Environmental Review Report

Goreway Power Station Upgrades Project

Capital Power Corporation

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Revision: 0

Revision Record

Revision	Date	Revision Description
0	September 28, 2023	Report issued for public review

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Acronyms and Abbreviations

°C	degrees Celsius
AAQC	Ambient Air Quality Criteria
ACB	Air Contaminants Bench
ACC	air-cooled condenser
ADMGO	Air Dispersion Modelling Guideline for Ontario
AGP	Advanced Gas Path
ANSI	Area of Natural and Scientific Interest
APEC	Areas of Potential Environmental Concern
BAU	business as usual
BRT	Bus Rapid Transit
CAAQS	Canadian Ambient Air Quality Standard
CEMS	Continuous Emissions Monitoring System
CH_4	methane
CHER	Cultural Heritage Evaluation Report
CN	Canadian National
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
COC	contaminant of concern
CTC	Credit Valley, Toronto and Region and Central Lake Ontario
EA	Environmental Assessment
EA Act	*Environmental Assessment Act*
EASR	Environmental Activity and Sector Registry
ECA	Environmental Compliance Approval
ELC	Ecological Land Classification
EPA	*Environmental Protection Act*
ERR	Environmental Review Report
ESA	*Endangered Species Act*
ESA	Environmentally Sensitive Area
ESA	Environmental Site Assessment
ESDM	Emissions Summary and Dispersion Modelling
ESP	Environmental Screening Process
GE	General Electric
GHG	Greenhouse Gas
GIS	Geographic Information Systems
GPS	Goreway Power Station
GTA	Greater Toronto Area
GWP	Global Warming Potentials

ha	hectare
HCCC	Haudenosaunee Confederacy Chiefs Council
HDI	Haudenosaunee Development Institute
HFCs	hydrofluorocarbons
HRSG	heat recovery stream generator
HVA	Highly Vulnerable Aquifer
IESO	Independent Electricity System Operator
IPCC	Intergovernmental Panel on Climate Change
ISO	International Organization for Standardization
km	kilometre
kV	kilovolt
LID	low impact development
LIO	Land Information Ontario
m	metre
m^3	cubic metre
MBCA	*Migratory Birds Convention Act*
mbgs	metres below ground surface
MBR	Migratory Bird Regulations
MCM	Ministry of Citizenship and Multiculturalism
MECP (MOE)	Ministry of the Environment, Conservation and Parks (formerly Ministry of the Environment)
MNRF	Ministry of Natural Resources and Forestry
MTO	Ministry of Transportation
MW	megawatt
MWh	megawatt hour
N_2O	nitrous oxide
NAPS	National Air Pollution Surveillance
NF_3	nitrogen trifluoride
NH_3	ammonia
NIR	National Inventory Report
NO_x	nitrogen oxides
O. Reg.	Ontario Regulation
OMAFRA	Ontario Ministry of Agriculture, Food and Rural Affairs
OS	Open Space
OWRA	*Ontario Water Resources Act*
PAH	polycyclic aromatic hydrocarbon
PFC	perfluorocarbon
PM	particulate matter
POI	Point of Impingement
POR	Point(s) of Reception

PPS	Provincial Policy Statement
PSEZ	Provincially Significant Employment Zone
PSW	Provincially Significant Wetland
PTTW	Permit to Take Water
Q	Quarter
R0/S0	rotating blade/stationary vane
RFP	Request for Proposal
ROW	right-of-way
SAR	Species at Risk
SCR	Selective Catalytic Reduction
SF_6	sulphur hexafluoride
SO_2	sulphur dioxide
SoCC	Species of Conservation Concern
SWH	Significant Wildlife Habitat
SWM	stormwater management
TRCA	Toronto and Region Conservation Authority
u	micro
VOC	volatile organic compound
WRI	World Resources Institute

1.0 Introduction

1.1 Project Overview

Capital Power Corporation, through its affiliate Capital Power Goreway Inc. as managing partner for Goreway Station Partnership, owns and operates the Goreway Power Station (GPS), a combined cycle natural gas-fired power facility. Acquired by Capital Power in 2018, the GPS has been in operation since 2009 and generates an average output of 927 megawatts (MW) of electrical power. Capital Power is proposing to undertake equipment upgrades and control logic changes at the GPS, known as the Goreway Power Station Upgrades Project ("GPS Upgrades Project" or "Project"). The Project would provide approximately 40 MW of additional electricity generating capacity, which is reflective of a 4.5 percent (%) increase in the total generating capacity of the GPS. Installation of the turbine upgrades will result in no change to the footprint of the existing GPS. Installation of the upgrades will consist of component delivery, installation, performance testing, and changes in control logic. There will be no physical earthworks required or changes to current use or maintenance practices at the facility.

This Environmental Review Report (ERR) has been prepared to meet the requirements of the Environmental Screening Process (ESP) as required under Ontario Regulation (O. Reg.) 116/01 (the Electricity Projects Regulation) of the Ontario *Environmental Assessment Act* (EA Act).

1.2 Purpose of the Project

Ontario's Independent Electricity System Operator (IESO) has identified a significant need for new power supply in the province. At the system level, the IESO is projecting a generation capacity deficit starting in 2025. After many years of strong supply, the shortfall is being driven by 1) increasing demand, 2) retirement and refurbishment of Ontario's nuclear fleet, and 3) expiring contracts at existing facilities. While the need for new generating capacity is clear at the system wide level, the IESO has also identified several regions of the province with particularly pressing needs for new power supply. One region identified by the IESO as high priority is the Greater Toronto Area (GTA). The City of Brampton and surrounding area need significant capacity additions, with the IESO forecast suggesting local demand will outstrip capacity by 2027.

The IESO's Resource Eligibility Interim Report, dated October 7, 2022, stated that without a limited amount of new natural gas generation in the near term, the IESO would be reliant on emergency actions such as load curtailments or blackouts. The IESO has recommended procurement of a limited amount of natural gas-fired generation to help fuel the energy transition and maintain reliability.

In response to the projected regional and system wide shortfalls, the IESO launched a series of programs in 2022 to secure new capacity to meet the growing needs of the province. Leveraging existing natural gas facilities by providing new or extended contracts, as well as upgrading and expanding capacity was identified by the IESO as critical for maintaining reliability over the medium term. The IESO's Same Technology Upgrades procurement program aims to procure 300 MW of capacity through improvements to existing facilities across Ontario. Facilities proceeding under this procurement process will upgrade existing equipment to provide additional generating capacity to meet the growing provincial energy demand. The IESO has extended contracts with expiry dates prior to 2032 to 2035 to provide continued flexibility to the broader system and to meet local needs.

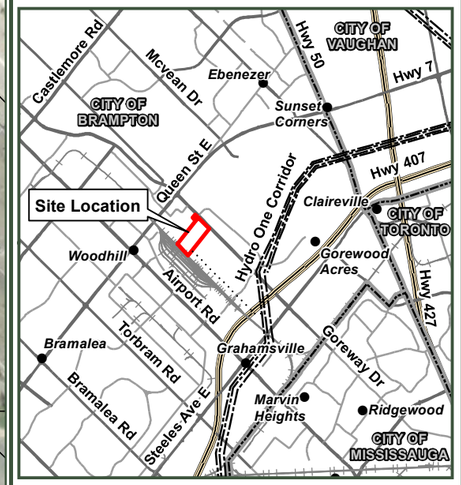
The IESO and Capital Power executed a contract for this GPS Upgrades Project in April 2023, and as part of the contract, the Project is expected to be operational by May 1, 2025.

1.3 Project Location

The GPS is located at 8600 Goreway Drive in the City of Brampton, Region of Peel, Ontario. The rectangular-shaped GPS property is approximately 19.5 hectares (ha) in size, with approximately 300 metres (m) of frontage along Goreway Drive and an approximate depth of 650 m. The main power generation facility is in approximately the centre of the parcel, with other key site features including internal access roads and parking lots, high voltage substation and overhead transmission line for grid interconnection, natural gas supply and storage infrastructure, and stormwater management (SWM) features. The northeast and southwest portions of the property are maintained as vegetated and naturalized areas outside of the facility fence line. The GPS's main site entrance is located on the adjacent property at 8808 Goreway Drive, which is also owned by Capital Power. Figure 1-1 provides context related to the location of the existing GPS and associated site features.

LEGEND

- Goreway Power Station Property
- Existing Facility Fenceline
- Parcel Fabric
- Permanent Watercourse
- Railway



NOTES:

TRCA REGULATION LIMIT, DIGITIZED FROM TRCA WEBMAP, ACCESSED NOV 2022

0 25 50 100 150 m

SCALE 1:3,500
PAGE SIZE 11 x 17
NAD 1983 UTM Zone 17N

THIS MAP IS FOR CONCEPTUAL PURPOSES ONLY AND SHOULD NOT BE USED FOR NAVIGATION

8600 GOREWAY DRIVE
CITY OF BRAMPTON
REGION OF PEEL, ONTARIO

GOREWAY POWER STATION

SITE LOCATION

SLR

FIGURE NO:
1-1

DATE: September 12, 2023

PROJECT NO: 241.V30524.00025

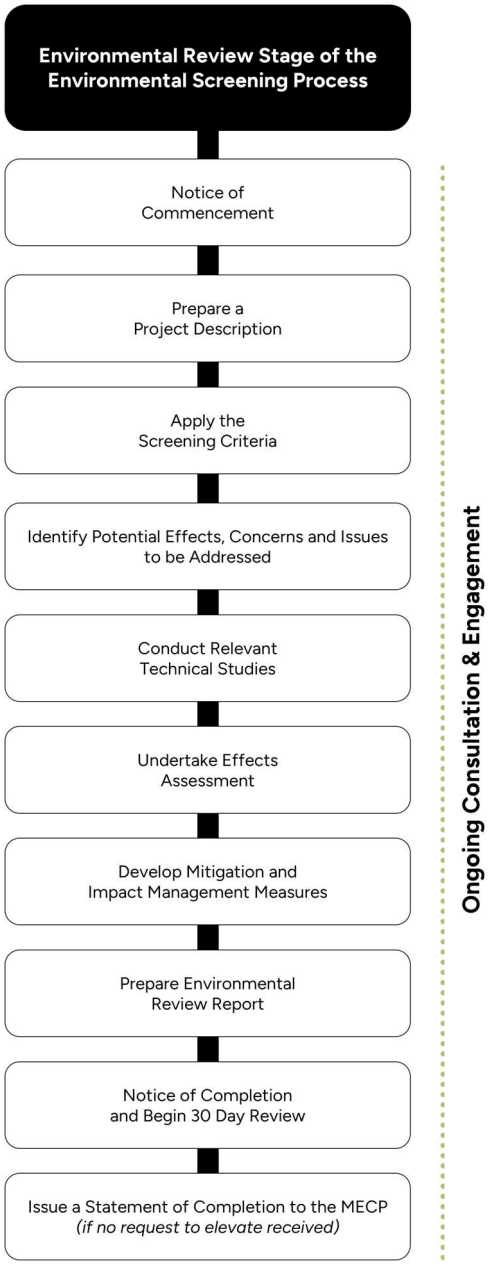
1.4 Regulatory Framework

Natural gas-fired generation projects are subject to the requirements of O. Reg. 116/01 (the Electricity Projects Regulation) under the EA Act. According to the provincial *Guide to Environmental Assessment Requirements for Electricity Projects* (2011) (the "Guide") and O. Reg. 116/01, modifications to generation facilities using natural gas that will result in a nameplate capacity increase of 5 MW or more are defined as "significant modifications". A significant modification is classified as a Category B project, which means it is subject to the full review process set out in the ESP.

The ESP has two tiers of assessment: the Screening Stage, which can be based primarily on existing or readily available information, and the Environmental Review Stage, where additional work programs, studies and consultation are undertaken to assess potential environmental effects and/or address unresolved concerns and issues. Capital Power determined that the Environmental Review Stage of the ESP was the appropriate process for this Project. This ERR documents the outcome of the Environmental Review Stage and has considered the potential environmental effects of the Project but does not re-evaluate the previously approved, operating GPS. Figure 1-2 provides an overview of the various steps for the Environmental Review Stage of the ESP[1].

In addition to requirements under the EA Act, the Project will require an amendment to the GPS's existing Environmental Compliance Approval (ECA) (Air & Noise). 3.0 No other federal, provincial, or municipal/local permits or approvals are anticipated to be required.

Figure 1-2: Environmental Review Stage of the Environmental Screening Process



[1] During the 30-day review period, anyone with outstanding environmental concerns has the opportunity to request that the Project be elevated from an Environmental Review to an Individual Environmental Assessment (EA). Elevation requests must be submitted within the 30-day review period after the Notice of Completion has been issued. Additional information about the Elevation Request process is available in section B.4.1.1 of the Guide.

1.5 Nameplate Capacity Context

Nameplate capacity generally refers to the MW of instantaneous electricity generation registered with government authorities for the purposes of classifying the power output of a generation facility. O. Reg. 116/01 – Electricity Projects defines nameplate capacity as "with respect to a generation facility, the total of the design electricity generating capacities of all the generation units in the facility". Power output levels for natural gas-fuelled generation equipment varies with atmospheric conditions including temperature, relative humidity, and elevation. The defined nameplate capacity of a facility incorporates International Organization for Standardization (ISO) standards, where the original equipment manufacturer provides facility-specific performance datasheets that factor in site-specific elevation at a defined ambient temperature and humidity level.

The maximum output of a facility is different than nameplate capacity, as it represents the largest amount of electricity that can be generated by the equipment and is typically associated with more extreme atmospheric conditions compared to nameplate capacity. This measurement is useful for predictive modelling scenarios and measuring operational compliance.

Previous GPS documentation included descriptions of the output of the facility that did not fully align with the definitions of nameplate capacity and maximum output, and therefore resulted in a lack of clarity related to facility output:

- The original Environmental Report (ESG International 2000) for the GPS proposed an approximate output of 800 MW, with the actual output dependent on ambient conditions, available gas pressure, and final powerhouse configuration. The report notes that under "average" conditions, the three-turbine configuration would have a peak output of about 880 MW.
- In 2004, an "Environmental Screening Report for a Nameplate Capacity Change of More than 5 MW to the Output of Goreway Station" (Stantec 2004) was completed to increase the facility's nameplate capacity from 935 MW to a maximum nameplate capacity of 990 MW, based on an ambient temperature of -20 degrees Celsius (°C), as the projected output of the selected configuration was determined to be greater than that assumed during preliminary design.
- The current ECA (Air & Noise) for the GPS (approved March 2015) documents the capacity of the facility as 990 MW for the natural gas-fired electricity generation facility, constructed, and operated in either the Simple Cycle configuration or the Combined Cycle configuration. The ECA further details that the equipment and associated accessories include three natural gas-fired gas turbines, each with a nominal rating of 195 MW (at an ambient temperature of -20.5°C).

These documents therefore defined the GPS nameplate capacity not based on the original equipment manufacturer datasheets, but rather based on "average" conditions, and on an ambient temperature of -20°C, and do not specify the maximum output of the facility. There is therefore some ambiguity in the documents related to the actual nameplate capacity and maximum output of the GPS.

For clarity moving forward, Capital Power has verified that the gross nameplate capacity of the GPS as it exists in its current state is 914 MW. This nameplate capacity was determined using 15°C, the site-specific conditions for elevation, and 76% humidity. Similarly, the existing GPS has a maximum gross output of 990 MW and an average capacity of 927 MW at the annual average temperature of 8.8°C.

2.0 Project Description

2.1 Project Component Modifications

The Project involves two modifications to the existing GPS: turbine upgrades and peak firing. These modifications are discussed further in the following sections.

2.1.1 Turbine Upgrades

The GPS began operations in 2009, and since the time of its original design and construction, there have been advancements in turbine technology. To increase power output from the existing GPS, each of the three existing gas turbines will be modified through the installation of an upgrade package offered and installed by the turbine manufacturer, General Electric (GE). The package is commercially referred to by GE as the "Advanced Gas Path Tech Package and High Output R0/S0":

- The Advanced Gas Path Tech (AGP Tech) hardware modification incorporates both cooling and sealing enhancements and advanced materials to allow for more efficient operation at increased firing temperatures. As a result of this modification, the shaft limit of the gas turbine can be raised, allowing for increased output and heat rate improvement at colder ambient temperatures.
- The High Output R0/S0 modification involves the replacement of rotating blades (R0) and stationary vanes (S0) with redesigned components, making it more aerodynamic and as a result, increasing the facility's electricity generating capacity.

Once installed, operation of the GPS with the upgraded turbines would become the new typical operating scenario for the facility.

2.1.2 Peak Firing

The Project will include an update to the turbine control logic that will allow for an increase in firing temperature, known as peak firing. Peak firing allows for operational flexibility in that the higher firing temperatures can be used to increase generation during periods of high system demand or when site maintenance or operational issues would otherwise reduce generation capability. The use of peak firing results in increased maintenance requirements and, therefore, would be used as a contingency measure only when required to meet generating capacity commitments to the IESO.

2.1.3 Change to GPS Capacity as a Result of the Modifications

Following Project completion, the new gross nameplate capacity of the GPS will be 960 MW, determined using the same method as for the existing GPS as outlined in Section 1.5. With the turbine upgrades and peak firing, the maximum gross output of the GPS would be 1022 MW. The modified GPS will have an average capacity of 978 MW at the annual average temperature of 8.8°C. The modifications therefore amount to approximately 40 MW of additional capacity depending on ambient temperatures, as summarized in Table 2-1.

Table 2-1: Changes to GPS Capacity as a Result of the Modifications

Capacity	Existing GPS	Existing GPS + Modifications	Capacity Increase
Nameplate Capacity	914 MW	960 MW	46 MW
Maximum Output	990 MW	1022 MW	32 MW
Average Output	927 MW	978 MW	51 MW

2.2 Project Activities

2.2.1 Construction

The Project construction phase is applicable only to the turbine upgrades, which involve the physical replacement of equipment within the existing gas turbines. No physical construction or installation activities are required for the implementation of peak firing, as this involves only a programming update to the turbine control logic (i.e., computer software).

The Project installation activities are planned to occur during three IESO scheduled GPS facility outages, with the first outage scheduled for April of 2024. Three outages are required to complete the installation activities at the three existing turbines given that work takes place at one turbine per outage. The three existing turbines will all be receiving the same upgrade treatment.

Although the installation of Project components will occur concurrently with other scheduled maintenance activities, the GPS outages are part of the existing facility operations. Routine maintenance activities are outside the scope of the GPS Upgrades Project. The IESO schedules facility outages to ensure that consumers are not disrupted. Scheduled outages are routinely used as an opportunity to complete system upgrades and facility maintenance.

Construction phase activities will be limited to:

- **Component Delivery:** The turbine upgrade components will be delivered by truck; however, delivery of the turbine upgrade components will be incorporated into the delivery of other components and materials associated with maintenance outage activities. Therefore, within the context of the scheduled outage and associated maintenance activities, no increase in trucking/delivery requirements are anticipated because of the turbine upgrades.
- **Installation:** Installation activities will be completed inside the existing facility. The number of workers and associated equipment that will be required onsite for the turbine upgrade installation process will remain unchanged compared to the requirements of the maintenance outage. It is anticipated that the maintenance outage period may require an additional two days per outage to accommodate the installation of turbine upgrade components.
- **Performance Testing:** Prior to resuming operations, testing will be conducted to ensure that the installed components are functioning as expected. This performance testing will be conducted as part of the regular testing completed following a regularly scheduled maintenance outage.

Installation of the turbine upgrades will result in no change to the footprint of the existing GPS. There will be no physical earthworks required or changes to current use or maintenance practices at the facility. Installation activities will not include any water takings or discharges, nor involve storage or handling of any materials or substances beyond those used for normal operational and maintenance procedures and subject to facility spill prevention and containment protocols.

No additional waste materials will be generated, as existing components that will be removed will continue to be of value and will remain in storage for future refurbishment.

2.2.2 Operations

Changes to the operation of the GPS as a result of the Upgrades Project will be limited to:

- Turbine Upgrades: hardware upgrades to allow more efficient operation of the facility at increased firing temperatures. Replaced rotating blades (R0) and stationary vanes (S0) will be more aerodynamic and result in an increased electricity generating capacity.
- Peak Firing: an operational feature (software upgrade) that when enabled will allow higher firing temperatures to increase generation during periods of high system demand or when site maintenance or operational issues would otherwise reduce generation capability.

2.2.3 Decommissioning

The Project components will be fully integrated into the existing facility, and therefore would be included in the final decommissioning of the GPS. No specific decommissioning considerations are required for this Project.

3.0 Assessment Methods and Scope

3.1 Assessment Methods

The ESP, including preparation of this ERR, was undertaken in accordance with the process outlined in the *Guide to Environmental Assessment Requirements for Electricity Projects* (2011), including the following key steps:

- Describe the Project including the basic technologies to be used.
- Describe the local environment and conditions, where the definition of “environment” is the same as that in the EA Act, and is broadly defined to include air, land, and water as well as natural, cultural, social, and economic components.
- Apply the screening criteria provided in the Guide to the Project to identify the negative environmental effects that a project has, or could potentially have, directly or indirectly on the environment at any stage in the Project life cycle (Appendix A: Screening Checklist).
- Undertake an effects assessment, including a description of:
    - potential environmental effects or concerns,
    - Project design or mitigation measures to avoid or reduce the environmental effects,
    - net effects that will remain after mitigation measures have been applied, and

  - the significance of net effects, which considers the value of the resource affected, magnitude of the effect, geographic extent of the effect, duration and frequency of the effect, reversibility of the effect, and ecological/social context.

- Conduct an overall assessment of the environmental advantages and disadvantages of the Project.

Upon commencement of the ESP, the Ministry of the Environment, Conservation and Parks (MECP) provided Capital Power with additional guidance that identified MECP Areas of Interest (v. August 2022) that are expected to be addressed as part of the streamlined EA process[2]. In addition to preparing this ERR in accordance with the requirements the Guide, a concordance review was completed to confirm that all MECP Areas of Interest have been considered (Appendix B: MECP Areas of Interest).

Consultation and engagement with the public, review agencies, and Indigenous communities is required as part of the ESP. Section 4.0 below summarizes the consultation and engagement process undertaken as part of this Project.

Where required, detailed environmental component-specific analytical assessment methods are outlined in the applicable effects assessment sections of this ERR.

3.2 Assessment Boundaries

Although Project construction will be limited to equipment upgrades within the existing facility, the potential for negative environmental effects resulting from the operation of the new equipment may extend beyond the Project footprint. Spatial boundaries for documentation of existing conditions and application of the screening criteria are described below and shown in Figure 3-1.

Spatial boundaries were determined via examination of geographic boundaries applied to the GPS property:

- The Project footprint consists of a portion of the GPS property within the existing GPS fence line (Figure 3-1). Construction activities will be limited to the main site access, contractor parking lot, and the existing GPS facility. However, to be conservative, the full area within the GPS fence line is considered in the assessment.
- A 500-m buffer was selected as the most appropriate starting point for defining the study area boundary, as it captured representative land uses in proximity to the Project footprint. The study area was then refined based on existing geographic boundaries such as roads and property fabric to include the following bounds, as illustrated in Figure 3-1:
  - Canadian National (CN) Brampton Intermodal Terminal to the southwest of the GPS property;
  - Queen Street East to the northwest of the GPS property;
  - Intermodal Drive to the southeast of the GPS property; and

[2] Though the MECP did not provide Project specific Areas of Interest guidance for this Project, Capital Power received confirmation from the MECP that their generic Areas of Interest (v. August 2022) tailored to the ESP process could be used for the purposes of this Project.

- The outermost extent of the industrial and commercial land uses to the northeast of the GPS property.

For environmental components requiring a detailed effects analysis based on the outcome of the screening, component-specific spatial boundaries were established for assessment.

Temporal boundaries include construction and operation phases. The construction phase is comprised of the component delivery and installation activities scheduled to occur during scheduled maintenance outages, with the first outage in Q2 2024 and subsequent outages in Q4 2024 and Q1 2025. Each of the three scheduled outages will have an approximate duration of three weeks. Once installation of the Project components during the outage is complete, GPS operations will resume.

LEGEND:

- Study Area/Notification Area
- Goreway Power Station Property
- Existing Facility Fenceline
- Freeway
- Arterial
- Collector
- Local Street
- Ramp

0 50 100 200 300 m

SCALE 1:10,000
PAGE SIZE 11 x 17
NAD 1983 UTM Zone 17N

THIS MAP IS FOR CONCEPTUAL PURPOSES ONLY AND SHOULD NOT BE USED FOR NAVIGATION

8600 GOREWAY DRIVE
CITY OF BRAMPTON
REGION OF PEEL, ONTARIO

GOREWAY POWER STATION UPGRADES PROJECT

STUDY AREA BOUNDARY

SLR

FIGURE NO:
3-1

DATE: July 6, 2023

PROJECT NO: 241.V30524.00025

Last Saved: July 06, 2023 1:21:49 PM by tgraham

GIS PATH: G:_Projects\241_30524_CapitalPower\1_Maps\RPT\RPT_20230228_NoticeOfCOmmencement\241_30524_GPS_NotificationArea_revB.mxd

3.3 Information Sources

A description of existing conditions and completion of the screening checklist (Appendix A) was based on publicly available open-source data and desktop resources. Generally, the desktop study included a review of the following:

- Original reports prepared to comply with EA Act requirements, including supporting documents and subsequent modification reports.
- ECA (Industrial Sewage Works) and application package supporting documents, including the SWM Plan and subsequent amendments.
- ECA (Air and Noise) and application package supporting documents, including Acoustic Assessment Report and Emissions Summary Dispersion Modelling (ESDM) Report, and subsequent amendments.
- Archaeological Assessments and associated clearance letters.
- Toronto and Region Conservation Authority (TRCA) O. Reg. 166/06 and associated available resources (e.g., Regulated Areas mapping).
- Publicly available federal and provincial open data online mapping applications.
- Provincial, Regional and Municipal policies and associated plans and schedules.
- Google Maps/Google Earth (2022, 2023) (https://www.google.com/maps/place/8600+Goreway+Dr,+Brampton).

The desktop review was supplemented by field study results, technical reports, facility-specific information, and other supporting information. These information sources were used to identify the known environmental features within the study area that may be affected by the Project (Figure 3-1), and to identify the potential need for more detailed studies. Relevant information was collected within the context of the Project description to complete the screening for the GPS site and surrounding area.

The information relied upon for the ERR was then supplemented with the results of the engagement program, including the receipt of data, information and interpretation, and confirmation of preliminary information from the MECP, City of Brampton, TRCA, and Indigenous communities.

4.0 Consultation and Engagement

4.1 Consultation and Engagement Approach

The approach to consultation and engagement with interested and potentially affected parties, including adjacent property owners, Indigenous communities, regulatory review agencies, interest groups, and members of the public, was developed using Capital Power's value driven approach to stakeholder engagement and the provincial ESP requirements as outlined in the *Guide to Environmental Assessment Requirements for Electricity Projects* (2011).
The overarching objective was to notify potentially interested and affected parties of the proposed works, identify concerns and possible impacts stakeholders believe the Project may pose, and address those concerns, where possible. Guidance was also sought from the Code of Practice outlined in the *Consultation in Ontario's Environmental Assessment Process* (MECP 2014).

Overall, Capital Power's consultation and engagement approach is founded on respect, transparency, and a goal of developing enduring relationships that recognize the unique circumstances of individual communities and stakeholder groups. Capital Power always strives to engage parties who live near, or have an interest in, their operations and developments, working to foster understanding and trust, and laying the foundations for mutually beneficial relationships. Through a variety of consultation and engagement methods as further described below, Capital Power reached out to potentially interested parties early in the process and at major Project milestones, welcoming all questions and comments and providing open and transparent communications. In summary, no comments have been received to date that cannot be adequately addressed as the engineering design and permitting and approval programs proceed.

It is expected that further comments may be received from those having an interest in the Project, and if necessary, dialogue will be undertaken to discuss comments and resolve any remaining issues, where possible. Based on stakeholder feedback to date, Capital Power anticipates being able to address concerns raised during the permitting and approvals phase of the Project.

4.2 Consultation and Engagement Methods

Potentially interested and affected parties were contacted using a range of communication tools. These methods included e-mail, letter correspondence (direct mailings), phone calls, notices in a local newspaper, and Project website. These methods were used to inform interested parties of key Project information and milestones, as well as opportunities to provide feedback and engage in dialogue. Both virtual and in-person meetings were also held upon request.

