committee of Florida educators to determine how best to present display material for young audiences. With input from the educators and the Florida Department of Education, FP&L also developed a series of hands-on laboratory programmes for students, such as 'splitting' an atom or 'building' a nuclear turbine, which are presented by staff in a classroom setting in the centre's auditorium. The programmes are designed for various age levels ranging from kindergarten to grade 12.

To underscore the importance of the school audience, FP&L hosted a special pre-opening reception at the centre in the autumn of 1990 and invited educators from two of the surrounding counties - Martin and St. Lucie County - to preview the facility and also to book school tours for the remainder of the 1990-91 school year. FP&L also scheduled preview tours of the centre for area educators and their student groups in November 1990. To publicise the centre and encourage participation, the company had sent a direct mail promotional package on the centre to all public and private schools earlier in the academic year. Company speakers also promoted the centre in talks at local schools.

As a consequence of such promotion, prior to the centre's opening to the public in January 1991, more than 2,000 school and other visitors had toured the centre. Moreover, all the tour slots allocated for schools had been filled to the end of the 1990-91 school year. During the course of that academic year, some 6,000 students visited the centre. FP&L expanded its direct mail promotion for 1991-92 to schools in two other counties.

To further encourage visits by youngsters, FP&L organised a special half-day programme in November 1991 for area Boy Scouts much as was done several years earlier by Metropolitan Edison at Three-Mile Island. Some 50 Scouts toured FP&L's visitor centre and attended classes, thereby earning credit toward a Scout Atomic Energy Merit Badge.

As has been mentioned, targeting school groups for tours of its visitor centres was an integral part of SNL's 'public education' strategy. Its facilities - particularly Hunterston - were designed with young adults in mind so as to be 'fun' and 'educational'. In both its Torness Bulletin and Hunterston Bulletin, covering the launch of the 'Come & See' programme, the emphasis in the coverage by SNL clearly is upon young visitors. A front-page story about each centre is illustrated by photos of students interacting with station exhibits. With the opening of a purpose-built visitor centre at Hunterston in April 1992, SNL increased its emphasis upon the centres as 'a whole new experience' for 'children and adults alike' (SNL, SNL News Release, 30th April 1992, p.1).

SNL has pro-actively invited educators and their students to tour its visitor centres with direct mail promotional literature, as has FP&L. Numerous such school groups - ranging from primary schools to colleges - have responded to the invitations and visited the centres as a consequence.

(vii) Source-Media Relations: Controlling the Coverage

Perhaps the emphasis upon youth as a key target public was best illustrated by FP&L's pre-launch preview for area media in November 1990. FP&L carefully orchestrated its media day at the visitor centre to expressly communicate certain messages and images to the general public. FP&L invited educators and students from a local public school - Fort Pierce Elementary School - to tour the centre, pose for photos and give media interviews.

The result was positive print media coverage of the centre, depicting groups of youngsters happily interacting with various displays. Two of the local media FP&L considers as 'most important in reaching key publics in the area' - The Stuart News and The Palm Beach Post - gave the preview extensive front-page coverage, including photos, in their local news section. Both stories depicted the centre as 'fun' and 'educational', detailed the company's outreach efforts to schools and interviewed students and teachers for their reactions. As The Stuart News reported:

> 'The 50 students who toured the Energy Encounter on Thursday seemed unanimous in judging it "really cool". Both teachers... agreed the center offers a lot for students to learn and will figure every year nto their curriculum.' ('Review of Show Glowing', Michael Cheek, The Stuart News, 16th November 1990, p.1b)

FP&L credits several factors for such positive coverage. As Veenstra explained, 'We arranged for controlled coverage of our media day at the visitor centre. We selected the school and what we wanted the media to see' (Interview, 14th August 1991). 'We also usually get more positive coverage by print media than by broadcast because reporters tend to stay longer on the newspaper staffs than television. And the longer someone covers us, the more positive the coverage gets because they seem to have a better understanding about nuclear power' (Interview, 6th May 1992).

Indeed, FP&L regards coverage of its activities and the editorial policy of The St. Lucie Tribune and of the other local papers - such as The Ft. Pierce News-Tribune, Vero Beach Press Journal, Port St. Lucie News, and Jupiter Courier-Journal - as 'somewhat positive'. On the other hand, the company feels that all four local network television stations (WPBF-TV, WPTV-TV, and WFLX-TV, West Palm Beach, and WPEC-TV, Port St. Lucie) are 'somewhat negative' in

their coverage of FP&L and in their editorial policy toward nuclear power. As for local radio stations, FP&L considers the coverage and policy of most to be 'neither very negative' nor 'very positive' with the exception of two stations in the larger market of West Palm Beach - WIRK-AM ('somewhat negative') and WJNO-AM ('very negative') - and a third in the smaller market of Ft. Pierce - WIRA-AM ('somewhat negative'). Despite its 'negative' relationship with local television, FP&L does list WPEC and WPTV-TV among the top five media in importance (in terms of reaching the company's key publics in the area); however, it does not include any of the area's radio stations on its list of key media. It would seem that while FP&L may not be entirely happy with television coverage of its activities, the company may indeed recognise the importance of television as a medium in communicating with the general public, while radio is considered to be less of a factor in reaching key publics editorially.

To further 'assist the media in understanding nuclear power', FP&L has prepared a guide for journalists, Nuclear Notebook, which is a mini-encyclopedia with information on the operation of the company's nuclear power stations, nuclear physics, and government regulation. Veenstra describes the guide as 'an educational tool for reporters' which explains a complex industry in simple terms and, as such, is 'one of our most effective methods in getting positive media coverage of company activities' (Tilson, 1992).

In launching its visitor centre programme, while SNL did not purposively focus the media's attention on young adults as a key 'visitor' audience, the company did carefully stage its press preview and opening ceremony to present other key audiences and particular corporate messages.

SNL arranged a press conference - presided over by SNL Chairman Hann - at a hotel in Edinburgh on the day of the launch - 15 May 1991 - inviting radio, both BBC Scotland and Scottish Television TV news crews, and various print media. Afterward, journalists were bused on SNL's 'Come & See' coach to Torness for the opening ceremony and unveiling of the centre by Peter Mackay, Permanent Secretary of the Scottish Office Industry Department. A tour of the centre and the nuclear station followed.

In its press releases on the 'Come & See' programme, SNL emphasised two particular messages - the company's new 'open door' policy ('We are going to demystify nuclear power... We have absolutely nothing to hide') and the institution of 'Come & See' as a corporate response to public interest about the industry ('Scots want to know more about nuclear power'). To a lesser extent, the company also promoted itself as 'an important part of the Scottish economy', referred to nuclear power as an 'environmentally-friendly' solution to the problem of 'atmospheric pollution' by fossil fuels, and described trips to its centres as part of 'an experience... to see... the finest scenery and natural beauty in Scotland' (SNL, SNL News Release, 5th April 1991, p.2, and 15th May 1991, p.1).

Such messages were duly echoed by the media, with most coverage on the opening being fairly positive. The Sunday Post invited Hann to write a first-person article on the launch; in the article, Hann stressed the key messages of 'openness' and SNL as an integral part of the economy. The Edinburgh Evening News also quoted Hann who repeated both messages:

> 'Hann said the open-door policy was a bid to demystify the industry which generates half of Scotland's electricity.' ('Nuclear Plant Goes Public', Jacqui Brown, Edinburgh Evening News, 16 May 1991, p.11)

The Glasgow Herald included many of the same quotes on 'openness' as appeared in the Edinburgh Evening News which, in both instances, were taken directly from SNL's press release on the launch. The Glasgow Herald also quoted the release verbatim on the centres as 'tourist attractions' and noted SNL's concern about the environment in providing the coastal walkway at Torness and in Hann's urging nuclear power as an 'environmentally-friendly' solution 'to combat the environmental issues... such as acid rain and the "greenhouse effect"' ('Vital Moves Towards Better Understanding', Stewart Fraser, Glasgow Herald, 16th May 1991, p.19).

Two local newspapers in the Torness area, the East Lothian News and the East Lothian Courier, also provided positive coverage for SNL - the Courier repeating Hann's oft-quoted remarks on 'openness'. While both papers factually reported on Mackay's participation, doing so in the lead paragraph of each article seemed to give the opening an elevated prominence and an official seal of approval. Also, by using Mackay as a celebrity endorsement in a staged news event, SNL managed to generate a good deal of free promotional advertising in the media.

The Scotsman, while including quotes from SNL's release about 'demystifying nuclear power', instead focused on remarks by Mackay who seemingly implied that both the government and SNL desired a successful launch: '{Mackay} said a glasnost is following the decision to withdraw nuclear power stations from the Government's electricity privatisation programme and the postponement of plans for building power stations. He argued that public opinion had to be won over in preparation for the Government's planned review of nuclear power policy in 1994.' ('Pro-nuclear Push Begins With Plea for Less Secrecy', Severin Carrell, The Scotsman, 16th May 1991, p.4)

(viii) Visitor Centres and Symbolic Politics

The ceremonial opening of the centre by Mackay - and the subsequent launching of the Hunterston visitor centre by Scottish Industry Minister Allan Stewart - provided the British Government with an ideal opportunity to

symbolically reassure the general public that its best interests would be served in the upcoming review of the nuclear industry, even though a review of the history of industry-government relations dispels such a notion. As has been discussed, most political acts - and institutions for that matter - are largely symbolic and are intended to relieve popular anxieties, promote social adjustment and maintain public order (Edelman, 1964) while, at the same time, allowing government ultimately to serve certain advantaged groups rather than the mass public. In this respect, SNL's visitor centres as 'manifestly contrived... political settings' were used symbolically to express 'the intention of legitimizing a series of future acts (whose content is still unknown) and thereby maximizing the chance of acquiescence in them and of compliance with rules they embody' (Edelman, 1964:96-98). Moreover, as concerns media coverage of such acts, more often than not the media serve only to further promote the political masquerade rather than to provide balanced, insightful news reporting, as was the case with coverage of both SNL and FP&L's centre openings. In a sense, SNL's visitor centres served as stages from which government actors played their roles as watchdogs of the public will to a mediated audience.

That both Mackay and Stewart would tour SNL's centres and meet company executives - and even ride an energy bike as did Stewart - under - scores the reality of the industry-government alliance that lies beneath the surface of the political rhetoric. It could be argued, for instance, that if the government genuinely were intent on safeguarding the public interest, such officials also would have met with anti-nuclear representatives and proponents of alternative energy sources, including gas, oil and coal or, better yet, not even participated in the opening ceremonies.

It is no accident either that such a political drama should be played out to and for an audience of selected media. As Edelman observes:

> 'For most men most of the time politics is a series of pictures in the mind, placed there by television news, newspapers, magazines, and discussion. The pictures create a moving panorama taking place in a world the mass public never quite touches, yet one its members come to fear or cheer, often with passion and sometimes with action.' (Edelman, 1964:5)

The remoteness of the audience to political events, moreover, parallels the distance of the public from policy decision-making:

> 'As policy definition moves toward the allocation of tangible values... the mass public progressively disappears as a factor.'(Edelman, 1964:149)

As such, then, mediated political acts represent an ideal convergence of medium and political process. Moreover, the trend in modern government has been toward 'greater remoteness, less information, and far more contriving of impressions' (Edelman, 1964:100). Settings for political acts, as a consequence, have been designed to further distance the public by using the media as accomplices:

> 'The television screen, presenting a live performance {of a Presidential press conference}, creates not close contact but a semblance of close contact... Though the picture is in one's living room, the President is remote and in a frame, and he is patently offering a performance... his words are now unchallengeable and unchangeable. The reporters asking questions are themselves part of the setting... Instead of a channel of information, we have an instrument for influencing opinion and response.' (Edelman, 1964:101)

With SNL bussing the media to the opening of its centre at Torness and FP&L arranging for 'controlled coverage' of its centre, it would appear that media coverage of the openings gave audiences more entertainment than information and more symbols than news, leaving the public even more uninformed about nuclear power and distant from the political process.

In its quarterly report to senior management, SNL's Public Relations department noted that the press conference was 'extremely successful', having 'attracted considerable media coverage - the television companies, the daily, evening and weekly press... Both BBC and Scottish TV news programmes carried items, Radio Forth broadcast a report... the Sunday Post asked for a first-person article from the Chairman which was rewritten by the Department'. The report also noted Public Relations arranged 'interviews with the Chief Executive and filming at Hunterston for BBC Business Breakfast; Scottish TV advance filming at Hunterston for "Come and See"; interviews, etc., for the journalists writing the Herald and Scotsman "Come and See" supplements' (SNL, PR Department Quarterly Report, 23rd May 1991, pp.1-2).

Less than a week subsequent to the launch of its visitor centres programme, SNL issued a release to the media, repeating much of the information contained in its initial release but adding a new news angle:

> 'So many people want to visit the... stations... that the company are providing a second 41-seat coach to transport them. It's very clear that many, many Scots want... to see for themselves the reality of nuclear electricity.' (SNL, SNL News Release, 20th May 1991, p.1)

Again, such messages were echoed in print media coverage, most notably with the Edinburgh Evening News reporting that:

> 'Torness nuclear station is suddenly generating tourist power. Bookings are flooding in for tours of the... station.' ('Torness Interest Booming', Edinburgh Evening News, 22nd May 1991, p.8)

As with FP&L, SNL credits its positive coverage in the media to several factors, including that of 'controlled coverage'. SNL's Public Relations Manager Marshall explains that 'providing good news values' is one of the most effective methods in getting positive media coverage, and, that 'regular briefings' with 'an open and honest approach' best explain the company's 'productive relationship' with the media (Tilson, 1992).

In fact, with only a few notable exceptions (as with FP&L), Marshall describes the editorial policy toward nuclear power and coverage of company activities by most media as 'somewhat positive'; such media include The Sunday Times (Scotland), The Scotsman, East Lothian News, East Lothian Courier, Glasgow Herald, Guthrie Newspapers, S & UN Ayrshire, West Sound and Radio Clyde, BBC Scotland-TV (Glasgow and Edinburgh), and Scottish Television. Radio Forth, Scotland on Sunday and the Edinburgh Evening Times are viewed by SNL as 'somewhat negative'. At the other extreme are the Daily Record and The Sun (Scotland), both of which SNL consider to be 'very negative'. The focus of SNL's media relations is primarily upon Scottish media; broader-based U.K. media apparently are not an important part of the company's media plan. Given SNL's intentions to distinguish itself with key publics as a Scottish company (and distance itself from the rest of the U.K.'s nuclear industry), it is perhaps not surprising that corporate media efforts have taken a parochial turn.

In what perhaps marks a divergence in media strategy from FP&L, SNL ranks television as the most important medium in terms of reaching the company's key publics, followed by radio, daily newspapers and, lastly, by weekly newspapers. Judging by SNL's efforts to pro-actively arrange BBC and Scottish Television coverage of 'Come & See' activities, it seems that the company considers the medium to be more of an essential (and perhaps friendly) component in its advocational campaign than does FP&L. Again, however, such differences in the corporate regard for and approaches to the medium may reflect more the differences in the personal relationship of each company's public relations manager with certain media - as well as past experiences with said media - than a divergence in fundamental corporate philosophy toward media usage.

(ix) Advertising: Classic and Non-Traditional Uses of Paid Promotion

To ensure that the launch of its visitor centre campaign, with its various messages, was communicated to certain key publics and the public in general, both FP&L and SNL designed an advertising campaign to complement their media relations and interpersonal efforts. While FP&L used multiple media channels in its advertising mix, SNL relied solely on print media.

SNL selected a firm - Faulds Advertising Ltd. of Edinburgh - to prepare such a campaign for launch, concurrent with the announcement of the 'Come & See' programme to the media. Faulds, in fact, worked closely with SNL's Public Relations department to design the advertisements, select the media to reach target audiences, and make the advertising placements. In a 10 May 1991 report to SNL, Faulds summarised its suggested advertising schedule, dividing the placements into three separate geographical campaigns: Torness and Hunterston, Torness, and Hunterston. The campaign would cost nearly £83,000. Advertisements would be placed at the launch of the programme and continue until the end of September (Faulds, Scottish Nuclear Visitors Campaign: Revised Buying Summary and Booked Schedule, 10th May 1991).

An advertising feature or advertorial and four different print ads were designed for the general campaign with variations on each according to geographical placement. The ads purposely communicate key SNL messages of 'openness', nuclear power as an important part of Scotland's economy, and SNL visitor centres as tourist attractions, while the advertising feature proclaims nuclear power as being 'safe, clean, reliable, environmentally-friendly and abundant'.

Two four-column ads feature a photo of the 'Come & See' coach along with a map of the appropriate nuclear station (the combined Torness and Hunterston campaign ads feature a map of each station) under one of two different headlines - 'How do you catch a bus run by nuclear power?' and 'Before you take a stand, take a seat'. The ads promise 'individuals, families and organised parties' an 'inside look' at nuclear power. Two Freephone numbers are offered for the public to call to arrange either an individual or a group visit via 'a free luxury coach'. The other two ads, as they are only two-columns in width, do not feature a graphic of the bus; only one includes a map of the appropriate station.

Visually, the main focus of the ads is the 'Come & See' coach, which is understandable, given that the major thrust of the initial advertising campaign is SNL's open invitation to the public to visit its stations and, particularly, to offer groups the free use of its coach in doing so.

As an expanded editorial supplement to these ads, SNL also prepared a full-page 'advertisement feature'. The feature section included three separate

articles - one, a brief profile of SNL; a second, on SNL's 'First class safety record' and future technologies of pressurised water reactors; and, a third, lead article which explains that 'concerns about the health and environmental impacts of nuclear power', waste and radiation stem 'mostly from misunderstandings' that 'have to be clarified and resolved' through SNL's 'new programme... aimed at increasing public awareness of the facts about the industry'. Two black and white photos complement the articles - the first depicts the Hunterston nuclear power station in a frontal aerial view with 'the scenic beauty of the Firth of Clyde' in the background; the other photo is an artist's rendering of SNL's new corporate headquarters in East Kilbride. The photos suggest a company that is not only safe and reputable but one that is growing solidly towards the future.

SNL also sounds its 'green' call to arms in the lead article:

> 'We cannot ignore the warnings of the many scientists who say that mankind is disturbing the natural balance of the environment. We simply must protect it, and the energy sector is the major source of acid rain and greenhouse gases because we continue to burn ever-increasing quantities of fossil fuels. Nuclear generation is clean, and its use will help with this problem.'

In selecting media placements and allocating its advertising monies, SNL made particular note of the results of its quantitative survey conducted by Market Research Scotland in March 1991. As discussed previously, survey research indicated newspapers as an important source for respondents of information about nuclear power and SNL, with the Daily Record, the Sunday Mail, and The Sunday Post topping the readership list at 60, 50 and 39 percent respectively. Accordingly, SNL ran its first advertisement on its 'Come & See' programme in the Daily Record on 15 May 1991 and allocated more than one-third of the monies for its combined Torness and Hunterston ad campaign to placements in the Record. The other third of such expenditures was targeted for the Sunday Mail.

