Q. Please provide documentation regarding the greenhouse gas emissions for this proposed turbine with the expected fuel source.

A. From fuel consumption data, the following greenhouse gas emissions rates have been calculated:

At 100 percent output – 841 g per kWh
At 75 percent output – 878 g per kWh
At 50 percent output – 970 g per kWh

These were calculated assuming No. 2 fuel oil as the expected fuel source.

From the "Government Screening Committee Comments", with respect to the environmental assessment of the project (pages 3 - 4) (See GT-SC-NLH-008 Attachment 1):

NL Hydro indicated that estimated that [sic] the unit will consume approximately 31,600 litres of diesel fuel per hour and that the unit will operate for no more than 500 hours per year. NL Hydro indicated that the unit may operate for less than 500 hours per year. On this basis, it is estimated that if the unit operated at the upper end of the range (i.e., 500 hours), the associated GHG emissions would be approximately 44 KT. If this unit had operated in this manner in 2012, total GHG emissions from the Holyrood facility would have increased by approximately 6%, and total GHG emissions in the province would have increased by about 0.5%. If the unit operates for fewer than 500 hours, GHG emissions would be reduced proportionately.

REGISTRATION 1754
Government Screening Committee Comments

100 MW (Nominal) Holyrood Combustion Turbine Project

ENVIRONMENT AND CONSERVATION

Water Resources Management Division

- The Water Resources Management Division of the Department of Environment and Conservation is responsible for the management, conservation, development and improvement of the water resources of the province of Newfoundland and Labrador.

- The proponent must apply for and obtain a Water Use Licence under the *Water Resources Act* http://assembly.nl.ca/Legislation/sr/statutes/w04-01.htm for the use of water from any source.

Contact: Dr. Abdel-Zaher Abdel-Razek, Manager, Water Rights (709) 729-4795

- The proponent must apply for and obtain permit under Section 48 of the *Water Resources Act* http://assembly.nl.ca/Legislation/sr/statutes/w04-01.htm for any Alteration to a Body of Water, inclusive of but not limited to, water supply system/intake and any other work in a body of water (including wetlands) that have the potential to impact water quality or quantity.

Contact: Ms. Krista Rebello, Program Coordinator, Water Investigations (709) 729-2657

- Any effluent or runoff leaving the site will be required to conform to the requirements of the *Environmental Control Water and Sewage Regulations, 2003* http://assembly.nl.ca/Legislation/sr/regulations/rc030065.htm.

- This Permit, if granted, will contain specific terms and conditions to prevent water quality degradation during construction and for the life of the project and may include requirements for water quality monitoring and reporting.

Pollution Prevention Division

General

- All activities associated with this project are subject to the *Environmental Protection Act (EPA)*, the *Water Resources Act (WRA)*, and their regulations. Official copies of these may be obtained from the Queen's Printer. Unofficial versions are available through the Government of Newfoundland and Labrador website (www.gov.nl.ca).
- These comments highlight the pertinent issues of these acts and regulations and the PPD's policies and guidelines.

***Environmental Protection Act*, Part IV - Waste Disposal and Litter**

- Waste receptacles shall be installed at all active areas for use by workers.
- The proponent shall ensure that all construction waste materials, domestic waste and empty oil/fuel containers are recovered and disposed of in accordance with environmental legislation.
- Upon completion of construction, the site should be left clean and clear of all litter

and debris.

- All waste material shall be considered, prior to disposal, for reuse, resale or recycling.
- Waste materials not reused, resold or recycled, shall be disposed at an approved waste disposal site, provided the owner/operator is willing to accept such waste and the local Service NL (SNL) has agreed with the disposal of the waste materials at the site.

***Environmental Protection Act,* Part VI - Air Quality Management**

- All activities associated with the construction and operations of this proposal are subject to the *Air Pollution Control Regulations, NLR 39/04*, http://www.assembly.nl.ca/Legislation/sr/Regulations/rc040039.htm
- Schedule E of the regulations prohibits the open burning of tires; plastics; treated lumber; asphalt and asphalt products; drywall; demolition waste; hazardous waste; biomedical waste; domestic waste; trash, garbage, or other waste from commercial, industrial or municipal operations; manure; rubber; tar paper; railway ties; paint and paint products; fuel and lubricant containers; used oil; animal cadavers; hazardous substances; materials disposed of as part of the removal or decontamination of equipment, buildings or other structures.

***Environmental Protection Act,* Part XI – Approvals**

- A Certificate of Approval **will be** required from the Pollution Prevention Division for the operation of this unit.

Environmental Protection Act
Storage and Handling of Gasoline and Associated Products Regulations

- Petroleum storage and handling, associated with construction and operation of this project/facility, shall be in compliance with the *Storage and Handling of Gasoline and Associated Products Regulations, 2003*, as amended, http://www.assembly.nl.ca/Legislation/sr/Regulations/rc030058.htm
- All petroleum storage tanks shall be registered with SNL and all leaks/spills must be reported to the Department.
- Oils, greases, diesel, gasoline, hydraulic and transmission fluids should be stored at least 100 m from any body of water. Re-fueling and maintenance activities should also occur at least 100 m from any body of water and on level terrain.
- An environmental emergency contingency plan should be developed which includes information regarding the location of spill response equipment and a trained contractor, in the event of a spill.

