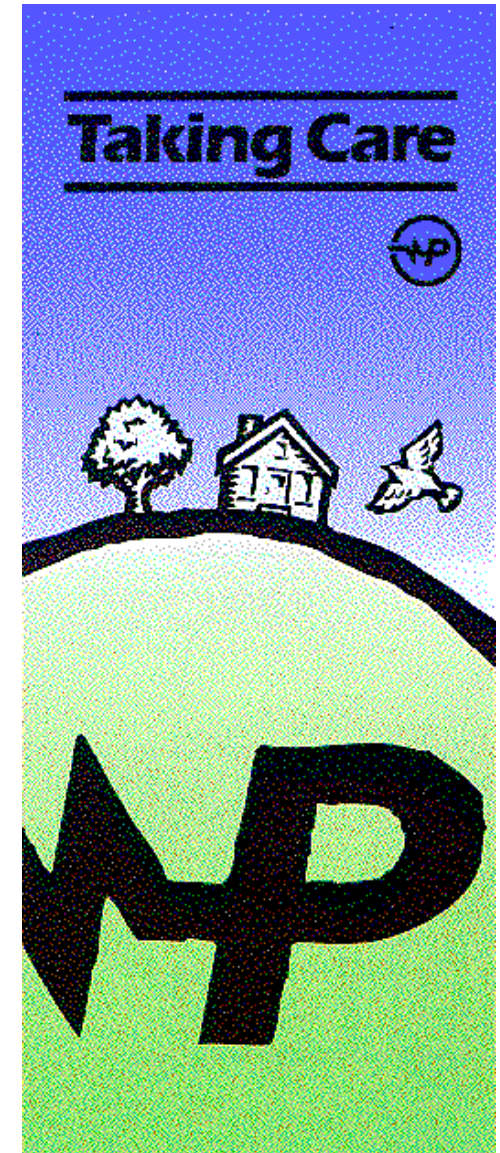


ENVIRONMENTAL REPORT
TO EMPLOYEES
1994

"Nova Scotia Power shares in the desire of Nova Scotians to enjoy the benefits of a sound economy in a healthy environment, and is committed to conducting its business in a manner which is respectful and protective of the environment and in full compliance with legal requirements and Company policy".



January 25, 1995

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PREFACE
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In the last four years, our Environmental Report to Employees has for the most part concentrated on the events of the year. In this fifth year, it is appropriate to take stock and see where we are compared to where we have been.

The promulgation of the first environmental legislation in Canada and in Nova Scotia, and the formation of federal and provincial departments of the environment in the mid-1970s, brought a challenge to industry to develop and operate their facilities in a manner which recognized environmental values. It is safe to say that this demanded a radical change in the way companies, including Nova Scotia Power, would conduct their business. The start for Nova Scotia Power was the hiring of its first environmental officer. With no organized environmental program a long and steep climb began. We have gone through a period of first reacting to legislation, then being prepared and ready to be part of the environmental process, and then being proactive working with Government and environmental advocacy organizations to do our business in a sustainable manner, where the economic health of the Company and its environmental performance are constantly being balanced. Indeed, we can all be proud of our progress.

This outstanding progress has been accomplished thanks to the joint commitment of our employees and our management. Our next objective is to be recognized as **the most environmentally friendly company in Nova Scotia**. It is up to all of us to make it happen.

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Introduction
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Taking Care and *To be the Best* are compelling phrases to guide environmental initiatives at Nova Scotia Power. The challenge is to couple progressive environmental action and sound economic planning in this publicly traded company to achieve effective and attainable commitment to environmental goals. *Taking Care* means that the Company commits the resources to adhere to day-to-day environmental constraints. *Taking Care* also implies that *environmental management systems* are in place to fulfil long-term commitment to effective environmental protection.

The report of the National Task Force on Environment and Economy in 1987 noted that the economy and its participants exist within the environment, not outside it; therefore we cannot expect to maintain economic prosperity unless we protect the environment and our resource base, the building blocks of development. They also noted that correspondingly, economic growth and prosperity provide us with the capability to support wise resource management and protect environmental quality.