SNL also targeted the other leading circulation papers of Glasgow and Edinburgh for its advertising campaign, allocating The Scotsman nearly half and the Edinburgh Evening Times about one-third of the monies for its Torness campaign while the Glasgow Herald received one-half and the Glasgow Evening Times more than one-third of the ad monies for the Hunterston campaign. In recognition, perhaps, of the Herald and The Scotsman as quality papers read by opinion leaders in Scotland, SNL, moreover, on the morning of the day following its announcement of the 'Come & See' programme to the media, placed its full-page advertorial in both papers, with the company's series of four ads soon to follow in each. As the ad campaign unfolded, SNL Public

Relations began monitoring the success of its placements through the number of bookings for the coach, visits to the stations and other direct public contact with the company.

In contrast to the SNL campaign, while FP&L placed advertising in a variety of traditional media, such as radio, newspapers and magazines, the company also included some use of non-traditional promotional placement such as outdoor billboards, hotel front desk literature racks, and tourist information centres in its campaign. In selecting its advertising mix and placements, FP&L decided to run its heaviest concentration of print and radio advertisements in the tri-county area immediately surrounding its St. Lucie visitor centre, and to use radio rather than newspapers primarily as its media advertising vehicle. Given that FP&L does not consider radio as among the media most important to use in terms of reaching its key publics, the company's emphasis upon radio as an advertising medium in this respect is curious. It may be, however, that, editorially, FP&L values newspapers and television more than radio inasmuch as they have fully staffed news operations, whereas most area radio stations either have small news staffs or none at all. That, however, does not necessarily diminish radio's value as a communication vehicle, particularly in a tri-county area where most residents spend a great deal of commuting time in their vehicles. As FP&L's Veenstra explained:

> 'We wanted local residents to come to our centre so we used local radio. We felt radio gave us the biggest bang for our buck especially since we had a limited advertising budget. As it turned out later, most visitors had heard our radio spots.' (Interview, 24th January 1992)

A company report on FP&L's advertising budget indicated 'start-up advertising represented 28 percent of the 1991 campaign budget' (which was $260,000) ('Nurturing the Nuclear Option', Public Relations Society of America 1992 Silver Anvil Winners, p.10). As such, the budget represents less than half that of SNL and is a relatively small budget for South Florida, which is an expensive media market. As Veenstra explained, 'We didn't place radio ads south of St. Lucie {West Palm Beach market} because we just couldn't afford it' (Interview, 24th January 1992). FP&L, however, did place ads in The Palm Beach Post, a large circulation newspaper south of St. Lucie; it should be noted that the company ranks the paper as the second most important medium in the area for reaching key FP&L publics. Later in the campaign, when ad placements in newspapers in the Melbourne area north of St. Lucie proved ineffective in attracting visitors to the centre, FP&L redirected those advertising monies into newspapers, including the Post, in the north Palm Beach area. FP&L also placed print ads in The Stuart News, which the company considers the most important medium in the area for reaching its publics. The company, however, did not run

commercials on television, including two local stations considered key media in reaching publics, as such placements would have been cost prohibitive, given a limited advertising budget.

FP&L supplemented its traditional advertising campaign with non-traditional placements designed particularly to publicise its visitor centre to Florida tourists, one of the company's key publics. Initially, FP&L advertised on highway billboards to the north in Ft. Pierce and to the south of its centre in Stuart and on billboards situated alongside the state's turnpike which runs through the centre of north central Florida and then follows the southeastern coast to Miami. Visitor exit surveys at FP&L's visitor centre indicated that tourists from the Orlando and Melbourne areas indeed had seen the billboards, while the more locally placed signs had not attracted visitors. As a consequence, FP&L later cancelled its local billboard advertising.

To further attract tourists, FP&L placed a promotional brochure on its centre in tourist information racks at eight service plazas on the state's turnpike and in tourist racks in local area motels and hotels. Exit surveys at the centre indicated that visitors had seen the brochure. FP&L also placed advertisements and advertising feature stories in an area tourist magazine, Out and About. The magazine, which FP&L considers to be 'very positive' in its coverage of company activities, is available free of charge to guests in area motels, hotels and selected restaurants.

In keeping with the design of its visitor centre as a 'fun' and 'educational' experience for families, and especially young adults, FP&L's print advertisements reflect just such a focus. Under a banner headline, 'It takes a rare bird to teach kids about energy', Hutch, attired in his pirate coat and hat and sporting a sword, waves a magic wand. The ad's copy, appropriately upbeat, invites readers to 'explore the wonders of energy... There's even a treasure hunt to challenge your imagination.'

While the advertising feature also portrays the 'fun' atmosphere of the centre, it also included several other key corporate messages on nuclear power as an energy source that 'works in partnership with the environment' and one which 'assures a supply of dependable energy for the future' ('Attractions', Out and About, 1991, p.15).

Following the opening of its visitor centre on 28 January 1991, FP&L ran an article about the centre in its February newsletter which is enclosed with customer bills statewide. The article, with a graphic of a smiling Hutch above a colour photo of a mother walking on the centre's energy treadmill, while her husband and elementary-age son look on happily, echoes the same corporate messages of 'fun' and 'excitement' (FP&L, 'Explore FP&L's Energy Encounter', FP&L Energy News, February 1991, p.2).

The opening of the visitor centres by FP&L and SNL, however, marked only the beginning of each company's advocational campaign. With a corporate

communication vehicle firmly in place to convey key 'green' and other pro-nuclear messages, both companies soon began to develop further promotional enhancements that would extend the outreach of the initial campaign and project an even 'greener' image of the industry.

Chapter Nine

EMERGING NUCLEAR ADVOCATIONAL INITIATIVES AND PERCEPTIONS OF CORPORATE CAMPAIGNING

(i) Progressive Outreach: Extending the Advocational Campaign

(ii) Deepening the Hue of the Corporate 'Green' Message

(iii) Mobile Exhibits: Putting Visitor Centres on Wheels

(iv) A New Phase in Corporate Advertising

(v) Perceptions of Corporate Advocational Campaigning

(vi) Field Observations and a Fire: The Debate Continues

(i) Progressive Outreach: Extending the Advocational Campaign

With the inauguration of the visitor centres by FP&L and SNL, the initial phase of the companies' advocational campaign was underway. The launch of the centres, however, was intended to be only the first stage of an ongoing and ever-escalating campaign to promote nuclear power. In formulating its advocational campaign originally, SNL envisaged a strategically orchestrated plan of 'progressive and positive action in the short and medium term' embracing 'a wide range of communication initiatives' from its visitor centres to public talks to paid publicity (SNL, Towards a New Image, October 1990, p.2, 5). Similarly, soon after launching its visitor centre, FP&L began adding 'refinements in the program' to include a host of other activities supporting the initial phase of its advocational campaign ('Nurturing the Nuclear Option', Public Relations Society of America 1992 Silver Anvil Winners, p.10). As a consequence, both companies have developed and launched a variety of other public relations programmes since the unveiling of their visitor centres - programmes which enhance the centres with additional activities, extend the scope of direct corporate outreach to key publics through cross-promotion and project an even 'greener' image of the company and the nuclear industry.

In a sense, the use of these additional advocational vehicles (mobile displays, Speakers' Bureaux, etc.) to cross-promote each company's visitor centre programme represents a serial promotion of sorts - 'the promotionally staged seriality of cultural commodities' (Wernick, 1991:103) - across media that range from 'forms of lower commodifiability' (visitor centres) to those of a 'commercially more strategic form' (Wernick, 1991:113). By drawing audiences to themselves, these progressive initiatives with their promotional references to FP&L's St. Lucie visitor centre and to SNL's 'Come & See' programme can and are building audiences for both company's visitor centres in much the same manner as mass produced/mass distributed media (films, records, TV shows, novels, etc.) are serialized and then used to 'build a market for the other members of the series, or series of series, to which that item belongs' (Wernick, 1991:103). Moreover, as the corporate advocational initiatives move from those which are stationary and singular (visitor centres) to vehicles which are movable and mass reproducible (particularly advertisements and advertising features), the promotional effect upon the centres is magnified, owing to the wider distribution of these other cultural commodities. As Wernick notes:

> 'To move from cave paintings to movable ones in art galleries, and then again to woodcuts, lithography, photography, and moving film, is to ascend in degrees of reproducibility - which is also to ascend in degrees of profitability of display... In the most successful cases, the cumulative effect of serial promotion is to create not just a predictable

demand, but a body of fans who serve... to amplify the promotional effect.' (Wernick, 1991:105,113)

In anticipation of launching progressive phases of its advocational campaign, SNL began increasing its public relations staff in late 1991 to coordinate the additional programmes. The department added a Deputy Manager to assist Public Relations Manager Dick Marshall with administering the expanding duties of the staff, and a manager was hired expressly to coordinate the 'Come & See' programme and two new programmes, a talks service and a mobile exhibition programme. A trainee also joined the staff in December 1991 to provide assistance with all projects.

In November 1991, SNL launched the first of its 'progressive' programmes with the introduction of 'Talkabout', a talks service or public Speakers' Bureau. Such an 'extension to the "Come & See" programme' was initially envisaged in October 1990 as part of the communication strategy presented to senior management by Public Relations Manager Dick Marshall:

> 'I recommend we select a dozen or so young engineers (male and female); giving them appropriate training in public speaking. They will... receive a "core" brief on nuclear power - which would form the basis of a 30 minute... talk - Q & A brief and a selection of slides. We will advertise the talks service to the public and send a mailshot to education outlets.' (SNL, Towards a New Image, October 1990, p.6)

The purpose of 'Talkabout', as explained by SNL in its promotional brochure on the service is simply to provide the public 'with more facts about Scottish Nuclear' inasmuch as 'everybody wants to have a better understanding... why we all need electricity generated by nuclear power' (SNL, How We'll Install Nuclear Power in Your Club, p.2).

Interested groups are encouraged to invite an SNL speaker to address their next meeting by calling a special 'Talkabout' Freephone number. The service is offered without charge. More important, the 'Talkabout' brochure, articles in each SNL nuclear station's Bulletin and print advertisements-headlined, 'We'd like to install Nuclear Power in your club' - cross-promote the 'Come & See' programme. The advertisement explains that 'nuclear power is very misunderstood', and that groups should take 'the opportunity to visit' and 'hear the true story behind nuclear power'.

SNL speakers further promote the 'Come & See' programme at the conclusion of each talk by telling their audience:

> 'If you would like to learn more about Scottish Nuclear... I can make the necessary arrangements for you to visit either Hunterston or

Torness.' (SNL, Nuclear Power - A Vital Necessity?, November 1991, p.5)

According to SNL, the initial public response to 'Talkabout' has been 'staggering'. Jill Kent, SNL public and community affairs officer and the manager responsible for overseeing the talks programme, explains:

> 'We've had a huge number of enquiries and taken over 60 bookings since the advertising started at the beginning of November {1991}.'(Letter, 14th February 1992)

In the April 1992 issue of the company's employee newspaper, Kent further describes the nature of the audiences being reached by 'Talkabout':

> 'The range of groups has been staggering, from all age groups and interests - schools, colleges and universities, Probus groups, Young Conservatives and Ladies Circles, church clubs and professional bodies. We've had many enquiries from England, which we have passed on to Nuclear Electric's speakers' service.' (SNL, 'Talkabout in Demand', Scottish Nuclear News, April 1992, p.4)

(ii) Deepening the Hue of the Corporate 'Green' Message

'Talkabout' represents yet another communication forum in which SNL can present the case for nuclear power directly to key publics without mediation by the press or other external 'gatekeepers'. And, in providing audiences with the 'facts' on nuclear power, SNL speakers are colouring their presentations with a decidedly 'green' hue. An examination of two 'Talkabout' presentations provided by SNL reveals various 'eco-nuclear' messages coursing through each talk. As one presentation explains:

> 'Our key objectives are the safe and economic operation of the power stations, the protection of the environment, the achievement of public understanding and acceptance of nuclear power.' (SNL, This is SNL, November 1991, p.3)

Furthermore, the presentation concludes on an 'eco-nuclear' note:

> 'Nuclear power is amongst the most environmentally-friendly sources of baseload electricity available. Stations burning fossil fuels produce carbon dioxide which... contribute to global warming and... discharges of oxides of sulphur and nitrogen which are thought to be the cause of

acid rain. Concerns about these environmentally damaging aspects of power generation cannot be ignored... a balanced energy policy containing a substantial nuclear element must be the correct way forward if we are to achieve... an environmentally sound solution.' (SNL, This is SNL, November 1991, p.3)

Similarly, the other presentation echoes the 'eco-nuclear' messages of nuclear power as the solution to global warming and acid rain while downplaying renewables such as wave, hydroelectric, solar and tidal power inasmuch as they cannot 'contribute more than 20-25% of the world's needs due to their inherent unreliability' (SNL, Nuclear Power - A Vital Necessity?, November 1991, p.4).

While FP&L also offers company speakers to community organisations - and has done so for several years prior to the opening of its St. Lucie visitor centre - the company, in contrast to SNL, does little to promote its Speakers' Bureau to the general public, and does not offer a Freephone number for bookings. FP&L presentations, however, similarly have taken on a 'greener' hue in recent years. Although none of the company's talks were made available for examination, FP&L's Speakers' Bureau Coordinator Martha Blanco, upon being queried about the company's talks programme, commented that presentations on nuclear energy and the environment are among those expressly offered by the company (Interview, 3rd February 1992).

Such 'eco-talks' by FP&L speakers are part of a further 'greening' of the company's image that has developed simultaneously with the blossoming of the visitor centre advocational campaign. While many of the newer 'eco-activities' occur in and around the centre, other programmes are being launched farther afield and are being offered and publicised statewide.

As has been noted, FP&L conducts tours of the marshland - the Barley Barber Swamp - near its St. Lucie station. These 'environmental awareness tours', as FP&L Tour Coordinator Annette Canon describes the outings, are offered twice daily; individuals and groups may make reservations by calling a special company Freephone number. The tour office also offers interested groups company speakers on environmental topics, and, in turn, the company's Speakers' Bureau promotes the tours to parties requesting 'eco-talks' (Interview, 3rd February 1992). According to FP&L Nuclear Information Supervisor Tom Veenstra, the company presently is planning to augment such tours by building a one-mile nature trail immediately adjacent to the St. Lucie visitor centre. Guided tours of the trail, which will transect mangroves, hammocks and sand dunes, would be offered to visitor centre guests (Interview, 24th January 1992).

FP&L has further enhanced the exhibits and activities of its St. Lucie visitor centre to better and more directly reflect its corporate 'greening'. Two new displays, added in November 1991, focus exclusively on nuclear energy and the

environment and detail the company's various environmental programmes such as the Barley Barber Swamp tours. In addition, a new presentation for school groups, 'Learning About Lobsters', was developed for the 1991-92 school year. School groups visiting the centre now are also given a tour through an aquaculture facility at the nuclear station where lobsters and other marine species inadvertently collected in the station's intake pipes are studied and later released, as the school brochure notes, as part of FP&L's 'continuing commitment to the environment' (FP&L, Energy Encounter Program Guide 1991-1992, p.4).

One month following the addition of its two new 'eco-exhibits', FP&L began conducting a series of workshops at various public locations statewide, such as the Miami Seaquarium and the Fern Forest Nature Center in Ft. Lauderdale, 'to acquaint you {the public} with the gentle manatee and how we can help this endangered species survive' (FP&L, 'Get Acquainted With the Manatee', Current Events, December 1991, p.3). FP&L promoted the workshops 'as a public service' statewide in its December 1991 customer bill insert newsletter, Current Events, and in print advertisements in target areas thereafter. Both the newsletter and print ads featured prominent colour photos of manatees swimming, eating sea grasses and generally looking very content. The workshops featured speakers from the FP&L's Office of Environmental Affairs and a special video presentation about manatees narrated by Star Trek celebrity Leonard Nimoy. The first four workshops were held at the St. Lucie visitor centre with approximately 800 people in attendance. The company continued to present the workshops elsewhere in Florida through February 1994.

Even as the workshops were being conducted, FP&L hosted a national conference February 24-25, 1992 at its St. Lucie visitor centre for members of the U.S. Council on Energy Awareness (USCEA). According to FP&L's Centre Coordinator Janice Brady, the company presented 'a "how-to" workshop on designing and operating successful visitor centres for managers throughout the industry interested in building their own centre' (Interview, 28th January 1992). Conferees toured FP&L's visitor centre, including the new 'eco-exhibits', and also were taken on a tour of the Barley Barber Swamp.

In the months following the conference, a new USCEA 'eco-nuclear' print advertisement began appearing in quality U.S. magazines such as Time and Smithsonian. As noted previously, the ad depicts a baby sea turtle basking on a beach 'around the nuclear electric plant on Florida's Hutchinson Island... a safe haven'. The ad further proclaims that the phenomenon is 'more evidence of the truth about nuclear energy: it peacefully coexists with the environment'; moreover, 'nuclear plants don't pollute the air, because they don't burn anything to generate electricity'.

To further promote its 'greenness', FP&L ran a double-spread centre-page article, 'FP&L and the Environment', in the February 1992 issue of Current

Events, its statewide customer bill insert newsletter. Adjacent to a colour photo of an atom-like Earth encircled by three blue rings is the company's testimonial to its environmental efforts:

> 'FP&L has always strived to maintain and protect natural resources and the environment especially where power plants, transmission lines, facilities or equipment affect the environment. We also continue to develop close, productive relationships with environmental groups at local, state and national levels... By making our existing power plants as efficient as possible, we're reducing the amount of non-renewable resources consumed, while avoiding additional emissions from burning gas, oil and coal.' (FP&L, 'Florida Power & Light Company and the Environment', Current Events, February 1992, p.2)

(iii) Mobile Exhibits: Putting Visitor Centres on Wheels

As FP&L was concluding the last of its manatee workshops, SNL was preparing to launch yet another component of its advocational campaign - a travelling exhibition. The idea for such an initiative originally was proposed in October 1990 by SNL Public Relations Manager Marshall in presenting his communication strategy to senior management:

> 'Our exhibition programme is being developed. The Lyon {France} exhibition was a success. Other major events are planned such as the CBI National Conference and Exhibition in Glasgow in November. In the longer term we may require to stage a travelling public exhibition on nuclear power. Research will indicate what is necessary. Exhibitions at political conferences such as the STUC etc. will be necessary.' (SNL, Towards a New Image, October 1990, p.8)

Housed in a 40-foot purpose-built trailer and accompanied by SNL staff, the exhibition 'includes models and "hands-on" exhibits and covers all aspects of the nuclear industry, including fuel, waste management, safety, radiation, transport and the environment' (SNL, SNL News Release, 19th March 1992, p.1). SNL is using the exhibition expressly to tour major public events and venues such as the Royal Highland Show at Ingliston, Edinburgh International Science Festival, the Mark Phillips Equestrian Centre at the Gleneagles Hotel, and the British Pipe Band Championships in Stranraer. On a smaller scale, SNL also is targeting the exhibition to visit local shopping centres, village squares and schools. In so doing, SNL is taking its 'case for nuclear power' directly to an ever-widening circle of publics, and, at the same time, also is cross-promoting its 'Come & See' programme and 'Talkabout' service by providing exhibition

visitors with literature on both programmes.