4.2.1 Project Contact List

The consultation and engagement program started with the identification of potentially interested parties. A Project Contact List was developed based on the previous mailing list used during approvals for the existing GPS, MECP's *Environmental Assessment Government Review Team Master Distribution List* (August 2022)[3], input from MECP regarding potentially affected Indigenous communities, and the requirements of the Guide. Potentially interested parties were identified as follows:

- Indigenous communities identified by the MECP as potentially affected by the proposed Project, including the Mississaugas of the Credit First Nation and Six Nations of the Grand River (both the Six Nations Elected Council and the Haudenosaunee Confederacy Chiefs Council). Capital Power also included the Métis Nation of Ontario on the Project contact list;
- Federal and provincial government (regulatory) review agencies with permitting or approval authority for the Project, or with potential interest in the Project based on review of the MECP's Master Distribution List;

[3] The *Environmental Assessment Government Review Team Master Distribution List* is an information source prepared and periodically updated by the Environmental Assessment Branch of the MECP. It is a list of federal, provincial, and municipal agency contacts and links to agency websites where additional information may be obtained for matters pertaining to EA submissions. The list includes a description of the type of EA projects to be circulated to each agency.

- Local regulatory review agencies, including staff from the City of Brampton, Region of Peel, and TRCA;
- Elected officials, including Members of Parliament and Provincial Parliament for Brampton East and the City of Brampton Councillor for Wards 7 and 8; and
- Interest groups or local organizations, including the Brampton Board of Trade, Brampton Environmental Alliance, Peel Environmental Youth Alliance, and Ontario Nature.

The Project Contact List is a "living" document and will continue to be updated throughout the Project on an as-needed basis, either through the identification of new contacts or the deletion of those that do not wish to be contacted further. A copy of the final Project Contact List (with personal information obscured) is provided in Appendix C.

4.2.2 Direct Mailings

A geographic area was identified for the purpose of direct mailings to notify potentially interested property owners and/or site managers in proximity to the Project. A 500 m notification radius was selected as the most appropriate parameter for defining the notification limits. The 500 m radius was selected given it captured properties closest to the GPS property and those in the immediately surrounding area. The extent of the notification radius was expected to include those most likely to be potentially interested in the Project. The direct mailing notification area was then refined to include the nearest roadway or land use in each direction, bounded as follows:

- To the north-northwest of the Project site by Queen Street East;
- To the south/southwest of the Project site by the CN Brampton Intermodal Terminal;
- To the east/southeast of the Project site by Intermodal Drive; and
- To the west/northeast of the Project site by the southern extent of the Claireville Conservation Area (TRCA property) on the opposite side of Goreway Drive.

The direct mailing notification boundaries correspond with the study area boundaries described in Section 3.2 above (see Figure 3-1).

Parcel address information was then obtained from publicly available sources for all 148 properties and businesses within this notification area. This list of addresses was used for direct mailings via Canada Post at key Project milestones.

4.2.3 Project Email and Phone Number

Capital Power's contact information, including a business email address and phone number, were provided on all written notifications and correspondence to help establish a direct line of contact to the appropriate Capital Power Project team member:

Jay Shukin
Manager, Indigenous and Stakeholder Engagement
Phone: 1-855-703-5005
Email: info@capitalpower.com

4.2.4 Media Publications

Notices were published at key Project milestones in the local newspaper, the Brampton Guardian. The Brampton Guardian is a free, weekly community newspaper with a circulation of approximately 345,000 recipients within the City of Brampton. As further described in Section 4.3 below, Project Notices were published as full-page ads in the Brampton Guardian.

4.2.5 Project Webpage

A dedicated Project webpage on the Capital Power website was published in April 2023 and updated at key Project milestones to share Project information online. The webpage provides a high-level overview of the need for the Project, a description of the proposed upgrades, regulatory process, and Project contact information. The Project webpage will continue to be updated as the Project proceeds through permitting and approvals and construction. The webpage can be found at: capitalpower.com/operations/goreway-power-station-upgrade.

4.2.6 Meetings

Capital Power first offered to meet with all Indigenous communities (see Section 4.3.5 below) when the Project Introduction letters, and Project Overviews were sent out on April 5, 2023. All stakeholders on the Project Contact list were also invited to meet with the Project Team during the Notice of Commencement mailout in April 2023. As further described in Section 4.3 below, during the period of May to August 2023, Project meetings were held with the MECP, City of Brampton, and Indigenous communities. Follow-up invitations to meet with all interested parties were also provided during the Notice of Completion mailout.

4.3 Consultation and Engagement Activities and Outcomes

4.3.1 Notice of Commencement

Publication of a Notice of Commencement is a requirement of the ESP under the *Guide to Environmental Assessment Requirements for Electricity Projects* (2011). The Notice of Commencement introduced the proposed equipment upgrades and the beginning of the Environmental Review to assess the potential environmental effects of the Project. An explanation of the ESP and an invitation to submit comments was provided. The Notice also provided a map of the Project location, a brief description of the issues that were subject to detailed review as part of the ERR, and Capital Power's contact information. The Notice of Commencement directed readers to the Project webpage for more detailed information.

The Notice of Commencement of an Environmental Review was published as a full-page ad in the *Brampton Guardian* on May 4, 2023. The Notice of Commencement was additionally sent via email (or letter mail where no email was identified) that same day to all those on the Project Contact List. On May 8, 2023, addressed letter mail containing the Notice of Commencement was delivered via Canada Post to all properties and businesses located within the Project notification limits (see Figure 3-1 above). Copies of the Notice of Commencement, example email and addressed letter mail are provided in Appendix C.

4.3.2 Notice of Completion

The Notice of Completion of an Environmental Review explained that this ERR has been filed for public review and comment for a period of 30-calendar days. The Notice of Completion indicated where the ERR can be reviewed online and formally requested written comments within the 30-day comment period, starting on September 28 and ending on October 28, 2023. As per the ESP requirements, the notice also included results of the screening and further details regarding the request to elevate process.

The Notice of Completion was circulated to the Project Contact List on September 28, 2023, and directly mailed to each property within the notification area (see Figure 3-1) that same week. The notice was also published in the Brampton Guardian (now online), on September 28, 2023, and made available on the Project website. The Notice of Completion was also circulated to applicable MECP representatives.

4.3.3 Public Consultation and Engagement

No comments have been received from any member of the public. This report has been made available for a 30-day public review period. Section 4.3.6 provides additional detail.

4.3.4 Agency Consultation and Engagement

Consultation with the MECP, the City of Brampton and other government agencies began early in the Project planning phase as detailed in the Record of Consultation and Engagement (Appendix C). All those listed on the Project Contact List were at minimum provided with a copy of the Notice of Commencement and the Notice of Completion. A summary of key correspondence with agencies is provided in the sections below.

4.3.4.1 Ministry of the Environment, Conservation and Parks

The MECP was first contacted in November 2022 as part of the early Project planning works to confirm provincial approval requirements and obtain the preliminary list of potentially affected Indigenous communities. Preliminary Project information was provided and a meeting with MECP staff was subsequently held on December 16, 2022, to provide an overview of the IESO procurement process, discuss the EA Act and confirm ECA permitting requirements. Further correspondence through February and March 2023 confirmed that the ESP is the appropriate EA process to follow and confirmed the list of Indigenous communities with whom to consult (see Section 4.3.5 below).

A meeting was held with the MECP on July 28, 2023, to provide a Project update and discuss the future ECA application process. During this meeting, MECP confirmed that their formal response to the Notice of Commencement would be forthcoming, and Capital Power was advised to proceed with the ESP based on preliminary input provided in March 2023 related to the list of Indigenous Communities that may have interest in the Project, and the MECP's "Areas of Interest" document (August 2022) shared with Capital Power for another similar project.

4.3.4.2 City of Brampton

The Notice of Commencement was issued to City of Brampton staff and Councillors on May 3, 2023, prior to formal issuance to the rest of the Project Contact List. A meeting was held with the Office of the City Administrator and Office of the Mayor on June 29, 2023, to further discuss the Project, including the City's questions around the potential for increased greenhouse gas (GHG) emissions. A follow-up document with additional information including the anticipated results of the ongoing GHG assessment, was provided to the City of Brampton on July 7, 2023, to assist in their Council meeting discussions held September 20, 2023.

4.3.4.3 Ministry of Citizenship and Multiculturalism

The Ministry of Citizenship and Multiculturalism (MCM) responded to the Notice of Commencement on May 31, 2023. MCM staff indicated the Ministry's interest in the Project includes archaeological resources, built heritage resources, and cultural heritage landscapes.

MCM noted that the GPS property had been cleared of archaeological concerns and recommended that the previous reports be shared with Indigenous communities who may have an interest in the area.

MCM further recommended that the Ministry's *Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes* be completed to determine whether there may be potential effects to these cultural heritage resources (Appendix C), and if so, next steps including completion of a Cultural Heritage Evaluation Report (CHER). MCM requested to be notified if a CHER will be completed and asked to be provided a copy before issuance of the Notice of Completion. However, the cultural heritage screening identified no potential for effects (Appendix D).

4.3.4.4 Ministry of Natural Resources and Forestry

The MNRF responded to the Notice of Commencement on May 25, 2023, by providing information to assist Capital Power in identifying and assessing natural features and resources as required by applicable policies and legislation, as well as engaging with the MNRF for advice as needed. Specifically, the letter provided information regarding the MNRF's natural heritage and natural resources Geographic Information Systems (GIS) data layers and natural hazards, as well as the *Petroleum Wells & Oil, Gas and Salt Resources Act*, *Fish and Wildlife Conservation Act*, and the *Public Lands Act* and *Lakes and Rivers Improvement Act*. The letter stated that if, after reviewing the information provided, no MNRF interests are identified, there is no need to circulate any subsequent notices to MNRF as part of the Project. As a result, MNRF was removed from the Project Contact List.

4.3.5 Indigenous Engagement

In circumstances where Indigenous Treaty Rights may be impacted, the Crown (Province of Ontario) has a legal Duty to Consult with these Indigenous communities. This Duty to Consult may be delegated to third party proponents depending on the situation and the scope of consultation that is required. As part of this Project, on March 24, 2023 (Appendix C), the MECP provided a list of Indigenous communities with a potential interest in the Project, including:

- Mississaugas of the Credit First Nation; and
- Six Nations of the Grand River (both the Six Nations Elected Council and the Haudenosaunee Confederacy Chiefs Council).

In addition to the list provided by the MECP, Capital Power identified the Métis Nation of Ontario as a potentially interested Indigenous community and they were added to the Project Contact List.

Letters introducing the proposed Project were sent to these communities on April 5, 2023, prior to publication of the Notice of Commencement. The letters introduced Capital Power and the need for new power supply in the province as determined by the IESO, outlined the proposed facility upgrades, and extended an invitation to meet with the Project Team to learn more about the Project (Appendix C). On June 30, 2023, an update was sent related to the IESO contract status of the Project, and the week of September 18, 2023, a further update was issued regarding the forthcoming ERR. The Notice of Completion was provided on September 28, 2023.

Engagement to date with Indigenous communities is summarized in the sections below. No response has been received from the Métis Nation of Ontario to date.

4.3.5.1 Mississaugas of the Credit First Nation

In response to the initial Project notification letter, the Mississaugas of the Credit First Nation requested a meeting with the Project Team. The meeting was held virtually on May 10, 2023, and included a presentation by Capital Power on the Project, as well as another unrelated proposed Capital Power project at the GPS site. A meeting summary was issued by Capital Power on May 31, 2023, and Capital Power provided a copy of the previously completed Stage 2-3 Archaeological Assessment. The formal Notice of Commencement was also issued to the Mississaugas of the Credit First Nation on May 4, 2023, as well as an informal Project update on June 30, 2023, regarding Capital Power receiving an IESO contract award for the Project.

A meeting was also requested by the Mississaugas of the Credit Business LP, and subsequently held July 11, 2023, to discuss potential business partnership opportunities with Capital Power.

An offer to provide funding assistance for review of the ERR was sent September 19, 2023, and the Notice of Completion was provided on September 28, 2023. Any comments received from the Mississaugas of the Credit First Nation will be addressed as the Project proceeds.

4.3.5.2 Six Nations of the Grand River

In response to the initial Project notification letter, the Six Nations of the Grand River confirmed receipt of the Notice of Commencement on May 5, 2023, indicating that the information had been forwarded to the Directors of Lands and Resources and that they would reach out to Capital Power if they had any questions. Capital Power sent an informal Project update regarding IESO contract award on June 30, 2023, and followed up with a phone call and email on July 21, 2023, asking if the Six Nations of the Grand River would be interested in a Project briefing. A July 25, 2023, email response from Six Nations' Chief of Staff confirmed that the correct staff had been copied on the communications and they will be in touch should they wish to discuss the Project with Capital Power.

An offer to provide funding assistance for review of the ERR was sent September 19, 2023, and the Notice of Completion was provided on September 28, 2023. Any comments received from the Six Nations of the Grand River will be addressed as the Project proceeds.

4.3.5.3 Haudenosaunee Confederacy Chiefs Council

The Haudenosaunee Confederacy Chiefs Council (HCCC) has legislated the Haudenosaunee Development Institute (HDI) to represent the interests of the Haudenosaunee Confederacy.

In response to the initial Project notification letter and Notice of Commencement, on May 11, 2023, HDI requested that Capital Power complete their application to initiate consultation. The application was submitted June 7, 2023, and receipt of the application package was confirmed that same day by HDI. Capital Power sent an informal Project update regarding IESO contract award on June 30, 2023, and an introductory meeting was held with HDI on July 21, 2023, to provide a Project overview and discuss HDI interest in the Project. A proposed monitoring agreement was received from HDI on July 28, 2023, and a meeting was held to discuss the agreement with HDI on August 25, 2023. Capital Power subsequently provided HDI with a capacity funding agreement on September 21, 2023. The intent of the agreement was to reimburse HDI for their time in reviewing the ERR. HDI raised objections to Capital Power's approach on September 26, 2023, and proposed a face-to-face meeting in the coming weeks.

At HDI's request, a site tour of the GPS was conducted on August 31, 2023. The tour included a further briefing on the Project and a walk-through of the plant and the immediate grounds. During the site tour, HDI posed two questions to Capital Power which required further follow-up: 1) which agency originally granted approvals for the GPS; and 2) what is the dispersion zone in terms of emissions and how will this change with the upgrades? Responses to these questions were issued September 6 and 25, 2023.

The Notice of Completion was provided on September 28, 2023. Capital Power is committed to continuing to work with HDI as the Project proceeds.

4.3.6 Summary of Key Outcomes

Table 4-1 provides a summary of the key consultation and engagement outcomes, including how comments have been considered and/or resolved. A copy of relevant correspondence and communications is included in the Record of Consultation and Engagement as Appendix C. In summary, no comments have been received to date that cannot be adequately addressed as the engineering design and permitting and approval programs proceed.

It is expected that further communications may be received from those having an interest in the Project, and if necessary, meetings will be convened to discuss comments and resolve any remaining issues, where possible. It is not anticipated that any concerns will be raised that Capital Power cannot further address during the permitting and approvals phase of the Project.

Table 4-1: Summary of Key Consultation and Engagement Outcomes

Commentor	Summary of Key Comments	How Comment was Considered
Ministry of the Environment, Conservation and Parks (MECP)	Proceed based on preliminary input provided in March 2023 and the MECP's "Areas of Interest" document (August 2022).	Acknowledged.
City of Brampton	What impacts does the Project have on GHG emissions, noise impacts and other potential impacts to the community?	Capital Power provided a response to the City on July 7, 2023, to address their concerns and the information was presented to Council on September 20, 2023.
Ministry of Citizenship and Multiculturalism (MCM)	The GPS property has been cleared of archaeological concern. Previous archaeological reports should be shared with Indigenous communities who may have an interest in the area. The Ministry's *Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes* should be completed to determine whether they may be potential impacts to cultural heritage resources.	Acknowledged. Shared archaeological reports with Indigenous communities, as requested. Checklist attached herein for reference as Appendix D. No potential effects to cultural heritage resources.
Mississaugas of the Credit First Nation	No issues or concerns raised to date specific to the Project. Interest in contracting or future business opportunities related to power generation.	Capital Power will continue to engage with the Mississaugas of the Credit First Nation as the Project proceeds and regarding future opportunities.
Six Nations of the Grand River	No issues or concerns raised to date.	Capital Power will continue to engage with the Six Nations of the Grand River as the Project proceeds.
Haudenosaunee Development Institute (HDI)	HDI has informed Capital Power that it cannot provide comments until an acceptable engagement agreement is in place. Interest in contracting or future business opportunities related to power generation.	Capital Power will continue to engage with HDI as the Project proceeds and regarding future opportunities.

5.0 Existing Conditions

The GPS is a natural gas-fuelled, combined cycle facility that primarily operates during intermediate and peak demand periods. The GPS was first proposed in June 1998 by Sithe Energies Canadian Development Ltd. (Sithe) to address the growing need for power generation in the GTA. Construction began in 2006, and the facility was operational by June 2009. The facility was acquired by Capital Power in June 2019.

The existing GPS features advanced technology. State of the art emission controls including Selective Catalytic Reduction (SCR) enable the clean burning of natural gas to reduce nitrous oxide (NO_x) emissions. NO_x emissions (smog forming) are less than 4% of the allowable limit and sulphur dioxide (SO_2) emissions are less than 1% of the allowable limit (Section 6.2.2 presents specific allowable limits). Through use of a dry air-cooled condenser, exhaust steam from the facility's turbine is recycled back into the system using less than 5% make-up water required for system production. Further, the building and equipment layout was designed to reduce or eliminate the noise typically associated with electricity generation, and noise emissions were extensively modeled and validated to confirm compliance with provincial requirements. Additionally, the facility was designed to minimally impact the existing natural habitat on the parcel. Natural features including Mimico Creek and existing vegetation were preserved, and additional naturalized features were developed to encourage biodiversity and reduce visual impact of the facility (ESG 2000; Capital Power 2023).

Electricity generated at the GPS is dispatched to the provincial power grid via a 230 kilovolt (kV) transmission line that runs from the GPS substation to the southern boundary of the property line, then southward along a City of Brampton right-of-way (ROW) to the interconnection point with Hydro One's transmission corridor near Steeles Avenue.

The EA process required for approval of the original GPS pre-dated the introduction of O. Reg. 116/01 for Electricity Projects under the EA Act. An Environmental Report was prepared and filed with the Ministry of Environment (now the MECP) in September 2000 (ESG 2000). During the Ministry review period, O. Reg. 116/01 came into effect and the project became subject to the Transition Provisions of the new EA process. An Equivalent Review Process Report was then submitted in May 2001 to demonstrate that the previous Environmental Report was consistent with the level of detail required under the new regulation. The Statement of Completion was issued on February 12, 2002. Construction began in 2006, and the facility was operational by June 2009. The facility has a 20-year Accelerated Clean Energy Supply Contract with IESO expiring in June 2029.

Current conditions at the GPS site are presented in Table 5-1 and Figure 5-1.

Table 5-1: Existing Conditions

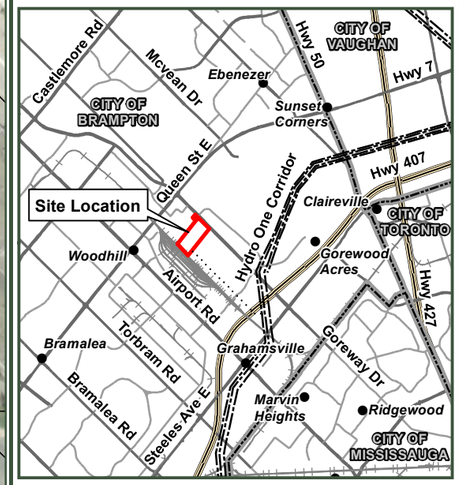
Environmental Criterion		Existing Conditions
Surface and Groundwater	Surface Water	The East Branch of Mimico Creek is a permanent watercourse that transects the southern portion of the property and outlets into Lake Ontario approximately 22 km south of the site. The GPS design and site layout were developed to avoid impacts to Mimico Creek and its associated floodplain area, which, while within the GPS property, is maintained in a natural state outside of the facility fence line which is setback more than 50 m from the creek. An intermittent stream (drainage channel) also flows from the property through a culvert under Goreway Drive, feeding into a marsh at the front of the property, and eventually connecting with the East Branch of Mimico Creek. The GPS has a SWM system that consists of onsite storm sewers, catch basins, a forebay berm, permanent pool, wetland area, low flow channel, sediment drying area, emergency spillway, and outlet pipe and pool (SLR 2019 and MOE 2006). The facility is subject to the conditions of the facility's ECA for Industrial Sewage Works, including ongoing monitoring requirements. The onsite storm sewers and catch basins collect stormwater and direct it to the SWM pond through a single outlet pipe and armour stone headwall at the west end of the SWM pond and into the sediment forebay. The SWM system provides Enhanced Level water quality protection and erosion control, including attenuation of post-development peak flows to pre-development levels for all storm events up to and including the 100-year storm (MOE 2006). The SWM system ultimately discharges to the City of Brampton storm sewer infrastructure/system.
	Groundwater	Historical records indicate that observations in groundwater wells in and around the area at depths ranging from approximately 10 m to 40 m below ground surface (mbgs). More recently, one active water supply well was installed on the property in 2017 to a depth of approximately 30 mbgs and the water level was identified at approximately 21 mbgs (SLR 2019). Based on the geology of the area, the groundwater flow direction is anticipated to closely resemble local topography and flow southeast toward the West Humber River (SLR 2019). Eleven records were returned from the Water Well Information System database for the properties of interest (SLR 2019). Historical records indicate that groundwater was observed in wells in and around the area at depths ranging from approximately 10 m to 40 mbgs. More recently, one active water supply well was installed on the property in 2017 to a depth of approximately 30 mbgs and the water level was identified at approximately 21 mbgs (SLR 2019).
Land Use	Land Use	Land use within approximately 500 m of the site consists primarily of commercial and industrial operations, including the CN Brampton Intermodal Terminal, Canadian Tire Distribution Centre, car dealerships and various commercial and industrial businesses. Other land use includes municipal roads and ROWs, vacant lots and open space (OS), naturalized areas, a residence, banquet hall and event centre, and hotel (Google Maps/Google Earth 2022, 2023).
	Provincial Plans and Policies	**Provincial Policy Statement (PPS) (2020):** The existing GPS site is in compliance with the PPS, including but not limited to policies 2.1.4, through 2.1.8 which are associated with development and site alteration within significant wetlands and coastal wetlands, woodlands, valleylands, areas of natural and scientific interest (ANSI), fish habitat, significant wildlife habitat, habitat of endangered species and threatened species and adjacent lands to these features. **Growth Plan for the Greater Golder Horseshoe (2020):** The site is located within the urban area of the Growth Plan for the Greater Golden Horseshoe (2020). The natural heritage policies of the Growth Plan do not apply given the site is located within an urban area. Policy 4.2.2.6 of the Growth Plan states that within settlement (urban) areas outside the Natural Heritage System, the municipality will continue to protect natural heritage features and areas in a manner consistent with the PPS. As part of A Place to Grow: Growth Plan for the Greater Golden Horseshoe (2020), a policy framework was developed to protect employment areas critical to the region's economy. The site is located within one of these employment areas referred to as a Provincially Significant Employment Zone (PSEZ).
	Municipal Plans and Policies	**Region of Peel Official Plan (April 2022):** Schedule C-1 designates the southwestern portion of the site, encompassing the East Branch of Mimico Creek, as part of the Core Areas of the Greenlands System. The site is additionally located within the Credit Valley, Toronto and Region and Central Lake Ontario (CTC) Source Protection Plan Area. Specific policies that apply to the CTC source protection area apply to "vulnerable areas" where drinking water quality threat activities may pose a risk to municipal drinking water supply. Schedule A-2 designates a portion of the site extending from the northwest into the centre of the property, over a portion of the existing GPS facility as a Highly Vulnerable Aquifer (HVA) area. The Region of Peel Official Plan (2022) Figure 12 identifies the study area as being located within Zone 14 – Pearson Airport Hub PSEZ. **City of Brampton Official Plan (2006):** Land use designations in the study area, per the 2006 City of Brampton Official Plan, consist of industrial, business corridor and OS designations. The OS land use designation is associated with the Mimico Creek corridor. Schedule A – Land Use Designations within the City of Brampton Official Plan indicates that the GPS site is designated Industrial. The southwestern portion of the site is designated valleyland/watercourse with a small portion designated as woodland. The GPS site is also located within the Lester B. Pearson Operating Area. Secondary Plan – Airport Intermodal (SP4): Within the Airport Intermodal Area, the GPS site is designated as "General Employment 1". Portions of the GPS property is designated under this plan as Natural Heritage System, including the Mimico Creek area and the cultural wetland/thicket/woodland fronting Goreway Drive. **Zoning:** The site is currently split-zoned as Industrial (M3-1678), OS, and Floodplain (F) under the City of Brampton Zoning By-law (270 - 2004). The proposed Project location is within the M3 Industrial zone.
	Hazard Lands	The southwest portion of the property encompassing the East Branch of Mimico Creek is located within the TRCA regulated area, as is a portion of the site fronting Goreway Drive that includes the site entrance and cultural wetland/thicket/woodland area (TRCA 2023). Regulated areas are associated with wetlands, flooding, erosion, unstable soils, or bedrock, and/or steep slopes (TRCA 2021) and therefore indicates the presence of hazard lands that *could* be unsafe for development. Further, small TRCA restoration areas (natural channel and stream restoration projects) are also located within the regulated area along the East Branch of Mimico Creek. In the southwestern portion of the site, TRCA's *Regulated Area Search: Online Mapping Tool* indicates that the regulated area boundary generally aligns with the existing facility fence line, with a small portion extending into an area of manicured lawn within the facility fence line (TRCA 2023).