Environmental Protection Act - Used Oil Control Regulations

- The proponent shall maintain constant compliance with the *Used Oil Control Regulations*, http://www.assembly.nl.ca/Legislation/sr/Regulations/rc020082.htm
- Waste oils and used lubricating oil shall be retained in a tank or closed container, and disposed of by a company licensed for handling and disposing of used oil products.

Environmental Protection Act - Halocarbon Regulations

- Any use of halocarbons or other regulated substances, for example in fire suppression or air conditioning systems, associated with the proposed activity is subject to the *Halocarbon Regulations* NLR 41/05, http://www.assembly.nl.ca/Legislation/sr/Regulations/rc050041.htm

Water Resources Act - Environmental Control Water and Sewage Regulations

- All waters discharged from the proposed site, during construction and operation, are subject to compliance with the *Environmental Control Water and Sewage Regulations, NLR 65/03*. http://www.assembly.nl.ca/Legislation/sr/Regulations/rc030065.htm
- A monitoring program may be established for this project through the Certificate of Approval process to ensure that effluent discharges are compliant with applicable legislation.
- Analyses will be subject to the accredited and certified laboratory policy, PD: PP2001-01.2.
- Any laboratory facilities located on site may be subject to an annual audit performed by officials in the Department as per PD: PP2001-01.2.

Contact: Mr. Derrick Maddocks, Director, Pollution Prevention Division (709) 729-5782

Wildlife Division & Parks and Natural Areas Division

- The Wildlife Division advises applicant to operate under established regulations and guidelines with respect to wildlife and their habitats (e.g. nesting birds, caribou, waterfowl, wetlands, inland fish, rare plants, riparian species) to minimize adverse impacts (Section 106 of the *Wild Life Regulations* under the *Wild Life Act* (O.C. 96-809)).

- Habitat disturbance impacts wildlife (birds, small mammals etc) negatively and should be kept to a minimum. To help reduce any negative impacts on any species, the Wildlife Division recommends that any necessary vegetation clearing or excessive noise be undertaken outside of the nesting, breeding and brood rearing period (May to mid-July), when disturbance would be most critical.

- Where vegetation clearing is not avoidable and a nest is found:
  - The nest and neighbouring vegetation should be left undisturbed until nesting is completed; and
  - Construction activities be minimized in the immediate area until nesting is complete.

Contact: Ms. Kirsten Miller, Senior Wildlife Biologist, Wildlife Division, ENVC at (709) 637-2029

Lands Branch

- Made a recommendation but no comments provided.

Executive Council

Climate Change, Energy Efficiency & Emissions Trading

- NL Hydro indicated that estimated that the unit will consume approximately 31,600 litres of diesel fuel per hour and that the unit will operate for no more than 500 hours per year. NL Hydro indicated that the unit may operate for less than 500 hours per year. On this basis, it is estimated that if the unit operated at the upper end of the

range (i.e., 500 hours), the associated GHG emissions would be approximately 44 KT. If this unit had operated in this manner in 2012, total GHG emissions from the Holyrood facility would have increased by approximately 6%, and total GHG emissions in the province would have increased by about 0.5%. If the unit operates for fewer than 500 hours, GHG emissions would be reduced proportionately.

Women's Policy Division

- Hydro intends to add 100MW (nominal) of peaking generation capacity to the Island Interconnected Generation System. The additional generation will meet forecasted load requirements during high peak winter demand periods prior to the completion of the LCP. This generation will be added by construction of a 123 MW (nominal) Combustion Turbine (CT) within the existing HTGS yard.

- The Women's Policy Office is supportive of this registration with the following provision, as noted by Natural Resources:
- In support of government's commitment to gender-equity and diversity in the natural resource sector, it is requested that Nalcor (and contractors) give full consideration to, and apply where possible, gender equity and diversity principles to support increased participation of under-represented groups on this project.

FISHERIES AND AQUACULTURE

- Made a recommendation but no comments provided.

SERVICE NEWFOUNDLAND

Occupational Health and Safety

- The proponent must, generally, ensure that activities associated with a Combustion Turbine Project are conducted in compliance with the ***Occupational Health and Safety Act and its Regulations***. This includes the responsibility for ensuring that contractors hired to perform work also comply with this legislation, as per OHS Act s.10.

- In particular, the proponent must:
    - Provide and maintain a workplace and the necessary equipment, systems and tools that are safe and without risk to the health and safety of his or her workers. NL OHS Act 5(a)

    - Provide the information, instruction, training and supervision and facilities, as necessary, for the health and safety of his or her workers. NL OHS Act 5(b)

    - Ensure that his or her workers, and particularly his or her supervisors, are made familiar with any health or safety hazards that may be encountered by them in the workplace. NL OHS Act 5(c)

    - Conduct his or her undertaking so that persons <u>not</u> in his or her employ are not exposed to health or safety hazards as a result of the undertaking. NL OHS Act 5(d)

- Ensure that personal protective equipment and devices are worn according to the work being performed and that his or her workers are given operating instruction in the use of such equipment and devices provided for their protection which includes the proper fitting and use of respirators. NL OHS Reg s72 and s85

- Ensure that a respiratory protection program is in place, where required. NL OHS Reg s83

- Where a worker is employed under conditions which expose him or her to a risk of drowning, he or she shall wear a personal flotation device appropriate to the work environment and hazards. NL OHS Reg s466. (1)

- Ensure that a thermal environment which is reasonable and consistent with the nature and degree of the work performed, as established by the ACGIH, is provided and maintained in a workplace. NL OHS Reg s44

- Ensure that the workplace is sanitary and kept as clean as reasonably practicable. NL OHS Reg s67

- Ensure that ventilation systems are designed in accordance with appropriate standards and are inspected and maintained at a frequency that is sufficient to protect the health and safety of workers and that there is adequate ventilation in the workplace and impurities are made harmless and inoffensive in accordance with standards established by ASHRAE and ACGIH. NL OHS Reg s45.