It should be noted that just as SNL has copied much from British Nuclear Fuels' visitor centre programme at Sellafield, BNFL, in turn, is copying some of SNL's advocational techniques. As reported in Nuclear Engineering International, BNFL also has begun 'taking travelling exhibitions around the country to talk to people about nuclear power' despite already having a 'successful programme {at Sellafield} aimed at bringing the public to see their facilities' ('Full Speed Ahead for Public Acceptance', Nuclear Engineering International, May 1992, p.6).

One month following the launch of its travelling exhibition, SNL unveiled its purpose-built visitor centre at Hunterston on 30 April 1992 - as has been discussed previously - replacing and upgrading the existing visitor facilities at the nuclear station. With the opening of the new centre - featuring many more 'fun and educational' interactive displays than Torness - the emphasis of the new visitor centre advocational campaign was decidedly upon young adults and their families and school groups in particular, much in keeping with the direction of FP&L at St. Lucie.

(iv) A New Phase in Corporate Advertising

As new advocational initiatives have emerged to expand SNL's out-reach to key publics, the company has ceased its 'stand alone' advertisements on its 'Come & See' programme. Instead, it has been directing its advertising monies to promote the other outreach programmes (which, as has been mentioned, continue to cross-promote 'Come & See') as well as an institutional advertising campaign. This latter campaign, which was originally envisaged in October 1990 by SNL's Public Relations Manager Dick Marshall as part of the company's overall communication strategy, was not launched until 22 May 1992.

The £1.3 million advertising campaign, over the course of four months, included full-page colour and black-and-white print advertisements in selected daily and Sunday newspapers throughout Scotland and a 60-second television commercial shown on Scottish Television, Border and Grampian Television. The campaign was designed by Faulds Advertising, according to SNL's Marshall, 'to raise the profile of Scottish Nuclear'. The print campaign consisted of a series of nine advertisements about plant safety, radiation, radioactive waste, SNL's corporate history, and included several ads specifically about 'the environmental benefits of nuclear power' (SNL, SNL News Release, 22nd May 1992, p.1).

In one of its 'eco-ads', SNL features a colour photo of the Earth taken from outer space similar to the one used by FP&L in its bill insert. A banner headline proclaims that: 'Even at 600° C our gigantic, super-heated boilers won't make it the slightest bit warmer', and then continues to explain that 'because we're not actually burning fossil fuels to generate the heat, we... produce none of

the Greenhouse gases. We believe that Scottish Nuclear has an important role in meeting Scotland's electricity needs whilst helping to preserve our environment'. The ad concludes, as do all the print ads, with an invitation to call a Freephone number or to complete and return a coupon at the bottom of the ad in order to arrange a tour of SNL's visitor centres or to schedule a 'Talkabout' programme.

Another 'eco-ad' features a sepia photo of a nest with three speckled eggs encircled by a sandy beach. But the ad goes beyond merely promoting SNL's environmental friendliness; its intention is to promote the 'Come & See' programme by using a 'green' hook. The headline above the photo invites the reader for a visit: 'You're welcome to come and see what's going on around our power stations but you have to promise to keep quiet'. The ad begins by explaining that SNL introduced the 'Come & See' programme because 'many people feel they don't know enough about nuclear power'. In copy reminiscent of BNFL's Sellafield ads, the ad further explains:

> 'Many thousands of people have taken advantage of the opportunity to look around our stations... Some have come to see how nuclear power works, some to ask questions and learn more about the issues. Many are genuinely surprised to find how open, frank and welcoming we are.'

But, quickly turning 'green', the ad notes how 'environmentally friendly' nuclear power is:

> 'Because it's such an efficient, clean source of power we're also happy to see visitors of another kind. Each year the areas around our sites at Torness and Hunterston become home to thousands of birds like Oystercatchers, Cormorants, Curlews, Gannets, Eiders, Terns and many others. Naturally, they're just as welcome. In fact, we've gone out of our way to ensure that they remain undisturbed and that the local environment remains as beautiful and unspoilt as it always has been.'

It is the campaign's television commercial, however, that most dramatically attempts to communicate SNL's 'greenness' in a whimsical Wind in the Willows-like portrayal of animal characters (moles, rabbits, badgers, and a 'wise old owl'). According to SNL, the animals are 'searching the countryside for information about the nuclear industry', and eventually find that 'Scottish Nuclear is open and honest and willing to answer all their questions' (SNL, SNL News Release, 22nd May 1992, p.1).

The commercial opens amid a pastoral scene of mountains and green meadows in the Scottish Highlands with three moles burrowing past a Highland

cow on their way 'in search of Scottish Nuclear'. A musical score of lively violins playing a country-like tune adds to the whimsical, outdoors mood and is carried throughout the commercial. As the moles burrow, the narrator explains, 'Lots of people are curious about us. The best way to tell you who we are and what we do is to ask you along to see for yourselves'. As the moles continue their 'search', other creatures begin to follow in their 'tracks' - field mice, sheep, a hedgehog, a red fox and her baby, seagulls, rabbits, and badgers - all on their way to one of SNL's visitor centres. 'Come most any day of the year and ask any kind of question you like', says the narrator, reemphasising the company's open door policy, 'I think you'll find the Scottish Nuclear visitor centres fascinating. There's even a free guided tour of our power station. If there's a group of you, we'll send a free bus'. Finally, the moles emerge to see the direction in which the sign for the SNL visitor centre is pointing (followed by a shot of the nuclear station in the distance framed by a field and forest in the foreground), and off they go underground toward their destination, closely trailed by a menagerie of woodland creatures. The narrator concludes with another key corporate message: 'Anyone can visit but families are more than welcome'. As Jim Faulds, managing director of Faulds Advertising, notes, 'The television campaign invites the Scottish people to come and visit Scottish Nuclear's power stations and to learn more about the industry' (SNL, SNL News Release, 22nd May 1992, p.2), and, as it would seem, even the animals are taking SNL up on its invitation.

Symbolically speaking, on one level, the animals represent Scottish viewers who presumably are curious about SNL and in search of answers to questions about the company, nuclear power and energy issues. In keeping with post-war advertising trends that depict mixed groups of age peers rather than families (Wernick, 1991), SNL's menagerie is a collection of single animals, save for the red fox and her baby, which probably is an acknowledgement of the growing number of single parent households in Western society.

But, on a far deeper level, the animals, countryside and nuclear station depicted are second-order signs for a more ancient, archetypal scene. As such, the commercial squarely places the viewer in a modern-day Garden of Eden that, according to SNL, nuclear power offers. While FP&L may have been somewhat more subtle with Hutch in its use of symbolic advertising to suggest a nuclear-powered Paradise, SNL's commercial states its case more pointedly. The animals, both signifiers for the biblical menagerie and presenters of the corporate message, are a moving tableau, depicting a contemporary Garden scene and, at the same time, tempting viewers to eat of the nuclear Tree of Life. In a sense, they are an animated 'Peaceable Kingdom' painting à la Edward Hicks with a Scottish flavour sans, of course, Native Americans and Quaker colonists.

Less than a month after launching its institutional advertising campaign, SNL invited Her Royal Highness Princess Anne to open the

company's new £9.3 million head office at Peel Park in East Kilbride on 15 June 1992. To publicise the opening, SNL ran a two-page colour advertising feature in The Scotsman with photos of the headquarters building and lobby area, Chairman Hann and the 'Come & See' coach. The articles profiled Hann, Scottish Nuclear, the visitor centre programme and the 'Talkabout' service. One article, in particular, emphatically presented the 'eco-nuclear' message quoting SNL's new CEO Dr. Robin Jeffrey:

> 'Over the next 50 years or so {world electricity} demand is going to increase two or three fold - and this simply cannot be met by fossil generation because the damage that would be caused to the global environment would be catastrophic. The main thrust for providing the world's increasing requirement for electricity... can... only come from the nuclear sector.' ('Fossil Fuels "Not Answer" to Future Generation', Ronald Banel, The Scotsman, 15th June 1992, p.7)

With the inauguration of its new headquarters, SNL prepared and issued a new version of its corporate identity brochure. Whereas the original brochure featured four small colour photos of nuclear technology on its cover amid a sea of white space, the new brochure sports a full-page size wrap-around colour photo of a group of workers dressed in white uniforms informally chatting inside one of SNL's stations. The effect is at once visually stunning and appealing; the technology depicted is awe-inspiring in its size and sophistication yet it is a technology that has been humanised. The brochure describes all the company's advocational initiatives on the front inside page as part of its 'policy of openness and frankness' and closes with an expanded, two-page discussion of nuclear power and the environment, concluding resolutely:

> 'Scottish Nuclear firmly believe that in the long-term, nuclear power will prove to be the only environmentally and economically responsible option available for the generation of base-load electricity.' (SNL, Quality. Safety. Excellence, 1992, p.12)

(v) Perceptions of Corporate Advocational Campaigning

While the overall effects of both FP&L and SNL's visitor centre advocational campaign upon public opinion are difficult to assess in the absence of a national and/or regional poll, or any other such independent measure, nevertheless, quantitative and qualitative research by the companies does provide some indication of the impact of the corporate effort. Ultimately, the final measure of both programmes will be the success or failure of either company - and, indeed, the industry as a whole - to secure government

permission to build additional nuclear power stations. And such permission may be contingent upon the extent to which each company has managed not only to build public support for nuclear power but also to have contained or neutralised public opposition.

Generally speaking, both companies consider their visitor centre advocational campaign to have been successful in reaching key publics and in changing attitudes about nuclear power. In evaluating its visitor centre programme, FP&L notes that:

> 'At the end of 1991, FPL's ENERGY ENCOUNTER had hosted 28,000 visitors - almost three times the projection for the first year, breaking records for similar-sized and staffed science and energy centers.' ('Nurturing the Nuclear Option', Public Relations Society of America 1992 Silver Anvil Winners, p.10)

Centre Director Janice Brady feels the company has achieved its objectives of reaching educators and making visits 'fun' and 'educational':

> 'Educators have given us a tremendous response. We have been booked up with school groups... We're also doing a good business with walk-in visitors, with as many as 300 people on Sundays. In surveying our visitors, we find they have learned a great deal... and have enjoyed themselves as well... we're achieving our goal of energy education, and in the years ahead, we can make a difference.' (FP&L, 'An Encounter of the Energy Kind', St. Lucie Power Lines, Spring 1991, p.2)

According to FP&L research, it would seem that the centre has been successful in attracting schools and in raising awareness of nuclear power:

> 'During the school year {1991-92}, 356 classes held field trips; teacher feedback showed 95.5 percent rated the facility excellent or very good. Computer surveys at the end of the visit indicate learning is taking place: 84 percent of the respondents felt they knew a lot more about both electricity, energy and nuclear power." (Nurturing the Nuclear Option', Public Relations Society of America 1992 Silver Anvil Winners, p.10)

Furthermore, FP&L feels its advocational efforts have positively affected public opinion in a larger sense:

> 'Today, customer satisfaction with FP&L's nuclear performance is back

to the pre-decline levels of 1987, and continued improvement is expected. For the first time in more than a decade, nuclear power is being discussed as a viable energy option in the U.S. With the help of the ENERGY ENCOUNTER our customers - the current and the future ones - will be receptive and perhaps even supportive.' ('Nurturing the Nuclear Option', Public Relations Society of America 1992 Silver Anvil Winners, p.10)

Similarly, SNL considers its campaign to have been equally effective in reaching key publics and changing public opinion. According to SNL, the 'Come & See' programme was 'originally planned to run only during the summer months'. However, by the end of the summer of 1991, the programme had 'proved so successful it will now continue on a modified basis throughout the winter with a relaunch and wider catchment in 1992... During the summer and autumn months, a total of over 14,000 people toured the plants, the bulk of them having used the free coach, but several thousands made their own way to the power stations to make tours as part of small groups' ('Scottish Nuclear Come & See Programme', The Nuclear Engineer, July/August 1991, p.100). By the end of May 1992, SNL reported that more than 20,000 people had visited the company's two centres since the initial launch of the programme. Moreover, in the wake of its print advertising campaign on 'Come & See' in May 1992, the company said it received 'hundreds of requests... from members of the public who want more information about Scottish Nuclear' (SNL, SNL News Release, 22nd May 1992, p.1).

SNL also reports that its 'Talkabout' service 'has been a remarkable success'. Jill Kent, SNL public and community affairs officer, notes:

'Enquiries are now coming in at the rate of about a dozen a week, from all over Scotland and from all types of organisations. We have already held almost 100 talks, attended by over 2,500 people. Some of our advance bookings are for as far ahead as 1993.' (SNL, 'Talkabout in Demand', Scottish Nuclear News, April 1992, p.4)

More important, SNL considers that its advocational programme is indeed having a positive effect upon public opinion:

'It is clear from the comments of many people who have used the programme {"Come & See"} that it is serving the need for which it was designed, to make the general public more aware of the realities of nuclear power and to dispel many of the myths and misconceptions which have done so much in the past to damage its reputation and standing in public esteem.' ('Scottish Nuclear Come & See

Programme', (The Nuclear Engineer, July/August 1991, p.100)

However, such a positive view seems based more upon corporate perceptions than upon survey research. In contrast to FP&L, as of the summer of 1992, SNL had not yet resurveyed public opinion to determine if there indeed had been a measurable improvement in public attitudes toward SNL and nuclear power since the company's initial survey in February 1991. Moreover, in the summer of 1992 - more than a year after the launch of its visitor centre programme - SNL also had not surveyed visitors to either of its two centres. As a courier on the company's coach candidly remarked:

> 'We don't survey visitors afterwards. It would be a good idea. We don't know too much how people feel. Some say they liked it {the tour}. Most don't say anything.' (Interview, 22nd June 1992)

It is conceivable that SNL has not surveyed public opinion because corporate executives feel it is not necessary, given the high number of bookings, visitors and talks requests. Often, such public response is taken (and mistaken) as a sign of public understanding and acceptance, and serves to reinforce internal 'group think' tendencies which suggest that all is well when, in fact, the opposite may be true. SNL also may not wish to survey its publics should it find that there has been no measurable positive shift in opinion and that its advocational efforts have been in vain.

Not all visitors, for example, have had a positive reaction to the 'Come & See' programme. During a trip to Torness, journalist Brian McCabe, reporting in Scotland on Sunday Magazine, observed after viewing the exhibits and the film in the visitor centre and touring the station:

> '"Come & See" is very much a PR initiative - the question is, does PR stand for Public Relations here, or Propaganda Really? The message is that nuclear power... is clean and green... that radiation has always been around and is natural... also that nuclear power is safe... I'd heard that word "safe" used a lot, and it was beginning to acquire a kind of Orwellian charm...' ('McFission's Mission', Brian McCabe, Scotland on Sunday Magazine, 18th August 1991, pp.11-12)

Accompanied by 'a Press Officer for Scottish Nuclear {whose} mission was to sell nuclear power to a writer', McCabe joined a tour group of 'unsuspecting Spanish and Italian kids on a summer school... {whose} course co-ordinator was having the afternoon off... the kids were attentive, if a bit bewildered. No questions were asked... They came and saw, but what, really, did they see? What did I see?' ('McFission's Mission', Brian McCabe, Scotland

on Sunday Magazine, 18th August 1991, p.12). Later in the article, a member of the Edinburgh headquarters of SCRAM (Scottish Campaign to Resist the Atomic Menance) suggests to McCabe that, 'They didn't show you the caesium being pumped into the sea or the radioactive emissions into the atmosphere... the Nuclear Installations Inspectorate have not given permission for its {the on-line refuelling equipment's} use (a stop on McCabe's tour)... nor have they given Torness the go-ahead to transport spent fuel'. Concluded McCabe, 'I came away from SCRAM feeling distinctly less reassured than I was after my tour of Torness' ('McFission's Mission', Brian McCabe, Scotland on Sunday Magazine, 18th August 1991, p.12).

(vi) Field Observations and a Fire: The Debate Continues

On a personal tour of Torness, this author observed similar reactions - and some uneasiness - by a group of boys from a private high school in Edinburgh. The boys, ranging in age from 11 to 18 years, demonstrated little interest in the various stops on the tour, asked few questions save for the most rudimentary ones, did not read any of the display signage in the visitor centre, and only briefly rode the centre's energy bike. In short, most on the tour seemed rather bored with it all. Their teacher, a physics instructor, on the other hand, seemed much more interested in the guide's narrative and the various exhibits. However, throughout the course of the tour, he made an occasional remark that revealed a certain uneasiness - 'I'm not sure anything is inherently safe... Raising the temperature of the sea 10 degrees has to have some effect. Look at the greenhouse effect raising temperatures just one or two degrees and the effects of that' (Conversation, 22nd June 1992).

Oddly enough, neither the teacher nor any of his students were aware of an incident at the Hunterston station just four days earlier, in which workmen using cutting equipment on a reactor shut down for routine maintenance sparked a fire in the vessel leading to an evacuation of the primary containment area. The Glasgow Evening Times reported that, while Scottish Nuclear had launched an investigation, a company spokeswoman said:

> '"This was a small fire in part of the reactor vessel. The area was evacuated. There was no injury to staff or to the public and no chance of any radiation leak." She classed the incident as "one" on the international nuclear events scale of 1-7.' ('N-Plant Fire Alert', Glasgow Evening Times, 18th June 1992, p.1)

Similarly, the Glasgow Herald quoted SNL officials who downplayed the incident by claiming that 'there had been no danger whatsoever to the public from the fire' and that 'the pressure vessel was closed up in accordance with standard fire procedures' ('Fire "Posed No Risk" at Reactor', John Easton,

Glasgow Herald, 19th June 1992, p.1).

And yet, while both papers quoted the 'official account' of the incident, they, nevertheless, gave more than equal space to reactions from anti-nuclear activists. The Glasgow Evening Times, for example, aired comments from several political and environmental nuclear opponents:

> 'The Rev. John Ainslie, of Scottish CND, said: "The nuclear industry always plays down these incidents. They tend to be more serious than reported at the time. There should be an independent investigation."....Mike Townsley, of the Scottish Campaign to Resist the Atomic Menance, said: "It's stunningly incompetent."' ('N-Plant Fire Alert', Glasgow Evening Times, 18th June 1992, p.7)

The Glasgow Herald also balanced its report with comments from SNP (Scottish National Party) industry spokesman, Iain Lawson, who noted:

> '"Incidents like this prove that Hunterston B poses unacceptable risks to local residents and industries... I can only hope that the moles, badgers, and Highland cows of the Scottish Nuclear tourist adverts were nowhere near the reactor when this fire occurred. What a Great Day Out that would have been."' ('Fire "Posed No Risk" at Reactor', John Easton, Glasgow Herald, 19th June 1992, p.1)

It would seem, then, that the elaborate and well-orchestrated campaign by SNL to promote nuclear power has not completely erased all doubts in the public mind much less converted media channels to a pro-nuclear stance (SNL would argue, in fact, that the media coverage of the Hunterston fire confirms the corporate need to take its messages directly to the public). Such uneasiness - which seems to lie outside the realm of rational argument - raises serious questions about the effectiveness of not only the visitor centre programme and other outreach initiatives but of all such rationalised communication strategies by the nuclear industry. Indeed, as has been noted, there are some considerable limitations to the audience research as presented by both FP&L and SNL. While attendance, bookings and inquiries are indicators of public response to corporate programmes, they cannot be considered as valid measures of public understanding or acceptance. If such corporate strategies are to be properly evaluated as to their effect, they must be judged using a variety of independent measures, including public opinion surveys. It is to such empirical data that the industry must turn if it would represent its advocational efforts as having been successful. In all probability, the industry will find that not all publics have been persuaded of the benefits of nuclear power and, that the results of its advocational efforts are mixed at best.