This is our fifth *Annual Environmental Report to Employees* and it provides us with an opportunity to not only highlight events of the past year, but to review the progress we have made over the past several years in establishing our strong reputation as an environmental leader in Nova Scotia.

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***Environmental
Management Systems***

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Environmental management systems are primarily voluntary actions implemented by industry for the purpose of demonstrating Due Diligence. Components of interest to Nova Scotia Power cover twelve subject areas:

- policies, procedures and protocols;
- management information systems;
- environmental assessment;
- quality assurance;
- risk assessment and risk management;
- environmental regulatory affairs;
- day-to-day compliance management;
- issue specific programs;
- environmental planning;
- training and education;
- communication; and
- environmental audit.

Nova Scotia Power has programs in place to cover elements of each component. A few are reviewed here.

Training, Education, and Communication

Environment is recognized across the Company as one of five corporate values. Employees, shareholders and customers receive information about the Company's actions on the environment through pamphlets, bill stuffers, annual reports, and via NSPI participation in public events.

Where specialized environmental training is a prerequisite to perform particular tasks with excellence, the Company uses a combination of internal and external programs for its

staff. Nova Scotia Power can address a broad array of issues like transportation of dangerous goods, electric and magnetic fields, PCB management, pest control products, oil release response, environmental auditing, environmental assessment, atmospheric modelling, wildlife protection, and investigation of soils for possible contamination. Our objective is proactive *environmental management*. The pay-back is enhanced environmental protection at a cost lower than if we were just reacting to initiatives outside of our control.

Day to Day Compliance Management

To check compliance with environmental requirements, NSPI conducts sampling programs to monitor air and water quality at our thermal generating stations. Each year some 6000 samples are collected from approximately 215 sites at our facilities and analyzed for several chemical parameters. Management of this information has proven a challenge, considering the special requirements for quality assurance that accompanies regulatory monitoring and reporting. The solution was to custom design a computer software program with satellite programs at each thermal generating station.

Issue-Specific Programs

As with many companies, the range of activities at Nova Scotia Power is so broad that issues do arise that require some focused attention.

Fluctuations of pH in wastewaters at the Lingan generating station led to the installation of a neutralization facility. Concerns over atmospheric emissions at Tufts Cove Generating Station have resulted in the installation of equipment to reduce emission of suspended particulates.

Construction at Point Aconi required development of enhanced treatment and flocculation of silty site runoff. Its success is demonstrated in that the project has subsequently been used by the provincial environment department as an example for other industries.

The *due diligence* program also includes actions to address issues which are not regulatory in nature. Management of PCB, of electric and magnetic field issues, and increasing attention to sustainability opportunities represent a few additional areas which have *issue-specific programs* at NSPI.

Environmental Planning and Assessment

All major new projects and activities of the Company are reviewed under an Environmental Assessment process in accordance with provincial and federal laws and regulations.



Point Aconi Generating Station

Nova Scotia Power has successfully completed environmental assessment for the Point Aconi Unit #1 Generating Station, the first project reviewed under the province's Environmental Assessment Act of 1989. Environmental assessment review is also carried out for major projects and other activities that have a potential to negatively affect the environment.

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Environmental Technology at NSPI
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To remain competitive, modern industry must keep pace with technological development and continuously assess the status, relevance, benefits, and costs of opportunities for change.

Nova Scotia Power's technological applications range from computer software packages for environmental monitoring to an experimental electric vehicle, to the world's largest Circulating Fluidized Bed combustor at the Point Aconi Generating Station.

Managing Information

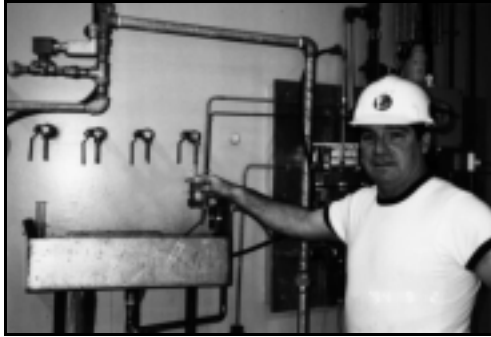
Environmental Technology at NSPI is used for information management to support everyday business activities. Computer models are under constant assessment and upgrade. Environmental monitoring results travel with other types of information along advanced fibre optics pathways throughout the NSPI system. Links to the national and international "information highways" are maintained to keep NSPI well informed about regulatory, technical, scientific and general environmental information.