- Ensure that there are adequate toilet, washing and eating facilities for employees. NL OHS Reg s61, s62, and s65.

- Where a worker is exposed to the hazard of falling from a work area, ensure that the Fall Protection regulations outlined in Part X of the NL OHS Regulations is followed.

- Ensure that when a fall arrest system or a personnel safety net is used as a means of fall protection, the employer has a written fall protection plan that specifies
  (a) the procedure to assemble, maintain, inspect, use and disassemble the fall arrest system or personnel safety net; and
  (b) the procedure for the rescue of a worker who has fallen and is suspended by the fall arrest system or personnel safety net, but is unable to effect self-rescue.
  NL OHS Regulation s.142(10)

- Consult and co-operate with the occupational health and safety committee at the workplace, where one has been established, or the worker occupational health and safety representative where one has been elected or appointed. NL OHS Reg 25

- Ensure that atmospheric contamination of the workplace by hazardous substances is kept as low as reasonably practicable. If hazardous substances do exist they must be monitored, and engineering and administrative controls employed (and maintained) to ensure their safe use. NL OHS Reg s42

- Ensure that all hazardous substances are appropriately stored. NL OHS Reg s59

- Ensure that appropriate facilities are made available where workers may be exposed to contact with chemicals harmful to skin (e.g. eyewash facilities, emergency showers, etc.). NL OHS Reg s42.(11) and s63

- Ensure that Workplace Hazardous Material Information System (WHMIS) Regulations are followed and training completed where necessary. (See WHMIS Regulations)

- Ensure that powered mobile equipment is adequately maintained and operated by competent persons.NL OHS Reg s251 and s252

- Ensure that powered mobile equipment is equipped with:
  - a fire extinguisher,
  - protective screens, windows and doors,
  - a reverse alarm, and
  - a roll-over/fall-on protective structure.
  NL OHS Regulations Part 12

- Ensure that a risk assessment is conducted where workers are assigned to work alone or in isolation; and where the assessment identifies a hazard, appropriate controls shall be implemented to eliminate, or where elimination is not practicable, minimize the risk associated with the hazard. A procedure must be written for checking the well-being of a worker assigned to work alone or in isolation. (Refer to all subsections of s.15 OHS Regs.)

- Where cranes are used, ensure that proper inspection, operation, maintenance, assembly and rigging are used in accordance with Part 14 and 15 of the NL OHS Regulations.

- Ensure that an emergency response plan is in place that details measures to be taken to effectively respond to any foreseeable mishap that may occur as a result of the undertaking. The following minimum items should be considered when developing such a plan:
  - a proper first-aid kit, and other requirements of the First Aid regulations;
  - communication devices;
  - a list of emergency names and numbers, appropriately placed; and
  - an action plan (with the crew aware of their roles and responsibilities).

NL OHS Reg s38 and First Aid Regulations
Contact: Reg Bennett, Director at (709) 729-7454

Government Service Centre
Waste

(*Environmental Protection Act, 2002)*
http://assembly.nl.ca/Legislation/sr/statutes/e14-2.htm

Any waste material generated during the construction and operation of the quarry is to be placed in suitable refuse containers and removed to an approved waste disposal site.

Gasoline and Associated Products

(*The Storage and Handling of Gasoline and Associated Products Regulations, 2003*)
http://assembly.nl.ca/Legislation/sr/regulations/rc030058.htm

(*Used Oil Control Regulations, 2002)*
http://www.assembly.nl.ca/legislation/sr/regulations/rc020082.htm

All fuel storage tank system installations other than those connected to a heating appliance of a capacity of 2,500 litres or less are subject to the *Storage and Handling of Gasoline and Associated Products Regulations* and will require registration prior to installation.

Fire & Life Safety

(*Buildings Accessibility Act, 2006)*
http://assembly.nl.ca/Legislation/sr/statutes/b10.htm

Application must be made to Service NL for Fire/Life Safety (Request for Approval of Plans Form) and Building Accessibility (Application for Building Accessibility Registration Form) review/approvals.

Contact: Rick J. Curran, Director at (709) 729-3767

ADVANCED EDUCATION AND SKILLS
Skills and Labour Market Research Division

- It is understood that the proponent intends to contract-out the work required for this project, and that the proponent anticipates no further hiring requirements for ongoing operations at the conclusion of this project. Notwithstanding this, and additional information already provided by the proponent, it is requested that the proponent provide the following information for this project:
    - An estimate of the number of apprentices (by level and trade) and journeypersons required for each of the apprenticeable trades by NOC code.