Chapter Ten

CONCLUSION

(i) A New Approach: Sources as Primary Definers and Change Agents

(ii) Industry-Government Collusion: The Alliance Continues

(iii) Limitations of the Study

(iv) Recommendations for Future Research

(v) Final Observations

(i) A New Approach: Sources as Primary Definers and Change Agents

This comparative study of the corporate public relations strategies of the nuclear industry in the U.S. and Britain has endeavoured to examine the use of visitor centres and environmental messages as key components of advocational campaigns, and, as the products of the process of corporate issues management and public relations planning.

In so doing, the study diverged from a media-centric approach that has often typified most research in the sociology of journalism, and, instead, reviewed corporate activity in fora and communication channels beyond those solely of the mass media and from the distinct perspective of the sources themselves. As such, the study attempted to chart a path through the under-explored territory of sources as primary definers of issues (Hall et al., 1978) and the mobilisation of capital resources by sources in planned programmes of strategic action (Schlesinger, 1989). In examining the pro-active strategic packaging and presentation of a new frame on nuclear power - that of 'eco-nuclear' - the study built upon previous research on agenda-setting (Hilgartner and Bosk, 1988) and nuclear discourse (Gamson and Modigliani, 1988; Corner, 1990a,b). Recognising, however, that no single theory can best explain the complexity of the human experience, a variety of theoretical constructs was used (issues management, social action, concentric circle, etc.) to frame the phenomenon under review.

The invitation by Scottish Nuclear Limited and Florida Power & Light to examine their advocational campaigning provided an ideal opportunity to probe the development of corporate public relations strategies and the issues management process. The study would seem to confirm other research (Corrado, 1984; Wilcox, 1989) that draws a direct relationship between the function of public relations in an organisation and the degree of input by public relations into corporate policy-making. Moreover, the data also suggest that, given, a prominent role within an organisation, public relations can and does develop strategies and programmes to pro-actively manage emerging strategic public policy issues in direct support of organisational objectives. Indeed, in the course of formulating a response to ecological opportunities and imperatives, the organisations under study followed classic models of public relations problem-solving (Marston, 1963; Chase and Jones, 1980; Hendrix, 1989) fashioning an 'advocational' programme of strategic action that is a distinctly new communication design, combining corporate advocacy and public education campaigns.

That new campaign, as the study reveals, is designed strategically around visitor centres as communication vehicles for corporate pro-nuclear messages, carried directly to key publics without gatekeeping by the mass

media. Moreover, it would appear that the nuclear industry has been intentionally 'greening' its corporate messages so as to capitalise upon the public's growing concern about the environment. Given scientific evidence, however, that indicates the technology does indeed pollute the environment throughout its life cycle - from mining through disposal - the industry's argument that nuclear power is 'environmentally-friendly' is at the very least spurious if not insidious. A closer examination of the 'eco-nuclear' visitor centre campaign, moreover, suggests that the nuclear industry is using such centres, as well as newer, emerging advocational initiatives, in a fully promotional sense (Wernick, 1991) to circulate and thereby enhance the reputation of the industry, SNL and FP&L and to transform such reputations, visitor centres and even nuclear power itself into promotional commodities. Such purposive behaviour represents a novel twist on social action theory (Kotler, 1972) and suggests that a fuller examination of the phenomenon include a view of business as 'change agents' seeking to affect social problems, government policy and public opinion.

(ii) Industry-Government Collusion: The Alliance Continues

A comparative analysis of corporate nuclear public relations in the U.S. and Britain, moreover, suggests a 'cross-national' exchange of intelligence and, in some respects, an outright collusion of efforts. Given the history of bilateral cooperation between the two nation-states as regards nuclear energy and the various national and international organisations which serve as industry forums for the advancement of nuclear power, it is perhaps not surprising that entities such as SNL and FP&L should have closely modelled their advocational campaigns upon one another.

Indeed, evidence seems to indicate that there exists a further government-industry alliance both within the U.S. and Britain as well as trans-Atlantically. This alliance represents a convergence of government and industry interests in the development of nuclear energy for military and civilian purposes, and further illustrates earlier research of collusion among political-economic elites and the overrepresentation of corporate interests at the expense of unorganised public interests in the government decision-making process (Edelman, 1964; Teune, 1973, 1990; Held, 1987; Ince, 1988; Etzioni-Halevy, 1990).

That such an alliance should continue unabated in the U.S., despite a recent change in administrations, testifies to the extent to which such interests are entrenched in the political system and to the sovereign power wielded by various government bureaucracies. During the presidential debates, for example, Bill Clinton said he opposed federal research for nuclear energy and was opposed to future construction of new nuclear power stations. Budget proposals for 1994 by the Clinton Administration, however, continue federal

funding for nuclear power ($57.8 million compared with $58.7 million for 1993), including the development of new nuclear reactor designs, the expedition of such designs through the Nuclear Regulatory Commission certification and licensing process, and further research on the proposed high-level waste disposal site at Yucca Mountain, Nevada. Moreover, Westinghouse has signed a $158 million contract with the Department of Energy to conduct engineering for its AP 600 advanced light water reactor, and General Electric presently is negotiating a contract to develop another reactor similar in design. Plans remain focused on completing 80 percent of the necessary engineering to enable orders for new nuclear stations to be placed by the mid 1990s ('Clinton Shakes Up Nuclear R & D', Atom, May/June 1993, pp.9-10). As a further sign of the government's support for nuclear power, the DOE recently granted a full licence for the Comanche Nuclear Power Plant near Fort Worth, Texas, to begin operations. As for nuclear weapons, although President Clinton has declared a conditional ban on weapons testing until 1994, he is said to be seriously considering resuming testing following the moratorium. Both the DOE and the Defense Department are urging the Administration to renew testing to ensure the integrity of the U.S.'s nuclear warhead stockpile before a permanent global ban (now under discussion) takes effect in 1996 ('Clinton to Announce Nuclear Testing Ban', The Miami Herald, 3rd July 1993, p.8a).

Perhaps the most disturbing aspect of the study, however, is evidence which indicates an apparent attempt by government authorities at all levels to symbolically reassure the general public that its interests are being served when, in fact, the opposite is the case. The various official speeches, government declarations and public hearings on nuclear power in the U.S. and Britain (including Florida and Scotland specifically) are yet another illustration of the symbolic uses of politics (Edelman, 1964) by organised interests to ensure public acquiescence, while secretly advancing their own agenda and claiming additional resources at the expense of the unorganised. As a government review of nuclear power in Britain approaches in 1994, it is interesting to note the findings of a June 1993 report by the General Accounting Office, an investigative division of the U.S. Congress. The report concludes that Pentagon and Administration officials during the 1980s intentionally misrepresented the Soviet nuclear military threat to Congress in order to preserve and dramatically expand the nation's nuclear weapons programme. In lobbying for funding before numerous Congressional hearings, defence and White House officials consistently understated the cost of nuclear weapons systems, exaggerated Soviet military capabilities and overstated the performance of proposed U.S. systems. As a consequence, Congress appropriated $350 billion on new nuclear weapons, fueling the largest military buildup in U.S. history. Few weapons systems have since performed to expectation, however, and many have been scrapped. Still others, argue military analysts, are no longer needed

in view of the collapse of the Soviet Union ('Did the Military Mislead Congress in 1980s?' Butler Eagle, 28th June 1993, p. 1a). In yet another recent and related development, evidence has surfaced before Congress that further confirms the long-standing suspicion that the Bush Administration, in league with U.S. companies and other interests in Britain and Germany, supplied nuclear weapons technology and war matériel to Iraq, $5.5 billion of which was supposedly financed by Italy's Banca Nazionale del Lavoro. Such allegations contest numerous and repeated public assurances by Bush officials that the Administration never engaged in such activity. Several Congressmen have requested that the U.S. Attorney General investigate the matter, including various obstructions of justice by the Department of Justice and of Agriculture of earlier probes ('A Matter of Honor', John Greenwald, Time, 21st June 1993, pp.33-34).

That government and nuclear industry interests have and do employ extensive resources in their pursuit of organisational objectives (and additional resources) is keenly illustrated by the magnitude of the advocational campaigns in the U.S. and Britain. As the study notes, considerable financial resources, cultural and institutional capital (Schlesinger, 1989) have been directed at various publics in a concerted attempt to build a consensus for nuclear power and to influence the political agenda. Such organisational advantages are used to gain access to the mass media, to dominate public discourse in a variety of fora, and to create an 'ownership' of legitimacy, authority, respectability, and, thus, of the particular issue or situation (Paine, 1992). As the study indicates to some extent, alternative interests can indeed participate in the public debate through the use of 'friendly' media and other tactics, but, nevertheless, it is extremely difficult for such voices to genuinely compete at the level of pro-nuclear groups, given the latter's ability to mobilise vast resources, ranging from visitor centres to advertising campaigns.

Indeed, a recent television network broadcast on CBS of a three-hour programme, Day One, on the birth and development of the nuclear bomb in the U.S. illustrates the imbalance of such resources. The programme, which aired on 27 May 1993, was essentially an advertisement for U.S. technology and expertise, promoting the many military and civilian benefits of nuclear energy. AT&T was the programme's sole sponsor, and commercials for the company were aired throughout the telecast. While such advertisements promoted AT&T's telecommunications prowess, no mention was ever made either during the commercials or the programme about the role AT&T played in the birth of the nuclear bomb. The historical record shows, in fact, that AT&T, through its fully-owned subsidiary, Western Electric, directed and managed the research, development, production and stockpiling of nuclear weapons for the U.S. Atomic Energy Commission at its Sandia Laboratory facility in Albuquerque, New Mexico, from 1949 to the late 1970s (Brooks, 1975:235-38). Most anti-nuclear or

alternative energy interests would be hard pressed to sponsor a competing telecast, much less underwrite the pre-programme advertising campaign that promoted the show. In the light of the timing of the telecast as regards the nuclear debate, one can only speculate as to what new technologies AT&T may be currently developing.

(iii) Limitations of the Study

The research does have some shortcomings, yet it is not felt that these are sufficient enough to compromise the integrity of the study. For example, as detailed in the chapter on methodology, a number of documents and data from both FP&L and SNL as well as the Florida Public Service Commission were requested but not made available; other sources, however, were accessed, and comparable information obtained. Nevertheless, a more complete study of source strategies would have included such data. Due to financial and time constraints, it was not possible to conduct a comprehensive content analysis of national and local media coverage of each company's visitor centre programme and subsequent emerging advocational initiatives over a long period of time. Obviously, the sampling of such coverage, then, should be treated with some caution, but, again, it is felt that the coverage, while not extensive, is representative.

As also discussed concerning the methodology of the study, the semi-structured interviews presented several problems which are endemic to the interview process. Access to sources was often difficult with telephone conversations having to substitute for in-person interviews on occasion; moreover, time constraints of sources often limited the length of the interview. The subjective nature of such interviews, of course, calls into question the absolute reliability of responses, but, again, other data was used to provide a balanced and contextualised treatment of the material. As has been noted, problems of bias and reliability are inherent in most research that is qualitative in nature (Glaser and Strauss, 1967).

To fully measure the effects of the advocational campaigning of FP&L and SNL, a comprehensive study of public opinion - including survey research and focus groups - might have been conducted, given sufficient resources. While financial, time and other limitations precluded such an endeavour, the cursory review of effects offered, albeit neither extensive nor conclusive, is suggestive of the impact the advocational campaigns may indeed be having. It is recognised, of course, that neither visitor centre attendance nor the number of talks, brochures, etc. requested equates to audience reception, understanding or acceptance of a message, but are only indicators of message exposure.

(iv) Recommendations for Future Research

As regards future research, the upcoming British Government review of nuclear power and the continuing public debate in the U.S. should offer further opportunities for researchers to examine source strategies, campaigning, 'eco-nuclear' messages and the effects of such efforts, particularly upon media coverage, public policy, the government decision-making process and, ultimately, public opinion. Ideally, such studies would be comparative 'cross-national' examinations of the nuclear issue, focusing on the U.S. and Britain. The global networking of nuclear intelligence, and the further development of nuclear power in Japan, the Philippines, Indonesia, Eastern Europe, the former Soviet Union, and in other countries, suggests that multinational research of efforts by the industry and governments concerned could yield a wealth of data on the nature and extent of such international alliances, particularly as it concerns industry replication of the visitor centre model and other advocational campaigning techniques.

Finally, research needs to further explore the degree to which other important public policy issues are shaped by well-resourced and organised official and non-official sources intent upon taking 'ownership' of particular issues. Researchers would do well to examine source strategies towards various key publics across the board and not solely toward the media, as well as source use of fora and communication vehicles other than the mass media to convey corporate messages.

(v) Final Observations

This study has focused on the efforts of the nuclear industry in the U.S. and Britain - and, specifically, of FP&L in Florida and SNL in Scotland - to influence public opinion and, ultimately, to shape public policy in favour of the pro-nuclear agenda through the use of advocational campaigns designed strategically around visitor centres and 'eco-nuclear' corporate messages. As the deadline approaches for the British Government's review of the nuclear industry and as the industry in the U.S. finalises plans to order the first nuclear power station since 1978 (in Florida as has been rumoured), the decision on the future of nuclear power in each country will certainly be a measure of the effectiveness of such corporate campaigning in achieving its objectives. If the tide of opinion of various key publics has been turned sufficiently by the industry and its allies so as to accept nuclear power as being safe, economic, necessary, and, moreover, best for the environment, then the future of the industry will seem assured. On the other hand, if sufficient opposition to nuclear power can be rallied, then the nuclear rebirth may be halted stillborn.

More important, in the final analysis, the public debate on nuclear power that will ensue shortly will represent a genuine test of the relative health of democracy in both the U.S. and Britain, nation-states in which, historically, military-industry-government interests mostly have had their way as it has concerned nuclear energy. In the arguments and counter-arguments that will swirl around the issue, proponents will most certainly 'talk down' the risks of nuclear power even as critics 'talk up' its effects (Corner, 1990a:123). Moreover, nuclear experts also will most probably 'talk down' to laypersons, suggesting that their own scientific knowledge is far superior to that of mere practitioners (Paine, 1992), who should respectfully 'look up' to those in authority. At the heart of such discussions of risk, however, will be a fundamentally more important question of legitimacy for the nuclear industry and government alike. If risk is indeed a 'joint product of knowledge and consent' (Paine, 1992:266), then, where such knowledge is uncertain and consent not earned but appropriated, the public will find itself 'sold short culturally' and 'delegitimated into dependence' on the state (Paine, 1992:268). Should a society that purportedly is democratic allow that to happen, then the greatest 'risk' of nuclear power may not be to public health nor to the environment, but, rather, to the society itself.

As Nohrstedt (1991) has argued, 'the criteria of democracy' consist of 'the freedom to express opinions, information and arguments... to seek information and knowledge... to choose between different sources {of all of the above}... regulated by law and justified on special grounds' (1991: 479). However, as regards nuclear power, whenever such information is incomprehensible and inaccessible save only to an elite, then there exists a genuine threat to the pluralism and openness of the society and to the credibility and legitimacy of the government.

What has been lacking, and is desperately needed if nuclear power is to resolve its credibility problem and if government is to remove public distrust of its authority, is a greater sense of balance in pro-nuclear campaiging, far more aggressive media, and greater public participation in the government decision-making process. As Corner has noted in focus group viewings, particularly of nuclear industry programmes, audiences expect such presentations on issues of national importance to include all sides of an issue and not merely that of the presenter, and are critical of presentations lacking such balance (Corner, 1990b:50). As the study at hand indicates, the industry's advocational campaign is a one-sided treatment of the nuclear question, and, as such, will fail to satisfy the 'civic frame' of most audiences (Corner, 1990b:50).

The media, moreover, have been criticised for their failure to provide full, balanced coverage of nuclear issues. Rather, they generally stand accused of 'uncritically passing on' information from industry and government sources (Nohrstedt, 1991:496), failing to cross-check information and simply not providing sufficient background information (particularly in the case of

Chernobyl) so viewers and readers can properly evaluate nuclear issues (Friedman et al., 1992:319). Indeed, as an illustration, recent coverage of The Miami Herald of a regional convention of utility commissioners in Orlando focused instead on regulators' social activities rather than on the various substantive issues discussed, including proposals for nuclear waste disposal. In so doing, the media not only fail to fulfil an important role as information channel and 'watchdog' but contribute indirectly to the growing 'information crisis' on nuclear power and public distrust of authority.

Finally, it should not be solely the prerogative of vested interests to make public policy, particularly in societies that pride themselves on being constitutional democracies. Rather, as Sonja A. Boehmer-Christiansen (1990) contends:

> 'Government has to consult widely and outside its own "networks" and then play an active role in disseminating... information and attitudes if it wants a responsive society... Instead, society as a whole, as far as this is practicable, needs to be involved, if not in the decision-making process narrowly defined, but at least in policy formation and the identification of public goals... The "public" (directly through the market and its elected representatives) and not a group of appointed experts, should act as final arbiter.' (1990:828-829, 835)

Indeed, in its counter-proposal to the British Government's White Paper on the environment, Friends of the Earth has called for 'a new politics of the environment' based upon 'more trust in government through openness, honesty and anticipatory consultation... regulation that is independent, trustworthy and competent' and an end to a political system that is 'too secretive and patronising in the face of demands for realistic public participation' (FOE, 1990:5). As regards nuclear issues, FOE urges an end to all nuclear power promotion by the UKAEA in particular, the transfer of alternative energy and energy efficiency responsibilties from the UKAEA to a new, independent agency, and other steps 'to distance the Authority from other parts of the nuclear industry' in order to eliminate various conflicts of interest (Flood, 1988:4). In short, what is needed, say FOE and other nuclear activists, is a separation of government-military-nuclear interests, greater public accountability and participation in decision-making on nuclear and other energy issues. Certainly, an organisation such as Scottish Nuclear should not be allowed to promote itself at the taxpayer's expense (nor should FP&L for that matter), much less be reviewed by its sole shareholder, the British Government, if there is to be genuine public debate and participation in energy policy decision-making.