Monitoring of Environmental Quality

Monitoring equipment is complicated. Sophisticated equipment like meters for electric and magnetic fields and environmental noise in the hands of well-trained users assures the quality of such information. Other advanced equipment is installed to provide continuous monitoring of concentrations of combustion gases in stacks. This

information is used for control of operations and for meeting regulatory-defined objectives.

Chemical wastewater treatment systems are designed to modify the quality of collected site runoff or process waters to make them acceptable either for further use or for discharge to the environment. During discharge, monitoring equipment provides continuous feed-back to system operators to help them adjust treatment processes and maintain water quality, or to automatically shut down discharge until proper quality is restored.



Operator Obtains Sample at Wastewater Treatment Plant at Tufts Cove

Environmental Technology at NSPI is apparent in the program to upgrade the environmental performance of the older generating station at Tufts Cove in Dartmouth. A custom-designed and newly installed electrostatic precipitator collects suspended flyash particles from the combustion gases leaving the stack of Unit No. 2, with a particle removal efficiency near 100%.

Advanced Technology for Thermal Stations

The management of acid gas emissions - both Sulphur Dioxide (SO₂) and Nitrogen Oxides (NO_x) is an important initiative at Nova Scotia Power. Unit No. 6 at the Trenton Generating Station includes low-NO_x burners which control the mixture of the combustion air and fuel to optimize efficiency and NO_x production. The Circulating Fluidized Bed (CFB) technology

used at Point Aconi to reduce SO₂ emissions by 90%, also reduces Nitrogen Oxide emissions by 65 to 75% compared to conventional technologies, because of its lower operating temperature. The station is an important part of the Company's plan to meet its commitments to limits on sulphur dioxide emissions for the year 1995 and beyond.

At the Point Aconi ash disposal site, a plastic liner and a low-permeability base prevent contaminated water from reaching underlying groundwater.

Specially-designed water trucks, which are necessary to condition CFB residue for ease of handling, as well as for dust control during landfill operations, are also representative of advanced environmental technology.



Water Truck Loading from Gantry at Point Aconi Ash Site

Nova Scotia Power continues to incorporate new environmental technology as it prepares itself for the ever increasing challenges of operating in a sustainable manner. Development of advanced environmental technology has occurred rapidly - its application is wide-spread across the Company.

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**Environmental
Monitoring
at NSPI**
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Nova Scotia Power assigns considerable effort to the monitoring of both its operating and environmental performance. Uses of the information can range from control of station operations to preparation of formal reports to regulators. Information is provided to the public and shareholders through various publications.

Environmental Monitoring

Some environmental monitoring programs are based on continuous recording of information, like the measurement of concentration of potential air contaminants in combustion gases leaving a stack. Other programs are based on samples which are collected periodically like quarterly samples to monitor the chemical quality of groundwater.

The scope of environmental monitoring continues to broaden as technology improves and regulatory initiatives expand. Older stations contained little environmental monitoring equipment, whereas, the Company's newest unit at Point Aconi provides environmental monitoring of a wide variety of parameters. In general, these monitoring programs are designed to properly manage the station's relationship to each of the atmosphere, land, water and biota. The programs reflect Nova Scotia Power's Environmental Principles.

Atmospheric Monitoring

Atmospheric monitoring at NSPI power plants can be used to illustrate the extent of information collection occurring as part of modern environmental management. At newer stations,

the programs include measurement of concentrations of combustion products in the stack, as well as their concentration in the ambient air.

Emissions Monitoring

Provincial, national and international regulatory agencies require annual estimates of air emissions from our thermal generating stations.

The plants have equipment in the stacks to monitor the opacity of smoke plumes, and in Trenton Unit #6 and Point Aconi, there are Continuous Emission Monitors (CEMs) to measure Nitrogen Oxides (NO_x).

Local Air Monitoring

Besides monitoring at generating stations, Nova Scotia Power has established ambient air quality networks throughout the province. Typically, four to five remote stations are located within a 10-km radius around a power station.