This should include a description of the proponent's plan to utilize apprenticeship labour for the skilled trades positions required for this project.
    - A detailed description of any specialized training that may be required for the workforce.
    - The anticipated source of the workforce, including an estimate of local employment (local area, aboriginal, provincial) and any strategies for recruitment.
- This information can be made available by the proponent via detailed summary reports. An initial estimate of the required workforce (by 4-digit NOC, timelines, full-time/part-time designation, the number of apprentices (by level) and journeypersons, gender and source of the workforce) should be provided with as much available detail as possible prior to the start of the project (most of this has already been provided by the proponent, regarding the occupations by NOC and timelines). A second detailed summary report should be provided at or near the conclusion of the project, which would be a summary of all the pertinent details as outlined above.

LABRADOR AND ABORIGINAL AFFAIRS
- Made a recommendation but no comments provided.

MUNICIPAL & INTERGOVERNMENTAL AFFAIRS
- The proposed undertaking is located within the Town of Holyrood Municipal and Planning area boundary. The site is zoned as Industrial Hazardous (IH), which would allow the proposed undertaking.

- A permit is required from the Town Council of Holyrood for any building and development associated whit this undertaking.

Contact: Corrie Davis, Land Use Planning Manager at (709)-729-5409

NATURAL RESOURCES

Forestry and Agrifoods Agency
- Made a recommendation but no comments provided.

Mines Branch
- Quarry materials sourced off site must come from an approved and in good standing quarry permit

Energy Branch
- The proponent for EA 1754 is the regulated crown corporation Newfoundland and Labrador Hydro. The Electricity and Alternative Energy division is aware of this project and has no concerns to raise with respect to the Environmental Assessment process.

Strategic Planning and Policy Coordination, Natural Resources
- In support of government's commitment to gender-equity and diversity in the natural resource sector, it is requested that Nalcor (and contractors) give full consideration to, and apply where possible, gender equity and diversity principles to support increased participation of under-represented groups on this project.

TOURISM, CULTURE AND RECREATION

Provincial Archaeology Office

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- Made a recommendation but no comments provided.

Tourism Product Development Division

- Made a recommendation but no comments provided.

FEDERAL GOVERNMENT DEPARTMENTS

ENVIRONMENT CANADA

1.0 Regulatory Requirements

Fisheries Act

The proponent should be aware of the general applicability of Section 36(3) of the *Fisheries Act* which states: "no person shall deposit or permit the deposit of a deleterious substance of any type in water frequented by fish or in any place under any conditions where the deleterious substances or any other deleterious substance that results from the deposit of the deleterious substance may enter any such water". Environmental protection and mitigation measures should reflect the need to comply with Section 36(3) of the Fisheries Act. For example, measures should be taken to prevent substances such as lubricating fluids, fuels, etc. from being deposited into water frequented by fish, and drainage from construction and operational drainage must not be harmful to fish.

Migratory Birds Convention Act

Migratory birds, their eggs, nests, and young are protected under the *Migratory Birds Convention Act* (MBCA). Migratory birds protected by the MBCA generally include all seabirds except cormorants and pelicans, all waterfowl, all shorebirds, and most landbirds (birds with principally terrestrial life cycles). Birds protected under the *Migratory Birds Convention Act* are specifically named in the Environment Canada publication, *Birds Protected in Canada under the Migratory Birds Convention Act*, Canadian Wildlife Service Occasional Paper No. 1.

Under Section 6 of the *Migratory Birds Regulations* (MBR), it is forbidden to disturb, destroy or take a nest or egg of a migratory bird; or to be in possession of a live migratory bird, or its carcass, skin, nest or egg, except under authority of a permit. It is important to note that under the current MBR, no permits can be issued for the incidental take of migratory birds caused by development projects or other economic activities.

Furthermore, Section 5.1 of the MBCA describes prohibitions related to deposit of substances harmful to migratory birds:

"5.1 (1) No person or vessel shall deposit a substance that is harmful to migratory birds, or permit such a substance to be deposited, in waters or an area frequented by migratory birds or in a place from which the substance may enter such waters or such an area.

(2) No person or vessel shall deposit a substance or permit a substance to be deposited in any place if the substance, in combination with one or more

> substances, results in a substance — in waters or an area frequented by migratory birds or in a place from which it may enter such waters or such an area — that is harmful to migratory birds."

It is the responsibility of the proponent to ensure that activities are managed so as to ensure compliance with the MBCA and associated regulations.

Canadian Environmental Protection Act

The proponent should also be aware of the potential applicability of the *Canadian Environmental Protection Act* (CEPA 1999). The Canadian Environmental Protection Act enables protection of the environment, and human life and health, through the establishment of environmental quality objectives, guidelines and codes of practice, and the regulation of toxic substances, emissions and discharges from federal facilities, international air pollution, and disposal at sea. Under the Canadian Environmental Protection Act a substance is considered toxic if it is entering or may enter the environment in a quantity or concentration or under conditions that have or may have an immediate or long-term harmful effect on the environment or its biological diversity, constitute or may constitute a danger to the environment on which life depends; constitute or may constitute a danger in Canada to human life or health.

2.0 Additional information required on the project and/or environmental planning of the project

In order to ensure compliance with the aforementioned acts and regulations, and to ensure minimal adverse impacts on the environment in general, EC provides the following guidance:

2.1 Migratory Birds

The Canadian Wildlife Service of Environment Canada (EC-CWS) has reviewed the above project and offers the following comments.