The Clinton Administration has offered such a return to a politics of 'inclusion' and of genuinely broadbased rule, in contrast to that of the previous

Administration, whose political style had been viewed as characteristically 'exclusive' and elitist. If such a consensus approach to decision-making can indeed survive and flourish despite the many influences of entrenched interests, both within and without government, then, perhaps more popular alternatives to nuclear power may be considered, adopted and supported. That, of course, still remains to be seen, and campaign promises soon will be put to the test.

As the two paths of public policy lie before the American and British public - one leading toward and the other away from nuclear power - it will be interesting to observe the contest of political wills, resources, campaigning and agendas as regards the nuclear issue. Ultimately, that test will be far more important for the future of both the U.S. and Britain as democratic societies than the choice of which energy source should be used to boil a kettle. While it is difficult to foretell which road each nation will travel down, there is little doubt that the contest will set the course for both the U.S. and Britain and for the rest of the planet into the twenty-first century. One can only hope that the course chosen will be genuinely in the best interests of not only all humanity but of all creatures great and small.

BIBLIOGRAPHY

Abraham, J. (1991) Book Review of 'Nuclear Reactions' by Corner, J.,Richardson, K. and Fenton, N. Media, Culture and Society, **13**, (4),584-586.

Abt Associates Inc. (1990) Consumer Purchasing Behavior and the Environment: Results of an Event-Based Study. Cambridge, Mass.: Abt Associates Inc.

Adams, J. (1990) 'An Example of Corporate Responsibility: Florida Power & Light Company', The Florida Naturalist, **63**, (3), 4-7.

Advertising Age (1991) 'Tending Wal-Mart's Green Policy', **62**, (5), 20.

Ahmad, F. (1990) 'FPL Exhibit Keeps Fort Pierce Kids Running for TV', The Palm Beach Post, 16th November, 1b.

Anderson, A. (1991) 'Source Strategies and the Communication of Environmental Affairs', Media, Culture and Society, **13**, (4), 459-476.

Anderson, A. (1992) 'The Production of Environmental News: A Study of Source-Media Relations', unpublished Ph.D. dissertation, University of Stirling.

Anthony, R. (1982) 'Polls, Pollution and Politics - Trends in Public Opinion on the Environment', Environment, **24**, (4), 14.

Arthur Anderson (1990) Environmental Liabilities: Is Your Company at Risk?. Chicago: Arthur Anderson & Co.

Atom (7/8, 91) 'Computers Switched to Keep Sizewell on Target', 2.

Atom (7/8, 91) 'Energy: Looking to the Future - John Wakeham', 27.

Atom (7/8, 91) 'Leukaemia and Nuclear Power Establishments', 15-18.

Atom (7/8, 91) 'Minister Exhorts Industry to Focus on Making Nuclear Economic', 4.

Atom (7/8, 91) 'Nuclear Electric Stops Ad Campaign', 3.

Atom (7/8, 91) 'Nuclear Electricity Up By 4 Per Cent in OECD', 2.

Atom (5/6, 93) 'Clinton Shakes Up Nuclear R&D', 9-10.

Audubon Activist (5, 92) 'Bush Cabinet Continues War on Regulations: Latest Target is Forest Appeals', 7.

Aubudon Activist (6, 92) 'Spread the Word, Join the Brigade', 5.

Avico, U., Kaplan , C.D., Korczak, D. and Van Meter, K.M. (1988) 'Cocaine epidemiology in three European Community cities: A pilot study using a snowball sampling methodology'. Research report, Cocaine Steering Group, Health Directorate, Commission of the European Communities, Brussels (Feb.).

Bachrach, P. and Baratz, M.S. (1962) 'The Two Faces of Power', American Political Science Review, **56**, (4), 942-952.

Balfour, A. (1991) 'Nearest Thing to the Legendary Free Lunch', Glasgow Herald, 22nd June, 13.

Banel, R. (1992) 'Fossil Fuels "Not Answer" to Future Generation', The Scotsman, 15th June, 7.

Barrow, L. (1984) Glendalough and Saint Kevin. Dundalk: Dundalgan Press Ltd.

Baur, C. (1991) 'Nuclear: The Power Without the Glory', Scottish Business Insider, **8**, (8), 2-4.

Beers, D. and Capellaro, C. (1991) 'Greenwash!', Mother Jones, (3/4), 38-41.

Berle, P. (1992) 'As Clinton Takes Office, Auduboners Must Press On', Audubon Activist, (12), 2.

Berlet, C. and Burke, W. (1991) 'Corporate Fronts: Inside the Anti-Environmental Movement', Greenpeace, (1/2/3), 8-12.

Bernstein, M. (1955) Regulating Business By Independent Commissions. Princeton, N.J.: Princeton University Press.

Beyea, J. (1990) 'Nuclear as Last Resort to Change in Climate', Forum For Applied Research and Public Policy, (3), 90-92.

Blix, H. (1991) 'Nuclear Power and the Environment', Speech to the Seminar 'Atomic Energy in our Changing World', Budapest, 29 May.

Blumer, H. (1971) 'Social Problems as Collective Behavior', Social Problems, **18**, 298-306.

Boehmer-Christiansen, S. (1990) 'Energy Policy and Public Opinion: Manipulation of Environmental Threats by Vested Interests in the UK and West Germany', Energy Policy, **18**, (11), 828-837.

Boyer, P. (1985) By the Bomb's Early Light. New York: Pantheon.

British Nuclear Fuels Limited (1988) Sellafield Visitor Centre. Risley: British Nuclear Fuels Limited.

British Nuclear Fuels Limited (1990) To Find the Answers to Your Questions on Nuclear Energy, Look Inside.... Risley: British Nuclear Fuels Limited.

British Nuclear Fuels Limited (1990) Sellafield Visitor Centre: A Window on the Nuclear World. Risley: British Nuclear Fuels Limited.

British Nuclear Fuels Limited (1991) Public Acceptability Advertising. 11th June. Risley: British Nuclear Fuels Limited.

Brown, J. (1991) 'Open-Door Policy for Torness: Nuclear Plant Goes Public', Edinburgh Evening News, 16th May, 11.

Brooks, J. (1975) Telephone: The First Hundred Years. New York: Harper & Row.

Burgess, J. (1991) 'Manipulating Meanings', Safe Energy, (85), 14-15.

Burgess, J., Harrison, C. and Maiteny, P. (1991) 'Contested Meanings:The Consumption of News About Nature Conservation', Media, Culture and Society, **13**, (4), 499-519.

Burgess, S. (1990) 'Students Take to FPL Center', St. Lucie Tribune, 16th November, 1b.

Burgoyne, W. and Simpson, A. (1991) 'Developments in Emergency Planning', The Nuclear Engineer, **32**, (4), 141-144.

Business Week (23, 4, 90) 'The Greening of Corporate America', 96-103.

Butler Eagle (28, 6, 93) 'Did Military Mislead Congress in 1980s?', 1a.

Camp, D., Whiting, N. and Martin R. (1977) Nearshore Marine Ecology at Hutchinson Island, Florida: 1971-1974. St. Petersburg, Florida: Florida Marine Research Publications.

Campbell, C. (1993) 'Does Public Relations Affect the Bottom Line?', Public Relations Journal, **49**, (10), 14-17.

Carrell, S. (1991) 'Pro-Nuclear Push Begins with Plea for Less Secrecy', The Scotsman, 16th May, 4.

Castro, J. (1991) 'The Simple Life', Time, 8th April, 58-63.

Center, A. and Walsh, F. (1981) Public Relations Practices: Case Studies. Englewood Cliffs, New Jersey: Prentice-Hall, Inc.

Central Office of Information (1981) Nuclear Energy in Britain. London: Collins & Wilson Ltd.

Charvat, F., Stamatiou, W. and Villain-Gandossi, Ch. (eds) (1988) International Cooperation in the Social Sciences: 25 Years of Vienna Centre Experience. Bratislava: Publishing House of theTechnical Library.

Chase, A. (1992) 'Rio Summit: Wealth of Nations vs. Health of Nations', Conde Nast Traveler, (6), 22.

Chase, H. and Jones, B. (1980) 'Issues Management to Strategic Management: Policy and Action Part 2', Public Relations Quarterly, **25**, (1), 5-7.

Cheek, M. (1990) 'Review of Show Glowing: FPL Nuclear Exhibit Enlightens Classes', The Stuart News, 16th November, 1b.

Chiles, J. (1990) 'Tomorrow's Energy Today', Audubon, **92**, (1), 58-73.

Chrissos, J. (1990) 'The Green Agenda for Corporations', The Miami Herald, 22nd April, 1g.

Collins, B. (1991) 'Wealth of Nations 1991: International Success for Energy Conference', Enterprise News insert in Scottish Business Insider, August: 5.

Commission of the European Communities (1987) The European Community and Environmental Protection. Brussels: Office for Official Publications of the European Communities.

Commission of the European Communities (1988) Eurobarometer: Public Opinion in the European Community June 1988. Brussels: Directorate-General Information, Communication, Culture.

Commission of the European Communities (1989) Nuclear Safety: The European Community Following the Chernobyl Accident. Luxembourg: Office for Official Publications of the European Communities.

Commission of the European Communities (1989) Eurobarometer: Public Opinion and Europe June-July 1989. Luxembourg: Office for Official Publications of the European Communities.

Commission of the European Communities (1990) Eurobarometer: The Perception of Poverty in Europe - Poverty 3. Brussels: Directorate General for Employment, Industrial Relations and Social Affairs.

Commission of the European Communities (1990) The European Community and Environmental Protection. Luxembourg: Office for Official Publications of the European Communities.

Commission of the European Communities (1990) Environmental Policy in the European Community. Luxembourg: Office for Official Publications of the European Communities.

Conference Board (1989) 1992: Leading Issues for European Companies. New York: The Conference Board, Inc.

Corner, J., Richardson, K. and Fenton, N. (1990a) 'Textualizing Risk:TV Discourse and the Issue of Nuclear Energy', Media, Culture and Society, **12**, (1), 105-124.

Corner, J., Richardson, K. and Fenton, N. (1990b) Nuclear Reactions London: Libby Press.

Corrado, F. (1984) Media for Managers: Communications Strategy for The Eighties. Englewood Cliffs, New Jersey: Prentice-Hall, Inc.

Crook, M. (1992) 'Fewer Sea Turtles Nesting in Region', The Miami Herald, 15th July, 6b.

Dadd, D. Lynn and Carothers, A. (1990) 'A Bill of Goods? Green Consuming in Perspective', Greenpeace, **15**, (3), 8-12.

D'Aquino, N. (1992) 'The EC's Green Guru: Carlo Ripa di Meana', Europe, (317), 6-7.

D'Aquino, N. (1992) 'The New Green Europe', Europe, (317), 8-10.

D'Aprix, R. (1984) Communicating for productivity. New York: Harper and Row.

Department of Energy (1987) Summary of 1987-90 Programme Letters with United Kingdom Atomic Energy Authority. London: UK Department of Energy.

Diamond, S. (1984) 'Public Meets Atom in Reactor Tours', The New York Times, 2nd September, 18a.

Dillon, S. (1992) 'Nuclear Power Advocates Hope for Comeback', The Miami Herald, 8th June, 9a.

Easton, J. (1992) 'Fire "Posed No Risk" at Reactor', Glasgow Herald,19th June,2.

Echlin, E. (1989) 'Preserving Nature', The Voice, 14th April, 15.

EC Commission Delegation (1992) Euromemo. February. Washington, D.C.: European Community Information Service.

EC Commission Delegation (1992) Euromemo. June-July. Washington, D.C.: European Community Information Service.

The Economist (1989) 'The Greening of Margaret Thatcher', **310**, (7593),25-26.

The Economist (1989) 'The Perils of Green Business', **313,** (7624), 109-110.

The Economist (1990) 'The Greening of British Politics', **314**, (7644), 35-36.

The Economist (1990) 'Environmental Auditing: How Green is My Company?' **314**, (7645), 128.

Edelman, M. (1964) The Symbolic Uses of Politics. Urbana: University of Ilinois Press.

Edinburgh Evening News (22, 5, 91) 'Torness Interest Booming', 8.

Edwards, R. (1986) 'Chernobyl: The Political Fall-out', The Ecologist **16,** (4/5), 140-143.

Electricity Light and Power (2, 91) 'New FPL St. Lucie N-Plant Exhibit Teaches Energy, Electricity to Public', 2.

Elmer-Dewitt, P. (1992) 'Rich vs. Poor', Time, 1st June, 42-58.

The Environment: Public Attitudes and Individual Behavior (1990) New York: The Roper Organization Inc.

Erskine, R. and Webber, P. (1988) 'Accidents, Risks and Consequences 'in Mackay, L. and Thompson, M. (eds). Something in the Wind: Politics After Chernobyl. London: Pluto Press, 46-79.

Etzioni-Halevy, E. (1990) 'Comparing Semi-corruption among Parliamentarians in Britain and Australia' in Oyen, E. (ed.) Comparative Methodology: Theory and Practice in International Social Research.London: SAGE Publications Ltd., 113-133.

Europe (7/8, 89) 'EC Citizens Elect New European Parliament', 24.

Europe (1/2, 90) 'European Environment Agency Created', 51.

Europe (1/2, 91) 'Oscars for "Green"' Products', 50.

Europe (7/8, 91) 'European Court Approves Majority Voting on Environmental Issues', 42.

Ewen, S. (1976) Captains of Consciousness: Advertising and the Social Roots of the Consumer Culture. New York: McGraw-Hill.

Ewing, R. (1980) 'Issues', Public Relations Journal, **36**, (7), 14-16.

Facts on File (1992) 'British Prime Minister Major Reelected; Conservatives' Majority Trimmed in Fourth Straight Win', **52**, (2682), 261.

Faulds Advertising, Ltd., (1991) Scottish Nuclear Visitors Campaign:Revised Buying Summary and Booked Schedule. 10th May. Edinburgh:Faulds Advertising, Ltd.

Fiedler, T. (1992) 'What Worries People?', The Miami Herald, 9th January, 1a.

Fields, G. (1992) 'Florida Jobless Rate Leaps to 8.7%', The Miami Herald, 8th February, 1a.

The Financial Times (13, 3, 91) 'The Better Environment Awards for Industry: Winners Announced Today', 4.

Fleming, J. (1982) 'Corporate Response to Social Actions', Business, (1), 10-14.

Flood, M. (1988) The End of the Nuclear Dream: The UKAEA and its Role in Nuclear Research and Development. Oxford: Dot Press.

The Florida Catholic (4, 1, 91) 'Companions in Creation: A Pastoral Letter On Ecology by the Catholic Bishops of Florida', 12-13.

The Florida Catholic (10, 5, 91) 'Centesimus Annus', 8-11.

Florida Fish and Wildlife News (10/11, 91) 'Sacred Cows Corralled', 16.

Florida Naturalist (Winter, 90) 'FPL Update', 10.

Florida Naturalist (Summer, 92) '1991 Contributors to the Florida Audubon Society', 20.

Florida Power and Light (1985) Florida's Wood Storks. Miami: Florida Power and Light.

Florida Power and Light (1989) Commitment to the Environment. Miami: Florida Power and Light.

Florida Power and Light (1990) 1989 Financial and Statistical Report. North Palm Beach: Florida Power and Light.

Florida Power and Light (1990) News Release. 15th November. Miami: Florida Power and Light.

Florida Power and Light (1990) Fact Sheet. 15th November. Miami: Florida Power and Light.

Florida Power and Light (1990) 'FP&L Energy Encounter On the Horizon This Fall', Synergy, Fall, 1.

Florida Power and Light (1990) An Exciting Journey Through the World of Energy. Miami: Florida Power and Light.

Florida Power and Light (1990) FP&L's Energy Encounter: A Journey Through the Exciting World of Energy. Miami: Florida Power and Light.

Florida Power and Light (1991) Welcome to the St. Lucie Power Plant. Miami: Florida Power and Light.

Florida Power and Light (1991) FP&L Group 1990 Annual Report. Juno Beach: Florida Power and Light.

Florida Power and Light (1991) 'Explore FP&L's Energy Encounter', FP&L Energy News, February: 2.

Florida Power and Light (1991) 'An Encounter of the Energy Kind', St. Lucie Power Lines, Spring: 2.

Florida Power and Light (1991) 'Get Acquainted With the Manatee', Current Events, December: 3.

Florida Power and Light (1991) Energy Encounter Program Guide 1991-1992. Miami: Florida Power and Light.

Florida Power and Light (1992) 'Florida Power & Light Company and the Environment', Current Events, February: 2.

Florida Power and Light (1993) 'The Treasure World of Energy', FP&L Energy News, May: 3.

Florida Public Service Commission (1990) 1990 Annual Report. Tallahassee.

Florida Public Service Commission (1992) Annual Report of Charitable Contributions and Sponsorship Contributions: 1985-1991. Tallahassee.

Forbes, P. (1992) 'Applying Strategic Management to Public Relations', Public Relations Journal, **48**, (3), 31-32.

Fraser, S. (1991) 'Vital Moves Towards Better Understanding', Glasgow Herald, 16th May, 19.

Friedman, S.M., Gorney, C.M. and Egolf, B.P. (1992) 'Chernobyl coverage:how the US media treated the nuclear industry', Public Understanding of Science, **1**, 305-323.

Friends of the Earth (1990) Greening the Machinery of Government. London:Friends of the Earth.

Fuller, K. (1989) 'WWF: Promoting Cooperation on the Environment', Focus, **11**, (4), 2.

Galtung, J. (1990) 'Theory Formation in Social Research: A Plea for Pluralism' in Oyen, E. (ed) Comparative Methodology: Theory and Practice in International Social Research. London: SAGE Publications Ltd., 96-112.

Gamson, W. A. and Modigliani, A. (1989) 'Media Discourse and Public Opinion on Nuclear Power: A Constructionist Approach', American Journal of Sociology, **95**, (1), 1-37.

Garrett, J. (ed) (1990) Buried But Not Dead? The Role of Nuclear Power in Energy Policy After Hinkley Point C. London: Consortium of Opposing Local Authorities.

Giddens, A. (1972) Politics and Sociology in the Thought of Max Weber. London: Macmillan.

Glasgow Evening Times (18, 6, 92) 'N-Plant Fire Alert', 1.

Goldsmith, C. (1991) 'Nuclear-Free Europe?' Europe, **311**, 10-14.

Gould, D. (1992) 'Good Clean Nuclear Thoughts', New Scientist, 30th May, 45.

Gowing, M. (1987) How Nuclear Power Began. University of Southhampton.

Gowing, M. (1989) Prologue: Early Western Nuclear Relationships. College Park: University of Maryland.

Graham, K. (1985) Wind in the Willows. Bungay: Richard Clay (The Chaucer Press) Ltd.

Greenpeace Action (1990) Nuclear Power. Washington, D.C.

Greenpeace (2, 91) Nuclear Power and Foreign Oil. Washington, D.C.

Greenpeace (1992) Two Wrongs Don't Make a Right: Nuclear Power and Global Warming. Washington, D.C.

Greenpeace (8, 92) Nuclear Free Future. Washington, D.C.