Environmental Criterion		Existing Conditions
	Contaminated Lands	A Phase I Environmental Site Assessment (ESA) was conducted as part of Capital Power's acquisition of the GPS (SLR, 2019), and included the GPS property as well as the facility transmission line and switchyard located south of Highway 407 and north of Steeles Avenue. The Phase I ESA identified 11 Areas of Potential Environmental Concern (APECs) within and adjacent to the GPS property. These APECs included fill of unknown quality, contaminated soils on-site, contaminants of concerns in groundwater monitoring wells, and above ground and below ground storage of various chemicals, oils and hazardous materials, as well as potential contaminant migration associated with the CN Brampton Intermodal Terminal adjacent to the site. Given the site was not changing use at the time of the study, further investigation was not warranted (SLR, 2019).
Air and Noise	Air and Noise	The GPS is subject to an ECA (Air and Noise) and captures the facility operating in either Simple Cycle or Combined Cycle configurations (ECA No. 6102-9UKHGL). The facility includes three natural gas-fired turbines, each with its own hydrogen cooled electrical generator, and one steam turbine. Each turbine includes a SCR system, consisting of a catalyst and ammonia injection system, to reduce NO_x emissions. A Continuous Emissions Monitoring System (CEMS) is present at the site to provide regulatory monitoring of the stack emissions of NO_2, CO, and SO_2. A SLR site visit in 2022 identified sensitive receptors within the study area (refer to Section 6.0 for more detail)
Natural Environment	Rare, Threatened or Endangered Species	SLR completed an ecological field program at the site in 2022 to assess the presence of vegetation communities, Significant Wildlife Habitat (SWH), and Species of Conservation Concern (SoCC) within and near the GPS. A desktop review of natural heritage data including designated natural heritage policy was completed in advance of field work to inform the program. Vegetation communities documented during the 2022 field investigations were consistent with communities previously assessed at the site. Multiple Barn Swallows (*Hirundo rustica*), designated as Special Concern under the *Endangered Species Act* (ESA), were observed flying over the site, but no evidence of nesting was observed. The facility is unlikely to be preferred nesting habitat due to noise disturbance and unsheltered ledges. Dead and decaying Ash trees were observed within the natural area fronting Goreway Drive, which may include Black Ash (Endangered). The SWM pond vegetation unit may support Snapping Turtle (*Chelydra serpentina*), which is designated as Special Concern under the ESA. No evidence of predated nests along the SWM pond edges or wetland was observed. There is a "turtle crossing" sign along the GPS entrance road as turtles have previously been observed crossing the site access road in the vicinity of the natural area adjacent to Goreway Drive, outside of the facility fence line. Pileated Woodpecker (*Dryocopus pileatus*) nest cavities have recently been provided elevated protection under the Migratory Bird Regulations (MBR 2022) of the *Migratory Birds Convention Act*, 1994 (MBCA) by remaining protected year-round until they can be deemed abandoned. Pileated Woodpecker was heard during the field program and the species' cavity nests are located within the natural area along Goreway Drive. Amphibian calling from several species was heard throughout the site, although call levels and community composition did not indicate the presence of SWH.
	Protected Natural Areas and Wetlands	The 2022 ecological field program identified a Cultural woodland/thicket/wetland vegetation community fronting onto Goreway Drive. The wetland (MAM2-2) occurs in the centre of the wildlife unit and is dominated by cattails. The site does not contain Earth or Life Science ANSIs, Provincially Significant Wetland(s) or Significant Woodland. Though the City of Brampton Official Plan (2006) Schedule D identifies Valleyland and Watercourse Corridor associated with the East Branch of Mimico Creek through the southwest portion of the property, and Woodland throughout the northeast portion of the property, the site does not have any identified Environmentally Sensitive / Significant Areas.
	Wildlife and Wildlife Habitat	SLR completed evening and early morning targeted wildlife surveys at the site during the 2022 field season. Wildlife that may be encountered within the site are likely to include common urban species such as Raccoon (*Procyon lotor*), Eastern Gray Squirrel (*Sciurus carolinensis*), Striped Skunk (*Mephitis mephitis*), and Virginia Opossum (*Didelphis virginiana*).
	Fish and Fish Habitat	Mimico Creek provides cool-warm water habitat for several common and tolerant fish species. Historical data obtained from the MNRF and TRCA identify the presence of Creek Chub (*Semotilus atromaculatus*), Bluntnose Minnow (*Pimephales notatus*), Fathead Minnow (*Pimephales promelas*), Common Shiner (*Luxilus cornutus*), White Sucker (*Catostomus commersonii*), Brook Stickleback (*Culaea inconstans*), Blacknose Dace (*Rhinichthys atratulus*), and Longnose Dace (*Rhinichthys cataractae*) within Mimico Creek.
	Migratory Birds	Twenty-one bird species were recorded during breeding bird surveys conducted by SLR during the 2022 field program. Birds were recorded in all wildlife units with singing males commonly observed. Nesting is expected to occur most frequently in the more naturalized areas on site, such as those fronting Goreway Drive, surrounding the SWM pond and the areas around Mimico Creek. No marsh birds were observed. Urban species such as American Robin (*Turdus migratorius*), American Goldfinch (*Spinus tristis*), and Tree Swallow (*Tachycineta bicolor*) were observed frequently. A broken eggshell of American Robin, indicating nesting, was found on the grass within the manicured area portion of the site. Nesting of urban birds is expected and is likely to occur, albeit infrequently, among the landscaped trees and shrubs within this manicured area. This is evident by the variety of native and non-native species (European Starling [*Sturnus vulgaris*], House Sparrow [*Passer domesticus*]) observed within the site.
	Valued Ecosystems or Vegetation	Ecological Land Classification (ELC) mapping was prepared and verified during the 2022 SLR field program. No locally important or valued ecosystems or vegetation were identified. SLR grouped ELC units into generalized habitat characterizations. These wildlife units include: • Cultural woodland / thicket / wetlands in the SWM area fronting Goreway Drive; • Manicured area within the main facility footprint; • Manicured area comprised of the existing GPS and amenity space; and • Restoration area in the area surrounding Mimico Creek.

Environmental Criterion		Existing Conditions
Resources	Agriculture	The study area does not contain any agricultural lands (Schedule D-1 of the Region of Peel Official Plan [2022]).
	Minerals, Aggregates or Petroleum	There are no identified pits or quarries within the study area (Government of Ontario 2023). There are no identified high potential mineral aggregate resource areas within the study area (Region of Peel Official Plan (Region of Peel, 2022) Schedule D-2). There are no identified petroleum wells within the study area (OGSR Library, 2022).
	Forest Resources	The City of Brampton is not located within a forest resource area (MNRF Forest Resources of Ontario 2021 (MNRF 2023b).
	Game and Fisheries	Use of the site for hunting is not permitted due to the urban nature of the surrounding area and private property restrictions. The East Branch of Mimico Creek may be used by local sport fishers; however, use of the on-site watercourse for fishing is considered highly unlikely due to private property restrictions and the surrounding land uses.
Socio-Economic	Local Community Character and Services	The site and the surrounding area are designated Employment Area and Open Space in Schedule 1 of the City of Brampton Official Plan (2006). There are a variety of businesses ranging from car dealerships to furniture stores and food manufacturers providing a diverse range of services.
	Employment and Economy	The City of Brampton identifies itself as one of the fastest growing Canadian cities' and is home to nearly 700,000 people and 75,000 businesses (City of Brampton 2023). Land use within the study area is primarily industrial and commercial and is located within the Pearson Airport Hub PSEZ.
	Transportation Network and Traffic	The Region of Peel Official Plan (2022) Schedule F-1 designates Goreway Drive, the access road to the site, as a conceptual GTA West Transportation Corridor and Transitway Corridor. Goreway Drive has direct access to the Bus Rapid Transit (BRT)/Highway 407 Transitway and Steeles Avenue East (identified as an Other Rapid Transit Corridor) to the southeast and Queen Street East (identified as a BRT) to the northwest. Further, Schedule F-2 designates Goreway Drive, Queen Street East, and Steeles Avenue East as Major Roads and Highway 407 as a Freeway. The purpose of the Major Roads Network is to provide a high level of inter-municipal transportation capacity. The City of Brampton Official Plan (2006) Schedule C: Transit Network, designates Goreway Drive as a primary transit corridor and Steeles Avenue East and Queen Street East as a BRT. Primary transit corridors are high frequency routes providing links to destinations within the City of Brampton. BRTs are high-frequency transit service routes on key north-south and east-west spines. Movement of trucks is generally prohibited on collector and local roads within residential neighbourhoods, where truck traffic is generally encouraged near arterial and provincial highways.
Heritage and Culture	Built Heritage	Based on the City of Brampton Official Plan (2006) Cultural Heritage Map, there are no identified Heritage Resources (Class A or Class B), Heritage Cemeteries, Designated Heritage Resources under Part IV of the *Ontario Heritage Act* or Designated Heritage Resources under Part V of the *Ontario Heritage Act* (Heritage Conservation District) within the study area. Municipal, provincial, and federal heritage inventories were reviewed to confirm that the site does not have known or potential cultural heritage value. The Cultural Heritage Checklist was completed for the Project and confirms this (Appendix D).
	Archaeological Resources and Cultural Heritage Landscapes	Archaeological studies were completed prior to construction of the existing GPS. The site was cleared of archaeological concern by the MCM (formerly Ministry of Tourism and Culture) by way of letter dated February 7, 2001, and September 26, 2002. In correspondence dated May 31, 2023, the MCM verified that the site has been cleared of archaeological concern. The Cultural Heritage Checklist completed for the Project confirms no cultural heritage landscape concerns are present (Appendix D).
	Aesthetically Pleasing Landscapes and Views	The study area, including the GPS site, is not located in an area subject to beautification strategies identified within the City of Brampton Official Plan (2006). The existing GPS facility was designed to reduce visual impact of the facility and included the implementation of landscaping features, including berms and ornamental plantings.
Indigenous Communities	First Nations and Indigenous Communities	The MECP has identified the Mississaugas of the Credit First Nation and Six Nations of the Grand River (both Elected Council and HCCC) as having a potential interest in the Project (see Section 4.3.5 above).

LEGEND

- Goreway Power Station Property
- Existing Facility Fenceline
- Parcel Fabric
- Permanent Watercourse
- Railway



NOTES:

TRCA REGULATION LIMIT, DIGITIZED FROM TRCA WEBMAP, ACCESSED NOV 2022

0 25 50 100 150 m

SCALE 1:3,500
PAGE SIZE 11 x 17
NAD 1983 UTM Zone 17N

THIS MAP IS FOR CONCEPTUAL PURPOSES ONLY AND SHOULD NOT BE USED FOR NAVIGATION

8600 GOREWAY DRIVE
CITY OF BRAMPTON
REGION OF PEEL, ONTARIO

GOREWAY POWER STATION

EXISTING CONDITIONS

SLR

FIGURE NO:
5-1

DATE: September 12, 2023

PROJECT NO: 241.V30524.00025

Last Saved: September 12, 2023 9:40:25 AM by bvalve

GIS PATH: G:_Projects\241_30524_CapitalPower\1_Maps\RPT\RPT_20230228_NoticeOfCommencement\241_30524_GPS_SiteLocation_revD.mxd

6.0 Effects Assessment

6.1 Screening of Potential Effects

Application of the screening criteria provided in the *Guide to Environmental Assessment Requirements for Electricity Projects* (2011) consisted of answering a series of “yes” or “no” questions to reflect the potential interactions of Project components and activities on the environment (Appendix A). The Guide explicitly states that net effects (i.e., effects that remain after implementation of mitigation measures) are *not* to be considered when conducting the screening exercise. Where the screening exercise identifies a potential environmental effect, the process requires that an answer of “yes” be applied to the screening question, even if it is likely to be successfully mitigated.

Based on the screening of potential environmental effects described in the sub-sections below, the following environmental components have been identified as being potentially affected by the Project:

- Air Quality; and
- Greenhouse Gas (GHG) Emissions.

Due to the Project activities being limited to equipment replacement within an existing facility (with installation activities to occur during scheduled outages), combined with the highly industrial environmental setting, no other potential effects were identified during the screening (Appendix A). In particular, the equipment manufacturer has provided specifications that verify that the equipment upgrades will not result in changes to noise emissions, including during the operation of peak firing. Therefore, noise was not considered further in the Environmental Review.

The ESP can be based primarily on existing or readily obtainable information. However, a key aspect of the Environmental Review stage of the ESP is the identification of potential environmental effects and/or public concerns that require further assessment and resolution. As noted in the Guide, for potential effects and/or concerns, the assessment and impact management measures may be more complex and the concerns and issues more difficult to resolve. Both the Air Quality and GHG Emissions criteria were identified early in Project planning as warranting further analyses and discussion based on actual and anticipated input from agencies, the public, and Indigenous communities. Therefore, a more detailed assessment of these potential environmental effects has been undertaken and additional technical studies were prepared as part of the ESP.

In addition to the requirements of the ESP, the MECP Areas of Interest (v. August 2022) was reviewed to confirm the content of this ERR captured all areas of provincial interest at an appropriate level of detail for the study. A concordance table has been provided in Appendix B to demonstrate where specific MECP areas of interest have been considered within this report.

6.2 Air Quality

6.2.1 Potential Effects

An air quality assessment of the Project was undertaken to evaluate the potential for the Project to result in increased air emissions compared to the existing GPS.

Natural gas combustion results in emissions of air contaminants of concern (COCs) to the atmosphere, primarily NO_x, carbon monoxide (CO), particulate matter (PM), sulphur dioxide (SO_2), trace emissions of volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), and metals. For all scenarios except for the Start-up and Simple Cycle (Bypass stack), flue gas emitted through the stacks is treated with ammonia (NH_3), through a SCR system which reduces the NO_x emissions. It should be noted that the SCR results in trace emission of NH_3.

6.2.2 Analytical Assessment

6.2.2.1 Assessment Boundaries

The air quality assessment spatial boundary was the receptor grid used in the dispersion modelling. The dispersion modelling grid selected was based on the requirements described in Guideline A-11: Air Dispersion Modelling Guideline for Ontario (ADMGO 2017), but it extends up to 8 km from the sources of emissions, which is further than what is required in the Guideline for a conservative assessment.

Refer to Section 3.2 for temporal boundaries.

6.2.2.2 Existing Equipment

The current equipment at the GPS includes[4]:

- Three, 195 MW natural gas fired turbines with dry low-NO_x burners. Each turbine is equipped with its own heat recovery steam generator (HRSG) (stack) equipped with a selective catalytic reduction (SCR) system using aqueous ammonia to reduce NO_x emissions.
- One steam turbine, with a nominal rating of 352 MW. The steam turbine uses the steam generated by the HRSGs to generate electricity.
- Two banks of "fin-fan" water to air coolers, used to cool a glycol/water cooling medium, which operate in a closed loop system to provide cooling for the combustion gas turbines and associated electrical generators.
- One 2,000 kilowatts (2 MW), stand-by diesel generator with 2 stacks, set to provide power during emergency situations.
- One diesel fuel tank, serving the stand-by diesel generator.
- One 313 kilowatt, stand-by, diesel fire, water pump, located in the Firewater Pumphouse Building, to provide water for firefighting during emergency situations.
- One diesel fuel tank, serving the stand-by diesel fire water pump.
- Two outdoor, dyked, double-walled, closed system ammonia storage tanks, used to store ammonia solution for the SCRs.

The COC emission rates for the GPS, as previously reported are presented in Table 6-1.

[4] The numbers here represent the capacity of the specific equipment, as per the existing ECA. See Section 1.5: Nameplate Capacity Context for further discussion on the nameplate capacity of the existing facility.

Table 6-1: COC Previously Reported Emission Rates

COC	Previously Reported Emission Rate (g/s)
NO_x	3.5
CO	3.6
PM	1.0
SO_2	0.6
NH_3	3.7

6.2.2.3 Changes to Equipment

The following changes will be made to the existing equipment to increase the maximum gross output from 990 MW to 1,022 MW:

- Three, 195 megawatts (MW) natural gas fired turbines will be upgraded with Advanced Gas Path Tech (AGP Tech) hardware to allow more efficient operation at increased firing temperatures. As well, each turbine will be modified with the High Output R0/S0. This involves replacing rotating blades (R0) and stationary vanes (S0) with redesigned components, making it more aerodynamic and as a result, increasing the facility's electricity generating capacity.
- Peak firing of the 3 turbines will be enabled by upgrading the turbines control logic. This is an operational feature that is a software upgrade, not an equipment upgrade. This upgrade allows higher firing temperatures to increase generation during periods of high system demand or when site maintenance or operational issues would otherwise reduce generation capability.

6.2.2.4 Operating Scenarios

Previous assessments for the GPS considered multiple facility operating scenarios and these were incorporated into the facility's current ECA. To maintain consistency, operating scenarios previously assessed for the ECA were included in the assessment for this Project. Scenarios modelled included:

- **Combined Cycle (Normal Operating Scenario)**
  - This configuration is intended to be the normal operating configuration of the facility. Each gas turbine (3) and the steam generator are operating. The final facility configuration is therefore a "3 x 1" power plant.
- **Start-up (Combined Cycle, Cold Start, Worst-Case)**
  - Startup is performed by motorizing the gas turbine generators to use them as a starter motor. Once adequate rotational speeds are achieved, the natural gas flow to the unit is turned on, at which time the gas turbine starts to operate under its own combustion power. Gas flow is increased to the gas turbine to increase power. The gas turbine exhaust goes through the HRSG until steam and pressure reaches the appropriate level to operate the steam turbine. The process can take approximately 1.5 hours to 4 hours. This cold start procedure is a rare occurrence, and on average occurs 1-2 times per year following IESO scheduled outages.

- **Combined Cycle (Peak Firing)**
    - During periods of high system demand or when site maintenance or operational issues would otherwise reduce generation capability, peak-firing will be employed to increase generation. Peak firing increases firing temperatures and as a result, increased maintenance is required. This scenario is intended to only be used when required to meet generating capacity commitments.
- **Combined Cycle (Low Load)**
    - Gas turbines are operating at minimum load to supply a small amount of electricity with a high amount of reserve electricity being available.
- **Simple Cycle (Main Stack)**
    - This scenario is identical to the combined cycle operating scenario except it does not engage the HRSG but utilizes the air-cooled condenser (ACC). The SCR is also engaged in this scenario. This scenario will only be used on start-up or if the steam generator is offline for a prolonged period.
- **Simple Cycle (Bypass Stack)**
    - There remains the provision for the exhaust gas of each gas turbine to discharge directly through either its own dedicated "emergency bypass" stack or directly through the main stack. The bypass configuration does not utilize the HRSGs or SCRs and exhausts unabated. This scenario would occur when the associated HRSG or the common steam turbine or the ACC are experiencing an extended outage and the Ontario IESO requires the gas turbine to continue operation to maintain electrical grid reliability. The facility has not operated in this configuration since commissioning and is not expected to, unless absolutely required, as the modifications to the system to facilitate this operating condition would be extensive. Since this scenario has a low probability of occurring, it was not selected as the worst-case.

6.2.2.5 Selected Parameters and Assessment Criteria

The selected parameters (i.e., COCs) identified for the Project and therefore included in the assessment include:

- Nitrous oxide (NO_x),
- Carbon monoxide (CO),
- Particulate matter (PM); where total particulate matter and fine particulate matter are assessed in this study, with fine particulate matter defined as particulate sizes 10 microns in diameter and less (PM_{10}); as well as 2.5 microns in diameter and less ($PM_{2.5}$),
- Sulphur dioxide (SO_2),
- Ammonia (NH_3),
- Volatile organic compounds (VOC)s,
- Polyaromatic hydrocarbons (PAHs), and
- Selected metals.

Ammonia is included in the study, as ammonia may be present in trace amounts as a byproduct of the SCR used to reduce the amount of NO_x emitted from the combustion of natural gas.

The assessment criteria are listed in Table 6-2 with specified threshold values and discussed below.

Table 6-2: COC Assessment Criteria

COC	Averaging Period	O. Reg. 419/05 Limit (ug/m^3)	AAQC Limit (ug/m^3)
NO_x	1-hour	400	-
	24-hour	200	200[5]
CO	1/2 hour	6,000	
	1-hour	-	36,200
	8-hour	-	15,700
PM_{10}	24-hour	120[6]	50
$PM_{2.5}$	24-hour	-	27
	annual	-	8.8
SO_2	1-hour	100	-
	annual	10	40 ppb
	24-hour	-	4 ppb
NH_3	24-hour	100	100

The full list of VOCs, PAHs, and metals and assessment criteria that were included in the assessment can be found in Table E-1 to Table E-15 in Appendix E**.**

MECP Air Contaminant Benchmark List

The air contaminant benchmarks list is intended for use primarily by an emitter who is required to prepare an ESDM report under O. Reg. 419/05 – Air Pollution – Local Air Quality made under the *Environmental Protection Act* (EPA). The applicable criteria were used to compare to the dispersion modelling results to assess compliance with O. Reg 419/05.

Ambient Air Quality Criteria (AAQC)

The Ambient Air Quality Criteria (AAQC) standards are provincially based, non-regulatory, ambient air quality values that are set based on either human health or environmental effects at concentrations of a contaminant in air below which adverse effects are not likely to occur. The MECP first sets AAQCs (non-regulatory) and uses them to establish air quality standards (regulatory) based on health and environmental effects. AAQCs are used to assess air quality from all sources whereas air standards are used to assess the performance of regulated facilities under the local air quality regulation (MECP 2020).

[5] Limit is for Nitrogen Dioxide (NO_2). NO_x concentrations were conservatively compared against this limit for this assessment.

[6] O. Reg. 419/05 limit for particulate matter is for total particulate matter.

The applicable AAQC were used for comparison with the dispersion modelling results combined with local ambient air quality data to conduct a combined concentration assessment at selected sensitive receptors.

Canadian Ambient Air Quality Standards

The Canadian Ambient Air Quality Standards (CAAQS) are federally based, non-regulatory, ambient air quality values set based on the consideration of factors including health and environmental effects, current standard levels in other jurisdictions, projected trends in ambient concentrations across Canada, and elements of achievability. CAAQS are intended to be used as indicators to help manage regional air quality and drive the improvement of air quality across the country thus, CAAQS are not commonly applied to individual facilities (CCME 2020).

In summary, only the Air Contaminants Bench (ACB) and AAQC standards are appropriate for the GPS Upgrades Project and were therefore chosen as criteria for this assessment.

6.2.2.6 Emission Sources

The main air emission sources at the GPS are the three existing HRSG stacks. These stacks represent combined emissions from the operation of the natural gas fuelled turbines. The GPS also has one emergency generator and one fire pump generator. While emissions from the one fire pump generator are considered negligible, emissions for the emergency generator were included in the Normal Operating Scenario, per the requirements of Guideline A-10: Procedure for Preparing an Emission Summary and Dispersion Modelling Report (MECP 2018). There is also natural gas fuelled comfort heating sources at the facility, however, these sources can be considered negligible in comparison to the operation of the turbines. The GPS has chemical storage tanks and performs maintenance welding; however, these sources were deemed negligible based on emission threshold calculations. The Project will not result in changes to the locations or number of emission sources at the facility.

6.2.2.7 Emission Rate Estimates

Turbine emission rates were based on manufacturer's specifications for equipment and took into consideration the upgrades. For SO_2, US EPA AP-42 Chapter 3.1: Stationary Gas Turbines (US EPA 1996) emission factor was used. VOCs, PAHs, and metals emissions were calculated based on US EPA AP-42 Chapter 1.4: Natural Gas Combustion (US EPA 1996). VOCs, PAHs, and metals emission rates were only included for the Normal Operating Scenario. Maximum emission rates per averaging period were calculated in accordance with requirements outlined in Guideline A-10: Procedure for Preparing an Emission Summary and Dispersion Modelling Report (MECP 2018).

Table 6-3 presents COC emission rates used in dispersion modelling Appendix E, Table E-1 to Table E-6 summarizes stack parameters and emissions data used for the six operating scenarios modelled.

Table 6-3: COC Upgrade Emission Rates

COC	Upgrade Emission Rate (g/s)
NO_x	3.20
NO_x (Peaking)	3.95
CO	6.89
PM	1.28
SO_2	0.82
NH_3	3.95

The emissions rate of COCs is predicted to increase with the Project, with the exception of NO_x, as the use of SCR reduces NO_x emissions. The NO_x emission rates are expected to remain the same or less than the emissions in previous reporting (Table 6-1), however the emission rates for other COCs are expected to increase. This increase is attributed to the upgraded components in the turbines to increase the electricity generating capacity at the facility.

Although the emission rates are expected to increase, results of the modelling predict these COCs to be within the air quality standards and relevant thresholds.

6.2.2.8 Ambient Air Quality Conditions

A review of MECP and the National Air Pollution Surveillance Program (NAPS) ambient monitoring stations in Ontario was undertaken to identify the monitoring stations that are near the Project; and that are representative of background air quality concentrations in the area. Facilities and applicable background air emission concentrations considered in this assessment includes:

- Brampton (ID: 46090), Address: 109 McLaughlin Rd. S. Years: 2017-2021, COCs: PM2.5, NOx
- Toronto West, MECP (ID: 35125), Address: 125 Resources Road. Year: 2017-2021, COCs: CO, SO_2

PM_{10} is not measured in Ontario; therefore, background concentrations were estimated by applying a $PM_{2.5}/PM_{10}$ ratio of 0.54 (Lall et al. 2004). The 90^{th} percentile ambient concentrations are provided in Table 6-4. These ambient concentrations were added to maximum modelled Project concentrations to estimate air quality concentrations at sensitive receptor locations in the study area surrounding the GPS.

Table 6-4: Background Ambient Concentrations

Parameter	Averaging Period	90th Percentile Ambient Concentration (µg/m³)	Monitoring Station
CO	1-hr	409	Toronto West (35125)
	8-hr	391	Toronto West (35125)
NO_x	1-hr	42	Brampton (46090)
	24-hr	39	Brampton (46090)
PM_{10}	24-hr	22	Brampton (46090)
$PM_{2.5}$	24-hr	12	Brampton (46090)
	Annual	7 [1]	Brampton (46090)
SO_2	1-hr	3	Toronto West (35125)
	24-hr	1	Toronto West (35125)

Notes: [1] For annual averages, the maximum annual average over 5 years of background data was used rather than the 90th percentile of the 5 values.

6.2.2.9 Points of Reception

The dispersion model predicts concentrations of selected COCs at ground level or elevated receptors, where relevant, for points of reception (PORs). PORs are located at the property line of the GPS and beyond. To evaluate concentrations at the property line and beyond, PORs are represented in the model according to geographical coordinates. Two types of PORs were included in the model. A general POR grid or nested grid covering the surrounding area, and 16 individual, discrete receptors chosen to represent sensitive PORs such as residences, hotels, and places of worship. Table 6-5 and Figure 6-1 presents the 16 sensitive PORs.

A square receptor grid 8 km in width was placed over the facility following the Air Dispersion Modelling Guideline for Ontario (ADMGO) methods. Receptors were selected based on guidance provided in Section 7.1 of the ADMGO, which is in accordance with s.14 of O. Reg. 419/05. Specifically, the nested receptor grid used for modelling centered on the turbine stacks and used the following spacing:

1 20 m spacing, within an area of 300 m by 300 m

2 50 m spacing, within an area surrounding the area described in (a) with a boundary at 600 m by 600 m outside the boundary of the area described in (a)

3 100 m spacing, within an area surrounding the area described in (b) with a boundary at 1,100 m by 1,100 m outside the boundary of the area described in (b)

4 200 m spacing, within an area surrounding the area described in (c) with a boundary at 2,100 m by 2,100 m outside the boundary of the area described in (c)

5 500 m spacing, within an area surrounding the area described in (d) with a boundary at 5,100 m by 5,100 m outside the boundary of the area described in (d)

6 1,000 m spacing within an area surrounding the area described in (e) with a boundary at 8,000 m by 8,000 m outside the boundary of the area described in (e)

In addition to using the nested receptor grid, PORs were also placed every 10 metres along the GPS property line. The area of modelling coverage is illustrated in Figure 6-1.

Table 6-5: Sensitive Receptor Locations

Label	Description	Coordinates	
		X (m)	Y (m)
R1	Bretlon Street House	605725	4845539
R2	Queen St. E Hotel	605843	4845131
R3	Queen St. E Motel	605822	4845280
R4	Humberwest Gurdwara	605192	4845620
R5	Goreway Drive Church	605422	4845908
R6	Goreway Drive House	605131	4845985
R7	Ebenezer House	606505	4846150
R8	Claireville Conservation Rd House	607293	4845334
R9	Goreway Drive House	607115	4844010
R10	Flavian Crescent House	604675	4842568
R11	Goreway Apartments	605534	4845968
R12	Airport Road Hotel	605318	4843836
R13	Goreway Drive LTC	605530	4845758
R14	Proposed Inn	605907	4845041
R15	Airport Road Hotel	605295	4843995
R16	Clark Blvd School	606001	4843506

GOREWAY POWER STATION – 8600 GOREWAY DRIVE, BRAMPTON	True North	Scale: 1:600	METRES	SLR
8600 GOREWAY DRIVE, BRAMPTON ONTARIO		Date: Aug 30, 2023 Rev 0.0	Figure No. 6-1	
SELECT RECEPTOR LOCATIONS		Project No. 241.30524.00025		

6.2.2.10 Dispersion Modelling

Dispersion modelling was completed using AERMOD version 22112 following the steps outlined in Guideline A-11: ADMGO (2017). AERMOD combines stack parameter input data, emission rates, terrain, and meteorological data to model a Gaussian plume to simulate the dispersion of COCs into the atmosphere. Each scenario was modelled and included COCs. The modelled scenarios assumed all equipment would run 24 hours per day, 7 days per week, 365 days per year, which would represent the worst case for each of the scenarios presented below. Local meteorological and terrain data were taken from the MECPs website to run AERMOD.

All six scenarios were modelled. Stack parameters and emission rates used for modelling are provided in Appendix E; Table E-1 to Table E-6.

Results of the modelling are provided in Table 6-6 and Appendix E: Table E-7 to Table E-14. As the normal operating scenario is the Combined-Cycle configuration, these results are discussed in more detail within this section. Results presented in Table 6-5 are compared against the MECPs Air Contaminants Bench (ACB) List. The ACB List provides guidelines, screening levels, and limits for assessing point of impingement (POI) concentrations of air contaminants.

Combined Cycle (Normal Operating Scenario)

The existing turbines are equipped with dry low-NO_x burners with SCRs installed on the three HRSGs. Potential effects for normal operating scenario are predicted to be of high frequency and duration. Although NO_x emissions are reduced using the existing SCRs, due to the higher capacity output required to meet electricity demand, NO_x emissions will increase compared to existing operations.

Results of the modelling show that all COCs (NO_x, SO_2, $PM_{2.5}$, etc.) are predicted to be below their respective O. Reg. 419/05 limits. An emission summary table including maximum results at the sensitive receptors is included in Table 6-6**.** The emission summary table for this scenario is provided in Appendix E; Table E-8.