Vegetation Clearing

Clearing vegetation during construction activities may cause disturbance to migratory birds and inadvertently cause the destruction of their nests and eggs (http://www.ec.gc.ca/paom-itmb/default.asp?lang=En&n=FA4AC736-1). Many species use trees, as well as brush, deadfalls and other low-lying vegetation for nesting, feeding, shelter and cover. This would apply to songbirds throughout the region, as well as waterfowl in wetland areas. Disturbance of this nature would be most critical during the breeding period. The breeding season for most birds within the project area occurs between April 15th and August 15th in this region, however some species protected under the MBCA do nest outside of this time period. Please see the webpage "General Nesting Periods of Migratory Birds in Canada" (Website: http://www.ec.gc.ca/paom-itmb/default.asp?lang=En&n=4F39A78F-1. This project area falls within zone "D3-4") for more information concerning the breeding times of migratory birds.

Environment Canada provides the following recommendations:

1. to avoid the risk of nest destruction, the proponent should avoid vegetation clearing during the most critical period of the migratory bird breeding season, which is April 15th through August 15th in this region.

2. to develop and implement a management plan that includes appropriate preventive measures to minimize the risk of impacts on migratory birds (See "Planning ahead to reduce risks to migratory bird nests", PDF: http://www.ec.gc.ca/Publications/default.asp?lang=En&xml=50C4FE11-801E-4FE3-8019-B2D8537D76CF). It is the responsibility of the individual or company undertaking the activities to determine these measures. For guidance on how to avoid the incidental take of migratory birds nests and eggs, please refer to the Avoidance Guidelines (Website: http://www.ec.gc.ca/paom-itmb/default.asp?lang=En&n=AB36A082-1). The management plan should include processes to follow should an active nest be found at any time of the year.

Light Attraction and Migratory Birds

In Atlantic Canada, nocturnal migrants and night-flying seabirds (e.g. storm-petrels) are the migratory birds most at risk of attraction to lights and flares. Attraction to lights at night or in poor visibility conditions during the day may result in collision with lit structures or their support structures, or with other migratory birds. Disoriented migratory birds are prone to circling light sources and may deplete their energy reserves and either die of exhaustion or be forced to land where they are at risk of depredation.

To minimize risk of incidental take of migratory birds due to human-induced light, Environment Canada recommends at minimum the following beneficial management practices:

- The minimum amount of pilot warning and obstruction avoidance lighting should be used on tall structures.
- The use of only strobe lights at night, at the minimum intensity and minimum number of flashes per minute (longest duration between flashes) allowable by Transport Canada, is recommended.
- Using the minimum number of lights possible is recommended.
- The use of solid-burning or slow pulsing warning lights at night should be avoided.
- Lights should completely turn off between flashes.
- Lighting for the safety of the employees should be shielded to shine down and only to where it is needed, without compromising safety.

The full effects of light attraction to migratory birds are poorly understood. In order to understand the full impacts of light attraction to migratory birds, proponents should be encouraged to monitor the attraction of seabirds to illumination produced on offshore structures using the results and/or mitigation procedures generated by on-going research conducted in Atlantic Canada and elsewhere in the world.

Stockpiles

Certain species of migratory birds (e.g. Bank Swallows) may nest in large piles of soil left unattended/unvegetated during the most critical period of breeding season (May 1st through July 31st). To discourage this, the proponent should consider measures to cover

or to deter birds from these large piles of unattended soil during the breeding season. If migratory birds take up occupancy of these piles, any industrial activities (including hydroseeding) will cause disturbance to these migratory birds and inadvertently cause the destruction of nests and eggs. Alternate measures will then need to be taken to reduce potential for erosion, and to ensure that nests are protected until chicks have fledged and left the area. For a species such as the Bank Swallow, the period when the nests would be considered active would include not only the time when birds are incubating eggs or taking care of flightless chicks, but also a period of time after chicks have learned to fly, because Bank Swallows return to their colony to roost.

Species at Risk

The following species at risk (as listed on Schedule 1 of the *Species at Risk Act*) may occur within the study area: Olive-sided Flycatcher (Threatened) and Red Crossbill (*Rufa* subspecies; Endangered). Though unlikely to be found within the project footprint, these species may occur within the study area and we request that sightings be reported to EC-CWS.

Fuel Leaks

EC-CWS also has recommendations with regard to best practices with regard to fuelling and servicing equipment, using biodegradable fluids, fuel spills and spill contingency plans, to protect migratory birds and their habitats (described in more detail under **Management of Hazardous Materials and Waste**). Furthermore, the proponent should ensure that contractors are aware that under the *Migratory Birds Regulations*, "no person shall deposit or permit to be deposited oil, oil wastes or any other substance harmful to migratory birds in any waters or any area frequented by migratory birds."

2.2 Management of hazardous wastes and hazardous recyclable materials

It is stated in Table 10.1 (Holyrood Combustion Turbine Project - List of Potential Environmental Approvals Required) that project components / activities requiring approval or compliance include waste disposal associated with construction and operation. In Canada, the management of hazardous wastes and hazardous recyclable materials is a shared responsibility between the federal government and the provinces/territories. The federal government is responsible for hazardous wastes and hazardous recyclable materials crossing an international boundary, or for movements between provinces or territories in Canada, that are destined for disposal or recycling. The provinces have jurisdiction over the transportation of hazardous wastes within its provinces as well as the licensing and permitting of authorized facilities undertaking disposal or recycling operations.