Concentrations of Sulphur Dioxide (SO₂), Nitrogen Dioxide (NO₂), and Total Suspended Particulate (TSP) matter exemplify parameters which may be measured near the ground.

Data from these monitors are continuously fed from the field to generating station control rooms, to help operators manage the station and determine appropriate responses, if any are



required. Summarized data are also reported to Provincial regulators.

Quality Assurance

The quality of environmental monitoring and reporting is guided by extensive use of quality management programs beginning with the careful choice of monitoring equipment to meet regulatory standards. Specially-trained teams also verify measured concentrations at regular intervals.



The final step in assurance of quality information is provided through comprehensive and structured internal review.

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**Fish and Fish Habitat
Management and
Protection**
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The need to protect fish and fish habitat in Nova Scotian waters has been a prime concern for the power industry since electrical generation first began. Nova Scotia Power has continued to develop and implement measures to protect and enhance fish and their habitat during construction, operation and maintenance of the Company's various facilities.

Water Crossings

Water crossings are strictly regulated during construction, maintenance and decommissioning activities for transmission lines. Nova Scotia Power prepares environmental protection plans for each transmission line where work is planned, to safeguard fish and their habitat.

Wetlands

Nova Scotia Power attempts to route transmission lines away from wetlands, which provide habitat for a variety of plant species and wildlife, including fish.

If avoidance is not feasible, activities are timed where possible to coincide with frozen or low water conditions. Flotation tires on vehicles, brush matting and ice bridges are commonly used when crossing.

Fish Passage

Nova Scotia Power operates 33 hydro generating stations and the Annapolis Tidal Generating Station on rivers around the province. Various devices have been built to guide migrating fish around hydro installations. They include:



Fish Ladder at Ruth Falls, Sheet Harbour

- upstream/downstream fish ladders or fishways such as those at White Rock, Tusket, and Harmony;
- downstream fishways or fish bypasses, an example of which can be seen at Malay Falls on the East River, Sheet Harbour System;
- diversion screens installed at Trout Brook Pond on the Black River system that redirect fish to safer downstream pathways; and
- physical guidance systems that attract or deter fish, such as mechanical noise devices used to startle fish away from the turbine entrance at Annapolis Tidal Generating Station.

Flow Maintenance

Nova Scotia Power maintains a minimum flow of water in several rivers where needed for fish migration along the river, for proper operation of fish passage structures, or for protection of fish habitat.

Minimum flow in the Medway River guarantees sufficient water for operation of a provincial brook trout fish hatchery at Harmony. The federally-owned Mersey Fish Culture Station also makes use of guaranteed flow rates for successful production of salmon.

At the Black River System, the Superintendent of Eastern Valley Hydro was recognized by the Canadian Association of Smallmouth Anglers with their 1993 Conservation Award for his efforts in addressing concerns with effects of the lowering of water levels on the system during scheduled maintenance.

Waterwork

Nova Scotia Power undertakes enhancement activities through the *Water Licence Fee Credit Program*. This innovative program introduced by the Nova Scotia Department of the Environment allows a portion of water license fees to be applied toward environmental amelioration projects and initiatives.

Projects approved to date include scientific studies, habitat restoration, and installation and improvement of fish ladders. Nova Scotia Power has also provided funding to various groups like the Clean Annapolis River project and various school groups involved in similar activities.

Research and Field Investigation

Scientific studies form an important component of any attempts to protect and enhance fish and their habitat. Projects that have been completed or are underway are varied:

- yearly measurement of water quality in the Wreck Cove system reservoirs;
- assessment of fish production potential along a section of the Nictaux River;
- determination of the downstream migration route for juvenile alosines (shad, alewife, blueback herring) in the Annapolis River;
- identification of resident and migrant fish species in the East River, Pictou County, in the vicinity of the Trenton Generating Station; and
- testing of behavioral devices (fish hammers, fish drones, lights) for guidance of fish at the Annapolis Tidal Generating Station and at Hell's Gate on the Black River.