Results for VOCs, PAHs, and metals are included in Appendix E**:** Table E-13 and Table E-14 in**.** All results for VOCs, PAHs, and metals from the AP-42 chapter that have limits are within the O. Reg. 419/05 and AAQC standards.

Table 6-6: Combined Cycle (Normal Operating Scenario) Maximum Concentration at POI & at Sensitive Receptors

Contaminant Name	CAS #	Total Emission Rate (g/s)	Air Dispersion Model Used	Maximum POI Concentration (µ/m^3)	Maximum Concentration at a Sensitive Receptor (µg/m^3)[7]	Averaging Period (hours)	MECP POI Limit (µ/m^3)	Limiting Effect	Source Benchmark	Percentage of MECP POI Limit (%)	Receptor Percentage of MECP POI Limit (%)
Nitrogen Oxides	10102-44-0	9.61	AERMOD	6.99	3.12	24	200	Health	Standard	3.5%	1.6%
			AERMOD	13.5	9.17	1	400	Health	Standard	3.4%	2.3%
Nitrogen Oxides (EGC)	10102-44-0	14	AERMOD	77.9	360	0.5	1,880	Health	Guideline	41%	19%
Carbon Monoxide	630-08-0	20.7	AERMOD	35	23.7	0.5	6,000	Health	Standard	1%	0.4%
Sulphur Dioxide	7446-09-5	2.45	AERMOD	3.33	2,32	1	100	Health & Vegetation	Standard	3%	2%
			AERMOD	0.11	0.075	annual	10	Health & Vegetation	Standard	1%	1%
Ammonia	7664-41-7	11.9	AERMOD	8.63	3.86	24	100	Health	Standard	9%	4%
Particulate Matter	N/A	3.85	AERMOD	2.77	1.25	24	120	Visibility	Guideline	2%	1%

[7] Maximum concentration of all 16 sensitive receptors modelled.

Combined Cycle (Cold Start)

Modelling results for this scenario are provided in Appendix E Table E-7. Potential effects for this scenario are predicted to be of very low frequency but will have the highest emissions of all scenarios. This is consistent with previous assessments undertaken for GPS. Emissions at their peak, will only occur for approximately 1-hour and are only required 1-2 times per year (following facility outages), based on historical data from the site. Since turbines are starting from ambient temperature, all equipment is “cold”. Once equipment reaches required heat rates, emissions return to lower levels, hence this scenario has higher emissions than normal operations. This is consistent with previous start-up times at the plant. During this time, ground level concentrations for all COCs are still predicted to be below their respective O. Reg. 419/05 limits, hence this scenario is not expected to significantly effect the air quality in the area.

Combined Cycle (Peak Firing)

Potential effects for the Peak Firing Combined Cycle Scenario are predicted to be of low frequency but higher emissions compared to the Normal Operating Scenario (Combined Cycle). NO_x emissions will be reduced using the existing SCRs. COCs are predicted to be within their respective O. Reg. 419/05 limits and the emission summary for the peaking scenario is provided in Table E-9 in Appendix E**.**

Combined Cycle (Low-Load)

Potential effects for the Combined Cycle Low-Load scenario are predicted to be of low frequency and duration and are predicted to be unchanged from existing low-load operations. This scenario compared to the Normal Operating Scenario (Combined Cycle) has higher emissions of CO and NO_x due to a lower exhaust flow rate and buoyancy of emissions. However, COCs are predicted to be within their respective O. Reg. 419/05 limits and the emission summary for the low load scenario is provided in Table E-10 in Appendix E**.**

Simple Cycle (Main Stack)

Potential effects for the Simple Cycle Main Stack Scenario are predicted to be of low frequency and duration. This scenario is identical to the Normal Operating Scenario (Combined Cycle) configuration except the steam turbine is not operating, however, its associated condenser is available to condense high pressure steam created in the HRSG from the gas turbine exhaust. This configuration is used during the initial start-up of the combined cycle or when the steam turbine becomes unavailable for a short duration due to some unforeseen event. This scenario will have higher NO_x and CO emission rates after the upgrades to the turbines, given the higher exhaust flow rate in this scenario. However, the NO_x and CO emissions are predicted to be within their respective O. Reg. 419/05 limits. The emission summary for the Simple Cycle Main Stack scenario is provided in Table E-11 in Appendix E**.**

Simple Cycle (Bypass Stack)

Potential effects of the Simple Cycle Bypass Stack Scenario are predicted to be low frequency as it takes over one week to reconfigure the units to run in this configuration. This would only occur if there was a long-term outage of the steam turbine. This configuration has not been used at this facility to-date. This scenario will have higher emissions after the upgrades to the turbines have been completed; however, COCs are predicted to be within their respective O. Reg. 419/05 limits.

The emission summary for the Simple Cycle Bypass Stack Scenario is provided in Table E-12 in Appendix E.

6.2.3 Mitigation

No mitigation measures are proposed for the GPS Upgrades Project since COC emissions are predicted to be within the applicable limits of O. Reg. 419/05 and AAQC.

6.2.4 Net Effects

Predicted results from dispersion modelling, using proposed emissions rates, were combined with local, historical, ambient air quality data presented in Table 6-7. The assessment can be considered conservative since the current GPS emissions would have also contributed to ambient conditions. This analysis was conducted for Normal Operating Scenario at the 16 sensitive receptors identified as well as the maximum point of impingement which is the property line of the GPS.

Potential effects for the Normal Operating Scenario are predicted to be of high frequency and duration. Results of the modelling show that all COCs (NO_x, SO_2, $PM_{2.5}$, etc.) are predicted to be below their respective O. Reg. 419/05 limits. While the Project is associated with a change in air emissions resulting from the increased power output from the existing GPS, no significant effects are anticipated from the implementation of the Project. Additionally, several of the modelled scenarios, including the Worst-Case Scenario (combined cycle cold start), are expected to be rarely used during operations, and remain within applicable regulated limits.

A cumulative effects analysis was completed to compare the cumulative COC concentrations at the property line and closest sensitive receptor to the AAQC limits. Results of this analysis demonstrates that despite high background concentrations, the COC concentrations at the sensitive receptors are within the AAQC limits.

Table 6-7: Cumulative POI Concentration Results for Combined Cycle (Normal Operating Scenario)

Contaminant	Averaging Period	Background Concentration (ug/m^3)	MAX POI (ug/m^3)	Highest Concentration at Sensitive Receptor (ug/m^3)	Cumulative Max (ug/m^3)	Cumulative at Sensitive Receptor (ug/m^3)	AAQC Limit (ug/m^3)	Max POI Percentage of Limit	Sensitive Receptor Percentage of Limit
NO_x	1-Hour	42.3	13.5	9.17	55.9	51.5	400	14%	13%
	24-Hour	39.0	6.99	3.12	46.0	42.2	200	23%	21%
PM_{10}	24-Hour	22.3	2.80	1.25	25.1	23.6	50	50%	47%
$PM_{2.5}$	24-Hour	12.1	1.35	0.62	13.4	12.7	27	50%	47%
	annual	7.31	0.07	0.09	7.38	7.4	8.8	84%	84%
CO	1-Hour	409	29.2	19.8	439	429	36,200	1%	1%
	8-Hour	391	16.3	11.0	408	402	15,700	3%	3%
SO_2	1-Hour	2.75	3.43	0.89	6.18	3.64	40 ppb	6%	3%
	24-Hour	1.27	1.77	0.30	3.04	1.57	4 ppb	29%	15%

6.3 Greenhouse Gas Emissions

6.3.1 Potential Effects

The point sources of GHG emissions at the GPS are the three HRSG stacks. These stacks represent the combined emissions from the operation of the natural gas fuelled turbines. Natural gas combustion results in GHG emissions of CO_2, methane (CH_4), and nitrous oxide (N_2O).

An assessment of the Project was undertaken to evaluate the potential for the Project to result in increased GHG emissions when compared to continued operation of the existing GPS.

6.3.2 Analytical Assessment

The methods used to quantify GHG emissions followed O.Reg. 390/18 - Greenhouse Gas Emissions - Quantification, Reporting and Verification; and the MECP's *Guideline for Quantification, Reporting and Verification of Greenhouse Gas Emission* (MECP, 2022).
The methods used to estimate GHG emissions from the Project are based on accounting and reporting principles of the GHG Protocol developed by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WRI, 2015). This protocol is an internationally accepted accounting and reporting standard for quantifying and reporting GHG emissions. The guiding principles of the Protocol for compiling an inventory of GHG data are relevance, completeness, consistency, transparency, and accuracy which align with IS0-14064-1 and 14064-2.

6.3.2.1 Assessment Boundaries

The GHG assessment focused on the direct emissions of GHG from the GPS, therefore, the spatial boundary has been aligned with the property boundary of the existing facility as the footprint will not change with the proposed upgrades. To assess the net effects of GHG emissions, the province of Ontario was used as the spatial boundary to compare the Project against provincial GHG emissions.

The assessment assumed that operation of the upgrades will begin in Spring 2025.
The forecasted demand for the Project is presented to the year 2032, after that it is uncertain whether demand will decrease or stay constant. As such, GHG emissions were calculated out to 2032.

6.3.2.2 Selected Parameters

A GHG is any atmospheric gas that absorbs and re-emits infrared radiation, thereby, acting as a thermal blanket for the planet and warming the lower levels of the atmosphere. GHGs are released to the atmosphere from several natural and anthropogenic (human activity) sources (Intergovernmental Panel on Climate Change [IPCC] 2013).

As per the MECP Guideline, the GHG assessment considered all GHGs tracked through Canada's National Inventory Report (NIR), including:

- CO_2
- CH_4
- N_2O
- Perfluorocarbons (PFCs)

- Hydrofluorocarbons (HFCs)
- Sulphur hexafluoride (SF_6)
- Nitrogen trifluoride (NF_3)

Only CO_2, CH_4, and N_2O were included in this assessment since the remaining gases listed above will not be emitted during operation the Project. Final reported emissions were converted into carbon dioxide equivalent (CO_2e) by multiplying each GHG by their global warming potentials (GWP) from the most recent NIR (ECCC 2022). The GWP for each GHG used in this assessment are summarized in Table 6-8.

Table 6-8: Global Warming Potential Multiplier Used

GHG	GWP
CO_2	1
CH_4	25
N_2O	298

6.3.2.3 Emission Sources

The GHG emissions assessment considered the GPS's direct GHG emissions from sources that are owned or controlled by Capital Power and within the boundary of the GPS. No carbon sinks have been identified as being modified/affected in relation to this Project which fall under Capital Power's control. As per the GHG Protocol, direct emissions are also commonly referenced as Scope 1 emissions (WRI, 2015). No GHG removals have been identified for this assessment.

6.3.2.4 GHG Emissions Data Sources and Calculations

GHG emissions resulting from operation activities were prepared based on the information provided by Capital Power and calculated based on the number and type of units of equipment, fuel consumption, and GHG emission factors (for CO_2e) from the 2022 NIR (ECCC 2023) (Table 6-9).

Table 6-9: GHG Emission Factors

Source	Fuel Type	GHG	Emission Factor (g/m^3)
Combustion Turbines	Natural Gas	CO_2	1491
		CH_4	0.49
		N_2O	0.049

Assumptions for operational emission sources are outlined below.

- As the gas turbines are the primary point source of GHG emissions and the only source that will change due to the upgrades, only emissions from the turbines have been assessed.
- The Project GHG emissions from 2025 to 2032 are based on forecasted fuel consumption/energy needs to meet IESO targets.

- It is understood that though emission factors may generally be lower in the future (assumed technology advances, improvements in fuel efficiency, more stringent emission standards), how these reductions will materialize at the GPS is currently unknown. For the purposes of this assessment, equipment and parameters were assumed to stay constant for the operation at the Project, as a conservative approach to estimating GHG emissions.

6.3.2.5 Forecasted Business-as-Usual Emissions

Project GHG emissions were assessed against comparable and functionally equivalent GHG emissions that would occur in the absence of the upgrades at the GPS. This is referred to as the BAU scenario which was used to determine if the operation of the Project would result in a net increase or decrease in GHG emissions. The BAU scenario assumed that the Project (upgrades) did not proceed, but that the GPS continued to operate.

Analytical software was utilized to account for a variety of complex market inputs to predict how the GPS facility will be dispatched in the IESO market under future conditions. Market inputs include supply, demand, gas prices, carbon prices, imports/exports etc. The BAU emissions scenario assumed the GPS facility would continue to operate in its current configuration, without the proposed upgrades, under future IESO dispatch conditions.

BAU emissions are represented by the forecasted direct GHG emissions from the operations at the existing facility and represent the scenario against which the Project's emissions were compared.

The 2023-2032 forecasted GHG emissions for the BAU scenario are presented in Table 6-10.

Over the next ten years of operations at the GPS, the combined BAU GHG emissions were estimated to be 13,589,840 t CO_2e.

Table 6-10: 2022-2032 BAU GHG Emissions

Year	BAU – GHG Emissions (t CO_2e/year)
2023	677,570.0
2024	703,690.0
2025	1,598,270.1
2026	1,514,122.6
2027	1,522,549.2
2028	1,622,214.5
2029	1,470,884.9
2030	1,611,196.9
2031	1,694,957.3
2032	1,174,384.7
Cumulatively over the assessment period from 2023-2032	13,589,840.2

6.3.2.6 Project GHG Emissions

This section presents the estimated Project's GHG emissions during the operations phase of the Project. Using the same methods as described in Section 6.3.2.5, the2023-2032 estimated GHG emissions for the operation phase of the Project are presented in Table 6-11.

Table 6-11: 2022-2032 Project GHG Emissions

Year	Project – GHG Emissions (t CO_2e/year)
2023	677,570.0
2024	703,690.0
2025	1,631,246.0
2026	1,581,080.0
2027	1,607,332.0
2028	1,712,348.0
2029	1,508,510.0
2030	1,654,886.0
2031	1,768,690.0
2032	1,224,620.0
Cumulatively over the assessment period from 2023-2032	14,069,972.0

6.3.3 Mitigation

No mitigation measures for GHG Emissions are proposed for the GPS Upgrades Project.

6.3.4 Net Effects

The upgrades to the GPS would allow the facility to produce electricity more efficiently. The analysis demonstrates that as a result of the upgrades the GHG emission intensity decreases, although marginally. Table 6-12 shows the reduction in emission intensity associated with the Project.

Table 6-12: Net Change in GHG Emissions Intensity

Year	GHG Emissions Intensity (t CO2e/MWh)		
	BAU	Project	Net Change
2023	0.468	0.468	0
2024	0.471	0.471	0
2025	0.398	0.398	-0.0001
2026	0.393	0.392	-0.0007
2027	0.387	0.387	-0.00002
2028	0.385	0.385	-0.000008
2029	0.386	0.386	-0.0001
2030	0.384	0.384	-0.000008
2031	0.394	0.394	0.0002
2032	0.412	0.412	-0.00007
Average over the assessment period from 2023-2032	0.408	0.408	-0.00008

Even though the facility would be more efficient with an associated decrease in GHG emission intensity, the increase in power output (from increased demand) from the upgraded GPS is expected to add an average of 48,013t CO_2e per year The yearly breakdown of net change in GHG emissions in comparison to the BAU scenario is presented in Table 6-13 and Figure 6-2.

Figure 6-2: Net Change between BAU and Project Annual GHG Emissions (t CO_2e/year) 2023-2032

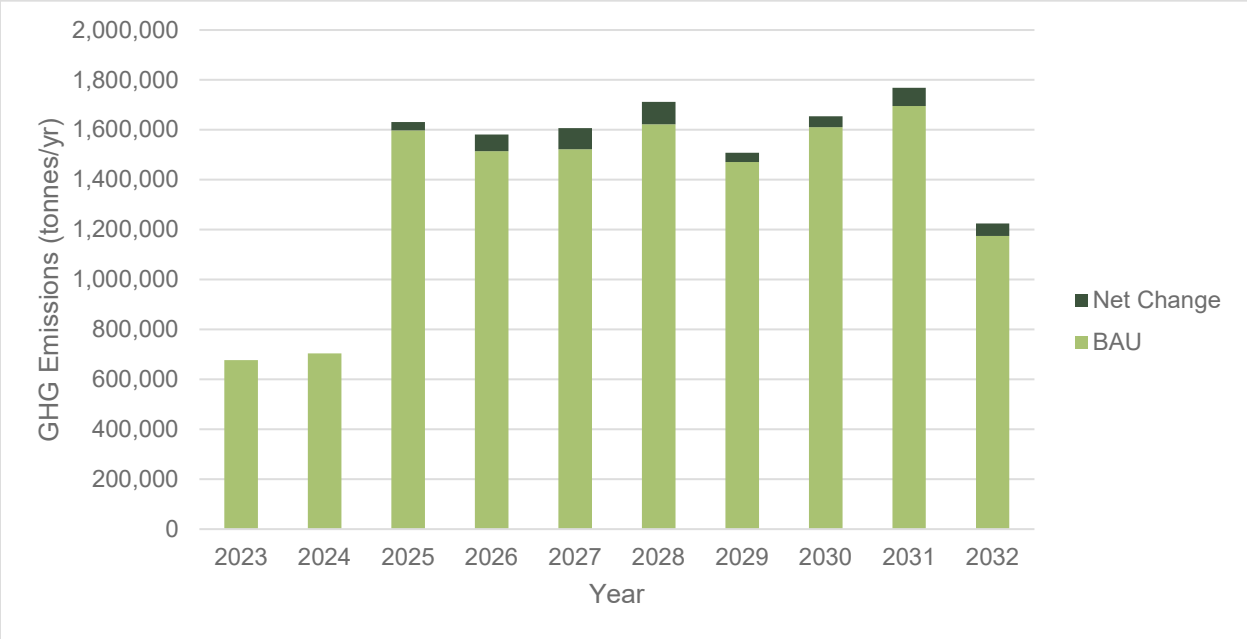


Table 6-13: Net Change in GHG Emissions

Year	Total GHG Emissions (t CO_2e/year)			
	BAU	Project	Net Change	Net Change (%)
2023	677,570.0	677,570.0	-	-
2024	703,690.0	703,690.0	-	-
2025	1,598,270.1	1,631,246.0	32,975.9	2.1%
2026	1,514,122.6	1,581,080.0	66,957.4	4.4%
2027	1,522,549.2	1,607,332.0	84,782.8	5.6%
2028	,622,214.5	1,712,348.0	90,133.5	5.6%
2029	1,470,884.9	1,508,510.0	37,625.1	2.6%
2030	1,611,196.9	1,654,886.0	43,689.1	2.7%
2031	1,694,957.3	1,768,690.0	73,732.7	4.4%
2032	1,174,384.7	1,224,620.0	50,235.3	4.3%
Average over the assessment period from 2023-2032	1,358,984.0	1,406,997.2	48,013.2	3.2%

The GHG assessment quantified the emissions for the proposed upgrades at the GPS and compared to the BAU scenario, where the upgrades would not be implemented. Overall, GHG emissions are expected to have a minor increase over the BAU scenario due to the increase in natural gas combusted annually as a result of increased electricity output (from increased demand) from the facility. Even though GHG emissions are anticipated to have a minor increase, the efficiency at which electricity is produced will be marginally improved due to the upgrades in equipment. Overall, the net effects are expected to be low and not significant as the increase in GHG emissions represent an increase of 0.63% compared to 2021 provincial GHG emissions (ECCC 2023). No significant effects are anticipated from the implementation of the Project.

7.0 Summary and Conclusion

7.1 Environmental Advantages and Disadvantages

Capital Power is proposing the Project at the existing GPS to provide operational flexibility and additional generation capacity to better serve Ontario's growing electricity needs. The following sections summarize the advantages and disadvantages that have been identified for the Project.

7.1.1 Advantages

The Project makes use of technology improvements within an existing facility located in an industrialized area. Through the application for the screening criteria, only two environmental components were determined to require further analysis (air quality and greenhouse gas).

It has been determined that the Project will result in a more efficient use of natural gas and have an associated increase in generation capacity of the GPS. The slight increase in efficiency associated with the upgrades will allow electricity to be generated with a lower GHG intensity (tonnes GHG/MWh) than forecasted BAU. The increased energy output will support the IESO in addressing the need for more power supply in the province to help fuel the province's energy transition and maintain grid reliability.

7.1.2 Disadvantages

Normal operation of the upgraded GPS will result in minor changes to air emissions, exhaust flow rate and temperature. With the exception of NO_x, these changes to air emissions flow rate and temperature will result in increases to air quality emissions, although concentrations were assessed to be within the applicable air quality criteria limits.

Even though the facility would be more efficient with an associated decrease in GHG emission intensity, the increase in power output to meet increased market demand is expected to have a net increase of 3.2% in GHG emissions, averaged over the forecasted period of 2023-2032 (Table 6-13).

7.2 Summary of Commitments

Based on the results of the technical studies, effects assessment and engagement activities undertaken during the preparation of the ERR, the following mitigation commitments and future studies will be implemented for the Project:

- Applicable corporate and facility-specific management plans and procedures will be followed during implementation of the GPS Upgrades Project.
- An application for an ECA Amendment related to changes in air emissions will be submitted to the MECP, with technical content deemed acceptable by the MECP and ECA issued prior to the undertaking of installation activities.
- Capital Power will continue to operate the GPS in compliance with regulatory requirements and facility-specific approval conditions, including continued implementation of ongoing air quality monitoring programs and annual GHG emissions reporting.

7.3 Conclusion

The IESO has identified the need for the procurement of a limited amount of natural gas-fired generation to help fuel Ontario's energy transition and to maintain a reliable and stable energy supply. The GPS Upgrades Project involves modifications to the existing GPS, which include equipment upgrades and control logic changes that would amount to approximately 40 MW of additional facility capacity.

Predicted changes to air emissions as a result of the increased power output are below applicable criteria at identified sensitive receptor points and are subject to MECP review and approval under the ECA process.

The upgrades to the GPS would also allow the facility to produce electricity more efficiently, resulting in a decrease in GHG emission intensity.

The conclusion of this Environmental Review is that implementation of the Project will not result in significant negative net environmental effects.

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Appendix A Screening Checklist

Environmental Review Report

Goreway Power Station Upgrades Project

Capital Power Corporation

SLR Project No.: 241.030524.00025

September 28, 2023

Screening Checklist

In accordance with the *Guide to Environmental Assessment Requirements for Electricity Projects* (MOE 2011), the screening criteria below have been applied to the GPS Upgrades Project. This screening has focused on the potential for negative environmental effects resulting from the Project. To complete this checklist, mitigation or impact management measures have not been considered.

If a response to a question indicates "Yes", there is potential for negative environmental effects. Where the response indicates "yes", additional information and analysis is provided in the ERR to describe those effects, identify mitigation, or impact management measures to prevent or reduce the effects, and assess the significance of any remaining net effects.

Each criterion is based on a question which is prefaced with the phrase: Will the Project:

Table A-1: Surface and Ground Water

Criterion	Yes	No	Additional Information
1.1 have negative effects on surface water quality, quantities or flow?		✓	The Project construction phase is related only to equipment delivery and installation within the existing facility; therefore, no physical earthworks or other associated disturbance-related activities are required (e.g., water use or discharge). As such, no effects on surface or groundwater source quality, quantity flow, sediment control are anticipated. No water takings are required for the Project. During the operation phase, the upgraded GPS will continue to adhere to the facility's existing ECA (Industrial Sewage) for SWM. The Project will not interact with or alter SWM at the site.
1.2 have negative effects on ground water quality, quantity or movement?		✓	
1.3 cause significant sedimentation, soil erosion or shoreline or riverbank erosion on or off-site?		✓	
1.4 cause potential negative effects on surface or ground water from accidental spills or releases to the environment?		✓	The Project does not include the storage or handling of any materials or substances that have the potential to spill.

Table A-2: Land

Criterion	Yes	No	Additional Information
2.1 have negative effects on residential, commercial or institutional land uses within 500 metres of the site?		✓	There are no anticipated effects to the surrounding properties within 500 m of the site. The Project is consistent with the approved existing land uses according to the PPS and Regional and Local land use polices. As such, no official plan or zoning by-law amendments are required. Adherence with source water protection plans and policies will remain unchanged. The Project will be entirely confined to the footprint of the existing GPS, and no development is proposed in hazard lands. Project construction work is related only to equipment upgrades within the facility. No physical earthworks and associated disturbance-related activities are required. The potential for encountering/disturbing contaminated materials/soils onsite therefore does not exist.
2.2 be inconsistent with the Provincial Policy Statement, provincial land use or resource management plans?		✓	
2.3 be inconsistent with municipal land use policies, plans and zoning bylaws?		✓	
2.4 use hazard lands or unstable lands subject to erosion?		✓	
2.5 have potential negative effects related to the remediation of contaminated land?		✓	

Table A-3: Air and Noise

Criterion	Yes	No	Additional Information
3.1 have negative effects on air quality due to emissions of nitrogen dioxide, sulphur dioxide, suspended particulates, or other pollutants?	✓		The Project has the potential to negatively affect air quality. Technical studies have been completed to assess effects and mitigation (refer to Section 6.2).
3.2 cause negative effects from the emission of greenhouse gases (CO_2, methane)?	✓		The Project has the potential to cause negative effects from the emission of GHG. Technical studies have been completed to assess effects and mitigation (refer to Section 6.3).
3.3 cause negative effects from the emission of dust or odour?		✓	The Project is not associated with any dust or odour emitting activities.
3.4 cause negative effects from the emission of noise?		✓	The Project construction phase will occur during a scheduled outage and will be completed in accordance with the local noise by-law. The equipment manufacturer, GE Gas Power, has provided a letter, dated February 14, 2023, including equipment specifications that verify that the equipment upgrades will not result in changes to noise emissions, including during the operation of peak firing.

Table A-4: Natural Environment

Criterion	Yes	No	Additional Information
4.1 cause negative effects on rare, threatened or endangered species of flora or fauna or their habitat?		✓	The Project construction phase is related only to equipment delivery and installation within the existing facility. No physical earthworks and associated disturbance-related activities are required (e.g., vegetation removal, disturbance to wildlife habitat). Results of the ecological field program did not identify potentially impacted SAR species. Therefore, negative effects to the natural environment within the study area are not anticipated.
4.2 cause negative effects on protected natural areas such as ANSIs, ESAs or other significant natural areas?		✓	
4.3 cause negative effects on wetlands?		✓	
4.4 have negative effects on wildlife habitat, populations, corridors or movement?		✓	
4.5 have negative effects on fish or their habitat, spawning, movement or environmental conditions e.g., water temperature, turbidity, etc.)?		✓	
4.6 have negative effects on migratory birds, including effects on their habitat or staging areas?		✓	
4.7 have negative effects on locally important or valued ecosystems or vegetation?		✓	

Table A-5: Resources

Criterion	Yes	No	Additional Information
5.1 result in inefficient (below 40%) use of a non-renewable resource (efficiency is defined as the ratio of output energy to input energy, where output energy includes electricity produced plus useful heat captured)?		✓	Turbine upgrades will result in a more efficient use of non-renewable resource. Technology improvements will increase the efficiency of the operating GPS facility.
5.2 have negative effects on the use of Canada Land Inventory Class 1-3, specialty crop or locally significant agricultural lands?		✓	The study area does not feature agriculture land uses, high potential mineral aggregate areas, petroleum areas, forest resources, or natural areas suitable for game and fisheries as resources. As such, there are no potential effects on these resources.
5.3 have negative effects on existing agricultural production?		✓	
5.4 have negative effects on the availability of mineral, aggregate or petroleum resources?		✓	
5.5 have negative effects on the availability of forest resources?		✓	
5.6 have negative effects on game and fishery resources, including negative effects caused by creating access to previously inaccessible areas?		✓	

Table A-6: Socio-economic

Criterion	Yes	No	Additional Information
6.1 have negative effects on neighbourhood, or community character?		✓	The Project will not change the existing land use at or in proximity to the site during construction or operation. No increased demand for community services or infrastructure will occur as a result of the Project. The Project construction is related only to equipment upgrades within the facility and installation during a scheduled outage will minimize potential effects.
6.2 have negative effects on local businesses, institutions, or public facilities?		✓	
6.3 have negative effects on recreation, cottaging or tourism?		✓	
6.4 have negative effects related to increases in the demands on community services and infrastructure?		✓	
6.5 have negative effects on the economic base of a municipality or community?		✓	
6.6 have negative effects on local employment and labour supply?		✓	The Project installation will occur during a scheduled GPS maintenance outage. The delivery of turbine upgrade components will be incorporated into the delivery of other components and materials associated with the maintenance outage activities. No increase in trucking or delivery requirements are anticipated because of the turbine upgrades.
6.7 have negative effects related to traffic?		✓	
6.8 cause public concerns related to public health and safety?		✓	Potential public health concerns associated with air emissions have been addressed under the air quality criteria (Table A-3, 3.1 and 3.2). Additional public concerns related to public health and safety are not anticipated.