Environment Canada is responsible for administering the Interprovincial Movement of Hazardous Waste Regulations (IMHWR) under the *Canadian Environmental Protection Act* (CEPA, 1999) (http://www.ec.gc.ca/lcpe-cepa/eng/regulations/detailReg.cfm?intReg=68). The IMHWR have been in force since 2002 and apply to movement of hazardous wastes and hazardous recyclable materials movement between Provinces. The Regulations include such requirements as use of authorized carriers, tracking of shipment movements through use of manifests (movement documents), and submission of documentation to appropriate Provincial authorities within specified timelines.

The Export and Import of Hazardous Waste and Hazardous Recyclable Material Regulations (EIHWHRMR) under CEPA, 1999 apply to all international transboundary shipments of wastes that meet the definition of hazardous waste or hazardous recyclable material as defined by the Regulations (http://www.ec.gc.ca/lcpe-cepa/eng/regulations/detailReg.cfm?intReg=84). The Regulations operate under a prior informed consent mechanism, requiring that a conditional permit be issued by Environment Canada prior to import into, export from or transit through Canada of hazardous wastes or hazardous recyclable materials. The Regulations also set out other obligations that ensure transboundary movements of hazardous wastes and hazardous recyclable material are performed in an environmentally sound manner and require that trans boundary movements be directed to environmentally acceptable disposal or recovery/recycling operations.

Tools for the EIHWHRMR, including a User Guide to the Implementation of the Regulations, and a User Guide on the Classification of Hazardous Wastes and Hazardous Recyclable Materials under the Regulations are available at http://www.ec.gc.ca/gdd-mw/default.asp?lang=En&n=8BBB8B31-1.

For more information on the IMHWR and EIHWHRMR proponents are encouraged to consult the CEPA Registry at http://www.ec.gc.ca/CEPARegistry/ and the Waste Reduction and Management Division website at http://www.ec.gc.ca/gdd-mw/Default.asp?lang=En&n=678F98BC-1. Proponents can also contact Stephanie Keast at (902) 426-1631 or Stephanie.Keast@ec.gc.ca.

2.3 Environmental Emergency Regulations

It is stated in Table 10.1 (Holyrood Combustion Turbine Project - List of Potential Environmental Approvals Required) that project components / activities requiring approval or compliance include storing and handling flammable liquids, gasoline and associated products. The proponent should note that storage of certain flammable liquids including gasoline may be controlled by EC's Environmental Emergency Regulations will be stored on site.

The *Environmental Emergency Regulations* under Section 200 of the CEPA apply to any person in Canada who owns, or has charge, management or control of, a substance listed on Schedule 1 of the regulations where either the total amount of the substance or the single largest container on site is equal to or greater than that specified in the Schedule. Where either or both of the criteria are satisfied, that person must undertake a number of actions.

The regulations identify the information that must be submitted to EC within 90 days after acquiring a scheduled substance at or above the specified threshold quantities. An environmental emergency plan will also be required for all facilities that store or use any of the scheduled substances at or above the specified threshold quantities. When preparing an emergency plan, the proponent would be required to consider the following:

- The properties and characteristics of the substances;
- The maximum expected quantity of the substance at the place at any time during the

calendar year;

- The commercial, manufacturing, processing or other activity in relation to which the plan is prepared;
- The characteristics of the place where the substance is located and of the surrounding area that may increase the risk of harm to the environment or of danger to human life or health;
- The potential consequences from an environmental emergency on the environment or human health. Consequences are identified through the use of worst-probable-case and alternative scenarios (more information can be found in CRAIM 2007);
- A description of roles and responsibilities of individuals during an environmental emergency; and
- A description of the measures to be taken to notify members of the public who may be adversely affected by an environmental emergency.

The EC publication, *Implementation Guidelines for the Environmental Emergency Regulations 2011 (available at www.ec.gc.ca/lcpe-cepa/default.asp?lang=En&n=1FB6D405-1*), provide direction on meeting these requirements. Reporting releases of substances scheduled under the *Environmental Emergencies Regulations* is a specific requirement under section 201 of the CEPA. Further information is accessible at www.ec.gc.ca/ee-ue or via the Senior Compliance Promotion Officer for the E2 Regulations at (902) 426-6318 [phone], (902) 426-9709 [fax], or at CEPAE2-ATL@ec.gc.ca.

2.4 Site Preparation and Construction

Site Disturbance, Erosion and Drainage Control

According to the registration document, the project will include construction and installation of various facilities with regard to the 123 MW (Nominal) Combustion Turbine (CT) Generator at the Holyrood Thermal Generating Station (HTGS) yard. Given the close proximity to several water bodies (ponds and ocean), the proponent should ensure that sediments are contained and not permitted to runoff into either water body. To ensure minimal adverse impacts on the watershed the following recommendations should be considered:

- Construction activities should be coordinated with seasonal constraints (e.g. time clearing, grubbing and excavation activities to avoid periods of heavy precipitation; avoid sensitive periods for fish and wildlife; shut down and stabilize the work site in accordance with pre-established criteria in advance of the winter season).
- Exposed soil areas should be minimized by limiting the area exposed at any one time, and by limiting the amount of time that any area is exposed. Revegetation of disturbed areas, or covering disturbed areas with a thin layer of brush or slash is recommended to prevent erosion. Exposed soil should be stabilized with anti-erosion devices, such as rip rap, filter fabrics, gravel or wood chip mulches.
- A vegetated buffer zone should be maintained, as appropriate, to protect resources at risk (e.g. surface waters, wetlands).