Greenpeace (9/10, 90) 'What's Killing the Dolphins?', 4.

Greenpeace (4/5/6, 91) 'The Green Thumb: A Grassroots Guide to Legislation', 4.

Greenpeace (12, 92) 'Dangerous Advertising', 3.

Greenwald, J. (1991) 'Time to Choose', Time, 29th April, 52-61.

Greenwald, J. (1993) 'A Matter of Honor', Time, 21st June, 33-34.

Gribbin, J. (1988) 'Britain Shivers in the Global Greenhouse', New Scientist, **118,** (1616), 42-43.

Griswold, D. (1988) 'Case Study: How a Company Has Recovered From a Crisis For Which It Was Unprepared', PR News, **44**, (29), 5-6.

Grunig, J. and Hunt, T. (1984) Managing Public Relations. Toronto: Holt, Rinehart and Winston.

Gup, Ted (1992) 'The Stealth Secretary', Time, 25th May, 57-59.

Guttman, R. (1990) 'Carlo Ripa di Meana Speaks Out on the Environment', Europe, (300), 10-12.

Haarer, E. (1992) 'From Green to Gold: Christian Environmentalism', Desert Call, **27**, (2), 4-7.

Hall, S., Critcher, C., Jefferson, T., Clarke, J. and Roberts B. (1978) Policing the Crisis: Mugging, the State, and Law and Order. London: Macmillan.

Hann, J. (1991) 'Handling Public Relations in the Nuclear Industry', Speech to the University of Stirling School of Management's Public Relations Lecture Series, Glasgow, 4 April.

Hann, J. (1991) 'The Vital Necessity of Nuclear Power', Speech to the Wealth of Nations conference, Edinburgh, 14 June.

Hansen, A. (1991) 'The Media and the Social Construction of the Environment', Media, Culture and Society, **13**, (4), 443-458.

Hansen, L. (1991) 'Environmental Alert: Of Recycling, Tree-Planting and Theology', The Florida Catholic, 24th May, 3.

Harlow, R. (1976) 'Building a Public Relations Definition', Public Relations Review, **2**, (4), 34-42.

Harris, J. (1992) 'Working with Environmental Groups', Public Relations Journal, **48**, (5), 24-25.

Harrison, B. (1990) 'The Greening of PR: The American Experience', Journal of the Institute of Public Relations, (2), 10-13.

Hedges, A. (1985) 'Group Interviewing', in Walker, R. (ed) Applied Qualitative Research. Aldershot: Gower, 71-91.

Held, D. (1987) Models of Democracy. Stanford: Stanford University Press.

Hendrix, J. (1989) Public Relations Cases. Belmont, Ca.: Wadsworth Publishing Co.

Herring, E.P. (1936) Public Administration and the Public Interest. New York: McGraw-Hill.

Hildyard, N. (1991) 'Liberation Ecology', The Ecologist, **21**, (1), 2-3.

Hilgartner, S. and Bosk, C.L. (1988) 'The Rise and Fall of Social Problems: a public arenas model', American Journal of Sociology, **94**, (1), 53-78.

Hull, R. (1991) 'European Community Environment Policy in the 1990s', Speech to the CEPS Business Policy Seminar, Geneva, 11 April.

Hume, S. (1991) 'The Green Revolution: McDonald's', Advertising Age,**62**, (5), 32.

Huth, T. (1992) 'America On the Edge: Five Litmus Tests of the Environmental President's Record', Conde Nast Traveler, **9**, 134-92.

Ince, M. (1986) Sizewell B: Under Pressure. London: Dot Press.

Ince, M. (1988) 'Secrecy, Policy-making and the Nuclear State' in Mackay, L. and Thompson, M. (eds) Something in the Wind: Politics After Chernobyl. London: Pluto Press, 80-100.

Isomaki, R. (1991) 'Paper, Pollution and Global Warming: Unsustainable Forestry in Finland', The Ecologist, **21**, (1), 14-17.

Jackman, B. (1991) 'Waiting for the Flood', The Sunday Times Magazine, 30th June, 22-30.

Jacob, J. (1991) 'Geologian: 'Ecozoic Period' Could Heal Mankind's Relationship with the Earth', The Florida Catholic, 17th May, 24.

Jeffery, J. (1986) 'The Unique Dangers of Nuclear Power: An Overview', The Ecologist, **16,** (4/5), 147-163.

Jeffrey, J. (1990) 'Dirty Tricks: How the Nuclear Lobby Stopped the Development of Wave Power in Britain', The Ecologist, **20**, (3), 85-90.

Jones, S. (1985) 'Depth Interviewing' in Walker, R. (ed) Applied Qualitative Research. Hants: Gower, 45-55.

Kagan, D. (1991) 'The Greening of Environmental PR', Insight, 18th March, 38-40.

Kelley, C. (1992) 'A Stern Verdict on Our Environmental President', Conde Nast Traveler, **9**, 32.

Kendall, G., Muirhead C. and MacGibbon, B. (1992) 'Leukaemia Risks: Fact or Fiction?' Nuclear Engineering International, **37,** (453), 42-44.

Knight, P. (1989) 'Green Power Moves into Gear', Global Business, (1), 92-98.

The Knoxville Journal (7, 12, 90) 'Audubon Society Official States His Advocacy for Solar Power Over Nuclear Power Plants', 35a.

Koch, N. (1990) 'New Beat in the Newsroom', Channels, **10**, (7), 22.

Kohut, A. and Shriver, J. (1989) 'Environment Regaining a Foothold on the National Agenda', The Gallup Report, (6), 2-3.

Komisarjevsky, C. (1982) 'Communications Strategy: Fighting Your Way Out of the Fishbowl', The Journal of Business Strategy, **2**, (3), 61-68.

Kossoff, J. (1989) 'Green Goddesses', New Statesman and Society, **2**, (34), 41-42.

Kotler, P. (1972) 'The Elements of Social Change', in Zaltman, G., Kotler, P. and Kaufman, I. (eds) Creating Social Change. New York: Holt, Rinehart and Winston, 172-186.

Krimsky, S. and Plough, A. (1988) Environmental hazards: communicating risks as a social process. Dover, Mass: Auburn House.

Kurth, T. (1981) 'Local Campaigns and Approaches by the Forestry Community', in Rice, R. and Paisley, W. (eds) Public Communication Campaigns. Beverly Hills: Sage Publications, 147-153.

Lane, J. (1990) 'Data Archives as an Instrument for Comparative Research' in Oyen, E. (ed) Comparative Methodology: Theory and Practice in International Social Research. London: SAGE Publications Ltd.,187-202.

Lawrence, J. (1991) 'The Green Revolution: Mobil', Advertising Age, **62**, (5), 12-13.

Leiserson, A. (1942) Administrative Regulation: A Study in Representation of Interests. Chicago: The University of Chicago Press.

Lemonick, M. (1989) 'Global Warming: Feeling the Heat', Time, 2nd January, 36-39.

Lemonick, M. (1992) 'The Ozone Vanishes', Time, 17th February, 60-68.

Lemonick, M. (1992) 'The Big Green Payoff', Time, 1st June, 62-63.

Lennon, D. (1989) 'The Greening of Britain', Europe, (291), 9-10.

Levin, G. (1990) 'Consumers Turning Green: JWT Survey', Advertising Age, **61**, (12), 74.

Lindblom, C.E. (1977) Politics and Markets. New York: Basic Books.

Linden, E. (1992) 'Rio's Legacy', Time, 22nd June, 44-45.

Llerena, J. (1990) 'FPL's Corporate Communications Department', unpublished manuscript, University of Miami.

Long, L. and Hazelton, V. Jr. (1987) 'Public Relations: A Theoretical and Practical Response', Public Relations Review, **13**, (2), 3-13.

Lopez, E. (1991) 'FPL to Cut 1,500 Jobs in 45 Days', The Miami Herald, 10th July, 1b.

Lopez, E. (1991) 'FPL Group: Holding Company Takes Charge to Cover Restructuring Cost', The Miami Herald, 21st July, 1c.

Lopez, E. (1991) 'FPL Toll: 1,048 Take Severance Pay', The Miami Herald, 7th September, 1c.

Lopez, E. (1991) 'FPL Starts the Last Wave of Cuts', The Miami Herald, 5th November, 1b.

Lopez, E. (1991) 'FPL Struggles to Recover, Faces More Deregulation', The Miami Herald, 10th November, 1k.

Lopez, E. (1991) 'More FPL Workers Face Job Changes', The Miami Herald, 3rd December, 6b.

Lopez, E. (1992) 'FPL Called More Competitive', The Miami Herald, 19th May, 1c.

Lopez, E. (1992) 'A Turkey No More?' The Miami Herald Business Monday, 4th May, 20-22.

Lovins, A. (1979) Is Nuclear Power Necessary? London: Friends of the Earth Ltd.

Lublin, J. (1990) 'Creating a 'Green' Ad Campaign Risks Making Consumers See Red', Wall Street Journal, 5th December, 5a.

Luoma, J. (1991) 'Right in Your Own Backyard', Audubon, November/December, 88-96.

Mapes, G. and Revzin, P. (1989) 'British Spat with EC Over Pollution Shows What 1992 May Bring', Wall Street Journal, 14th December, 1a.

Marcuse, H. (1964) One Dimensional Man. Boston: Beacon.

Market Research Scotland (1991) Report: Corporate Research Qualitative Survey April 1991. Glasgow: Market Research Scotland Limited.

Marshall, R. (1991) 'Improving the Image of Nuclear Power', Speech to Senior Management Conference, Edinburgh, 11 May.

Masterton, D. (1992) '18 Trapped in Nuke Fire Horror', Daily Record, 22nd June, 1.

Marston, J. (1963) The Nature of Public Relations. New York: McGraw-Hill.

Meder, P. (1989) 'The Earth Belongs to the Lord', The Voice, 13th October, 15.

Meng, M. (1992) 'Early Identification Aids Issues Management', Public Relations Journal, **48**, (3), 22-24.

McCabe, B. (1991) 'McFission's Mission', Scotland on Sunday Magazine, 18th August, 10.

McClure, R. (1991) 'Nuclear Power Backers Focus on S. Florida', Ft. Lauderdale Sun-Sentinel, 18th May, 1a.

McColl McGregor (1991) General Rolling Promotion. 15th February. Glasgow: McColl McGregor.

McColl McGregor (1991) Visitor Centre Programme Proposal. 19th May. Glasgow: McColl McGregor.

McCormick, J. (1989) The Global Environment Movement: Reclaiming Paradise. London: Belhaven Press.

The Miami Herald (5, 4, 91) 'Ozone Loss Faster Than Expected', 1a.

The Miami Herald (4, 8, 91) 'Nuclear Bomb Material Sent to Iraq, Paper says', 14a.

The Miami Herald (27, 2, 92) 'Aging Nuclear Power Plant Ends Life Amid Safety Debate', 10a.

The Miami Herald (8, 3, 92) 'How the Candidates Stand on the Issues', 6c.

The Miami Herald (9, 3, 92) 'Nuclear Power', 12a.

The Miami Herald (17, 3, 92) 'Financing Deal Arranged', 3c.

The Miami Herald (14, 4, 92) 'Sabal Palms Dying on Gulf Coast', 6b.

The Miami Herald (18, 4, 92) 'Mystery Mist: What's Burning Leaves Off Citrus Trees?', 4b.

The Miami Herald (15, 5, 92) 'U.S. Overrides Wildlife Law to Permit Logging in Oregon', 10a.

The Miami Herald (22, 5, 92) 'Bush's Clean Hot Air Act', 8a.

The Miami Herald (23, 5, 92) 'Plan Weakens Wetlands Protection', 17a.

The Miami Herald (28, 5, 92) 'House OKs Energy-Conservation Package', 12a.

The Miami Herald (1, 8, 92) 'EPA chief: Administration Mishandled Earth Summit', 1a.

The Miami Herald (3, 7, 93) 'Clinton to Announce Nuclear Testing Ban', 8a.

Miller, P. (1991) 'A Comeback for Nuclear Power? Our Electric Future', National Geographic, **180**, (2), 60-89.

Molotch, H. and Lester, M. (1974) 'News as Purposive Behaviour: on the strategic use of routine events, accidents and scandals', American Sociological Review, **39**, 101-12.

Moore, R. (1979) 'Planning for Emerging Issues', Public Relations Journal, **35**, (12), 43-46.

Mortimer, N. (1991) 'Nuclear Power and Global Warming', Energy Policy, **19**, (1), 76-78.

Mortimer, N. (1991) 'Nuclear Power and Carbon Dioxide: The Fallacy of the Nuclear Industry's New Propaganda', The Ecologist, **21**, (3), 129-132.

Nager, N. and Allen, T. (1984) Public relations management by objectives. New York: Longman Inc.

New Statesman and Society (1992) 'Green Politics: Clouded Outlook', **121**, 4100), 26.

Nohrstedt, S.A. (1991) 'The Information Crisis in Sweden after Chernobyl', Media, Culture and Society, **13**, (4), 477-497.

NOU (1986) Informasjonskriser. Oslo: Universitetsforlaget.

The Nuclear Engineer (7/8, 91) 'Come & See Programme', 100.

Nuclear Engineering International (4, 92) 'Scottish Nuclear Sets Up Move to Fuel Storage', 8.

Nuclear Engineering International (4, 92) 'Hann Calls for More PWRs in the UK', 8.

Nuclear Engineering International (5, 92) 'Full Speed Ahead for Public Acceptance?', 6.

NucNet (23, 5, 92) 'Come & See Scottish Nuclear', 91.

O'Hara, J. (1980) 'Thermal Influences on the Swimming Speed of Loggerhead Turtle Hatchlings', Copeia, (4), 773-780.

Out and About (1991) 'Attractions', 15.

Oyen, E. (ed) (1990) Comparative Methodology: Theory and Practice in International Social Research. London: SAGE Publications Ltd.

Oyen, E. (1990) 'Comparative Research as a Sociological Strategy' in Oyen, E. (ed) Comparative Methodology: Theory and Practice in International Social Research. London: SAGE Publications Ltd.,1-18.

Pain, S. (1989) 'Changing Landscapes in a Warmer Britain', New Scientist, **122**, (1665), 31.

Paine, R. (1992) '"Chernobyl" Reaches Norway: the accident, science and the threat to cultural knowledge"', Public Understanding of Science,**1**, 261-280.

Paisley, W. (1981) 'Public Communication Campaigns: The American Experience', in Rice, R. and Paisley, W. (eds) Public Communication Campaigns. Beverly Hills: Sage Publications, 15-40.

Pasztor, J. (1991) 'What Role Can Nuclear Power Play in Mitigating Global Warming?' Energy Policy, **19**, (2), 98-109.

Pearce, F. (1992) 'Can Toyota Save the World?', Audubon, **94**, (6), 132.

Pearson, R. (1987) 'Public Relations Writing Methods by Objectives', Public Relations Review, **13**, (2), 14-26.

Pollak, M. and Schlitz, M. (1988) 'Does Voluntary Testing Matter? How It Influences Homosexual Safer Sex', IVth International Conference on AIDS, Stockholm (13 June).

pr reporter (12, 11, 90) 'Interesting Quotes, Concepts Overheard in Sessions', 4.

Public Relations Journal (1989) 'Environmental Issues Dominate Print Coverage', **45**, (7), 12.

Public Relations Journal (1990) 'Survey: Business Won't Volunteer to Protect Environment', **46**, (6), 16.

Public Relations Journal (1991) 'Corporate Names Reflect Care for the Environment', **47**, (2), 8.

Public Relations Journal (1992) 'Saving the Planet Without All the Hype', **48**, (4), 6.

Public Relations Journal (1992) 'Silver Anvil Awards Recognize Excellence', **48**, (6), 9-24.

Public Relations Society of America (1992) 1992 Silver Anvil Winners. New York: Public Relations Society of America.

Public Relations Society of America (1992) Letter to membership, May.

Public Relations Society of America Foundation (1991) Public Relations: An Overview. New York: Public Relations Society of America Foundation.

Ragin, C. (1989) 'New Directions in Comparative Research', in Kohn, M. (ed) Cross-National Research in Sociology. Newbury Park: Sage, 57-76.

Rankin, R. (1988) 'Fending Off Climate Crisis Won't be Easy', The Miami Herald, 16th October, 1a.

Ridgeway, J. (1992) 'Earth, Air, Water & Oil', Audubon, **94**, (5), 50-51.

Robertson, J. and Carothers, A. (1989) 'The New Economics: Accounting for A Healthy Planet', Greenpeace, **14**, (1), 11-14.

Rolfes, R. (1990) 'How Green is Your Market Basket?' Across the Board, (1/2), 49-51.

Roper, E. (1954) 'Who Tells the Storytellers?', The Saturday Review, **37**, (31), 25-32.

The Roper Organization Inc. (1990) The Environment: Public Attitudes and Behavior. New York.

Ruiz, F. (1991) 'Nuclear Economics', The Tampa Tribune, 10th June, 10-14.

Salmans, S. (1990) 'Labels Go Green', Marketing and Media Decisions, (1), 84.

Sandman, P. and Paden, M. (1979) 'At Three Mile Island', Columbia Journalism Review, **18**, (2), 44-58.

Schattschneider, E.F. (1960) The Semi-Sovereign People: a Realist View of Democracy in America. New York: Rinehart and Winston.

Schlesinger, P. (1989) 'From Production to Propaganda?', Media, Culture and Society, **11**, (3), 283-306.

Schlesinger, P. (1990) 'Rethinking the Sociology of Journalism: source strategies and the limits of media centrism' in Ferguson, M. (ed) Public Communication: the new imperatives. London: Sage Publications Ltd., 61-83.

Schmertz, H. (1983) 'Advocacy Has Its Rewards', Communicator's Journal, **5/6**, 16-19.

Schneider, K. (1991) 'Nuclear Industry Plans Ads to Counter Critics', The New York Times, 13th November, 18a.

Schumpeter, J. (1976) Capitalism, Socialism and Democracy. London: Allen and Unwin.

The Scotsman (15, 6, 92) 'Looking at the Power Industry Through Different Eyes', 6.

Scottish Nuclear Limited (1990) 'In the Big League', Scottish Nuclear News, April: 2.

Scottish Nuclear Limited (1990) 'The Foundation Stones', Scottish Nuclear News, April: 2.

Scottish Nuclear Limited (1990) 'Royal Message', Scottish Nuclear News, June: 3.

Scottish Nuclear Limited (1990) 'MP Sees Safety System', Scottish Nuclear News, September: 1.

Scottish Nuclear Limited (1990) 'America's Nuclear Nineties', Scottish Nuclear News, December: 2.

Scottish Nuclear Limited (1990) Annual Report and Accounts 1989-90. Glasgow: Scottish Nuclear Limited.

Scottish Nuclear Limited (1990) Quality, Safety and Excellence. Glasgow: Scottish Nuclear Limited.

Scottish Nuclear Limited (1990) Towards a New Image: A Community Communications Strategy Paper. Glasgow: Scottish Nuclear Limited.