Protecting Fish at Thermal Stations

At thermal generating stations, water is withdrawn from the ocean for cooling purposes. Proper placement and design of cooling water outfalls results in rapid dissipation of the warm water released by thermal generating stations. In order to minimize the number of fish carried along by the cooling water, intakes are located in areas where fish are less abundant. At Point Aconi, for example, the intake sits on the ocean bottom in 11 metres of water.

Entrainment can also be reduced by appropriate configuration of intakes to yield low incoming currents. The Point Aconi intake is topped by a specially designed structure which minimizes the entrapment of fish.

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**Wildlife
Management**

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Nova Scotia Power has wildlife management programs that are specific to its different facilities: Thermal Generating Stations, Hydro Generating Stations, and Transmission and Distribution Lines. Generally, thermal and hydro stations have programs focused on fish management, whereas transmission and distribution lines deal with a variety of other wildlife concerns. The skills of NSPI employees are widely recognized by natural history organizations and government.

Protecting Sensitive Resources

The first step in protecting sensitive resources occurs during planning and siting of new facilities. Our goal is to identify sensitive species prior to constructing new facilities, and where practical, to avoid (e.g., move around) important habitat. However, there are more than 250 bird and mammal species in the Province and it is not possible to avoid all wildlife and still function as a Company that is providing an essential service to its customers in an effective manner. Where sensitive species or habitat cannot be avoided, it may be possible to avoid disturbing the species during critical times. Scheduling of activities can be designed to avoid nesting or migrations. It may also be possible to minimize disturbance to the species through design of the facility.

Protecting Rare and Endangered Species

Rare and endangered species are identified during preliminary environmental studies. For example, an area supporting Yellow Lady's Slippers (*Cypripedium calceolus*) was identified during routing of a transmission line. Yellow

Lady's Slippers are rare in Nova Scotia and we initiated steps to protect the plant:

- Machines were not allowed to travel in this area;
- Work was completed in the fall and winter when the plants were not active; and
- Study plots were established to monitor the effectiveness of the protection measures and they have been monitored since 1992.

Enhancing Wildlife Habitat

Nova Scotia Power looks for practical opportunities to enhance wildlife habitat.

In 1994 a second ash disposal cell at the Abercrombie Ash Site used by the Trenton Generating Station was capped with topsoil and grass. In May, Scouts Canada planted 500 trees at the site. These efforts are helping to return the site to a natural condition and provide potential habitat for a greater diversity of wildlife.

Protecting Sensitive Habitats

During environmental assessment studies, sensitive habitats near proposed transmission line routes are identified. Protection plans are then developed using this information.

A Blue Heron colony was identified near a proposed transmission line route in Cape Breton County. To protect the heron colony:

- The distance between the colony and the edge of the right-of-way was maximized (90 m);
- A 600 m stretch of the transmission line was designated as an exclusion zone. Clearing, construction, and scheduled

maintenance activities are not permitted in this zone during the breeding season (April 1 to July 31); and

- Effects of construction are being monitored. In the 5 years prior to construction, Nova Scotia Department of Natural Resources counted 51-80 active nests. From 1992, (year after construction) to 1994, there were 62, 81, and 75 active nests, respectively.

Nova Scotia Power also has a long and successful history of managing osprey nesting on utility structures. Nova Scotia Power, Nova Scotia Department of Natural Resources (NSDNR), and St. Francis Xavier University have worked together to research osprey populations. One result is a Company manual to guide osprey nest relocation from utility poles to alternative structures. This work was published by the Canadian Electrical Association in 1986 and the results are now used by utilities across the country.



Assisting with Osprey Banding

In 1994, NSPI relocated four osprey nests from utility poles to nesting platforms. Nova Scotia Power also helped NSDNR band fledglings from these nests as part of a study to determine recruitment of osprey back to the area where they were born.