- Erosion prevention and drainage control measures should be installed or implemented prior to any land disturbance. Control devices such as filter fabrics, sediment traps and/or settling ponds should be in place to receive all drainage from areas disturbed by site preparation and any site clearing, grubbing, scarification and general construction activities. Regular maintenance and repair should be undertaken to ensure continued effectiveness of such control devices.
- monitor any nearby receiving waters for total suspended solids or contaminants of concern to ensure maintenance of the Canadian Council of Ministers of the Environment (CCME) Environmental Quality Guidelines for the Protection of Aquatic Life (http://www.ccme.ca/publications/ceqg_rcqe.html) when considered in conjunction with existing ambient water quality and site-specific factors; and
- take further mitigative actions as necessary based on monitoring results.

Construction

At the project planning stage, all available construction materials should be considered (e.g., untreated wood, treated wood, pre-cast concrete, corrosive-resistant steel, plastic lumber), and those materials best suited to the conditions and intended use of the structure should be selected. Analysis of the preferred construction material should include a consideration of the full life-cycle of the material (ease of use, design factors associated with the construction material, maintenance requirements, and final disposal). Environmental implications (e.g. storm damage) associated with each life-cycle phase should also be considered.

2.5 Environmental Emergencies

Project design and planning should maximize opportunities to prevent accidental releases, reduce consequences, and ensure adequate preparedness and capacity to respond to and recover from any accidental events which should occur. Emergency plans should be prepared for any industrial accident or malfunction scenario that could result in adverse environmental effects. The proponent is encouraged to ensure environmental emergency prevention, preparedness, response and recovery plans, reflect a consideration of applicable standards, and best practices including the following:

- Canadian Standards Association (CSA) publication *Emergency Planning for Industry* (CAN/CSA–Z731-03 [third edition]) (http://shop.csa.ca/en/canada/injury-prevention/cancsa-z731-03-r2009/invt/27019912003);
- *2012 Emergency Response Guidebook* (ERG2008) accessible at http://www.tc.gc.ca/eng/canutec/guide-menu-227.htm; and
- Risk Management Guide for Major Industrial Accidents, available from the Major Industrial Accidents Reduction Council (MIARC 2007) (http://www.craim.ca/fr/boutique/toutes-les-categories/publications/guide-du-craim-2007-5-detail).

Environmental emergency prevention, preparedness, response and recovery plans for a project should also include attention to the following specific elements:

- a description of biological and human-use resources that could be impacted;
- an inventory of oil and chemical products and associated storage locations for

both project construction and operational phases;

- the identification of spill response equipment that will be on-site or available in case of emergency events (appropriate spill response equipment [e.g. boom, absorbent pads, barrels] should be maintained in a readily accessible location)
- staff training;
- an incident reporting system, including notification and alerting procedures (as identified previously);
- a list of response organizations and clarification of the roles of each organization; and clean-up and disposal procedures; and
- scheduled exercises to practice implementation of response plans ranging from table top to full scale involving all relevant stakeholders. Establishing a process of regularly updating the plans with current information and any modifications required resulting from lessons learned in the various exercises.

2.6 Management of Hazardous Materials and Waste

In order to ensure compliance with Section 36 (3) of the *Fisheries Act* and with the *Migratory Birds Convention Act* and related Regulations, provisions for the management of hazardous materials (e.g. fuels, lubricants) and wastes (e.g. waste oil) should be identified and implemented so as to ensure the risk of chronic and accidental releases is minimized. The following mitigation recommendations are made with respect to the transport, storage, use and disposal of petroleum products and toxic substances which, when employed, may minimize impacts to nearby receiving waters:

- Petroleum based products (e.g. fuels, lubricants, hydraulic oil) and wastes (e.g. waste oil) should be managed so as to minimize the risk of chronic and/or accidental releases; even small spills of oil can have very serious effects on migratory birds.
- Refuelling and maintenance activities should be undertaken on level terrain, at a suitable distance from environmentally sensitive areas including watercourses and wetlands, and on a prepared impermeable surface with a collection system.
- Biodegradable alternatives to petroleum-based chainsaw bar oil and hydraulic fluid for heavy machinery are commonly available from major manufacturers. Biodegradable fluids should be considered for use in place of petroleum products whenever possible.
- Drums of petroleum products or chemicals should be tightly sealed against corrosion and rust and surrounded by an impermeable barrier in a dry, water-tight building or shed with an impermeable floor.
- Proponents should ensure that storage tanks and equipment are leak-free (i.e. conduct routine inspections).

  In addition to having spill containment and clean-up materials on hand (i.e. sorbents and booms), personnel trained in spill mitigation should be on-site to ensure all spills or leaks, such as those from machinery or storage tanks, are promptly contained and cleaned up.

- The proponent should report any spills of petroleum or other hazardous materials to the Environmental Emergencies 24 Hour Report Line (St. John's 709-772-2083; other areas 1-800-563-9089).

2.7 Monitoring and Adaptive Management

The proponent is encouraged to prepare a water quality monitoring program (including location and number of sampling sites, sampling protocols (parameters, sampling frequency) that allows for timely detection of water quality changes) and identifies action thresholds for implementation of appropriate adaptive management measures. Such a program should take into account existing and appropriate regulations, or Section 36 (3) of the Fisheries Act, the Canadian Council of Ministers of the Environment (CCME) publication, Environmental Quality Guidelines for the protection of aquatic life (http://www.ccme.ca/publications/ceqg_rcqe.html) in conjunction with existing ambient water quality and site-specific factors.