Scottish Nuclear Limited (1991) Scottish Nuclear Come & See Programme. Glasgow: Scottish Nuclear Limited.

Scottish Nuclear Limited (1991) Annual Report and Accounts 1990-91. Glasgow: Scottish Nuclear Limited.

Scottish Nuclear Limited (1991) 'Councillors Discuss Survey Report', Scottish Nuclear Hunterston Report, March: 3.

Scottish Nuclear Limited (1991) News Release. 5th April. Glasgow: Scottish Nuclear Limited

Scottish Nuclear Limited (1991) 'How Nuclear Will Fit In', Scottish Nuclear News, April: 2.

Scottish Nuclear Limited (1991) 'Labour Looks In', Scottish Nuclear News, April: 2.

Scottish Nuclear Limited (1991) 'Nations Agree', Scottish Nuclear News, April: 3.

Scottish Nuclear Limited (1991) News Release. 15th May. Glasgow: Scottish Nuclear Limited.

Scottish Nuclear Limited (1991) News Release. 20th May. Glasgow: Scottish Nuclear Limited.

Scottish Nuclear Limited (1991) PR Quarterly Report: 23rd May 1991. Glasgow: Scottish Nuclear Limited.

Scottish Nuclear Limited (1991) 'Nothing to Hide', Scottish Nuclear News, June: 1.

Scottish Nuclear Limited (1991) 'They Came and Saw', Scottish Nuclear News, June: 4.

Scottish Nuclear Limited (1991) 'Minister Meets Board', Scottish Nuclear Hunterston Bulletin, June: 2.

Scottish Nuclear Limited (1991) 'They Came and Saw', Scottish Nuclear Hunterston Bulletin, June: 4.

Scottish Nuclear Limited (1991) Nuclear Power - A Vital Necessity?. November. Glasgow: Scottish Nuclear Limited.

Scottish Nuclear Limited (1991) This is SNL. November. Glasgow: Scottish Nuclear Limited.

Scottish Nuclear Limited (1991) How We'll Install Nuclear Power in Your Club. Glasgow: Scottish Nuclear Limited.

Scottish Nuclear Limited (1992) Quality, Safety, Excellence. Glasgow: Scottish Nuclear Limited.

Scottish Nuclear Limited (1992) Scottish Nuclear: Energy and Environmental Data 1992. Glasgow: Scottish Nuclear Limited.

Scottish Nuclear Limited (1992) Torness Power Station. Glasgow: Scottish Nuclear Limited.

Scottish Nuclear Limited (1992) Discovering Hunterston. Glasgow: Scottish Nuclear Limited.

Scottish Nuclear Limited (1992) 'Challenges to Take On', Scottish Nuclear News, February-March: 5.

Scottish Nuclear Limited (1992) 'Filling the Energy Gap', Scottish Nuclear News, February-March: 8.

Scottish Nuclear Limited (1992) News Release. 19th March. Glasgow: Scottish Nuclear Limited.

Scottish Nuclear Limited (1992) 'Talkabout in Demand', Scottish Nuclear News, April: 4.

Scottish Nuclear Limited (1992) News Release. 30th April. Glasgow: Scottish Nuclear Limited.

Scottish Nuclear Limited (1992) 'New Visitor Centre Opens', Scottish Nuclear Hunterston Bulletin, May: 1.

Scottish Nuclear Limited (1992) News Release. 22nd May. Glasgow: Scottish Nuclear Limited.

Scottish Nuclear Limited (1992) 'Minister Opens Visitor Centre', Scottish Nuclear News, June: 5.

Scottish Nuclear Limited (1992) 'Wheels of Industry', Scottish Nuclear News, June: 5.

Scottish Nuclear Limited (1992) 'The Two Vital Years', Scottish Nuclear News, June: 7.

Seitel, F. (1989) The Practice of Public Relations. Columbus, Ohio: Merrill.

Seitel, F. (1992) The Practice of Public Relations. Columbus, Ohio: Merrill.

Shell, A. (1991) 'The Race to Manage Environmental Risk is On', Public Relations Journal, **47**, (8), 6-7.

Sigal, L.V. (1973) Reporters and Officials: the organisation and politics of news-making. Massachusetts: D.C. Heath.

Sigal, L.V. (1986) 'Who? Sources Make the News', in Manoff, R.K. and Schudson, M. (eds) Reading The News, New York: Pantheon Books, 22-37.

Simon, R. (1984) Public Relations Concepts and Practices. New York: Wiley & Sons.

Simpson, R. (1989) 'Six Rules for Selling PR', Simpson and Associates, 200 West 9th St., Wilmington, DE 19801.

Smithsonian (8, 91) 'Entering the Atomic Age', 102.

Snow, D. and Benford, R. (1988) 'Ideology, Frame Resonance, and Participant Mobilization' in Klandermans, B., Kriesi, H. and Tarrow, S. (eds) From Structure to Action: Social Movement Participation Across Cultures. Greenwich, Conn.: JAI, 197-217.

Solesbury, W. (1976) 'The Environmental Agenda: an illustration of how situations may become political issues or issues may demand responses from government; or how they may not', Public Administration, **54**, 379-397.

Spellman, J. (1989) 'Environmental Needs Challenge the Global Marketplace', Europe, (289), 18-20.

Stranahan, S. (1992) 'Reactors Redux' Audubon, **94**, (1), 21-26.

Strouse, C. (1991) 'This is only a Test', The Miami Herald Kendall Neighbors, 24th November, 24-26.

Subcommittee on Public Utilities Committee on Regulated Services and Technology (11, 12, 91) Staff Report on Energy Efficiency Issues.

Sweet, C. (1990) 'Does Nuclear Power Have a Future?', Energy Policy, **18**, (5), 406-422.

Taft, A. (1991) 'Scientists, Theologians Agree: Save the Planet', The Miami Herald, 23rd February, 1e.

Tennesen, M. (1991) 'Shy Seal in a Stormy Sea', National Wildlife Federation, **29**, (1), 21-26.

Teune, H. (1973) 'Public Policy: Macro Perspectives', in Zaltman, G.(ed) Processes and Phenomena of Social Change. New York: Wiley, 239-255.

Teune, H. (1990) 'Comparing Countries: Lessons Learned', in Oyen, E. (ed) Comparative Methodology: Theory and Practice in International Social Research. London: SAGE Publications, 38-62.

Thompson, D. (1992) 'Living Happily Near a Nuclear Trash Heap', Time, 11th May, 53-54.

J. Walter Thompson (1990) JWT Greenwatch: Single Issue Marketing. New York: J. Walter Thompson.

J. Walter Thompson (1990) JWT Greenwatch: Rethinking the Product From Cradle to Grave - An Environmental Perspective. New York: J. Walter Thompson.

Tilson, D. J. (1992) Strategic Management Survey. Miami: Florida Power and Light and Scottish Nuclear Limited.

Time Insider (1991) 'Our Readers Advise', 8.

Truman, D. (1951) The Governmental Process. New York: Alfred A. Knopf.

Turner, R. (1990) 'A Comparative Content Analysis of Biographies' in Oyen, E. (ed) Comparative Methodology: Theory and Practice in International Social Research. London: SAGE Publications Ltd., 134-150.

Tyebjee, T. (1979) 'Telephone Survey Methods: The State of the Art', Journal of Marketing, **43**, (Summer): 68-78.

UNIPEDE (1990) Electricity From Nuclear Energy: A Sense of Proportion. Paris: International Union of Producers and Distributors of Electrical Energy.

United Kingdom Atomic Energy Authority (1986) UKAEA Memorandum to the House of Lords Select Committee on the European Communities: Paper iii. 13th February. London: United Kingdom Atomic Energy Authority.

United Kingdom Atomic Energy Authority (1990) Annual Report and Accounts: 1989-1990. London: United Kingdom Atomic Energy Authority.

United Kingdom Atomic Energy Authority (1990) Nuclear Power and the Greenhouse Effect. London: United Kingdom Atomic Energy Authority.

U.S. Council for Energy Awareness (1990) Energy Use and Global Warming. Washington, D.C.: U.S. Council for Energy Awareness.

U.S. Council for Energy Awareness (1990) Radiation in Perspective. Washington, D.C.: U.S. Council for Energy Awareness.

U.S. Council for Energy Awareness (1990) Reducing Airborne Emissions with Nuclear Electricity. Washington, D.C.: U.S. Council for Energy Awareness.

U.S. Council for Energy Awareness (1990) Nuclear Energy and the Environment. Washington, D.C.: U.S. Council for Energy Awareness.

U.S. Council for Energy Awareness (1991) Advanced Design Nuclear Energy Plants: Competitive, Economical Electricity. Washington, D.C.: U.S. Council for Energy Awareness.

U.S. Council for Energy Awarenss (1991) Radiation in Perspective. Washington, D.C.: U.S. Council for Energy Awareness.

Van Meter, K. (1990) 'Sampling and Cross-classification Analysis in International Social Research' in Oyen, E. (ed) Comparative Methodology: Theory and Practice in International Social Research. London: SAGE Publications Ltd., 172-186.

Velador (10, 92) 'Congress Appropriates $2 million for Carr Refuge', 6.

Wakeham, J. (1991) Energy: Looking to the Future. London: HMSO.

Walker, B. (1991) 'Green Like Me', Greenpeace, (5/6), 8-11.

Walljasper, J. (1990) 'Greens Gain Votes', Europe, (300), 15.

Waltzer, H. (1988) 'Corporate Advocacy Advertising and Political Influence', Public Relations Review, **14**, (1), 41-55.

Wasserman, H. (1991) 'Bush's Pro-Nuke Energy Strategy', The Nation, 20th May, 656-660.

Weber, M. (1978) Economy and Society. Berkeley: University of California Press.

Weiner, T. (1992) 'Council's Gutting of Clean Air Act Beginning to arouse Public Outrage', The Miami Herald, 2nd August, 8a.

Wernick, A. (1991) Promotional Culture: Advertising, ideology and symbolic expression. London: SAGE Publications Ltd.

White, Michael (1988) 'Mickey Taking Trip for George', The Guardian, 6 September, 9a.

Wibbels, T., Martin, R., Martin R., Owens, D. and Amoss, M. (1991) 'Female Biased Sex Ratio of Immature Loggerhead Sea Turtles Inhabiting the Atlantic Coastal Waters of Florida', Canadian Journal of Zoology, **69**, 2973-2977.

Wilcox, D., Ault, P. and Agee, W. (1989) Public Relations Strategies and Tactics. New York: Harper & Row.

Williams-Walls, N., O'Hara, J., Gallagher, R., Worth, D., Peery, B. and Wilcox, J. (1983) 'Spatial and Temporal Trends of Sea Turtle Nesting on Hutchinson Island, Florida, 1971-1979', Bulletin of Marine Science, **33**, (1), 55-66.

Wimmer, R. and Dominick, J. (1983) Mass Media Research: An Introduction. Belmont, California: Wadsworth.

Winokur, D. and Kinkead, R. (1993) 'How Public Relations Fits Into Corporate Strategy', Public Relations Journal, **49**, (5), 16-23.

World Wildlife Fund (1992) 'WWF Launches Innovative Environmental Education Program Nationwide', Focus, March-April, 1.

World Wildlife Fund (1992) 'Kids Challenge Adults to Moderate Global Warming', Focus, September-October, 7.

Wybrow, R. (1989) Britain Speaks Out, 1937-1987: A Social History as Seen Through the Gallup Data. London: The MacMillan Press Ltd.

APPENDIX 1
LIST OF INTERVIEW TRANSCRIPTS

The following list provides details of the name, position and place of work of each interviewee, together with the date when the interview was conducted, where it took place and the number of double-spaced A4 pages of each interview transcript.

Representatives of Industry

1) Janice Brady, Energy Encounter Administrator, and Deborah Ferris, Energy Encounter Educational Representative, Florida Power and Light -14th Aug. 1991 - office - 7 pages; Brady - 28th Jan. 1992 - telephone conversation - 3 pages.
2) Annette Canon, Community Information Manager, Florida Power and Light - 3rd Feb. 1992 - telephone conversation - 2 pages.
3) 'Come & See' coach courier, Scottish Nuclear Limited - 22nd June 1992 - Torness Visitor Centre and coach - 4 pages.
4) Jill Kent, Public and Community Affairs Officer, Scottish Nuclear Limited - 17th June 1992 - office - 4 pages.
5) Dick Marshall, Public Relations Manager, Scottish Nuclear Limited - 20th June 1991 - office - 8 pages; 27th June 1991 - office - 9 pages.
6) Tom Veenstra, Investor Relations Manager, Florida Power and Light Group - 14th Aug. 1991 - office - 7 pages; 24th Jan. 1992 - telephone conversation - 5 pages.

Representatives of the Department of Natural Resources

1) Alan Huff, Florida Marine Research Institute Officer - 2nd March 1992 - telephone conversation - 2 pages.

Representatives of Scientific Bodies

1) Erik Martin, Senior Scientist, Applied Biology, Inc. - 19th May 1992 -telephone conversation - 3 pages.

Total Number of Interviewees: 9

Average Length of Transcripts: 5 pages

APPENDIX 2
INTERVIEW SCHEDULES

(These were used as a general framework for the interviews. The questions were not asked in any particular order)

(i) Interview Schedule: Industry Representatives

(1) How is PR organised in your company? How is the visitor centre staffed? How does its management fit into the rest of the organisation?

(2) Where did the idea for the centre come from? What is its purpose? When did it open? What was opening day like? Who attended, etc.?

(3) How is centre publicised (advertising, direct mail, press releases)? How much media coverage has there been (copies of press clips?)? What special audiences are being encouraged to visit and how are they being contacted? Samples of promotional literature?

(4) What displays, etc. are at the centre, special programmes, shows, samples of brochures and other literature available at the centre? What other functions are held at the centre?

(5) How do audiences feel about the centre? How is attendance measured?Are visitors surveyed for their opinions afterward (if so, how)? Any other ways to measure success?

(6) What are the main messages about nuclear energy that your company wants to communicate? How do people in Florida/Scotland feel about nuclear energy? What is the status of nuclear energy in Florida/Scotland?

(The following were company-specific questions for Florida Power and Light and Scottish Nuclear Limited)

Florida Power and Light

(7) Which media have been targeted for the Visitor Centre advertising campaign? Is there a past and/or current advertising schedule? May I have a copy?

(8) How is Corporate Communication organised? Who reports to whom? Who handles your old Nuclear Information duties now? To whom does Janice Brady report to? Number of people in Corporate Communication? If you have an organisational chart you could send me, that would help clear things up.

(9) Recent media articles about the emergency drill at Turkey Point mentioned that customers in the area receive a special FPL booklet on preparedness. Do customers around Port St. Lucie receive one also? Could I get a copy of each booklet? When was the last drill at Port St. Lucie? The next one? What ratings has the NRC given it?

(10) Where does FPL send its low-level waste? The Visitor Centre mentions that it's sent to an approved site, but doesn't say where. Why doesn't FPL store its low-level waste on-site? (Some nuclear plants do).

(11) Who in FPL handles corporate contributions? I'd like to get the person's name, address, and phone.

(12) Since we talked, have there been any special community functions, VIPs, new developments at the Visitor Centre? Any new media clippings? What has the attendance been this year, especially numbers of students?

(13) You mentioned that FPL was monitoring lobsters held in tanks at Port St. Lucie by law. Is this a state or a federal requirement? Please explain more.

Scottish Nuclear Limited

(14) Will visitors to Hunterston/Torness be surveyed? If so, please describe how this will be done. If visitors are already being surveyed, please describe procedure and provide information on survey results (when started, number of responses, results). Please also include a copy of the questionnaire used.

(15) Please list the members of the Liaison Committee for both Torness and for Hunterston and describe how Committee members were selected. Do Committees have any official duties/powers or are they advisory in nature? Describe any assistance members give in organising visits to Hunterston/Torness.

(16) Please provide some background on the Coastal Walkway at Torness.Where did idea for walkway come from? Was community involved in planning/building, especially any environmental organisations?

(17) Have any environmental organisations visited Hunterston/Torness as part of Come and See programme? If so, which groups and what was their reaction? What prompted visits - advertising, company invitation? If invited by SNL, on what basis were they selected and how were they contacted?

(18) Since the initial Come and See press conference, have any media visited Hunterston/Torness? If so, which media and what prompted

visits - company press releases, call from company? Did visit result in coverage? If print, please provide press clippings. Are any specific members of the media being invited by SNL to tour Hunterston/Torness? If so, which ones and why?

(19) Did SNL's exhibit at Lyons, France result in any VIP visits to Hunterston/Torness? If so, who visited and what was reaction? Does SNL plan to participate in any similar exhibitions in the near future? If so, where/when and which audience is SNL trying to reach?

(20) Has second proposal from McColl/McGregor been approved? If so, when was it implemented? Please provide a copy of final project description. If not approved, do you expect to implement? When?

(21) Please provide the socio-economic groups surveyed in April by Market Research Scotland.

APPENDIX 3

NUCLEAR INFORMATION STRATEGIC MANAGEMENT SURVEY - U.S.

I. Public Policy Issues and Policymaking

1) How would you rate the ability of your company's management team to identify policy issues in advance of their impact on corporate operations?

_____Excellent_____Good_____Average_____Poor

2) Does your company have a formal method for identifying and tracking policy issues? _____Yes _____No

3) If your company has a formal method, is it:

_____ maintained by internal staff and resources, or

_____ contracted to an outside service, or

_____ both of the above?

4) In what manner and to what extent is Public Relations involved in identifying and tracking policy issues?

_____

_____

5) Do you or your department regularly prepare a formal agenda of issues for review by senior management? _____ Yes _____No

6) If a formal agenda is not prepared, is there another manner in which senior management are surveyed for their views?

_____

_____

7) Is your agenda developed with input from the level of business-unit managers? _____Yes _____ No

8) How would you describe your CEO's participation in this process?

____Very Significant ____Significant ____Average____Mimimal____ None

9) If policy decisions are made at your corporate headquarters, at which level do these decisions occur?

____Chairman of the Board _____ President or CEO

_____Executive Vice President _____ Senior Vice President

_____ Vice President _____ Other _____

10) In what manner and to what extent is Public Relations involved in the policy-making decision process?

_____

_____

_____

11) Please rank the following issues in the order of most concern to your company (1 - 12) this year and in 1993, using 1 as the highest.

_____ Decommissioning of nuclear power plants

_____ Nuclear power production: planning long-term development

_____ Reprocessing and recycling of unused nuclear fuel

_____ Nuclear waste disposal

_____ Transportation of nuclear waste

_____ Nuclear worker health and safety

_____ National energy policy

_____ Safety of nuclear power production

_____ Honesty and openness of nuclear industry

_____ Costs of nuclear generated electricity

_____ Nuclear radiation leaks

_____ Nuclear energy and the environment

_____ Other _____

12) Which of these issue(s) as ranked by you do you feel concern your publics? Write number of issue by public and level of importance.