Table A-7: Heritage and Culture

Criterion	Yes	No	Additional Information
7.1 have negative effects on heritage buildings, structures or sites, archaeological resources, or cultural heritage landscapes?		✓	No heritage buildings, structures or sites were identified within the study area. The GPS property has been cleared of archaeological concerns. The Project is not associated with ground disturbance, with activities occurring within the existing GPS. No effects on cultural heritage resources are anticipated.
7.2 have negative effects on scenic or aesthetically pleasing landscapes or views?		✓	The changes to the GPS will be inside the facility structure and there will be no change compared to existing conditions.

Table A-8: Indigenous[8]

Criterion	Yes	No	Additional Information
8.1 cause negative effects on First Nations or other Indigenous communities?		✓	Given there is no change to land use, no ground disturbance, and all Project related components and activities will occur within the existing GPS, negative effects on Indigenous communities have not been identified. No Indigenous communities have identified concerns to-date.

[8] The Guide refers to potential impacts on Aboriginal Communities. The text within this report has been updated to reflect the most appropriate language at the time of writing.

Table A-9: Other

Criterion	Yes	No	Additional Information
9.1 result in the creation of waste materials requiring disposal?		✓	The Project will result in existing component removal (replacement). The removed components will be kept on-site for future refurbishment. Waste generated during construction will be sent to an approved waste handling facility.
9.2 cause any other negative environmental effects not covered by the criteria outlined above?	Considered as presented below		
9.2.1 Climate Change Considerations	✓		The MECP document "Considering Climate Change in the EA Process" considers: • Effects of the Project on the environment: the screening considered GHG emissions. Refer to Table A-3. • Effects of the environment on the Project: potential interactions of Project components with potential climate hazards were considered. The Project is not anticipated to interact with potential climate hazards in a materially different way than the existing facility and associated components. No further study is required.
9.2.2 Cumulative Effects	✓		The Project is associated with an upgrade to an existing facility in an industrial area and is therefore consistent with existing and planned land uses, and compatible with any nearby planned future land use development. The Project is one of a limited number of natural gas-fired generation projects the IESO has contracted to help fuel the energy transition and maintain reliability in the province. The effects assessments for air quality and GHG identified that the upgrades to the GPS will make the facility more efficient, with the increase in power output resulting in an increase in some emissions. However, in terms of cumulative effects with emissions from other proposed undertakings, the specific intent of the Project is to enable other industries, businesses and consumers to continue with their electrification and decarbonization plans without risking reliability of the provincial grid.

Appendix B MECP Areas of Interest

Environmental Review Report

Goreway Power Station Upgrades Project

Capital Power Corporation

SLR Project No.: 241.030524.00025

September 28, 2023

MECP Areas of Interest (v. August 2022)

MECP Comment	Response
Planning and Policy	
Applicable plans and policies should be identified in the report, and the proponent should describe how the proposed Project adheres to the relevant policies in these plans. • Projects located in MECP Central, Eastern or West Central Region may be subject to **A Place to Grow: Growth Plan for the Greater Golden Horseshoe** (2020). • Projects located in MECP Central or Eastern Region may be subject to the **Oak Ridges Moraine Conservation Plan (2017)** or the **Lake Simcoe Protection Plan (2014)**. • Projects located in MECP Central, Southwest or West Central Region may be subject to the **Niagara Escarpment Plan** (2017). • Projects located in MECP Central, Eastern, Southwest or West Central Region may be subject to the **Greenbelt Plan** (2017). • Projects located in MECP Northern Region may be subject to the **Growth Plan for Northern Ontario** (2011)**.**	Section 5.0– Existing Conditions lists relevant municipal, provincial and federal plans and policies applicable to the study area. Appendix A, Table A-2 of the Screening Checklist determined that the Project is consistent with the spirit and intent of the of the PPS, and with municipal, provincial and federal policies. A fulsome list of referenced documents has been included in Section 8.0 – References.
The **PPS (2020)** contains policies that protect Ontario's natural heritage and water resources. Applicable policies should be referenced in the report, and the proponent should describe how the proposed Project is consistent with these policies.	
In addition to the provincial planning and policy level, the report should also discuss the planning context at the municipal and federal levels, as appropriate.	
Source Water Protection	
The proponent should identify the source protection area and should clearly document how the proximity of the Project to sources of drinking water (municipal or other) and any delineated vulnerable areas was considered and assessed. Specifically, the report should discuss whether or not the Project is located in a vulnerable area and provide applicable details about the area.	Section 5.0 – Existing Conditions lists relevant municipal, provincial and federal plans and policies applicable to the study area. The section includes policies related to source water protection and delineated HVA area. Appendix A, Table A-1 of the Screening Checklist notes that effects on surface water or to groundwater are not anticipated. The GPS site is located within a delineated HVA area. The Project is not located within WHPAs, IPZs, SGRAs, EBAs, or ICAs. Project-related impacts to surface water or to groundwater are not anticipated. TRCA has provided written confirmation that impacts to drinking water are not anticipated as a result of the Project works and that the Project is not located within TRCA's primary source water protection interest in the region: WHPA-Q. (see Appendix C – Record of Consultation and Engagement). Section 2.0 – Project Description presents the Project components and activities for construction and operation. The Project as described does not include prescribed drinking water threats as presented in Section 1.1 of O. Reg. 287/07.
If located in a vulnerable area, proponents should document whether any Project activities are prescribed drinking water threats and thus pose a risk to drinking water (this should be consulted on with the appropriate Source Protection Authority). Where an activity poses a risk to drinking water, the proponent must document and discuss in the report how the Project adheres to or has regard to applicable policies in the local source protection plan. This section should then be used to inform and be reflected in other sections of the report, such as the identification of net positive/negative effects of alternatives, mitigation measures, evaluation of alternatives etc.	
In order to determine if this Project is occurring within a vulnerable area, proponents can use this mapping tool: http://www.applications.ene.gov.on.ca/swp/en/index.php. Note that various layers (including WHPAs, WHPA-Q1 and WHPA-Q2, IPZs, HVAs, SGRAs, EBAs, ICAs) can be turned on through the "Map Legend" bar on the left. The mapping tool will also provide a link to the appropriate source protection plan in order to identify what policies may be applicable in the vulnerable area.	
While most source protection plans focused on including policies for significant drinking water threats in the WHPAs and IPZs it should be noted that even though source protection plan policies may not apply in HVAs, these are areas where aquifers are sensitive and at risk to impacts and within these areas, activities may impact the quality of sources of drinking water for systems other than municipal residential systems.	
For further information on the maps or source protection plan policies which may relate to their Project, proponents must contact the appropriate source protection authority. **Please consult with the local source protection authority to discuss potential impacts on drinking water. Please document the results of that consultation within the report and include all communication documents/correspondence.**	
A list of the prescribed drinking water threats can be found in section 1.1 of Ontario Regulation 287/07 made under the *Clean Water Act*. In addition to prescribed drinking water threats, some source protection plans may include policies to address additional "local" threat activities, as approved by the MECP.	

MECP Comment	Response
Climate Change	
The MECP expects proponents of Projects under a Class EA or EA Act Regulation to: 1. Consider during the assessment of alternative solutions and alternative designs, the following: • the Project's expected production of greenhouse gas emissions and impacts on carbon sinks (climate change mitigation); and • resilience or vulnerability of the undertaking to changing climatic conditions (climate change adaptation). 2. Include a discrete section in the report detailing how climate change was considered in the EA.	A quantitative analysis of GHG emissions was completed as described in Section 6.3. Resilience or vulnerability of the undertaking to a changing climate (climate change adaptation) was considered within the Screening Checklist as presented in Appendix A, Table A-9. The screening exercise determined that the Project is not anticipated to interact with potential climate change hazards in a materially different way than the existing facility and associated components. Detailed assessment was not required. A discrete section was added to the Screening Criteria checklist (Table A-9) to account for the effects of the Project on the environment and the effects of the environment on the Project. Although the referenced Guide is not applicable to the Project, it was reviewed for information purposes.
How climate change is considered can be qualitative or quantitative in nature and should be scaled to the Project's level of environmental effect. In all instances, both a Project's impacts on climate change (mitigation) and impacts of climate change on a Project (adaptation) should be considered. Please ensure climate change is considered in the report	
The MECP has also prepared another guide to support provincial land use planning direction related to the completion of energy and emission plans. The "Community Emissions Reduction Planning: A Guide for Municipalities" document is designed to educate stakeholders on the municipal opportunities to reduce energy and greenhouse gas emissions, and to provide guidance on methods and techniques to incorporate consideration of energy and greenhouse gas emissions into municipal activities of all types. We encourage you to review the Guide for information.	
Air Quality, Dust and Noise	
If there are sensitive receptors in the surrounding area of this Project, a quantitative air quality/odour impact assessment will be useful to evaluate alternatives, determine impacts and identify appropriate mitigation measures. The scope of the assessment can be determined based on the potential effects of the proposed alternatives, and typically includes source and receptor characterization and a quantification of local air quality impacts on the sensitive receptors and the environment in the study area. The assessment will compare all applicable standards or guidelines for all contaminants of concern. **Please contact this office for further consultation on the level of Air Quality Impact Assessment required for this Project if not already advised.**	A quantitative analysis of air emissions was completed as described in Section 6.2. Appendix A, Table A-3 describes the potential Project construction noise considerations. The Project installation / construction will occur as part of a scheduled maintenance outage and will be incorporated into outage planning in terms of potential localized disruption. No further study was required. Appendix A, Table A-3 describes the potential Project operational noise considerations. The equipment manufacturer has provided specifications that indicate the equipment upgrades will not result in changes to noise emissions. No further study was required. Physical earthworks / soil disturbance is not required for the Project. The use of dust suppressants is not anticipated for the equipment installation constituting the construction phase of this Project.
If a quantitative Air Quality Impact Assessment is not required for the Project, the MECP expects that the report contain a qualitative assessment which includes: • A discussion of local air quality including existing activities/sources that significantly impact local air quality and how the Project may impact existing conditions; • A discussion of the nearby sensitive receptors and the Project's potential air quality impacts on present and future sensitive receptors; • A discussion of local air quality impacts that could arise from this Project during both construction and operation; and • A discussion of potential mitigation measures.	
As a common practice, "air quality" should be used an evaluation criterion for all road projects.	
Dust and noise control measures should be addressed and included in the construction plans to ensure that nearby residential and other sensitive land uses within the study area are not adversely affected during construction activities.	
The MECP recommends that non-chloride dust-suppressants be applied. For a comprehensive list of fugitive dust prevention and control measures that could be applied, refer to *Cheminfo Services Inc. Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities* report prepared for Environment Canada. March 2005.	
The report should consider the potential impacts of increased noise levels during the operation of the completed Project. The proponent should explore all potential measures to mitigate significant noise impacts during the assessment of alternatives.	
Ecosystem Protection and Restoration	
Any impacts to ecosystem form and function must be avoided where possible. The report should describe any proposed mitigation measures and how Project planning will protect and enhance the local ecosystem.	Section 5.0 – Existing Conditions lists relevant natural environment features within the study area. Appendix A, Table A-4 describes potential Project interactions with the natural environment. Project works will not occur in proximity to sensitive natural environment and surface water features. Based on the scope of work, existing conditions and no anticipated interactions with the natural environment, no further study was required.
Natural heritage and hydrologic features should be identified and described in detail to assess potential impacts and to develop appropriate mitigation measures. The following sensitive environmental features may be located within or adjacent to the study area: • Key Natural Heritage Features: Habitat of endangered species and threatened species, fish habitat, wetlands, areas of natural and scientific interest (ANSIs), significant valleylands, significant woodlands; SWH (including habitat of special concern species); sand barrens, savannahs, and tallgrass prairies; and alvars.	

MECP Comment	Response
• Key Hydrologic Features: Permanent streams, intermittent streams, inland lakes and their littoral zones, seepage areas and springs, and wetlands. • Other natural heritage features and areas such as: vegetation communities, rare species of flora or fauna, Environmentally Sensitive Areas (ESA), Environmentally Sensitive Policy Areas, federal and provincial parks and conservation reserves, Greenland systems etc.	
We recommend consulting with the Ministry of Natural Resources and Forestry (MNRF), Fisheries and Oceans Canada (DFO) and your local conservation authority to determine if special measures or additional studies will be necessary to preserve and protect these sensitive features.	
Species at Risk	
The Ministry of the Environment, Conservation and Parks has now assumed responsibility of the Ontario Species at Risk (SAR) program. Information, standards, guidelines, reference materials and technical resources to assist you are found at https://www.ontario.ca/page/species-risk.	Section 5.0 – Existing Conditions lists relevant natural environment features within the study area. Appendix A, Table A-4 describes potential Project interactions with the natural environment. Results of the ecological field program did not identify potentially impacted SAR species. Based on the scope of work, existing conditions and no anticipated interactions with the natural environment, no further study was required.
The Client's Guide to Preliminary Screening for Species at Risk (Draft May 2019) has been attached to the covering email for your reference and use. Please review this document for the next steps.	
Surface Water	
The report must include enough information to demonstrate that there will be no negative impacts on the natural features or ecological functions of any watercourses within the study area. Measures should be included in the planning and design process to ensure that any impacts to watercourses from construction or operational activities (e.g., spills, erosion, pollution) are mitigated as part of the proposed undertaking.	Section 5.0 – Existing Conditions lists relevant water features within the study area. Appendix A, Table A-4 describes potential Project interactions with surface water features. Water taking and discharge activities are not required. The Project will not result in new stormwater runoff, nor will it result in a change in stormwater run-off quantity or quality when compared to existing conditions. Based on the scope of work, existing conditions and no anticipated interactions with the surface water features, no further study was required.
Additional stormwater runoff from new pavement can impact receiving watercourses and flood conditions. Quality and quantity control measures to treat stormwater runoff should be considered for all new impervious areas and, where possible, existing surfaces. The ministry's Stormwater Management Planning and Design Manual (2003) should be referenced in the report and utilized when designing stormwater control methods. **A Stormwater Management Plan should be prepared as part of the ESP** that includes: • Strategies to address potential water quantity and erosion impacts related to stormwater draining into streams or other sensitive environmental features, and to ensure that adequate (enhanced) water quality is maintained. • Watershed information, drainage conditions, and other relevant background information • Future drainage conditions, stormwater management options, information on erosion and sediment control during construction, and other details of the proposed works • Information on maintenance and monitoring commitments.	
Any potential approval requirements for surface water taking or discharge should be identified in the report. A Permit to Take Water (PTTW) under the *Ontario Water Resources Act* (OWRA) will be required for any water takings that exceed 50,000 L/day, except for certain water taking activities that have been prescribed by the Water Taking Environmental Activity and Sector Registry (EASR) Regulation – *O. Reg. 63/16*. These prescribed water-taking activities require registration in the EASR instead of a PTTW. Please review the Water Taking User Guide for EASR for more information. Additionally, an ECA under the OWRA is required for municipal stormwater management works.	
Groundwater	
The status of, and potential impacts to any well water supplies should be addressed. If the Project involves groundwater takings or changes to drainage patterns, the quantity and quality of groundwater may be affected due to drawdown effects or the redirection of existing contamination flows. In addition, Project activities may infringe on existing wells such that they must be reconstructed or sealed and abandoned. Appropriate information to define existing groundwater conditions should be included in the report.	Section 5.0 – Existing Conditions lists relevant water features within the study area. Appendix A, Table A-4 describes potential Project interactions with groundwater features. Water taking and discharge activities are not required. Based on the scope of work, existing conditions and no anticipated interactions with the groundwater features, no further study was required.
Potential impacts to groundwater-dependent natural features should be addressed. Any changes to groundwater flow or quality from groundwater taking may interfere with the ecological processes of streams, wetlands or other surficial features. In addition, discharging contaminated or high volumes of groundwater to these features may have direct impacts on their function. Any potential effects should be identified, and appropriate mitigation measures should be recommended. The level of detail required will be dependent on the significance of the potential impacts.	
Any potential approval requirements for groundwater taking or discharge should be identified in the report. A Permit to Take Water (PTTW) under the OWRA will be required for any water takings that exceed 50,000 L/day, with the exception of certain water taking activities that have been prescribed by the Water Taking EASR Regulation – *O. Reg. 63/16*. These prescribed water-taking activities require registration in the EASR instead of a PTTW. Please review the Water Taking User Guide for EASR for more information.	
Consultation with the railroad authorities is necessary wherever there is a plan to use construction dewatering in the vicinity of railroad lines or where the zone of influence of the construction dewatering potentially intercepts railroad lines.	

MECP Comment	Response
Excess Materials Management	
In December 2019, MECP released a new regulation under the *Environmental Protection Act*, titled "On-Site and Excess Soil Management" (O. Reg. 406/19) to support improved management of excess construction soil. This regulation is a key step to support proper management of excess soils, ensuring valuable resources don't go to waste and to provide clear rules on managing and reusing excess soil. New risk-based standards referenced by this regulation help to facilitate local beneficial reuse which in turn will reduce greenhouse gas emissions from soil transportation, while ensuring strong protection of human health and the environment. The new regulation is being phased in over time, with the first phase in effect on January 1, 2021. For more information, please visit https://www.ontario.ca/page/handling-excess-soil.	Physical earthworks / soil disturbance is not a component of this Project. The Project will result in existing component removal (replacement). The removed components will be kept on-site for future refurbishment. No waste materials will be created as a result of the Project.
The report should reference that activities involving the management of excess soil should be completed in accordance with O. Reg. 406/19 and the MECP's current guidance document titled "Management of Excess Soil – A Guide for Best Management Practices" (2014) and MECP's current guidance.	
All waste generated during construction must be disposed of in accordance with ministry requirements	
Contaminated Sites	
Any current or historical waste disposal sites should be identified in the report. The status of these sites should be determined to confirm whether approval pursuant to Section 46 of the EPA may be required for land uses on former disposal sites. We recommend referring to the MECP's D-4 guideline for land use considerations near landfills and dumps. o Resources available may include regional/local municipal official plans and data; provincial data on large landfill sites and small landfill sites; ECA information for waste disposal sites on Access Environment.	Section 5.0 – Existing Conditions describes the results of a Phase 1 ESA at the site. The Phase 1 ESA did not identify any current or historical waste disposal sites within the GPS footprint. Appendix A, Table A-2 documents that no Project interactions with contaminated sites are anticipated. Physical earthworks / soil disturbance is not a component of this Project.
Other known contaminated sites (local, provincial, federal) in the study area should also be identified in the report (Note – information on federal contaminated sites is found on the Government of Canada's website).	
The location of any underground storage tanks should be investigated in the report. Measures should be identified to ensure the integrity of these tanks and to ensure an appropriate response in the event of a spill. The ministry's Spills Action Centre must be contacted in such an event.	
Since the removal or movement of soils may be required, appropriate tests to determine contaminant levels from previous land uses or dumping should be undertaken. If the soils are contaminated, you must determine how and where they are to be disposed of, consistent with *Part XV.1 of the Environmental Protection Act* (EPA) and Ontario Regulation 153/04, Records of Site Condition, which details the new requirements related to site assessment and clean up. Consideration of potential environmental contamination should be given following regulatory guidance where the Project involves decommissioning of facilities. Please contact the appropriate MECP District Office for further consultation if contaminated sites are present.	
Servicing, Utilities and Facilities	
The report should identify any above or underground utilities in the study area such as transmission lines, telephone/internet, oil/gas etc. The owners should be consulted to discuss impacts to this infrastructure, including potential spills.	Section 5.0 – Existing Conditions identifies servicing infrastructure within the study area. Physical earthworks / soil disturbance is not a component of this Project, and all Project work will occur within the footprint of the existing GPS footprint. Appendix A, Table A-1 demonstrates that no Project interactions are anticipated with utilities and servicing, including the stormwater management system and therefore no further study is required.
The report should identify any servicing infrastructure in the study area such as wastewater, water, stormwater that may potentially be impacted by the Project.	
Any facility that releases emissions to the atmosphere, discharges contaminants to ground or surface water, provides potable water supplies, or stores, transports or disposes of waste must have an ECA before it can operate lawfully. Please consult with MECP's Environmental Permissions Branch to determine whether a new or amended ECA will be required for any proposed infrastructure.	ECA permits are in place for the existing GPS. These permits include: • ECA (Industrial Sewage) - January 30, 2006, Permit 4234-6L7M5V • ECA (Air and Noise) - September 29, 2017, Permit 6102-9UKHGL An ECA Amendment related to changes in air emissions will be submitted following completion of the ESP. As described in Appendix A, Table A-2, there are no anticipated effects to the surrounding properties within 500 m of the site. The Project is consistent with the approved existing land uses according to the PPS and Regional and Local land use polices. As such, no official plan or zoning by-law amendments are required.
We recommend referring to the ministry's environmental land use planning guides to ensure that any potential land use conflicts are considered when planning for any infrastructure or facilities related to wastewater, pipelines, landfills or industrial uses.	

MECP Comment	Response
Mitigation and Monitoring	
Contractors must be made aware of all environmental considerations so that all environmental standards and commitments for both construction and operation are met. Mitigation measures should be clearly referenced in the report and regularly monitored during the construction stage of the Project. In addition, we encourage proponents to conduct post-construction monitoring to ensure all mitigation measures have been effective and are functioning properly.	Section 7.2 – Summary of Commitments summarizes requirements for mitigation and monitoring for the construction and operational phases of the Project. The equipment upgrades will be undertaken within the context of a scheduled maintenance outage, which will be undertaken in accordance with existing GPS environmental management plans and policies.
Design and construction reports and plans should be based on a best management approach that centers on the prevention of impacts, protection of the existing environment, and opportunities for rehabilitation and enhancement of any impacted areas.	
The proponent's construction and post-construction effects monitoring strategies and programs must be documented in the report.	Section 7.2 – Summary of Commitments summarizes requirements for mitigation and monitoring for the construction and operational phases of the Project.
The proponent must consider cumulative effects when planning Projects. The assessment will include the proposed undertaking and any other proposed undertakings in the immediate Project area where documentation is available (e.g., other environmental assessments).	Appendix A, Table A-1 of the Screening Checklist notes that cumulative effects were considered in context of the Project and results of the effects assessment. The Project is associated with an upgrade to an existing facility in an industrial area, and is therefore consistent with existing and planned land uses, and compatible with any nearby planned future land use development. The Project is one of a limited number of natural gas-fired generation projects the IESO has contracted to help fuel the energy transition and maintain reliability in the province. The effects assessments for air quality and GHG identified that the upgrades to the GPS will make the facility more efficient, with the increase in power output resulting in an increase in some emissions. However, in terms of cumulative effects with emissions from other proposed undertakings, the specific intent of the Project is to enable other industries, businesses and consumers to continue with their electrification and decarbonization plans without risking reliability of the provincial grid.
Consultation	
The report must demonstrate how the consultation provisions of the ESP have been fulfilled, including documentation of all stakeholder consultation efforts undertaken during the planning process. This includes a discussion in the report that identifies concerns that were raised and **describes how they have been addressed by the proponent** throughout the planning process. The report should also include copies of comments submitted on the Project by interested stakeholders, and the proponent's responses to these comments (as directed by the Guide to Environmental Assessment Requirements for Electricity Projects to include full documentation).	Section 4.0– Consultation and Engagement summarizes activities completed as part of this ESP. Section 4.3.6 speaks specifically to the key consultation and engagement outcomes and how concerns have been addressed throughout the planning process. A full Record of Consultation and Engagement is provided in Appendix C, including the distribution list.
Please include the full stakeholder distribution/consultation list in the documentation.	
Environmental Screening Process	
The report should provide clear and complete documentation of the planning process in order to allow for transparency in decision-making.	Section 3.0 – Assessment Methods and Scope describes the assessment methods and scope, including an overview of the planning process that was followed to complete this Environmental Review Process.
The ESP requires the consideration of the effects of each alternative on all aspects of the environment (including planning, natural, social, cultural, economic, technical). The report should include a level of detail (e.g., hydrogeological investigations, terrestrial and aquatic assessments, cultural heritage assessments) such that all potential impacts can be identified, and appropriate mitigation measures can be developed. Any supporting studies conducted during the ESP should be referenced and included as part of the report.	Section 1.2 – Purpose of the Project describes consideration of Project alternatives in context of the IESO procurement process. Appendix A – the Screening Checklist identifies potential effects on all aspects of the environment, and identifies where further studies were deemed warranted. A quantitative analysis of air emissions was completed as described in Section 6.2. A quantitative analysis of GHG emissions was completed as described in Section 6.3.
Please include in the report a list of all subsequent permits or approvals that may be required for the implementation of the preferred alternative, including but not limited to, MECP's PTTW, EASR Registrations and ECAs, conservation authority permits, SAR permits, MTO permits and approvals under the *Impact Assessment Act*, 2019.	Section 1.4 – Regulatory Framework summarizes the regulatory framework for the Project under the *Environmental Assessment Act*. Section 0 – Summary of Commitments summarizes requirements for mitigation and monitoring for the construction and operational phases of the Project, including listing subsequent permits and approvals that will be required.
Ministry guidelines and other information related to the issues above are available at http://www.ontario.ca/environment-and-energy/environment-and-energy. We encourage you to review all the available guides and to reference any relevant information in the report.	Noted, guidelines have been reviewed and referenced as applicable.

MECP Comment	Response
Once the report is finalized, the proponent must issue a Notice of Completion providing a minimum 30-day period during which documentation may be reviewed and comment and input can be submitted to the proponent. The Notice of Completion must be sent to the appropriate MECP Regional Office email address.	Section 4.3.2 provides the details of the Project Notice of Completion that was issued for the Project. Appendix C provides the associated Record of Consultation and Engagement.
The public can submit an elevation request, which requests a higher level of assessment on a project if they have outstanding environmental concerns. In addition, at any point in the Environmental Screening Process, if it is determined that a project is likely to have significant negative environmental effects, and that the scope and scale of these effects are such that an individual EA is warranted, the Minister of the Environment may of his or her own initiative require that a project be made subject to Part II of the *Environmental Assessment Act* (an individual EA). If the Minister requires an individual EA, the proponent will be informed in writing, stating reasons for the decision.	Noted. Section 3.1 – Assessment Methods of the Environmental Review Report outlines the ability for the public to make an elevation request.
Therefore, the proponent cannot proceed with the Project until at least 30 days after the end of the comment period provided for in the Notice of Completion. Further, the proponent may not proceed after this time if: • an elevation request has been submitted by any interested person including Indigenous communities to the ministry regarding outstanding environmental concerns, or • the Minister has given notice to the proponent requiring that an environmental assessment be prepared	Noted. Capital Power will not proceed until at least 30 days after the comment period provided for the Notice of Completion, or if there are elevation requests or Notice of Proposed order issued by the Director.
Please ensure that the Notice of Completion advises that outstanding concerns are to be directed to the proponent for a response, and that in the event there are outstanding environmental concerns, elevation requests should be addressed in writing to: Director, Environmental Assessment Branch Ministry of Environment, Conservation and Parks 135 St. Clair Ave. W, 1st Floor Toronto ON, M4V 1P5 EABDirector@ontario.ca	Noted. Refer to Appendix C for the Record of Consultation and Engagement, which includes a copy of the Notice of Completion.