2.8 Effects of the Environment on the Project

The proposed project will be sensitive to climate and weather, particularly extreme events, therefore mitigative measures should be factored into the design to ensure that the risk of infrastructure and environmental damage and other accidents is minimized. Historical data, local area knowledge and increasing ranges of weather events should be taken into account in determining the adequacy of the design.

Climatological data to assess the effects of the environment on the project can be obtained at http://www.climate.weatheroffice.ec.gc.ca/. Value-added data can be obtained by consulting EC's Atlantic Climate Centre at (506) 451-6006 or by email at: climate.atlantic@ec.gc.ca.

The proponent is also encouraged to regularly consult EC's local forecast at http://www.weatheroffice.ec.gc.ca/ so that construction-related activities can be scheduled accordingly.

2.9 Additional Comments

In Table 10.1 (Holyrood Combustion Turbine Project - List of Potential Environmental Approvals Required) the proponent indicates that there may be a potential permit/approval for the facility under *Fisheries Act*, Section 36(3). The proponent should note that there are no applicable approvals or permits under the *Fisheries Act* (Section 36(3)) for this project. In addition, the statement that *discharge must not be deleterious and must be acutely non-lethal* should be re-written as *discharge must not be deleterious* (to accurately reflect Section 36(3) of the Fisheries Act).

3.0 Contacts

Jerry Pulchan
Environmental Assessment Analyst
Environmental Protection Operations
Environment Canada

Joshua Mailhiot
Environmental Assessment Biologist
Canadian Wildlife Service
Environment Canada

6 Bruce Street
Mount Pearl, NL A1N 4T3
(709) 772-2126
Jerry.pulchan@ec.gc.ca

6 Bruce Street
Mount Pearl, NL A1N 4T3
(709) 772-2154
Joshua.Mailhiot@ec.gc.ca

FISHERIES AND OCEANS CANADA

- On November 25, 2013 the Fisheries Protection Provisions of the *Fisheries Act* came into force. The *Fisheries Act* <*http://laws-lois.justice.gc.ca/eng/acts/F-14/*> requires that projects avoid causing serious harm to fish <http://www.dfo-mpo.gc.ca/pnw-ppe/pol/index-eng.html> unless authorized by the Minister of Fisheries and Oceans. This applies to work being conducted in or near waterbodies that support fish that are part of or that support a commercial, recreational or Aboriginal fishery.

- As a result of the recent changes to the *Fisheries Act*, proponents proposing work in or near water are now required to **self-assess** and determine if their project requires a review by the Department of Fisheries and Oceans. You are encouraged to visit the new Fisheries Protection Program website to obtain guidance on how to carry out a self-assessment of your project.

- The Fisheries Protection Program's website (<http://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html>)

- If after you have completed the self-assessment of your proposed works/undertaking/activities and you have determined that a review by DFO is in fact required, please fully complete the application for review and send it to FPP-NL@dfo-mpo.gc.ca <mailto:FPP-NL@dfo-mpo.gc.ca>

- The application can be found at:

<http://www.dfo-mpo.gc.ca/pnw-ppe/reviews-revues/index-eng.html>

CEAA

- *Canadian Environmental Assessment Act 2012* (CEAA 2012)

The *Regulations Amending the Regulations Designating Physical Activities* (the Regulations) under CEAA 2012 set out a list of physical activities considered to be "designated projects" under CEAA 2012. The proponent of a designated project must provide the Canadian Environmental Assessment Agency (the Agency) with a description of a designated project that includes information prescribed by applicable regulations (*Prescribed Information for the Description of a Designated Project Regulations*).

- The following activities are described in paragraphs 2(a) and 3(a) of the Regulations:

- 2(a) "The construction, operation, decommissioning and abandonment of a new fossil fuel-fired electrical generating facility with a production capacity of 200 MW or more."
- 3(a) "The expansion of an existing fossil fuel-fired electrical generating facility that would result in an increase in production capacity of 50% or more and a total production capacity of 200 MW or more."

- It is ultimately the proponent's responsibility to determine whether or not their proposed undertaking is listed on the Regulations; however, the Agency may advise the proponent in this regard. In order to do so, the proponent should confirm the potential maximum (versus nominal) production capacity of the proposed combustion turbine.

- The proponent is encouraged to contact me at the coordinates below if they have any further questions or concerns.

Joseph Vigder
Environmental Assessment Officer
Canadian Environmental Assessment Agency
joseph.vigder@ceaa-acee.gc.ca
902-426-4951

TRANSPORT CANADA

- The proposed Project does not require any regulatory approvals from Transport Canada to proceed. However, Transport Canada does administer the federal *Transportation of Dangerous Goods Act* (TDGA) and offers the following information;

- Compliance with the TDGA is mandatory when handling and/or transporting any regulated dangerous goods. Additional information on the TDGA is available from;

  http://www.tc.gc.ca/eng/tdg/safety-menu.htm

- Transport Canada would like to advise the proponent of CANUTEC, which is the Canadian Transport Emergency Centre operated by Transport Canada to assist emergency response personnel in handling dangerous goods emergencies. This national bilingual advisory centre is specialized in interpreting technical information, providing advice, and emergency response. CANUTEC offers 24-hour emergency telephone service at 1-613-996-6666 or *666 on a cellular phone.