Issue by level of importance

Public	Prime	Significant	Lesser importance
Federal govern			
State govern.			
Local govern.			
Environ-mentalists			
Customers			
The media			
Other companies in the same industry			
Other industries in same region			
Financial community			

13) During 1991 did your company seek outside assistance in analyzing any of the above issues? _____ Yes _____ No

14) If "Yes", to whom did you go for such assistance?

_____

_____

15) For which issues did you seek assistance and what kind of assistance was provided? What role did Public Relations play in this process?

_____

_____

_____

16) If these issues were analyzed internally, in what manner and to what extent was Public Relations involved in the process?

_____

_____

II. Company Involvement in Environmental Issues

1) Does your company have a corporate environmental policy statement?

_____ Yes _____ No (If so, please attach a copy).

2) If "Yes", has your company developed appropriate practices and guidelines for implementation and monitoring? _____Yes _____ No (If so, please attach a copy)

3) If "Yes", how are these guidelines distributed to employees?

_____

_____

4) Has your company set specific environmental goals and objectives for 1992? _____ Yes _____ No (If so, please attach a copy)

5) If your company has a internal unit at corporate headquarters which is responsible for environmental policy/issues, where it is located?

_____ in a specialized unit dealing only with environmental affairs

_____ assigned as a major responsibility to an existing corporate function such as:

_____ manufacturing _____ public relations

_____ engineering _____ planning

_____ research _____ legal

_____ corporate committee / task force headed by _____(title)

_____other_____

6) Which of the following practices are part of your company's environmental affairs strategy? Please check as many items as appropriate.

1. Promoting nuclear power as 'environmentally friendly' through the use of advertisements _____

2. Promoting nuclear power as 'environmentally friendly' to the media _____

3. Promoting nuclear power as 'environmentally friendly' in company public talks program _____

4. Promoting nuclear power as 'environmentally friendly' in company exhibits and displays _____

5. Promoting nuclear power as 'environmentally friendly' to elected and appointed government officials _____

6. Promoting nuclear power as 'environmentally friendly' to environmentalists _____

7. Promoting nuclear power as 'environmentally friendly' in bill inserts and other customer literature _____

8. Promoting nuclear power as 'environmentally friendly' through industry-wide efforts _____

9. None of the above _____

7) Do you believe, in general, that existing environmental standards are reasonable and/or technically feasible as they relate to your industry? _____ Yes _____ No (Please comment).

_____

_____

8) To what extent do your company's environmental policy decisions reflect responses to any or all of the factors listed below? Please rate the importance of each to your company's policy process. (1 being highest in importance; 5 being lowest).

_____ Social responsibility

_____ Response to legal or regulatory requirement(s)

_____ Response to community pressure

_____ Response to the threat of litigation

_____ Other

9) In what manner is your company participating in the development of federal government environmental policies as they relate to your industry? (Check all that apply).

_____ special task force or committee within the company

_____ lobbying

_____ special industry-wide task force or committee

_____ general monitoring

_____ not working on this currently

_____other_____

10) Do you expect your company's activities will be significantly affected by the movement toward European Community-wide environmental standards? _____ Yes _____ No (Please comment).

_____

_____

_____

_____

III. Corporate Relations with Publics

1) How would you rank the importance of each of these publics to your company? Rank in order of importance, 1-9, using 1 as highest.

_____ Other companies in same industry _____ Other industries in same region

_____ Federal government

_____ State governments

_____ Local governments

_____ Environmentalists

_____ Customers

_____ Financial community

_____ The media

2) How would you describe your working relationship with the following publics (rate each from 1 to 5; 1 being the most, 5 the least)?

Nature of working relationship

	PRODUCTIVE	ADVERSARIAL	EDUCATIONAL	PROACTIVE	REACTIVE
Federal regulatory agencies					
State regulatory agencies					
Local reg. agencies					
Environmentalists (in general)					
Greenpeace					
National Audubon Soc.					
World Wildlife Fund					
Center for Marine Conservation					
Fla. Audubon Society					
Fla. Wildlife Fed.					
Fla. Defenders of Environment					
Fla. Nature Conservancy					
Caribbean Conservation Corporation					

Nature of working relationship

PRODUCTIVE ADVERSARIAL EDUCATIONAL PROACTIVE REACTIVE

Florida
Conservation
Foundation

Save the
Manatee Club

Financial
community

Customers

The media

Other companies
in same industries

Other industries
in same region

Political parties

Republican

Democrat

3) Of the groups mentioned above, please name three groups with whom you think your company's relationship has been the most productive and briefly explain why.

1._____

_____

2._____

_____

3._____

_____

4) Please name three groups with whom you think your company's relationship has been the least productive and briefly explain why.

1._____

_____

2_____

_____

3._____

_____

5) Rate the following media in terms of their editorial policy toward nuclear power and coverage of your company's activities.

	Very positive				Very negative
a. The Stuart News	____	____	____	____	____
b. Palm Beach Post	____	____	____	____	____
c. St. Lucie Tribune	____	____	____	____	____
d. Out and About	____	____	____	____	____
e. Ft. Pierce News-Trib.	____	____	____	____	____
f. Florida Today	____	____	____	____	____
g. Palm Beach Daily News	____	____	____	____	____
h. Vero Bch. Press Journ.	____	____	____	____	____
i. West Plm Bch.Eve.Times	____	____	____	____	____
j. Miami Herald (Ft. Pierce)	____	____	____	____	____
k. 50 Plus	____	____	____	____	____
l. Sebastian Sun	____	____	____	____	____
m. Port St.Lucie News	____	____	____	____	____
n. Indian River Pictorial	____	____	____	____	____
o. Bus. Journ. of Treas. Coast	____	____	____	____	____

	Very positive				Very negative
p. Martin County News	____	____	____	____	____
q. West Plm. Beach Town Crier	____	____	____	____	____
r. The Times (Melbourne)	____	____	____	____	____
s. Ft. Pierce Chronicle	____	____	____	____	____
t. Jupiter Courier-Journal	____	____	____	____	____
u. WTVX-TV, Ch. 34 (Ft. Pierce)	____	____	____	____	____
v. WMOD-TV, Ch. 43 (Melbourne)	____	____	____	____	____
w. WFLX-TV, Ch. 29 (West Palm Beach)	____	____	____	____	____
x. WPEC-TV, Ch. 12 (Port St. Lucie)	____	____	____	____	____
y. WPTV-TV, Ch. 5 (West Palm Beach)	____	____	____	____	____
z. WPBF-TV, Ch. 25 (West Palm Beach)	____	____	____	____	____
aa. WSTV-AM, Stuart	____	____	____	____	____
bb. WTRU-AM, Jupiter	____	____	____	____	____
cc. WDKC-AM, Ft. Pierce	____	____	____	____	____
dd. WIRA-AM, Ft. Pierce	____	____	____	____	____
ee. WKGR-AM, Ft. Pierce	____	____	____	____	____
ff. WPSL-AM, Port St. Luc.	____	____	____	____	____
gg. WZZR-FM, Port St. Luc.	____	____	____	____	____
hh. WCXL-FM, Vero Beach	____	____	____	____	____
ii. WTTB-AM, Vero Beach	____	____	____	____	____
jj. WAXE-AM, Vero Beach	____	____	____	____	____
kk. WGYL-FM, Vero Beach	____	____	____	____	____

	Very positive				Very negative
ll. WAVW-FM, Vero Beach	____	____	____	____	____
mm. WMEL-AM, Melbourne	____	____	____	____	____
nn. WMMB-AM, Melbourne	____	____	____	____	____
oo. WTAI-AM, Melbourne	____	____	____	____	____
pp. WJNO-AM, West Plm Bch	____	____	____	____	____
qq. WPBR-AM, West Plm Bch	____	____	____	____	____
rr. WEAT-AM, West Plm Bch	____	____	____	____	____
ss. WIRK-AM, West Plm Bch	____	____	____	____	____
tt. WNGS-FM, West Plm Bch	____	____	____	____	____
uu. WPOM-AM, West Plm Bch	____	____	____	____	____
vv. WRMF-FM, West Plm Bch	____	____	____	____	____

6) What is your company's strategy in dealing with those media which are either neutral or negative toward nuclear power?

_____

_____

_____

_____

7) What are some of your most effective methods in getting positive media coverage of company activities?

_____

_____

_____

8) Of the media listed above, which five would you rank as the most important in terms of reaching your company's key publics? Rank 1 to 5 in order of importance. Which public are you trying to reach through each medium?

Medium	Key Public to be Reached
1)	
2)	
3)	
4)	
5)	

9) Rate the following political parties in terms of their party's position toward nuclear power.

	Very positive				Very negative
a. Republican	_____	_____	_____	_____	_____
b. Democrat	_____	_____	_____	_____	_____

10) What is your company's strategy in dealing with parties or politicians who are either neutral or negative toward nuclear power?

_____

_____

_____

_____

11) What are some of your most effective methods in communicating your company's message to politicians?

_____

_____

_____

12) If your company wishes to influence the outcome of an issue, which method or combination of methods do you find most effective? **(Check one).**

_____ lobbying about a single issue

_____ working through an industry-wide association

_____ retaining the consultancy services of an elected representative

_____ supporting pressure groups

_____ buying advertising

_____ using outside public relations consultants

_____ working cooperatively with groups of companies

_____other_____

13) Considering the issues facing your company, what are the five most important messages you wish to communicate to your publics? Rank messages in order of most important.

1._____

2._____

3._____

4._____

5._____

14) Of these messages, which ones do you want to communicate to which publics? Write number of message(s) listed above next to public (e.g. Media -- # 1, #3, etc.).

Public	Message(s)
Federal government	_____
State government	_____
Local government	_____
Environmentalists	_____
Customers	_____
The media	_____
Other companies in same industry	_____
Other industries in same region	_____
Financial community	_____

APPENDIX 4

NUCLEAR INFORMATION
STRATEGIC MANAGEMENT SURVEY - U.K.

I. Public Policy Issues and Policymaking

1) How would you rate the ability of your company's management team to identify policy issues in advance of their impact on corporate operations?

_____ Excellent _____ Good _____Average _____ Poor

2) Does your company have a formal method for identifying and tracking policy issues? _____ Yes _____ No

3) If your company has a formal method, is it:

_____ maintained by internal staff and resources, or

_____ contracted to an outside service, or

_____ both of the above?

4) In what manner and to what extent is Public Relations involved in identifying and tracking policy issues?

_____

_____

5) Do you or your department regularly prepare a formal agenda of issues for review by senior management? _____ Yes _____No

6) If a formal agenda is not prepared, is there another manner in which senior management are surveyed for their views?

_____

_____

7) Is your agenda developed with input from the level of business-unit managers? _____Yes _____ No

8) How would you describe your CEO's participation in this process?

____Very Significant ____Significant ____Average____Mimimal____ None

9) If policy decisions are made at your corporate headquarters, at which level do these decisions occur?

____ Chairman of the Board _____ President or CEO

_____ Executive Vice President _____ Senior Vice President

_____ Vice President _____ Other _____

10) In what manner and to what extent is Public Relations involved in the policy-making decision process?

_____

_____

_____

11) Please rank the following issues in the order of most concern to your company (1 - 12) this year and in 1993, using 1 as the highest.

_____ Decommissioning of nuclear power plants

_____ Nuclear power production: planning long-term development

_____ Reprocessing and recycling of unused nuclear fuel

_____ Nuclear waste disposal

_____ Transportation of nuclear waste

_____ Nuclear worker health and safety

_____ National energy policy

_____ Safety of nuclear power production

_____ Honesty and openness of nuclear industry

_____ Costs of nuclear generated electricity

_____ Nuclear radiation leaks

_____ Nuclear energy and the environment

_____ Other _____

12) Which of these issue(s) as ranked by you do you feel concern your publics? Write number of issue by public and level of importance.

Public	Issue by level of importance: Prime	Significant	Lesser importance
National govern.	_____	_____	_____
Regional govern.	_____	_____	_____
Local govern.	_____	_____	_____
Environmentalists	_____	_____	_____
Local community groups	_____	_____	_____
The media	_____	_____	_____
Other companies in same industry	_____	_____	_____
Other industries in same region	_____	_____	_____
Financial community	_____	_____	_____

13) During 1991 did your company seek outside assistance in analyzing any of the above issues? _____ Yes _____ No

14) If "Yes", to whom did you go for such assistance?

_____

_____

15) For which issues did you seek assistance and what kind of assistance was provided? What role did Public Relations play in this process?

_____

_____

_____

16) If these issues were analyzed internally, in what manner and to what extent was Public Relations involved in the process?

_____

_____

II. Company Involvement in Environmental Issues

1) Does your company have a corporate environmental policy statement? _____ Yes _____ No (If so, please attach a copy).

2) If "Yes", has your company developed appropriate practices and guidelines for implementation and monitoring? _____Yes _____ No (If so, please attach a copy)

3) If "Yes", how are these guidelines distributed to employees?

_____

_____

4) Has your company set specific environmental goals and objectives for 1992? _____ Yes _____ No (If so, please attach a copy)

5) If your company has a internal unit at corporate headquarters which is responsible for environmental policy/issues, where it is located?

_____ in a specialized unit dealing only with environmental affairs

_____ assigned as a major responsibility to an existing corporate function such as:

____ manufacturing	_____ public relations
____ engineering	_____ planning
____ research	_____ legal

_____ corporate committee/task force headed by _____(title)

_____other_____

6) Which of the following practices are part of your company's environmental affairs strategy? Please tick as many items as appropriate.

1. Promoting nuclear power as 'environmentally friendly' through the use of advertisements _____

2. Promoting nuclear power as 'environmentally friendly' to the media _____

3. Promoting nuclear power as 'environmentally friendly' in company public talks program _____

4. Promoting nuclear power as 'environmentally friendly' in company exhibits and displays _____

5. Promoting nuclear power as 'environmentally friendly' to elected and appointed government officials _____

6. Promoting nuclear power as 'environmentally friendly' to environmentalists _____

7. Promoting nuclear power as 'environmentally friendly' through industry-wide efforts _____

8. None of the above _____

7) Do you believe, in general, that existing environmental standards are reasonable and/or technically feasible as they relate to your industry?

Yes _____ No_____(Please comment).

_____

_____

_____

8) To what extent do your company's environmental policy decisions reflect responses to any or all of the factors listed below? Please rate the importance of each to your company's policy process.

(1 being highest in importance; 5 being lowest).

_____ Social responsibility

_____ Response to legal or regulatory requirement(s)

_____ Response to community pressure

_____ Response to the threat of litigation

_____ Other

9) In what manner is your company participating in the development of European Community-wide environmental policies as they relate to your industry? (Tick all that apply).

_____ special task force or committee within the company

_____ lobbying

_____ special industry-wide task force or committee

_____ general monitoring

_____ not working on this currently

_____other_____

10) Do you expect your company's activities will be significantly affected by the movement toward European Community-wide environmental standards?

_____ Yes _____ No (Please comment).

_____

_____

_____

_____

III. Corporate Relations with Publics

1) How would you rank the importance of each of these publics to your company? Rank in order of importance, 1-9, using 1 as highest.

_____ Other companies in same industry _____ Other industries in same region

_____ National government

_____ Regional government

_____ Local governments

_____ Environmentalists

_____ Local community groups

_____ Financial community

_____ The media

2) How would you describe your working relationship with the following publics (rate each from 1 to 5; 1 being the most, 5 the least)?

Nature of working relationship

	PRODUCTIVE	ADVERSARIAL	EDUCATIONAL	PROACTIVE	REACTIVE
National regulatory agencies					
Regional regulatory agencies					
Local reg. agencies					
Environmentalists(in general)					
Greenpeace					
Friends of Earth					
World Wide Fund					
Financial community					
Local community groups					
The media					
Other companies in same industry					
Other industries in same region					
Political parties					
Conservative					
Labour					
Scot. National					
Liberal Democrats					
Green Party					

3) Of the groups mentioned above, please name three groups with whom you think your company's relationship has been the most productive and briefly explain why.

1._____

_____

2._____

_____

3._____

_____

4) Please name three groups with whom you think your company's relationship has been the least productive and briefly explain why.

1._____

_____

2._____

_____

3._____

_____

5) Rate the following media in terms of their editorial policy toward nuclear power and coverage of your company's activities.

	Very positive				Very negative
a. Daily Record	____	____	____	____	____
b. The Sun (Scot)	____	____	____	____	____
c. Scot.on Sunday	____	____	____	____	____
d. Sun.Times (Scot)	____	____	____	____	____
e. Sunday Mail	____	____	____	____	____
f. The Scotsman	____	____	____	____	____
g. Edin. Eve. News	____	____	____	____	____
h. E. Lothian News	____	____	____	____	____
i. E. Lothian Cour.	____	____	____	____	____
j. Glasgow Herald	____	____	____	____	____
k. Glas.Eve.Times	____	____	____	____	____
l. Guthrie Newsp.	____	____	____	____	____
m. S & UN Ayrshire	____	____	____	____	____
n. West Sound	____	____	____	____	____
o. Radio Clyde	____	____	____	____	____
p. Radio Forth	____	____	____	____	____
q. BBC TV-Scotland (Glasgow)	____	____	____	____	____
r. BBC TV-Scotland (Edinburgh)	____	____	____	____	____
s. Scottish Telev.	____	____	____	____	____

6) What is your company's strategy in dealing with those media which are either neutral or negative toward nuclear power?

_____

_____

_____

_____

7) What are some of your most effective methods in getting positive media coverage of company activities?

_____

_____

_____

8) Of the media listed above, which five would you rank as the most important in terms of reaching your company's key publics? Rank 1 to 5 in order of importance. Which public are you trying to reach through each medium?

Medium	Key Public to be Reached
1)	
2)	
3)	
4)	
5)	

9) Rate the following political parties in terms of their party's position toward nuclear power.

	Very positive				**Very negative**
a. Conservative	_____	_____	_____	_____	_____
b. Labour	_____	_____	_____	_____	_____
c. Scot. Natl.	_____	_____	_____	_____	_____
d. Liberal Demo.	_____	_____	_____	_____	_____
e. Green Party	_____	_____	_____	_____	_____

10) What is your company's strategy in dealing with parties or politicians who are either neutral or negative toward nuclear power?

_____

_____

11) What are some of your most effective methods in communicating your company's message to politicians?

_____

_____

_____

12) If your company wishes to influence the outcome of an issue, which method or combination of methods do you find most effective? (Tick one).

_____ lobbying about a single issue

_____ working through an industry-wide association

_____ retaining the consultancy services of an elected representative

_____ supporting pressure groups

_____ buying advertising

_____ using outside public relations consultants

_____ working cooperatively with groups of companies

_____other_____

13) Considering the issues facing your company, what are the five most important messages you wish to communicate to your publics? Rank messages in order of most important.

1._____

2._____

3._____

4._____

5._____

14) Of these messages, which ones do you want to communicate to which publics? Write number of message(s) listed above next to public (e.g. Media -- # 1, #3, etc.).

Public	Message(s)
National government	_____
Regional government	_____
Local government	_____
Environmentalists	_____
Local community groups	_____
The media	_____
Other companies in same industry	_____
Other industries in same region	_____
Financial community	_____