Appendix C Record of Consultation and Engagement

Environmental Review Report

Goreway Power Station Upgrades Project

Capital Power Corporation

SLR Project No.: 241.030524.00025

September 28, 2023

Appendix C-1
Project Contact List

GPS Upgrades Project Contact List

Organization	First Name	Last Name	Title/Role	Address	City	Province	Postal Code	Primary Email
Federal Government Representatives and Agencies								
Crown-Indigenous Relations and Northern Affairs Canada	-	-	-					indigenous.consultations.autochtones@canada.ca EACoordination_ON@inac-ainc.gc.ca
CN Rail	Public Works	General Inbox	-	1 Administration Road	Concord	ON	L4K 1B9	proximity@cn.ca
Provincial Government Representatives and Agencies								
Ministry of the Environment, Conservation and Parks	-	-	Central Region					eanotification.cregion@ontario.ca, ClassEAnotices@ontario.ca
Infrastructure Ontario	Ainsley	Davidson	Director (A), Land Use Planning	1 Dundas St. W., Suite 2000	Toronto	ON	M5G 1Z3	ainsley.davidson@infrastructureontario.ca noticereview@infrastructureontario.ca
Ministry of Energy	Amy	Gibson	Manager, Indigenous Energy Policy					amy.gibson@ontario.ca Shannon.McCabe@ontario.ca joerg.wittenbrinck@ontario.ca
Hydro One Networks Inc.								SecondaryLandUse@HydroOne.com
Ministry of Tourism, Culture and Sport	Karla	Barboza	Team Lead(A), Heritage, Heritage Planning Unit, Programs and Services Branch	400 University Ave. 5th Floor	Toronto	ON	M7A 2R9	karla.barboza@ontario.ca dan.minkin@ontario.ca
Municipal Government Representatives and Agencies								
Peel Region	Gary	Kent	CAO	10 Peel Centre Drive, Suite A 5th Floor, Room 504	Brampton	ON	L6T 4B9	gary.kent@peelregion.ca liz.panacci@peelregion.ca
City of Brampton	Patrick	Brown	Mayor	2 Wellington Street	Brampton	ON	L6R 4R2	patrick.brown@brampton.ca
City of Brampton	Marlon	Kallideen	Chief Administrative Officer	2 Wellington Street	Brampton	ON	L6R 4R2	Marlon.kallideen@brampton.ca
City of Brampton	Charlotte	Gravlev	Deputy City Clerk	2 Wellington Street	Brampton	ON	L6R 4R2	charlotte.gravlev@brampton.ca
City of Brampton	Andrew	Ramsammy	Development Planner	2 Wellington Street	Brampton	ON	L6R 4R2	Andrew.Ramsammy@brampton.ca steve.ganesh@brampton.ca Angelo.Ambrico@brampton.ca Denise.McClure@brampton.ca
City of Brampton	Pat	Fortini	Councillor, Ward 7 and 8	2 Wellington Street	Brampton	ON	L6R 4R2	pat.fortini@brampton.ca
Member of Parliament for Brampton East	Maninder	Sidhu	MP - Brampton East	1 Gateway Blvd, Suite 204	Brampton	ON	L6T 0G3	Maninder.Sidhu@parl.gc.ca
Members of Provincial Parliament for Brampton East	Hardeep	Grewal	MPP - Brampton East	1 Gateway Blvd, Unit 307	Brampton	ON	L6T 0G3	Hardeep.Grewal@pc.ola.org
Toronto and Region Conservation Authority	Marina	Janakovic	Development Planning and Permits Planner for Brampton	101 Exchange Avenue	Vaughan			marina.janakovic@trca.ca Sameer.Dhalla@trca.ca
Interest Groups								
Brampton Board of Trade				36 Queen St. E. Ste. 101	Brampton	ON	L6V 1A2	admin@bramptonbot.com
Brampton Environmental Alliance (BEA)								info@bramptonea.org
Peel Environmental Youth Alliance (PEYA)								info@peyalliance.ca
Sierra Club - Peel Region Group								ontario@sierraclub.ca
Claireville Ranch				3805 Queen St. E	Brampton	ON	L6T 0B3	clairevilleranch@gmail.com
Ontario Nature	Caroline	Schultz	Executive Director	720 Bathurst St	Toronto	ON	M5S 2R4	carolines@ontarionature.org anneb@ontarionature.org reception@ontarionature.org
Indigenous Communities								
Mississaugas of the Credit First Nation	Abby	LaForme	Department of Consultation and Accommodation	4065 Hwy. 6	Hagersville	ON	N0A 1H0	abby.laforme@mncfn.ca Communications@mncfn.ca Stacey.LaForme@mncfn.ca
Six Nations of the Grand River	Chief Mark	Hill	c/o Tammy Martin	1695 Chiefswood Rd., PO Box 5000	Ohsweken	ON	N0A 1M0	tammymartin@sixnations.ca
Haudenosaunee Development Institute (HDI)	Raechelle	Williams	Environmental Supervisor	16 Sunrise Court, Suite 402B	Ohsweken	ON	PO Box 714	janicewilliams@hdi.land
Métis Nation of Ontario	Margaret	Froh	President	Suite 1100 – 66 Slater Street	Ottawa	ON	K1P 5H1	consultations@metisnation.org laurad@metisnation.org
Local Property Owners								
See notification limits map, next page.								

LEGEND:

- Study Area/Notification Area
- Goreway Power Station Property
- Existing Facility Fenceline
- Freeway
- Arterial
- Collector
- Local Street
- Ramp

0 50 100 200 300 m

SCALE 1:10,000
PAGE SIZE: 11 x 17
NAD 1983 UTM Zone 17N

THIS MAP IS FOR CONCEPTUAL PURPOSES ONLY
AND SHOULD NOT BE USED FOR NAVIGATION

8600 GOREWAY DRIVE
CITY OF BRAMPTON
REGION OF PEEL, ONTARIO

GOREWAY POWER STATION UPGRADES PROJECT

NOTIFICATION AREA

SLR

DATE: July 6, 2023

PROJECT NO: 241.V30524.00025

Appendix C-2
Project Notices

NOTICE OF COMMENCEMENT OF AN ENVIRONMENTAL REVIEW

Goreway Power Station Upgrades Project

Goreway Station Partnership, a subsidiary of Capital Power Corporation (Capital Power), is proposing to undertake equipment upgrades at the existing Goreway Power Station (GPS), located at 8600 Goreway Drive, City of Brampton.

The purpose of this notice is to inform any interested parties that Capital Power is beginning an environmental study to assess the potential environmental effects of the equipment upgrades.

Ontario's Independent Electricity System Operator has identified a significant need for new power supply in the province. The upgrades will provide operational flexibility and additional electricity generating capacity of approximately 40 megawatts (MW), which is a 4.5% increase to the total generation capacity of the GPS. The upgrades will be limited to the replacement of a variety of parts within the gas turbine with more advanced technology, upgradable materials, and/or higher performance levels. To accommodate these modifications, gas turbine controls will be updated accordingly. The upgrades would be completed during regularly scheduled maintenance outages starting in 2024.

PLANNING PROCESS

According to Ontario Regulation 116/01 (the Electricity Projects Regulation) and as described in the *Guide to Environmental Assessment Requirements for Electricity Projects (2011)*, modifications to a natural gas-fired generating facility that increase the facility's capacity by 5 MW or more are classified as Category B projects and are subject to review under the Environmental Screening Process (ESP).

The ESP has two tiers of assessment: Screening Stage and Environmental Review Stage. Capital Power intends to voluntarily complete an Environmental Review.

The Environmental Review will assess potential environmental impacts of the equipment upgrades, which are expected to be limited to air emissions that will continue to meet provincial emission requirements. The results of the assessment will be documented in an Environmental Review Report that will be made available for public review. The Environmental Review will assess any potential effects of the equipment upgrades but will not re-evaluate the previously approved, operating GPS facility.

INVITATION TO PROVIDE COMMENTS

Your input is important to us. We are interested in hearing any questions or feedback you may have with respect to this Project. Comments received throughout the course of this study will inform the Environmental Review process.

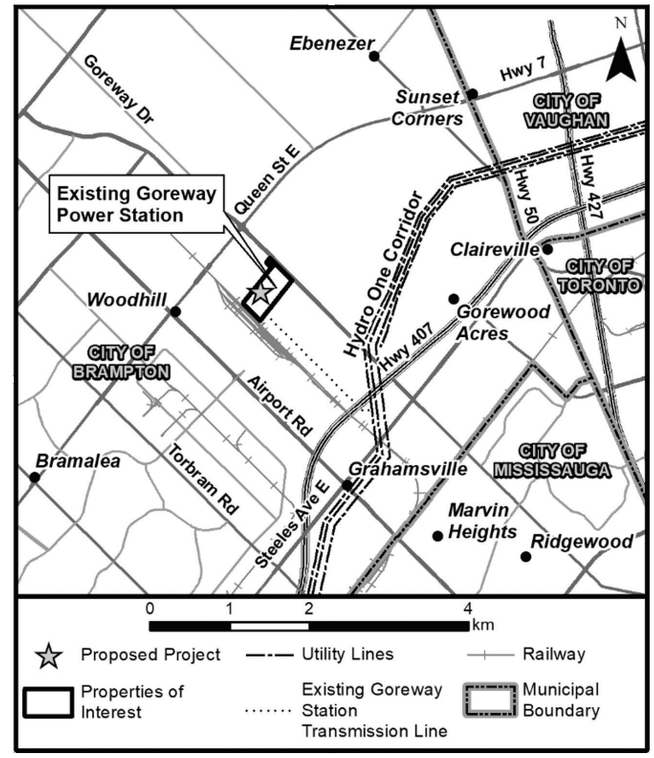
If you have any comments or questions, or to be added to the Project mailing list, please contact:

Jay Shukin
Manager, Indigenous and Stakeholder Engagement

Capital Power
8600 Goreway Drive
Brampton, ON L6T 0A8

Phone: 1-855-703-5005
Fax: 780-392-5927
Email: info@capitalpower.com

For more information, please visit our project webpage at: capitalpower.com/operations/goreway-power-station-upgrade



This notice published: May 2023.

Capital Power
1200-10423 101 Street NW
Edmonton, AB T5H 0E9

May 4, 2023

Site Manager, Crownhill Packaging Ltd
8905 Goreway Dr
Brampton ON L6T 0B7

Dear Site Manager:

Re: Notices of Commencement

We are writing to provide you with information about two projects being proposed by Capital Power in the City of Brampton. Enclosed you will find the Notices of Commencement issued under the *Environmental Assessment Act* for the following:

1. **Goreway Battery Energy Storage System Project**:
   capitalpower.com/operations/goreway-power-station-bess

2. **Goreway Power Station Upgrades Project**
   capitalpower.com/operations/goreway-power-station-upgrade

These projects are proposed in response to the significant need for new power supply in the province, as identified by Ontario's Independent Electricity System Operator (IESO). More information is available on the project websites.

You are receiving these notices because your property is located in proximity to the proposed project location(s). If you are not the owner of the property, we ask that you please share this information with the owner or your property manager.

Please contact us if you have any questions or comments or want to be added to one or both of the project mailing lists.

Sincerely,

Jay Shukin
Manager, Indigenous & Stakeholder Engagement
Capital Power
1-855-703-5005 | info@capitalpower.com

Capital Power
8600 Goreway Dr
Brampton ON L6T 0A8

CANADA POST POSTES CANADA

Capital Power

Capital Power
1200-10423 101 Street NW
Edmonton, AB T5H 0E9

May 4, 2023

Site Manager, Crownhill Packaging Ltd
8905 Goreway Dr
Brampton ON L6T 0B7

Dear Property Owner or Site Manager:

Re: Notices of Commencement

We are writing to provide you with information about two projects being proposed by Capital Power in the City of Brampton. Enclosed you will find the Notices of Commencement issued under the *Environmental Assessment Act* for the following:

1. **Goreway Battery Energy Storage System Project**:
   capitalpower.com/operations/goreway-power-station-bess
2. **Goreway Power Station Upgrades Project**
   capitalpower.com/operations/goreway-power-station-upgrade

These projects are proposed in response to the significant need for new power supply in the province, as identified by Ontario's Independent Electricity System Operator (IESO). More information is available on the project websites.

You are receiving these notices because your property is located in proximity to the proposed project location(s). If you are not the owner of the property, we ask that you please share this information with the owner or your property manager.

Please contact us if you have any questions or comments or want to be added to one or both of the project mailing lists.

Sincerely,

Jay Shukin
Manager, Indigenous & Stakeholder Engagement
Capital Power
1-855-703-5005 | info@capitalpower.com

NOTICE OF COMMENCEMENT

Capital Power

Class Environmental Assessment for Minor Transmission Facilities
Goreway Battery Energy Storage System Project

Goreway (Battery) LP, a subsidiary of Capital Power Corporation (Capital Power), is initiating a Class Environmental Assessment for Minor Transmission Facilities (Class EA for MTF) for the proposed installation of a Battery Energy Storage System (BESS) (the Project) at the Goreway Power Station (GPS). The GPS is located at 8600 Goreway Drive, City of Brampton.

Ontario's Independent Electricity System Operator (IESO) has identified a significant need for new power supply in the province. The proposed BESS would help meet increasing local and provincial demands by providing up to 50 megawatts (MW) of capacity and stored energy that is from the provincial power grid. The BESS will generally be charged during off-peak periods and discharged back to the grid during periods of peak demand.

The Project footprint is within the current plant site boundary. It is approximately 0.65 hectares (1.6 acres) in size and would be located within the existing facility fence line. Construction of a new transformer station would also be required for connection to the provincial power grid.

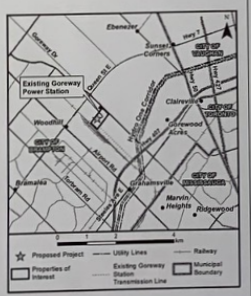
PLANNING PROCESS

The Project is subject to the Class EA for MTF process (www.hydroone.com/classea) in accordance with the *Ontario Environmental Assessment Act*. This is a process for electricity transmission-related projects that do not generate electricity.

Subject to selection by the IESO, construction is currently anticipated to begin in Spring 2024, upon completion of regulatory permitting and approvals.

INVITATION TO PROVIDE COMMENTS

Your input is important to us. We are interested in hearing any questions or feedback you may have with respect to this Project. Comments received throughout the course of this study will inform the Class EA process.



If you have any comments or questions, or to be added to the Project mailing list, please contact:

Jay Shukin
Manager, Indigenous and Stakeholder Engagement

Capital Power
8600 Goreway Drive
Brampton, ON L6T 0A8

Phone: 1-855-703-5005
Fax: 780-392-5927
Email: info@capitalpower.com

For more information, please visit our project webpage at: capitalpower.com/operations/goreway-power-station-bess

All personal information included in your request – such as name, address, telephone number and property location – is collected, under the authority of Section 30 of the Environmental Assessment Act and is collected and maintained for the purpose of creating a record that is available to the general public. As the information is collected for the purpose of a public record, the protection of personal information provided in the Freedom of Information and Protection of Privacy Act (FIPPA) does not apply (s.37). Personal information you submit will become part of the available public record unless you request that your personal information remain confidential.

This notice published: May 2023

NOTICE OF COMMENCEMENT OF AN ENVIRONMENTAL REVIEW

Capital Power

Goreway Power Station Upgrades Project

Goreway Station Partnership, a subsidiary of Capital Power Corporation (Capital Power), is proposing to undertake equipment upgrades at the existing Goreway Power Station (GPS), located at 8600 Goreway Drive, City of Brampton.

The purpose of this notice is to inform any interested parties that Capital Power is beginning an environmental study to assess the potential environmental effects of the equipment upgrades.

Ontario's Independent Electricity System Operator has identified a significant need for new power supply in the province. The upgrades will provide operational flexibility and additional electricity generating capacity of approximately 40 megawatts (MW), which is a 4.5% increase to the total generation capacity of the GPS. The upgrades will be limited to the replacement of a variety of parts within the gas turbine with more advanced technology, upgradable materials, and/or higher performance levels. To accommodate these modifications, gas turbine controls will be updated accordingly. The upgrades would be completed during regularly scheduled maintenance outages starting in 2024.

PLANNING PROCESS

According to Ontario Regulation 116/01 (the Electricity Projects Regulation) and as described in the *Guide to Environmental Assessment Requirements for Electricity Projects (2011)*, modifications to a natural gas-fired generating facility that increase the facility's capacity by 5 MW or more are classified as Category B projects and are subject to review under the Environmental Screening Process (ESP).

The ESP has two tiers of assessment: Screening Stage and Environmental Review Stage. Capital Power intends to voluntarily complete an Environmental Review.

The Environmental Review will assess potential environmental impacts of the equipment upgrades, which are expected to be limited to air emissions that will continue to meet provincial emission requirements. The results of the assessment will be documented in an Environmental Review Report that will be made available for public review. The Environmental Review will assess any potential effects of the equipment upgrades but will not re-evaluate the previously approved, operating GPS facility.

INVITATION TO PROVIDE COMMENTS

Your input is important to us. We are interested in hearing any questions or feedback you may have with respect to this Project. Comments received throughout the course of this study will inform the Environmental Review process.

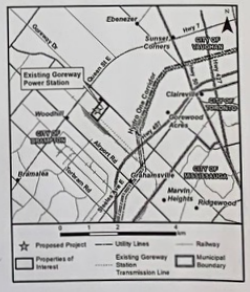
If you have any comments or questions, or to be added to the Project mailing list, please contact:

Jay Shukin
Manager, Indigenous and Stakeholder Engagement

Capital Power
8600 Goreway Drive
Brampton, ON L6T 0A8

Phone: 1-855-703-5005
Fax: 780-392-5927
Email: info@capitalpower.com

For more information, please visit our project webpage at: capitalpower.com/operations/goreway-power-station-upgrade



This notice published: May 2023

NOTICE OF COMPLETION OF AN ENVIRONMENTAL REVIEW REPORT

Goreway Power Station Upgrades Project

Capital Power Corporation*, is proposing to undertake equipment upgrades at the existing Goreway Power Station (GPS), located at 8600 Goreway Drive, City of Brampton.

The purpose of this notice is to inform interested parties that Capital Power has completed an environmental study to assess the potential environmental effects of the equipment upgrades.

Ontario's Independent Electricity System Operator has identified a significant need for new power supply in the province. The upgrades will provide operational flexibility and approximately 40 megawatts (MW) of additional electricity generating capacity, which is a 4.5% increase to the total generation capacity of the GPS. The upgrades will be limited to the replacement of a variety of parts within the gas turbine with more advanced technology, upgradable materials, and/or higher performance levels. Turbine control logic will also be updated to allow for operational flexibility. The upgrades will be completed during regularly scheduled maintenance outages starting in 2024.

PLANNING PROCESS

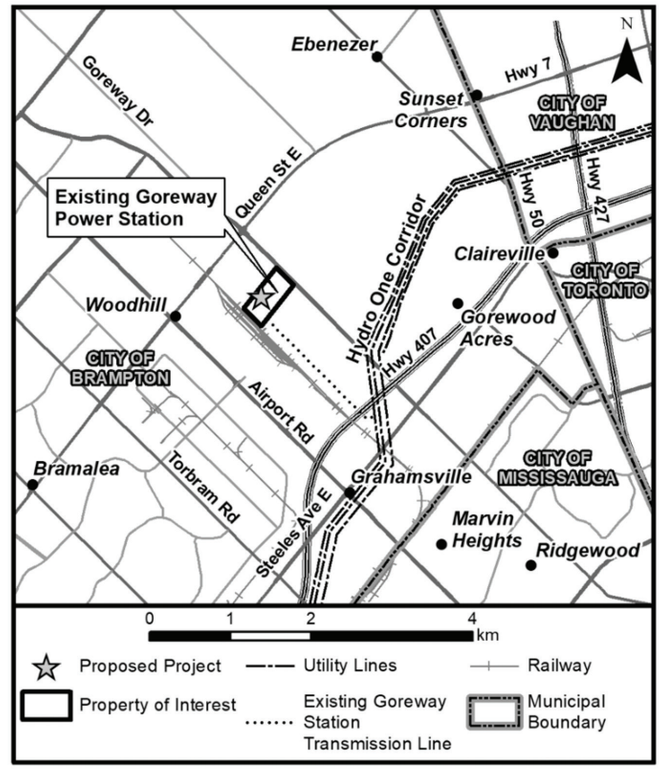
As per Ontario Regulation 116/01 (the Electricity Projects Regulation) and as described in the *Guide to Environmental Assessment Requirements for Electricity Projects (2011),* this project is classified as a Category B project and has been reviewed under the Environmental Screening Process (ESP).

The ESP has two tiers of assessment: Screening Stage and Environmental Review Stage. Capital Power has completed an Environmental Review and has prepared an Environmental Review Report (ERR) to document the assessment of potential environmental effects of the equipment upgrades. Results of the assessment concluded that the project will not have significant net effects.

INVITATION TO PROVIDE COMMENTS

The ERR is now available for public review and comment for 30-calendar days from **September 28, 2023 to October 28, 2023.** The ERR can be viewed on the project website at:

https://www.capitalpower.com/operations/goreway-power-station-upgrade



Questions or comments on the ERR should be directed to:

Jay Shukin
Manager, Indigenous and Stakeholder Engagement

Capital Power
8600 Goreway Drive
Brampton, ON L6T 0A8

Phone: 1-855-703-5005
Fax: 780-392-5927
Email: info@capitalpower.com

For more information, please visit our project webpage at: capitalpower.com/operations/goreway-power-station-upgrade

If a concerned party has environmental concerns about the project that cannot be resolved in discussion with Capital Power, a written request to elevate the project to an Individual Environmental Assessment can be made before the end of the public review period (October 28, 2023) to:

Director, Environmental Assessment Branch

Ministry of the Environment, Conservation and Parks (MECP)

135 St. Clair Avenue West, Floor 7
Toronto, ON M4V 1P5
Email: EABDirector@ontario.ca

The elevation request must be made in accordance with the provisions set out in the Ministry's Environmental Screening Process for Electricity Projects, with a copy also sent to Capital Power. For more information on elevation requests, refer to Section B.4.1.1 here: https://www.ontario.ca/page/guide-environmental-assessment-requirements-electricity-projects

If no elevation requests are received, Capital Power intends to proceed with the project subject to other provincial approval requirements.

Comments and personal information submitted as part of this project are being collected in accordance with the Freedom of Information and Protection of Privacy Act *for the purpose of meeting environmental assessment requirements. For more information, please contact MECP's Freedom of Information and Privacy Coordinator.*

*Capital Power Corporation through its affiliate Capital Power Goreway Inc. is the managing partner for Goreway Station Partnership. This notice published: September 28, 2023

Appendix C-3
Consultation and Engagement Log

Goreway Power Station Upgrades Project

Environmental Screening Process

CONSULTATION AND ENGAGEMENT LOG

INCLUDED IN ROC (Y/N)*	PERSON SENDING / RECEIVING MSG	DATE	SENT/ RECEIVED	CONTACT MODE/ FILE TYPE	SUMMARY OF CONTACT / TOPIC
REGULATORY AGENCIES					
Ministry of the Environment, Conservation and Parks (MECP)					
N	K. Hearne	2022-11-15	SENT	EML	Provided preliminary Project information and requested meeting to discuss proposed EA process, Capital Power legal entities, and Indigenous groups to be contacted.
N	Z. Romic	2022-12-16	SENT	ATT	Meeting held with MECP staff to provide an overview of the IESO RFP process, Capital Power's proposed Projects, and EA Act requirements.
N	Z. Romic	2022-12-16	RECEIVED	EML	Telephone discussion and follow-up regarding distinctions between the Class EA and ESP processes. Requested written project description and EA process rationale for MECP review to ensure interpretations are consistent.
N	K. Hearne	2023-02-06	SENT	EML	Written project description and EA process rationale submitted, requesting confirmation regarding EA process and Indigenous groups with whom to consult.
N	K. Hearne	2023-02-21	SENT	EML	Feedback requested regarding proposed Uprate Projects EA process and list of Indigenous Groups.
Y	K. Hearne	2023-03-21	SENT	EML	Project Description and proposed list of Indigenous groups with whom to consult re-submitted.
Y	Z. Romic	2023-03-24	RECEIVED	EML	Confirmed EA process, identified other MECP contacts, and provided list of Indigenous Groups with whom to consult.
N	K. Hearne	2023-05-01	SENT	EML	Shared Indigenous communities list provided by the MoE.
Y	J. Shukin	2023-05-04		EML	Sent Notices of Commencement for both Goreway BESS and Goreway Upgrades.
N	L. Nasen	2023-06-09	SENT	EML	Provided brief project overview/status & request for clarifications and meeting.
N	T. Bell	2023-06-12	RECEIVED	EML	MECP has not yet issued a response to the Notice of Commencement but confirmed same contact person as the Goreway BESS project. Requested list of specific questions for meeting to be scheduled.
Y	G. Milne	2023-07-28	RECEIVED	ATT	Meeting to provide a project update and discuss the future ECA application process. MECP confirmed that their formal response to the Notice of Commencement would be forthcoming, and Capital Power was advised to proceed with the ESP based on preliminary input provided in March 2023 related to the list of Indigenous communities to be engaged, and the MECP's "Areas of Interest" document (August 2022).
N	L. Nasen	2023-09-21	SENT	EML	Follow-up re: whether a formal response to the Notice of Commencement would be forthcoming for the ERR.
N	L. Nasen	2023-09-27	SENT	PHONE	Follow-up call. MECP advised that a formal response to the Notice of Commencement would not soon be issued and to proceed as indicated earlier.
City of Brampton					
Y	J. Shukin	2023-05-04	SENT	EML	Sent Notices of Commencement for both Goreway BESS and Goreway Upgrades.
Y	C. Ethier	2023-06-29	RECEIVED	PHONE	Discussion re: motion passed by City council seeking project clarifications.
Y	G. Berry	2023-07-07	SENT	EML	Response to council questions.
Y	R. Birk	2023-09-21	RECEIVED	EML	Provided slide presented at Sept. 20th Committee of Council meeting.
Ministry of Citizenship and Multiculturalism (MCM)					
N	J. Shukin	2023-05-04	SENT	EML	Sent Notices of Commencement for both Goreway BESS and Goreway Upgrades.
Y	J. Shukin	2023-05-31	RECEIVED	EML & LET	Response to Notice of Commencement. Notes that the Goreway property has already been cleared of archaeological concerns, but the reports should be shared with interested Indigenous communities (archaeological reports were shared as requested, refer to Indigenous Community notes below).
Ministry of Natural Resources and Forestry (MNRF)					
N	J. Shukin	2023-05-04	SENT	EML	Sent Notices of Commencement for both Goreway BESS and Goreway Upgrades.
N	J. Shukin	2023-05-05	SENT	EML	Notices of Commencement for both Goreway BESS and Goreway Upgrades projects (email had bounced back the previous day).
Y	J. Shukin	2023-05-25	RECEIVED	EML & LET	Response to Notice of Commencement. Notes that MNRF can be removed from the mailing list if no MNRF interests are identified. Removed from mailing list because no MNRF interests.
INDIGENOUS COMMUNITIES					
Mississaugas of the Credit First Nation					
Y	J. Shukin	2023-04-05	SENT	EML & LET	Issued letter introducing the Project and inviting meeting if there is interest.
Y	A. LaForme	2023-04-06	RECEIVED	EML	Requested meeting to obtain more information about the Project and provided available timeslots.