Enhancing Habitat for Wood Ducks

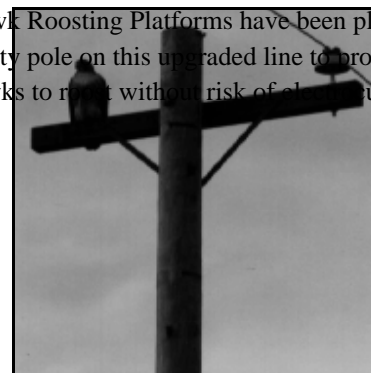
Nova Scotia Power, Sackville Rivers Association, and Scouts Canada, undertook a program to enhance nesting habitat for Wood Ducks by placing and maintaining nest boxes in wetlands (adjacent to transmission line rights-of-way) in the Sackville River watershed.

The Wood Duck is the only North American species of "perching ducks". It is rare or locally uncommon in summer, and very rare in winter. Originally its habitat in the Maritimes was restricted to flood-plain forests where suitable tree cavities were situated close to fertile waters. Nest boxes provide nesting sites in other areas and have induced breeding on many small wetlands.

Enhancing Habitat for Hawks

In 1993 Nova Scotia Power replaced a distribution line extending from Evangeline Park to Evangeline Beach in the Grand Pré dykelands. While the new poles did not require crossbars, it was observed that crossbars on the old line had traditionally been used by hawks to roost as they hunted the dykelands. Dykelands provide an important food resource for red tail hawks, rough-legged hawks, and gyrfalcon especially in the winter when other land is covered by snow.

Hawk Roosting Platforms have been placed on every third utility pole on this upgraded line to provide a place for hawks to roost without risk of electrocution.





Installing Hawk Roosting Bars

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*Special
 Substances*

Nova Scotia Power uses a variety of substances in its day-to-day activities. Care must be taken to make certain that use of these substances does not adversely impact the areas around our operations. In addition, as properties are removed from service and considered for transfer of ownership, care is taken to identify liabilities which may have resulted from our past activities.

PCB Management

Nova Scotia Power's aggressive program to remove PCBs from its system has made the Company a leader among Canadian utilities to be essentially PCB free. PCBs were first regulated in Canada in September, 1977. Since that time NSPI has:

- Removed from service all high-level PCB equipment and had it destroyed by incineration;

- Decontaminated approximately 800 000 L of low-level PCB contaminated electrical oil;
- Developed procedures for the proper manner to handle PCB materials; and
- Began a program to collect, sort and store street light capacitors that are found to contain PCB. The street light capacitors will be stored until an approved disposal option becomes available.

Substations in Sensitive Areas

Some transmission substations are located close to water, particularly those substations associated with facilities such as hydro generating stations. While the probability of an insulating oil release from a transformer failure is very low, Nova Scotia Power has installed secondary containment for oil at 32 substations in these sensitive areas. Other locations are being considered.

In 1994, a Construction Superintendent received Engineering Division's Environmental Awareness Award for his work on this program.

Site Retirement

Nova Scotia Power conducts site reviews to identify possible environmental liabilities on Company properties which are removed from service and subsequently considered for transfer of rights or ownership.



The findings of the site reviews are used to determine any cleanup or management requirements to leave the site in a condition suitable for the planned future use.

Vegetation Management

Sampling Soil on NSPI Site

Nova Scotia Power's Vegetation Management program focuses on the establishment of low-growing vegetation communities under power lines. Hand or mechanical cutting methods, or herbicides are used to control tall-growing species in order to prevent interference with the powerlines which may cause safety hazards, fires, or power outages. Nova Scotia Power periodically conducts inventories of plant growth to decide which type of treatment to use.

In 1994 a trial project with Tree Plant Canada, a Federal Government initiative, was coordinated by Nova Scotia Power staff. Alder and mountain ash have been planted along the edge of the right-of-way to prevent encroachment of less desirable trees.

Upgrades of Petroleum Storage Sites

Nova Scotia Power stores relatively large volumes of fuel oil at its thermal generating stations and gas turbine plants. The Company has recently reviewed, and upgraded where appropriate, secondary containment available for contingency in the event of a release of oil from the storage facilities.

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**Environmental
Outreach**
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Since the 1970s there has been a major change in the understanding of the importance of the environment and in the

actions that must be taken to protect it. Nova Scotia Power has responded to this evolving need with the addition of resources and the commitment to carry out its activities in a manner directed toward a sustainable balance between the Company's operation and protection of the environment. An important aspect of this sustainability ethic has been the development of a program of communication and consultation with Nova Scotians regarding all aspects of our business.