Goreway Power Station Upgrades Project

Environmental Screening Process

CONSULTATION AND ENGAGEMENT LOG

INCLUDED IN ROC (Y/N)*	PERSON SENDING / RECEIVING MSG	DATE	SENT/ RECEIVED	CONTACT MODE/ FILE TYPE	SUMMARY OF CONTACT / TOPIC
N	A. LaForme	2023-04-20	SENT	EML	Discussion of a meeting date/time.
N	A.Laforme	2023-04-20	RECEIVED	EML	Discussion about a meeting date/time regarding a briefing on the BESS and Upgrade projects.. A. Laforme provided several dates.
N	J.Shukin	2023-04-20	SENT	EML	Confirming a meeting on May 10 @ 1:00pm ET.
Y	J.Shukin	2023-05-04	SENT	EML	Sent Notices of Commencement for both Goreway BESS and Goreway Upgrades.
N	J.Shukin	2023-05-10	SENT	ATT	Briefing on both the BESS and Upgrade Projects, including discussion regarding archaeology and other MCFN interests (see attached meeting summary and presentation slides).
Y	J.Shukin	2023-05-10	SENT	EML	Sent Mark and Abby the presentation that was used in the earlier meeting.
Y	J. Shukin	2023-05-31	SENT	EML	Issuance of May 10th meeting summary and slides and Stage 2-3 Archaeological Assessment.
Y	J. Shukin	2023-06-30	SENT	EML	Sent update related to the IESO contract status of the Goreway BESS and Upgrade projects, including an invitation to meet, if interested.
Y	J.Shukin	2023-06-30	RECEIVED	EML	Contact from Neil Freeman of the Mississaugas of the Credit Business LP.
N	J.Shukin	2023-06-30	SENT	EML	Response about a future meeting. Jay suggested some time during the week of July 10.
Y	J. Shukin	2023-07-11	SENT	ATT	Met with Neil Freeman of the Mississaugas of the Credit Business LP to discuss potential business opportunities.
Y	J. Shukin	2023-09-19	SENT	EML	Notice that the ERR is forthcoming. Offer of capacity support for techncial review.
Six Nations of the Grand River					
Y	J. Shukin	2023-04-05	SENT	EML	Issued letter introducing the Project and inviting meeting if there is interest.
Y	J. Shukin	2023-05-04	SENT	EML	Sent Notices of Commencement for both Goreway BESS and Goreway Upgrades.
Y	J.Shukin	2023-05-05	RECEIVED	EML	Tammy Martin indicating NoC's received. Trevor Bomberry, Lonny Bomberrry and Tayler Hill CC'd.
Y	J.Shukin	2023-06-30	SENT	EML	Sent update related to the IESO contract status of the Goreway BESS and Upgrade projects, including an invitation to meet, if interested.
N	J. Shukin	2023-07-21	SENT	Phone	Left voice message with Tammy Martin, asking about their interest in a briefing on the Goreway projects.
N	J. Shukin	2023-07-21	SENT	EML	Re-send the Notices of Commencement on the projects, including the website links. Asked if they were interested in a briefing.
Y	J. Shukin	2023-07-25	RECEIVED	EML	Response to messages sent on July 21 indicating that the CAP Team will reach out if they wish to discuss the project.
Y	J. Shukin	2023-09-19	SENT	EML	Notice that the ERR is forthcoming. Offer of capacity support for techncial review.
N	J. Shukin	2023-09-20	RECEIVED	EML	The CAP team, who are copied on the email, will provide input should they feel it's in the best interest of SNGR.
Haudenosaunee Development Institute (HDI)					
Y	J. Shukin	2023-04-05	SENT	EML	Issued letter introducing the Project and inviting meeting if there is interest.
Y	J. Shukin	2023-05-04	SENT	EML	Sent Notices of Commencement for both Goreway BESS and Goreway Upgrades.
N	J. Shukin	2023-05-08	SENT	PHONE	Left a message with the person at reception requesting a call.
N	J. Shukin	2023-05-10	RECEIVED	PHONE	Michelle Williams returned Jay's call.
Y	J. Shukin	2023-05-11	RECEIVED	EML	Jay spoke to Raechelle Williams. She indicated that information would be coming on HDI's consultation process, provided a brief overview on that process. Brief discussion about archaeology and the focus on the EA process. Follow-up email received.
N	J. Shukin	2023-05-17	SENT	EML	Short updated note sent to R. Williams re: application next steps.
N	J.Shukin	2023-06-07	SENT	PHONE	Call to confirm that we could pay the application fee by EFT. Raechelle indicated we could.
Y	J.Shukin	2023-06-07	SENT	EML	Sent engagement application package, including previously completed Stage 2-3 Archaeological Assessment.
N	R. Williams	2023-06-07	RECEIVED	EML	Confirmed receipt of application package.
N	J.Shukin	2023-06-08	SENT	EML	Jay confirming that the engagement application fee will be sent on June 14.
N	J. Shukin	2023-06-22	SENT	EML	Jay to Raechelle inquiring if HDI has received the fees for the two projects.
Y	J. Shukin	2023-06-30	SENT	EML	Sent update related to the IESO contract status of the Goreway BESS and Upgrade projects, including an invitation to meet, if interested.
Y	J. Shukin	2023-07-11	RECEIVED	EML	Request to meet with the project team.
N	J. Shukin	2023-07-12	SENT	EML	CP to propose times to meet.

Goreway Power Station Upgrades Project

Environmental Screening Process

CONSULTATION AND ENGAGEMENT LOG

INCLUDED IN ROC (Y/N)*	PERSON SENDING / RECEIVING MSG	DATE	SENT/ RECEIVED	CONTACT MODE/ FILE TYPE	SUMMARY OF CONTACT / TOPIC
N	J. Shukin	2023-07-13	SENT	EML	Confirm meeting date of Friday, July 21. Identified team members attending.
N	J.Shukin	2023-07-13	RECEIVED	EML	Meeting confirmed.
Y	J. Shukin	2023-07-21	SENT	ATT	Virtual meeting. Jake Linklater and Chazz Pitts. Presented on both projects.
Y	J.Shukin	2023-07-24	SENT	EML	Meeting summary and list of actions from the July 21 meeting.
N	J. Shukin	2023-07-28	RECEIVED	EML	Jake Linklater sent HDI's monitoring agreement; Jay acknowledged receipt.
N	J. Shukin	2023-07-31	RECEIVED	EML	Chazz Pitts requesting a site visit of Goreway; provides dates: Aug 14, Aug 17, or Aug 21.
N	J. Shukin	2023-08-01	SENT	EML	Responded to site visit request, indicating he would check on dates.
N	J.Shukin	2023-08-08	SENT	EML	Jay confirming that Aug 21 does not work. More to come.
N	J.Shukin	2023-08-08	SENT	EML	Jay asking if August 17 works for a tour.
N	J. Shukin	2023-08-09	RECEIVED	EML	Chazz Pitts indicating that Aug 17 no longer works. Proposes Aug 22 or Aug 23.
N	J. Shukin	2023-08-10	SENT	EML	Jay confirming that Aug 22 works for a tour. Seeks confirmation.
N	J. Shukin	2023-08-14	SENT	EML	Jay requesting a confirmation of the tour.
N	J. Shukin	2023-08-16	SENT	EML	Jay to Jake Linklater regarding a tour of Goreway.
N		2023-08-21	SENT	EML	Jay to Jake Linklater regarding a tour of Goreway.
N	J. Shukin	2023-08-23	SENT	EML	Jay requesting a meeting to discuss HDI's Monitoring Agreement.
N	J. Shukin	2023-08-23	SENT	EML	Jake accepted the meeting.
N	J. Shukin	2023-08-25	SENT	ATT	Meeting via Teams to discuss HDI's Monitoring Agreement. Jake Linklater (sole HDI rep) clarified several points regarding HDI's approach to monitoring. Capital Power will provide a revised draft for HDI to review.
N	J. Shukin	2023-08-25	SENT	EML	Jay provided a reminder of the Aug 31 tour with a note on Personal Protective Equipment requirements (flat-soled shoes and long sleeves).
N	J. Shukin	2023-08-29	RECEIVED	EML	Jake confirming receipt of Aug 25th email.
N	J. Shukin	2023-08-29	RECEIVED	EML	Jay noted that lunch would be served. Also updated on the Monitoring Agreement...goal of sending to HDI later this week or early next.
N	J. Shukin	2023-08-31	SENT		Site tour held.
Y	J. Shukin	2023-09-06	SENT	EML	Copy of presentation slides and meeting summary sent, as well as a link to Capital Power's online form for registering as a potential supplier.
Y	J. Linklater	2023-09-07	RECEIVED	EML	Thanked Capital Power for the site tour and looks forward to receiving comments on the monitoring agreement, the information requested, and dates for next meeting.
Y	J. Shukin	2023-09-21	SENT	EML	Notice of forthcoming ERR and offer of capacity funding for techncial review. Noted that we cannot work with their Monitoring Agreement for this project.
Y	J. Shukin	2023-09-25	SENT	EML	Response to emissions question asked at site tour.
Y	J. Linklater	2023-09-26	RECEIVED	EML	Response to capacity funding agreement, noting it is unacceptable and proposing a face-to-face meeting in the coming weeks.

* Note: Grey highlighted rows indicate that the correspondence is not included herein, but is available upon request, if required.

Appendix C-4
Agency Correspondence

Capital Power
1200-10423 101 Street NW
Edmonton, AB T5H 0E9

March 21, 2023

Zeljko Romic
Supervisor - Environmental Assessment Program Support
Environmental Assessment and Permissions Division
Ministry of the Environment, Conservation and Parks

SENT VIA EMAIL (zeljko.romic@ontario.ca)

Dear Mr. Romic,

Re: Proposed Goreway Power Station (GPS) Upgrade Project
Preliminary List of Potentially Affected and/or Interested Indigenous Communities

Capital Power is seeking the Ministry's guidance regarding Indigenous communities that we are proposing to consult with regarding equipment upgrades for which we will be seeking provincial regulatory approval. Further details are provided below.

Project Title: Proposed Goreway Power Station (GPS) Upgrade Project

Location: 8600 Goreway Drive (43.7462, -79.6820), City of Brampton, Region of Peel (**Figure 1**)

Project Description: Capital Power has received a contract from Ontario's Independent Electricity System Operator (IESO) for turbine upgrades at the existing GPS. These turbine upgrades would amount to approximately 40 MW of additional capacity depending on ambient temperatures and provide operational flexibility. The turbine performance upgrades will include replacement of a variety of gas turbine parts with more advanced technology and/or parts with higher performance levels, and repair of various parts with upgradable materials.

Project construction work is related only to equipment upgrades within the plant; therefore, no physical earthworks and associated disturbance-related activities are required (e.g., vegetation removal, hazardous materials, water use or discharge). The construction phase is comprised of the component delivery and installation activities scheduled to occur during a scheduled maintenance outage of the GPS facility. Once the installation of the turbine upgrades is complete, GPS operations will resume.

Environmental Assessment Process and Anticipated Provincial Approvals: According to the Guide to Environmental Assessment Requirements for Electricity Projects (2011) and Ontario Regulation (O. Reg.) 116/01, a change to natural gas-fired generating facilities that would increase the name plate capacity of the facility by 5 MW or more are subject to the Environmental Screening Process (ESP). Since the proposed increase in nameplate capacity for the GPS Upgrades Project

is approximately 40 MW, Capital Power intends to complete an Environmental Review under the ESP for this Project.

In addition, it is anticipated that an amendment to the facility's existing Environmental Compliance Approval (Air and Noise) will be required.

Proposed Indigenous Communities List: Capital Power has identified a preliminary list of potentially affected and/or interested Indigenous communities and groups that are proposed to be consulted on the Project. The preliminary list was compiled through a desktop review of online resources, including the Aboriginal and Treaty Rights Information System (ATRIS), Ontario Treaties Map (2019), and other publicly available information. Based on this review, it is our current understanding that the Project is located on the traditional Treaty 19 (1818) territory, which is the traditional territory of the Mississaugas, and the following Mississauga Relationship Accord signatories have recognized rights and interests in this area:

- Mississaugas of the New Credit First Nation
- Alderville First Nation
- Curve Lake First Nation
- Hiawatha First Nation
- Mississaugas of Scugog Island First Nation
- Mississauga First Nation

In addition, we understand that the following communities may also take interest in the Project:

- Métis Nation of Ontario

We would appreciate the Ministry's review of the proposed list to confirm it is correct, or if any changes are recommended.

Please feel free to contact me if you have questions.

Sincerely,

Jay Shukin
Manager, Indigenous and Stakeholder Engagement
Capital Power
250-882-5188 | jshukin@capitalpower.com

Cc: Wilhelm Danek, Capital Power
Kara Hearne, SLR

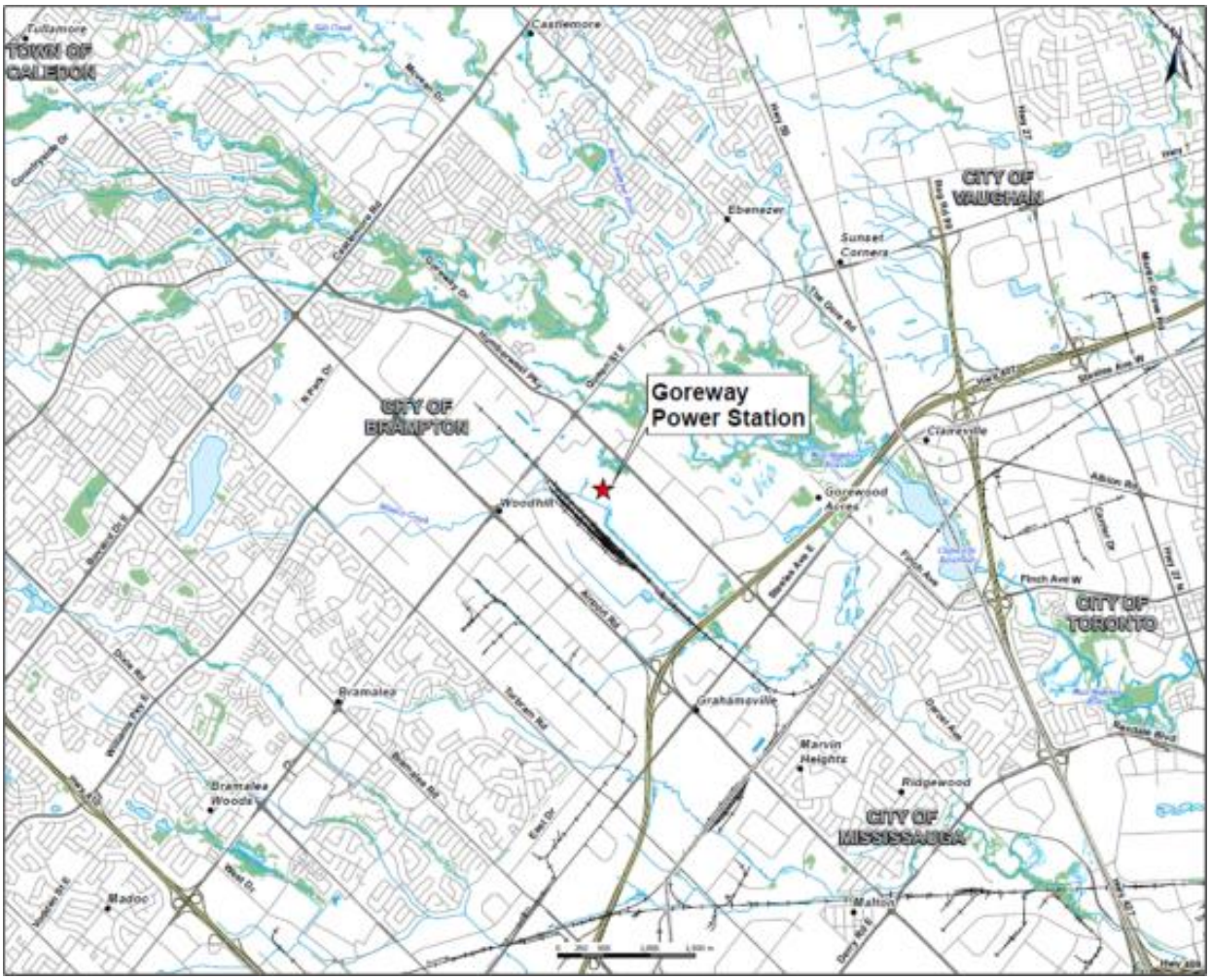


Figure 1: General Location of the GPS

Sent: March 24, 2023 4:53 PM
To: Kara Hearne <khearne@slrconsulting.com>
Subject: Additional Feedback re: Goreway & YEC

Hi Kara,

As a follow-up to our earlier conversations, here are some additional comments on the Goreway and YEC materials that you shared.

For battery energy storage systems (BESS), we've outlined the requirements and key consideration in this attached 2-pager for your reference purposes. You will note that the requirements vary depending on whether the BESS is considered "stand-alone" vs. integrated with a generation facility (and also what type of generation facility…REA or non-renewable). The table also outlines other requirements/processes that may be triggered if transformers and transmission lines are needed. Your interpretation of requirements that would apply to your proposed projects as outlined in the materials you shared is consistent with this 2-pager.

For the two upgrade projects, here are some comments from our Indigenous Consultation Advisors on the lists you provided:

Proposed Goreway Power Station Upgrade

The proposed Goreway Power Station Upgrade project located at 8600 Goreway Drive in Brampton is located in a developed commercial area less than a 1 KM just to the North- Northwest of the Toronto International Airport. To the North of the site, is the Clairville Conservation Area and according to google imagery, a small tributary of the Humber River lies adjacent to the property. There appears to be a small wetland complex fronting the property.

The site is located in treaty 19, 1818 w/Mississaugas of the Credit, within the traditional territory of the Mississaugas of the Credit and within the 1701 Nanfan deed. According to the project description provided, project construction work is related only to equipment upgrades within the plant, and there will be no physical earthworks and associated disturbance related activities to the environment. **Based on this information, it is unlikely that the associated work will impact Aboriginal or treaty rights and consultation would be at the low end of the spectrum (notification).** However, given the location and treaty rights in the area, there are a couple of communities that may have an interest in the project:

- Mississaugas of the Credit First Nation
- Six Nations of the Grand River (both elected and traditional council-HCCC)

Proposed York Energy Centre Upgrade

The proposed York Energy Centre upgrade located at 18781 Dufferin Street is located in an area that appears to be zoned agricultural, limited residential, and mixed forests. It is located within close proximity to the Holland Marsh

The site is located within the Williams Treaty w/the Chippewa 1923, and within the Johnson-Butler Purchase/Gunshot Treaty. According to the project description provided, project construction work is related only to equipment upgrades within the plant, and there will be no physical earthworks and associated disturbance related activities to the environment. **Based on this information, it is unlikely that the associated work will impact Aboriginal or treaty rights and consultation would be at the**

low end of the spectrum (notification). However, given the location and treaty rights in the area, there are a number of communities that may have an interest in the project:

- Curve Lake First Nation
- Alderville First Nation
- Mississaugas of Scugog Island First Nation
- Hiawatha First Nation
- Chippewas of Rama First Nation
- Chippewas of Georgina Island First Nation
- Beausoleil First Nation

The advisor also noted that for the proposed BESS installations at both locations, the Huron-Wendat may have an interest should there be a potential or presence of archaeological resources and that Kawartha Nishnawbe may have an interest in the YEC BESS as it lies within an area asserted by KN…but the advisor is aware that you are connecting with Ministry of Energy on that directly.

Hope this information is helpful. Have a nice weekend and you can always reach out to me if you have additional questions.

Zeljko Romic | Supervisor - Environmental Assessment Program Support | Environmental Assessment and Permissions Division |
Ministry of the Environment, Conservation and Parks | 416-219-2308 | zeljko.romic@ontario.ca

Subject: RE: Notices of Commencement – Goreway Power Station Upgrades Project & Goreway Battery Energy Storage System

Date: Thursday, May 4, 2023 at 4:50:29 PM Central Standard Time

From: Jay Shukin

Attachments: Goreway_BESS NOC Final May 2023.pdf, Goreway Upgrade NOC Final May 2023.pdf

Hi there – apologies to all if you have already received, but I did get a bounce-back note with your email address and so am sending again.

All the best,

Jay

Jay Shukin
Manager, Indigenous & Stakeholder Engagement
Capital Power
1-855-703-5005

From: Jay Shukin **On Behalf Of** info@capitalpower.com
Sent: Thursday, May 4, 2023 12:53 PM
Cc: CPC Information <cpcinfo@capitalpower.com>
Subject: Notices of Commencement – Goreway Power Station Upgrades Project & Goreway Battery Energy Storage System

Please find attached two Notices of Commencement per the Ontario *Environmental Assessment Act* for the following projects:

Goreway Power Station Upgrades Project
- We are initiating the Environmental Screening Process for Electricity Projects.
- More information at: https://www.capitalpower.com/operations/goreway-power-station-upgrade

Goreway Battery Energy Storage System (BESS)
- We are initiating the Class Environmental Assessment for Minor Transmission Facilities process.
- More information at: https://www.capitalpower.com/operations/goreway-power-station-bess

Please contact us if you wish to learn more about either of these projects or to set-up a technical briefing with our team.

Regards,

Jay Shukin
Manager, Indigenous & Stakeholder Engagement
Capital Power
1-855-703-5005 | info@capitalpower.com

From: Greg Milne <GDMilne@capitalpower.com>
Sent: August 01, 2023 11:48 AM
To: Trevor.Bell@ontario.ca; Gavin.Battarino@ontario.ca; Nick.Colella@ontario.ca; Jon.Averill@ontario.ca; shareen.han@ontario.ca
Cc: Lawrence Nasen <lnasen@capitalpower.com>; Wilhelm Danek <wdanek@capitalpower.com>; Chris Sutherland <csutherland@capitalpower.com>; Kara Hearne <khearne@slrconsulting.com>; Jay Shukin <jshukin@capitalpower.com>; Emma Coyle <ecoyle@capitalpower.com>
Subject: July 28 Meeting Follow-up: Capital Power Goreway & York Upgrade and BESS Projects

Hi all,

Thanks again for taking the time to meet with us last week to discuss the four projects at York and Goreway. On behalf of Capital Power, we found the meeting to be very helpful.

I've attached for your reference the slide deck that we reviewed in the call, as well as the IESO's prioritization letters for York and Goreway.

If you have any questions on any of the projects, please do not hesitate to reach out to either Lawrence Nasen or myself. In case you don not already have it, Lawrence's contact information is:

Lawrence Nasen M.Sc., P.Biol | Senior Specialist, Environment
Capital Power Corporation
Gulf Canada Square 1200 | 1200, 401 -9th Ave SW | Calgary, AB | T2P 3C5
Mobile: (403) 835-0032 | Email: lnasen@capitalpower.com

We look forward to working with you in the coming months.

Best Regards,
Greg

Greg Milne, M.Sc., P.Eng. | Senior Consultant, Environment
Capital Power Corporation
1200 – 10423 101 St. NW | Edmonton, AB | T5H 0E9
C 780-504-9128 | gdmilne@capitalpower.com | capitalpower.com

Chris Sutherland
Director, Commercial Management
Capital Power
8600 Goreway Drive, Brampton, ON, L6T 0A8

Independent Electricity System Operator
1600-120 Adelaide Street West
Toronto, ON M5H 1T1
t 416.967.7474
www.ieso.ca

Dear Mr. Sutherland

RE: MECP Request for Project Prioritization for Goreway Power Station

Thank-you for participating in the IESO's Same Technology Upgrades Solicitation.

I am writing this letter in support of your discussions with the Ministry of Environment, Conservation and Parks (the Ministry) on obtaining the necessary environmental approvals for your project (Goreway Power Station). The Ministry has notified the IESO that projects that are critical to meeting electricity system needs may be eligible for prioritization through their respective processes.

This letter serves to document the IESO's view of your project as critical in meeting Ontario's future electricity system needs. As Ontario's economy grows and businesses and individuals invest in electrification, the demands on the electricity system are expected to continue to increase over the next decade. Beginning in 2025, Ontario's electricity system is expected to surpass the capabilities of its existing resource fleet and enter a period of needing new resources and capacity on the system. Your project is critical in meeting these needs, particularly as it is expected to be in service in 2025.

Please note that this letter on its own does not qualify your project for any prioritization by the Ministry. Prioritization decisions remain the sole responsibility of the Ministry who will make decisions based on their processes and criteria. The IESO would encourage you to begin engaging with the Ministry as soon as possible. Requests to prioritize applications should be submitted to the Ministry's General Inquiry, Client Services and Permissions Branch, at enviropermissions@ontario.ca and should include the following information:

- Project description/ summary
- Project location
- Detailed rationale why the project requires priority review

Regards,

Chuck Farmer
Vice President, Planning, Conservation and Resource Adequacy
Independent Electricity System Operator

CC: Steen Hume, Assistant Deputy Minister, Energy Supply Policy Division, Ministry of Energy

Lisa Trevisan, Assistant Deputy Minister, Environmental Assessment and Permissions Division, Ministry of Environment, Conservation and Parks

Michael Lyle, Vice President, Legal Resources and Corporate Governance, Independent Electricity System Operator

Goreway and York Battery Energy Storage System Projects

and

Goreway Power Station and York Energy Centre Upgrade Projects

Ministry of the Environment, Conservation and Parks (MECP)
July 28, 2023

Capital Power

1

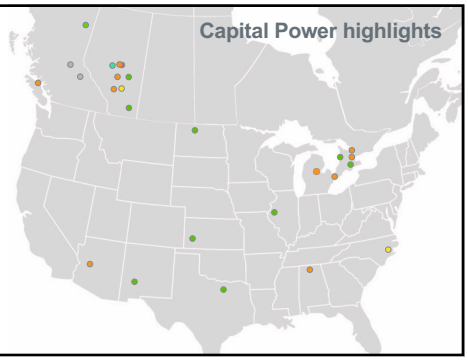
Capital Power highlights

Publicly-traded company (TSX: CPX) headquartered in Edmonton

~800 employees; regional offices in Boston, Toronto and Calgary

Own ~**7,500** MW of power generation produced at **29** facilities in Canada and U.S. **5 Facilities and ~1500 MW in Ontario**

Named one of the World's Most Ethical Companies® by the Ethisphere Institute (2019-2022)



2

Goreway Power Station and York Energy Centre: Well-positioned to help meet future electricity capacity needs

- The City of Brampton and Township of King are in need of capacity additions over the near term. The IESO forecast suggests that local demand may outstrip existing capacity by 2027.
- The IESO is seeking a total of 4,000 MW of new capacity to help meet anticipated shortfalls.
- IESO's Expedited Long-Term RFP (E-LT1 RFP) recently concluded with contracts to 17 proponents, representing over 1,170 MW of new capacity to the grid by May 2026.
- Subsequent IESO RFP processes are expected to meet the IESO's 4,000 MW procurement target.
- The E-LT1 has a target commercial operation date between May 2025 – May 2026.

3

3

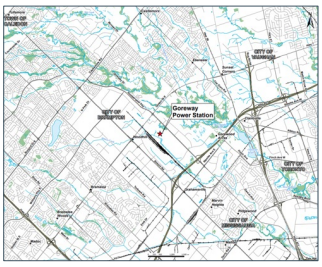
Goreway Power Station

Capital Power

4

Goreway Power Station (GPS) – Location

- 8600 Goreway Drive, City of Brampton.
- North of Hwy 407, east of Airport Rd.
- Adjacent to the Canadian National (CN) Brampton Intermodal Terminal.



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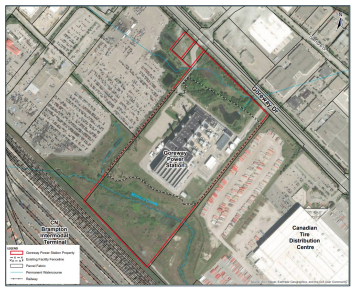
GPS Overview

- GPS generates ~875 megawatts (MW) of power.
- Began operating in 2009 and acquired by Capital Power in 2019.
- Combined cycle facility with state-of-the-art emission controls.



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York Energy Centre

Capital Power

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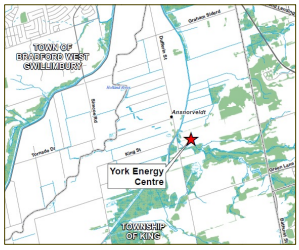
York Energy Centre (YEC) – Location

- Township of King, York Region.
- South of the community of Ansnorveldt and the Holland River.
- Municipally known as 18815 Dufferin Street.



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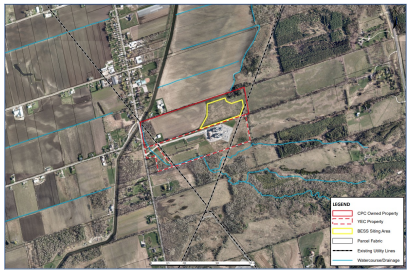
YEC Overview

- YEC generates ~400 MW of power.
- Largest quick response facility in Ontario, providing essential backup generation support to the Ontario grid.
- YEC began operating in 2012 and acquired by CPC in 2017.



9

Proposed Upgrade Projects

Capital Power

10

GPS and YEC Upgrade Projects

- Upgrade packages offered by turbine manufacturer
  - Includes replacement of various turbine parts with more advanced technology
  - Construction work will only involve equipment upgrades within the existing facilities, with no change to the existing GPS or YEC footprints.
- No physical earthworks or disturbance-related activities required.
- To be completed during regularly scheduled maintenance outages starting in early 2024 at GPS and early 2025 at YEC.