Environmental Assessment Consultation

Consultation with those potentially affected by a proposed project has become an established activity to identify and resolve environmental concerns. Notable improvements to the design or implementation of a project often result from such consultation.

Community liaison has been associated with new projects for many years, but multi-faceted initiatives associated with the Point Aconi project surpassed all other construction projects in the history of the Company.

Issue Specific Consultation

From time to time there are specific issues that arise of interest to both Nova Scotia Power and the public. An example is electric and magnetic fields (EMF) that result from the transmission, distribution and use of electricity. Nova Scotia Power closely tracks the latest research developments and shares that information via pamphlets and articles. When requested, the Company also provides comparisons of EMF levels near transmission lines and in homes.

Issue specific consultation has also been used for topics like noise levels, PCBs, herbicides, and air emissions. This approach is an important means of focusing the efforts of Nova

Scotia Power and the public to work toward satisfactory solutions to common concerns.

Ongoing Outreach

Employees of Nova Scotia Power spend considerable time speaking to community groups and schools to provide information about our business and our commitment to protection of the environment.



Employees also participate as members of local community groups and associations. Nova Scotia Power participates in EnviroShows and Home Shows in order to discuss a wide range of environmental topics with a relatively large number of residents from particular areas of the province.

Environmental Partnerships

Nova Scotia Power has entered into partnerships with community groups to work together to benefit the local environment. Under a Water License Fee Credit program, the Company contributes money to assist local groups to carry out environmental enhancement measures such as fish habitat improvement.

Nova Scotia Power has also partnered with groups such as the Clean Nova Scotia Foundation. This represents a longer term commitment and is often focused on education and awareness

initiatives. The Company will continue to establish such ties within communities of the province as we implement our commitment of *Taking Care* of the environment.

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**Practicing
Sustainability at
Nova Scotia Power**
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Sustainable Development

The Nova Scotia Round Table on Environment and Economy, in its report "Sustainable Development Strategy for Nova Scotia", defined sustainable development as "improving the quality of human life while living within the carrying capacity of supporting ecosystems".

To maintain the interest of investors and deal with a constantly changing world, the company must grow. Today's successful businesses are pursuing a business strategy based on sustainable development because they feel that the key principle of sustainability - effective integration of economic and environmental goals - is good for business and the environment. In fact, in the energy business with its global competitive nature and high dependence on natural resources, it is an imperative. Nova Scotia Power is committed to the pursuit of sustainable practices as an integral part of doing business, and is developing initiatives to attain this goal.

Context

Globalization of business is affecting the economies of all nations and companies. Energy and electricity suppliers receive challenging expectations for increasingly sophisticated energy needs. At the same time there is a clear

trend towards the expanding linkage of environment with energy and economic development. Nova Scotia Power relies on conversion of natural resources to electrical and heat energy for sale to our customers. Hence we are key to the quality of life for people in the province.

NSPI will manage its operations and growth to meet this concept of sustainable development. Our commitment to the province is to manage these resources in recognition of both present and future generations.

Program Development

Nova Scotia Power is committed to practicing sustainability in day-to-day operations. Some areas where sustainable operating and business practices at Nova Scotia Power are being reviewed include:

- Coal Ash Utilization;
- Thermal Efficiencies;
- District Heating;
- Waste Reduction in the Workplace; and
- Power Smart.

Coal Ash Utilization

In 1993, over 65% of Nova Scotia Power's generation came from the combustion of indigenous coal. As with wood, the combustion of coal produces ash. Nova Scotia Power's boilers are equipped to collect this coal ash to prevent its release to the environment. Landfilling of ash is one disposal option that has been practiced for many years. However, efforts are growing to find beneficial and economically alternative uses for this resource.

Fly ash produced at Lingan and Point Tupper generating stations is considered among the best cement replacement ash

on the eastern seaboard, and the Company is continuing to encourage increases in the use of fly ash in concrete. Quantities of coarser bottom ash are sold for use as erosive grit for sandblasting.

Thermal Efficiencies

Nova Scotia Power's continuous improvement and sustainable practice initiatives include an examination of generating station operating efficiency. At Point Tupper Generating Station, staff have achieved thermal efficiencies on Unit #2 which are greater than anticipated for a unit of its design and vintage. Thus, greater thermal efficiency leads to the same electrical output from less fuel, resulting in fewer emissions. That's good for business and the environment.

Similar efforts are underway at Tufts Cove Generating Station. A more efficient and cleaner operation is expected from new combustion control systems on boilers #2 and #3 to help optimize and improve the efficiency of fuel combustion.

Every day, generating station operations present a challenge to operators to make the most of the fuel resources being consumed and maintain good environmental practices. Activities at all NSPI generating stations demonstrate the desire of staff to operate facilities in an environmentally responsible manner.

District Heating

Successful European initiatives have raised interest in district heating systems. Hot water systems have been utilized in Scandinavia which demonstrate improvements in efficiency, reliability, and ease of operation over steam systems.

Design studies are underway at Nova Scotia Power to assess the feasibility of supplying hot water from the Tufts Cove Generating Station for heating local establishments. The recovery of waste heat by district heating would further improve the efficiency of the operation at Tufts Cove, reduce emissions and allow NSPI to better serve our customers.

Waste Reduction in the Workplace

Making Nova Scotia Power office facilities more environmentally friendly is a constantly evolving process. Initiatives across the Company are initiated and maintained through the spirit and commitment of employees. Activities are varied:

- Energy efficient lighting fixtures and heating systems have been incorporated into recent renovations of the Company's Barrington Tower head office, and the new Sydney facility on Townsend Street;
- Recycling efforts annually divert hundreds of used computer printer cartridges away from landfills and save thousands of dollars. Paper recycling at NSPI has saved hundreds of tonnes of pulp since its inception in 1989; and
- Waste reduction seminars have been conducted for employees to heighten environmental awareness and prompt waste reduction audits.

Power Smart

In the late 1980s, Nova Scotia Power was experiencing rapid growth in the demand for electricity. To help manage the rate of load growth, the Power Smart Program was introduced in 1990.



Power Smart encourages Nova Scotians to use energy better. The Program has targeted efforts at residential, commercial and industrial customers. Power Smart provides information on energy saving products and initiatives to help consumers understand the opportunities available to them. In doing so, Power Smart encourages electricity consumers to adopt sustainable practices in their daily activities. Using energy better saves money, and helps protect the environment.

Monitoring Sustainability

In moving towards sustainability, focused and relevant performance measures are required to demonstrate progress. Indicators are an accepted and effective tool. Sustainability indicators go beyond environmental performance and include economic factors. It is important, however, that they not only tell where we are, but also how quickly we are moving towards or away from sustainability. They should respond to the objectives and any targets set to meet Company policy and environmental principles.

Indicators identified to date are:

- Emissions of SO₂ per electric energy generated in g/kWh;
- Emissions of CO₂ per electric energy generated in g/kWh;
- Ash to landfill per electric energy generated in g/kWh;
- Steam-electric generation heat rate in BTU/kWh;
- Motor vehicle fuel used per electric energy generated in L/kWh;
- Process water consumed per electric energy generated in L/kWh;
- Oil reused/recycled per electric energy generated in L/kWh;
- Electric energy required for station services per electric energy generated in percentage; and
- Customers satisfied with NSP's environmental performance in percentage.

Reporting

Nova Scotia Power will report on its sustainability process and progress on a regular basis. Various Company documents which are presently issued will be used to interpret information from economic and environmental perspectives and to give an overall standing on progress towards and targets for sustainability.

All reporting will be consistent with our Mission statement, Values, Policies and Principles as they evolve with changing times in the pursuit of sustainability.

Growth of environmental initiatives at Nova Scotia Power has been rapidly gaining momentum over the last two decades, and particularly during the past five years. Development of regulations, public initiatives, and Company commitment have provided opportunities to seek technical excellence across the province. Results are evident in increasingly complex treatment facilities, in comprehensive environmental protection programs, in a shift towards proactive environmental management, and in ever-expanding environmental accountabilities accepted by Company employees.

It is a team effort, and we are proud of our commitment "***To Be The Best.***"