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11

Proposed Upgrade Projects
Regulatory Approvals & Timelines

Capital Power

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Regulatory Approvals

- Environmental Screening Process for Electricity Projects – Environmental Review
- Environmental Compliance Approval (ECA) Amendment – Air & Noise

13

Activities To-Date

Milestone	Timing
Pre-Consultation with MECP	Initiated December 2022
Indigenous Community lists received from MECP	March 24, 2023
Project Information Packages sent to Indigenous Communities	April 5, 2023
Notices of Commencement of Environmental Review Issued	May 4, 2023
Community Outreach and Technical Studies	**Ongoing**

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Overall Upgrade Project Timelines

Key Milestone	Anticipated Timing
Technical studies and discussions with MECP	*Ongoing to early fall 2023*
Notice of Completion	***Goreway*** – Fall 2023 ***York*** – Late 2023
Applications for ECA (Air & Noise)	***Goreway*** – Fall 2023 ***York*** – Early 2024
MECP ECA Application Review	***Goreway*** *– Q4 2023 to Q1 2024* ***York*** *– Q1 to Q3 2024*
Installation – Scheduled Outage	***Goreway*** *– Q2 2024* ***York*** – Q1 2025
IESO commercial operation target	May 1, 2025

15

Proposed Battery Energy Storage System (BESS) Projects

Capital Power

16

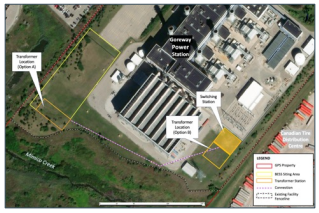
BESS Projects Overview

- 120 MW at YEC
- 50 MW at Goreway
- Lithium-Ion technology.
- Both interconnects are behind the fence, no HONI scope expected.
- Both are co-located with the existing facility and remain on previously disturbed land.

17

Goreway BESS Project Site & Key Components

- Proposed in southwest corner of the site within the existing facility fence line:
  - Currently manicured lawn and parking area.
  - Footprint approximately 0.65 ha (or 1.6 ac).
- BESS would provide up to 50 MW of electricity for up to 4 hours.
- Key ancillary components:
  - High voltage transformer (230 kV)
  - Other electrical components
  - Internal graveled access laneways
  - Stormwater management
  - Temporary construction areas
  - Fencing
- Two potential configurations (locations for the transformer station).



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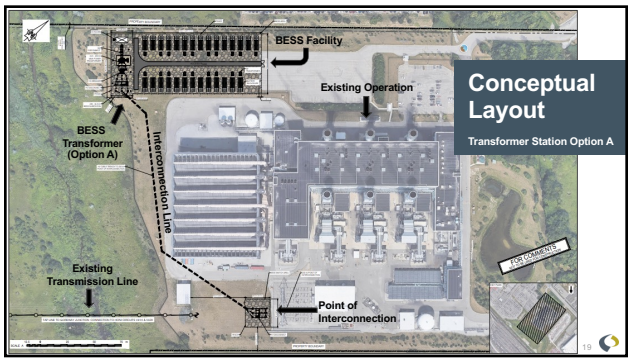

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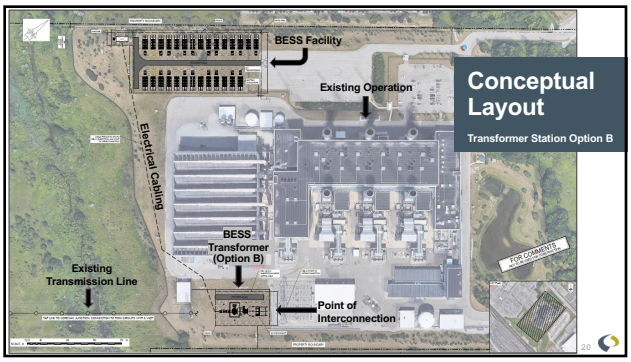

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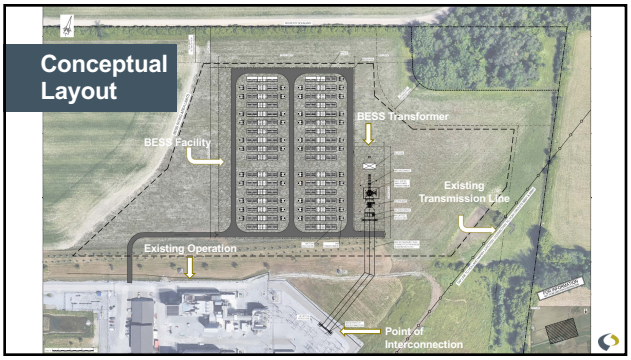

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Proposed BESS Projects
Regulatory Approvals & Timelines

Capital Power

23

24

Activities To-Date

Milestone	Timing
Pre-Consultation with municipalities, Indigenous Communities and MECP	Initiated December 2022
Indigenous Community lists received from MoE	April 13, 2023
Project Information Package sent to Indigenous Communities	April 20, 2023
Notice of Commencement Issued	May 4, 2023
Community Outreach and Technical Studies	**Ongoing**

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Overall BESS Project Timelines

Key Milestone	Anticipated Timing
Technical studies and discussions with MECP	*Ongoing to early fall 2023*
Public Open Houses	June 2023
Advise MECP of Successful Screening	Fall 2023
EASR Registration (Noise)	Fall 2023
Applications for ECA (ISW)	Fall 2023
MECP ECA Application Review	*Late 2023 to Early 2024*
Construction mobilization	Early 2024 *(pending regulatory approvals)*
Delivery and installation of project components	Mid 2024
Technical commissioning activities	Early 2025
Commercial operation target	August 2025

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Next Steps

- How best to engage and work with MECP during the EA and permitting process?
  - Does MECP generally expect to review draft reports or sections of reports for streamlined EA processes?
  - What is the MECP's recommended approach for early engagement with technical reviewers – would this be coordinated through the EAB?

27


Stormwater Management Pond, York Energy Centre

28

Subject:	Notices of Commencement – Goreway Power Station Upgrades Project & Goreway Battery Energy Storage System
Date:	Thursday, May 4, 2023 at 1:47:05 PM Central Standard Time
From:	Jay Shukin
To:	adrian.smith@peelregion.ca, kathryn.lockyer@peelregion.ca, janice.baker@peelregion.ca
CC:	Lawrence Nasen, Kara Hearne, Jennifer Whittard
Attachments:	Goreway_BESS NOC Final May 2023.pdf, Goreway Upgrade NOC Final May 2023.pdf

Please find attached two Notices of Commencement per the Ontario *Environmental Assessment Act* for the following projects:

Goreway Power Station Upgrades Project

- We are initiating the Environmental Screening Process for Electricity Projects.

More information at: https://www.capitalpower.com/operations/goreway-power-station-upgrade

Goreway Battery Energy Storage System (BESS)

- We are initiating the Class Environmental Assessment for Minor Transmission Facilities process.

More information at: https://www.capitalpower.com/operations/goreway-power-station-bess

Please contact us if you wish to learn more about either of these projects or to set-up a technical briefing with our team.

Regards,

Jay Shukin
Manager, Indigenous & Stakeholder Engagement
Capital Power
1-855-703-5005 | info@capitalpower.com

Subject: FW: [EXTERNAL]RE: Goreway Gas Plant
Date: Tuesday, August 29, 2023 at 4:25:20 PM Central Standard Time
From: Grant Berry
To: Chris Sutherland
Attachments: image002.png, image001.png

Grant Berry | Director, Government Relations
Capital Power
Suite 1200, 10423-101 St. NW | Edmonton, AB | T5H 0E9
P 780-392-5294 | C 780-691-0064 |capitalpower.com

From: Grant Berry
Sent: Friday, July 7, 2023 6:07 PM
To: Ethier, Christopher <Christopher.Ethier@brampton.ca>; Hoffmann, Andrzej <Andrzej.Hoffmann@brampton.ca>; Collins, Gary <Gary.Collins@brampton.ca>
Subject: RE: [EXTERNAL]RE: Goreway Gas Plant

Hi Chris, Andrzej, and Gary,

We have put together the requested information regarding Capital Power's Goreway Battery Energy Storage System (BESS) project and Goreway Power Station Upgrade project, please see below.

Municipal support requirements

- As per, Hon. Minister of Energy, Todd Smith's direction to IESO, municipal support confirmation was made a requirement for the IESO's Expedited Long-Term RFP and is also expected to also be a requirement of the IESO's Long-Term RFP.
- Municipal support confirmation was not a requirement for projects bidding in to the IESO's *Same Technology Upgrade Solicitation*. This solicitation was a targeted call for new cost-effective capacity upgrades from existing contracted facilities. As explained below, Capital Power's Goreway Power Station Upgrade project will not involve the installation or construction of any new generation equipment as the project simply consists of swapping out existing parts with more efficient ones.
- To be eligible for the *Same Technology Upgrade Solicitation*, Capital Power was required to demonstrate that our proposed Goreway Upgrade would: (i) increase the facility's existing capability; (ii) make use of substantially similar technology and fuel type as the existing facility; (iii) not result in a change to the facility's connection point; (iv) be dispatchable with load-following capability for a minimum of eight hours; and (v) would facilitate an in-service date between January 1, 2025 and May 1, 2025. For more context on this process, see IESO's Final Call for Submissions.

Responses to your questions

1. *Can you get back us on what changes to the facility mean (BESS, Retrofitting of current facility, approval) for GHG emissions, noise impacts, any other impacts to the community?*

    - **Goreway BESS**

        Project Overview: Capital Power's Goreway BESS project involves the installation of 50

megawatts (MW) nameplate capacity of lithium-ion battery technology. Goreway BESS was selected as a successful project as part of Category 2 of the IESO's Expedited Long-Term RFP (ELT-1) for an approximately 22-year contract to 2047 and a contracted capacity of 48 MW. Capital Power expects to execute this contract with the IESO by July 25, 2023, and the project is expected to enter service in 2025.

The BESS project will be co-located with the current Goreway Power Station; however, for all intents and purposes, it will be a separate and independent facility and operate as such. The BESS will be dispatched by the IESO to support system needs. It is most likely that the BESS will charge during system off-peak hours (i.e., overnight) and discharge during on-peak hours when electricity demand is at its highest (i.e., during the evening between 5:00 PM and 8:00 PM). The BESS will be charged from the grid and there is no need or requirement for the existing Goreway facility to be operating for the BESS to charge.

Expected Impacts: The BESS project will charge from and discharge to the provincial power grid and there will be no incremental GHG emissions associated with the BESS. Expected noise levels from the facility will be within provincial requirements and will be modelled during the development stage based on manufacturer data. We can share the results of these studies once completed. The BESS has been sited on previously disturbed land and poses minimal environmental risk. Capital Power has held two open houses for the BESS project and has yet to receive any negative feedback regarding the project. Overall impact to the community is expected to be minimal.

- **Goreway Power Station Upgrade**

Project Overview: Capital Power's Goreway Power Station Upgrade will improve the existing asset to make it more efficient and allow it to better serve Ontario's growing electricity needs – including those driven by economic growth in the City of Brampton.

The Upgrade will replace some existing parts of the facility with more modern and efficient ones which will allow the Goreway Power Station to increase its overall capacity by roughly 40 MWs – an increase in capacity of less than 5% of the existing facility. The Upgrade does not involve the addition on any new turbines or generation equipment and the incremental MWs will be achieved through the following facility improvements: incorporation of cooling and sealing enhancements, upgraded hot gas path component materials, improved thermal barrier coatings, and aerodynamic design modifications. Work on the Upgrade will be completed during a regularly scheduled maintenance outage. There will be no new generation equipment installed or constructed for the Upgrade project; the project simply consists of swapping out existing parts with more efficient ones.

The Goreway Power Station Upgrade was successful in the IESO's *Same Technology Upgrade Solicitation*. Capital Power was awarded a 6-year IESO contract extension for the Goreway facility which applies to the new combined contracted capacity of 880 MW and extends the current contract from 2029 to 2035. The extension will not only allow Goreway to continue to provide reliable power for Ontario and the City of Brampton, but it will also maintain local jobs and economic benefits.

Expected Impacts: The Upgrade project involves implementation of GE's latest technology upgrade and is expected to have no adverse impacts on the Goreway facility's current noise levels or expected GHG emissions intensity (tCO2e/MWh).

The IESO operates Ontario's electricity system and is responsible for dispatching grid-connected electricity generation facilities in the province, including Goreway. IESO dispatch decisions are designed to ensure reliability, and the Goreway facility is dispatched by the IESO when required to help balance province-wide supply and demand. Historically, we have found that the IESO does not dispatch Goreway to run 24x7 like base load generation in the province (i.e., nuclear or hydro). Rather, the IESO typically dispatches Goreway so that it can respond to variable system needs, when other sources of generation are not available, or when changes in wind and solar availability impact generation from renewable resources. In these instances, electricity generated by Goreway is required by the province to meet demand. Goreway's average capacity factor for the last five year (2018-2022) is 16.15% – meaning that the facility only generated 16.15% of what it could have had it ran 24x7 at its maximum generating capacity (i.e., full load).

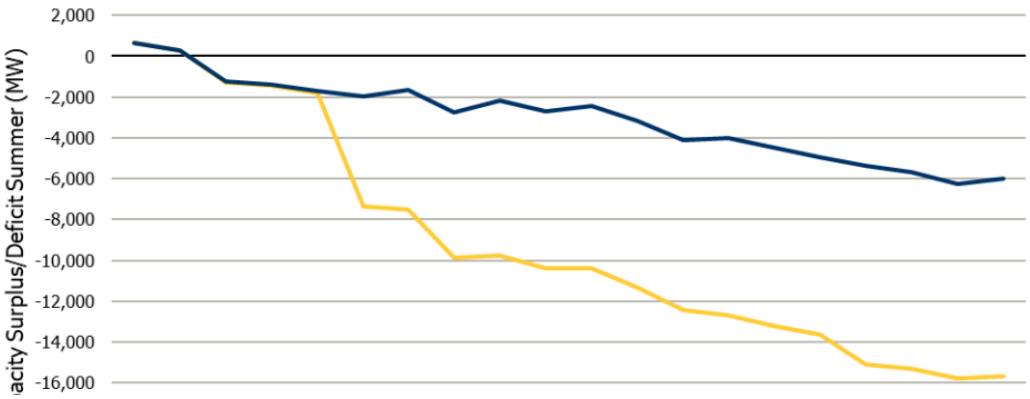
We have also found that when the IESO does call on Goreway, it is not dispatched to run at full load. In the last five years (2018-2022), Goreway operated above 700 MW (~80% of its full capacity) for an average of only ~500 hours per year. While these hours represent a small portion of Goreway's total annual generation, they indicate the critical value of having generation in the province that can meet very high demand for a short period of time. Typically, we see high demand hours during extreme weather events, when heating and cooling needs are at their peak. Accordingly, we expect the incremental capacity available to the province following the Upgrade project to mainly be used in those hours when Ontario's electricity demand is very high. For rest of the time, the incremental capacity will be available to the province as a backstop to ensure a reliable power supply for Ontario, including the City of Brampton.

With respect to future total GHG emissions, it is difficult to provide an estimate at this time – as described above, the facility's dispatch is driven by IESO decisions and responses to changes in system demand, and available system supply.

2. *Can you provide us with projections for generation and capacity needs in the coming years?*

The IESO has identified a shortfall in supply over the coming years as demand in the province is expected to exceed existing installed capacity. Local demand in Brampton is also expected to outstrip supply by 2027, according to the IESO's projections. Additional resources are required to ensure a continued supply of reliable electricity. Figures 19 and 20 below are taken from the IESO's Annual Planning Outlook (December 2022) and illustrate projected summer and winter capacity supply deficits for the province, respectively.

Figure 19 | Summer Capacity Surplus/Deficit



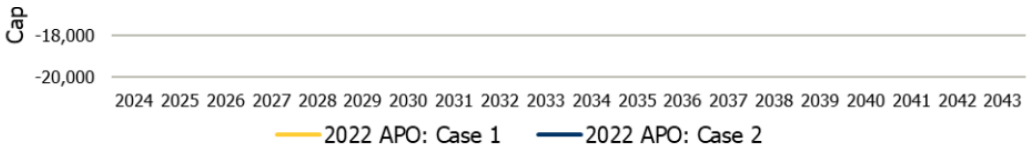
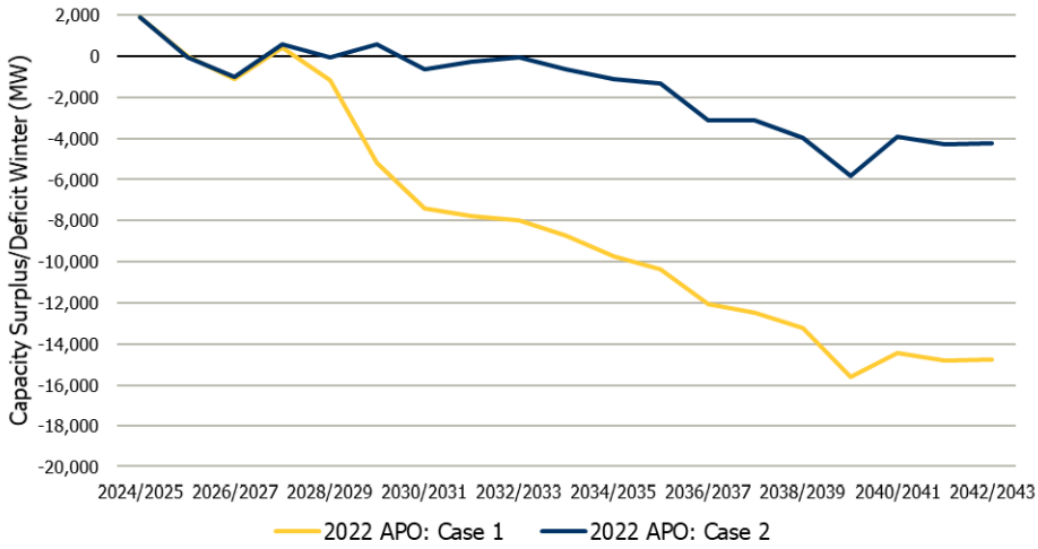


Figure 20 | Winter Capacity Surplus/Deficit



For more information, please refer to the IESO's Annual Planning Outlook.

3. *Can you provide us with a baseline of GHG emissions for the facility prior to the retrofits and the increased capacity?*

Historical GHG emissions for the Goreway facility can be found on the "Greenhouse Gas Emissions Reporting By Facility" section of the Ministry of Environment, Conservation and Parks webpage. GHG emissions for Goreway from 2010-2020 are contained in this file on the site. The data on this website is updated annually and 2020 is the most recent year available with verified data.

As mentioned above, estimating future GHG emissions from the Goreway facility is challenging as the facility's dispatch will be driven by the IESO and actual system supply and demand needs.

Should you have any questions or wish to discuss further, please do not hesitate to contact me directly.

Regards,

Grant

Grant Berry | Director, Government Relations
Capital Power
Suite 1200, 10423-101 St. NW | Edmonton, AB | T5H 0E9
P 780-392-5294 | C 780-691-0064 | capitalpower.com

From: Hoffmann, Andrzej <Andrzej.Hoffmann@brampton.ca>
Sent: Wednesday, July 5, 2023 11:53 AM
To: Grant Berry <gberry@capitalpower.com>; Ethier, Christopher <Christopher.Ethier@brampton.ca>
Cc: Collins, Gary <Gary.Collins@brampton.ca>

Subject: RE: [EXTERNAL]RE: Goreway Gas Plant

Notice: External Email. Please do not click links, open attachments, or take any other action on this email unless you recognize the source of this email and know the content is safe.

Thank you Grant!
Appreciate the update.

Best,
Andrzej

Andrzej Hoffmann
Advisor, Government Relations
Office of the CAO, City of Brampton
T: 905.874.2025 I M: 437.388.3562

From: Grant Berry <gberry@capitalpower.com>
Sent: 2023/07/05 1:48 PM
To: Ethier, Christopher <Christopher.Ethier@brampton.ca>; Hoffmann, Andrzej <Andrzej.Hoffmann@brampton.ca>
Cc: Collins, Gary <Gary.Collins@brampton.ca>
Subject: [EXTERNAL]RE: Goreway Gas Plant

Caution: This email originated from outside the organization. Do not click links or open attachments that you do not trust or are not expecting.

Hi Chris and Andrzej,

I just wanted to check in and let you know that our team is working on compiling responses to your questions below and that we hope to have something to you by the end of the week.

I trust that timing works – Chris, I know you mentioned you are away this week.

Please feel free to call me on my cell @ 780-691-0064 with any concerns.

Regards,

Grant

Grant Berry | Director, Government Relations
Capital Power
Suite 1200, 10423-101 St. NW | Edmonton, AB | T5H 0E9
P 780-392-5294 | C 780-691-0064 | capitalpower.com

From: Ethier, Christopher <Christopher.Ethier@brampton.ca>
Sent: Thursday, June 29, 2023 1:17 PM
To: Grant Berry <gberry@capitalpower.com>
Cc: Hoffmann, Andrzej <Andrzej.Hoffmann@brampton.ca>; Collins, Gary <Gary.Collins@brampton.ca>
Subject: Goreway Gas Plant

Hi Grant,

Thank you for the call today.

Please find attached the motion that was passed by our council which they are seeking clarification on.

Also as discussed, if you can provide some additional information on the below questions it would be greatly appreciated:

1. Can you get back us on what changes to the facility mean (BESS, Retrofitting of current facility, approval) for GHG emissions, noise impacts, any other impacts to the community?
2. Can you provide us with projections for generation and capacity needs in the coming years?
3. Can you provide us with a baseline of GHG emissions for the facility prior to the retrofits and the increased capacity?

Please let me know if you require any clarification and thank you for assistance in gathering this information.

As mentioned I will be away next week but my colleague Andrzej who I've included on this email is able to pick up the ball if needed.

Chris

Christopher Ethier
Government Relations and Liaison Manager
Office of the CAO
City of Brampton
(o) 905-874-5977 (m) 647-308-0926

From: Grant Berry
Sent: Thursday, September 21, 2023 11:44 AM
To: 'Birk, Rupinder' <Rupinder.Birk@brampton.ca>
Cc: Ethier, Christopher <Christopher.Ethier@brampton.ca>
Subject: RE: Goreway Gas Plant - Council Update

Excellent, thank you for sharing the slide, Rupinder. Please don't hesitate to reach out with any further questions or information requests.

All the best,

Grant

Grant Berry | Director, Government Relations
Capital Power
Suite 1200, 10423-101 St. NW | Edmonton, AB | T5H 0E9
P 780-392-5294 | C 780-691-0064 | capitalpower.com

From: Birk, Rupinder <Rupinder.Birk@brampton.ca>
Sent: Thursday, September 21, 2023 11:29 AM
To: Grant Berry <gberry@capitalpower.com>
Cc: Ethier, Christopher <Christopher.Ethier@brampton.ca>

Subject: Goreway Gas Plant - Council Update

Good afternoon Grant,

Further to your discussions with Chris in July, our team put together a slide update on the GGP upgrades for Council at yesterday's Committee of Council meeting. Just to keep you in the loop, please find the slide attached for your reference.

Thank you,

Rupinder Birk *(she/her)*
Specialist, Government Relations
Office of the CAO, City of Brampton
M: (437) 217-9487

BRAMPTON

Goreway Gas Plant Update

New Equipment Upgrade Proposal at Goreway Power Station (8600 Goreway Drive)

- The Government Relations team was directed to report back on equipment upgrades being proposed at the Goreway Power Station site at the June 14, 2023, City Council meeting.
- Government Relations has since spoken to the IESO, Capital Power, Environmental Defense and received internal staff comments on this matter.
- In October of 2022, the Ministry of Energy issued a directive to the Independent Electricity System Operator ("IESO"), to assist the government in ensuring that Ontario continues to have a reliable and affordable electricity system.
- Under this directive, the *Same Technology Upgrade Solicitation* process was announced, under which municipal support confirmation is **not** a requirement.
- Capital Power has advised that the Goreway Power Station Upgrade project will not involve the installation or construction of any new generation equipment, the project simply consists of swapping out existing parts with more efficient ones.
- The upgrade project involves the implementation of new technology upgrade and based on Capital Power's estimation, is expected to have no adverse impacts on the Goreway facility's current noise levels or expected GHG emissions intensity.

From: Barboza, Karla (MCM) <Karla.Barboza@ontario.ca>
Sent: Wednesday, May 31, 2023 10:14 AM
To: Jay Shukin <jshukin@capitalpower.com>
Cc: CPC Information <cpcinfo@capitalpower.com>; CPC Information <cpcinfo@capitalpower.com>; Minkin, Dan (MCM) <Dan.Minkin@ontario.ca>
Subject: MCM Comments: Notices of Commencement – Goreway Power Station Upgrades Project & Goreway Battery Energy Storage System [MCM Files 0019325 and 0018798]

Hi Jay,

Thanks for sending the notices of commencement for the above referenced projects to the Ministry of Citizenship and Multiculturalism (MCM).

Please find our initial commenting letter for both project. Let me know if you have any questions.

Regards,
Karla

Karla Barboza, RPP, MCIP, CAHP
Team Lead, Heritage | Heritage Planning Unit | **Ministry of Citizenship and Multiculturalism** | 416-660-1027 | karla.barboza@ontario.ca

From: Jay Shukin <jshukin@capitalpower.com>
Sent: May-04-23 6:49 PM
Subject: RE: Notices of Commencement – Goreway Power Station Upgrades Project & Goreway Battery Energy Storage System

Hi there – apologies to all if you have already received, but I did get a bounce-back note with your email address and so am sending again.

All the best,

Jay

Jay Shukin
Manager, Indigenous & Stakeholder Engagement
Capital Power
1-855-703-5005

From: Jay Shukin **On Behalf Of** info@capitalpower.com
Sent: Thursday, May 4, 2023 12:53 PM
Cc: CPC Information <cpcinfo@capitalpower.com>
Subject: Notices of Commencement – Goreway Power Station Upgrades Project & Goreway Battery Energy Storage System

Please find attached two Notices of Commencement per the Ontario *Environmental Assessment Act* for the following projects:

Goreway Power Station Upgrades Project
- We are initiating the Environmental Screening Process for Electricity Projects.
- More information at: https://www.capitalpower.com/operations/goreway-power-station-upgrade

Goreway Battery Energy Storage System (BESS)
- We are initiating the Class Environmental Assessment for Minor Transmission Facilities process.
- More information at: https://www.capitalpower.com/operations/goreway-power-station-bess

Please contact us if you wish to learn more about either of these projects or to set-up a technical briefing with our team.

Regards,

Jay Shukin
Manager, Indigenous & Stakeholder Engagement
Capital Power
1-855-703-5005 | info@capitalpower.com

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Ministry of Citizenship and Multiculturalism

Heritage Planning Unit
Heritage Branch
Citizenship, Inclusion and Heritage Division
5th Flr, 400 University Ave
Tel.: 416-660-1027

Ministère des Affaires civiques et du Multiculturalisme

Unité de la planification relative au patrimoine
Direction du patrimoine
Division des affaires civiques, de l'inclusion et du patrimoine
Tél.: 416-660-1027

May 31, 2023 EMAIL ONLY

Jay Shukin
Manager, Indigenous and Stakeholder Engagement
Capital Power
18781 Dufferin Street
Newmarket, ON L3Y 4V9
Email jshukin@capitalpower.com

MCM File	**:**	**0019325**
Proponent	**:**	**Capital Power Corporation**
Subject	**:**	**Electricity Projects Regulation (Ontario Regulation 116/01) – Notice of Commencement of an Environmental Review**
Project	**:**	**Goreway Power Station Upgrades Project**
Location	**:**	**8600 Goreway Drive, City of Brampton, Peel Region**

Dear Jay Shukin:

Thank you for providing the Ministry of Citizenship and Multiculturalism (MCM) with the Notice of Commencement of an Environmental Review for the above-referenced project.

MCM's interest in this project relates to its mandate of conserving Ontario's cultural heritage, which includes:

- archaeological resources, including land and marine);
- built heritage resources, including bridges and monuments; and
- cultural heritage landscapes.

Under the EA process, the proponent is required to determine a project's potential impact on known (previously recognized) and potential cultural heritage resources.

Project Summary
Goreway Station Partnership, a subsidiary of Capital Power Corporation (Capital Power), is proposing to undertake equipment upgrades at the existing Goreway Power Station (GPS), located at 8600 Goreway Drive, City of Brampton. According to Ontario Regulation 116/01 (the Electricity Projects Regulation) and as described in the *Guide to Environmental Assessment*

Requirements for Electricity Projects (2011), modifications to a natural gas-fired generating facility that increase the facility's capacity by 5 MW or more are classified as Category B projects and are subject to review under the Environmental Screening Process (ESP).

The ESP has two tiers of assessment: Screening Stage and Environmental Review Stage. Capital Power intends to voluntarily complete an Environmental Review.

The Environmental Review will assess potential environmental impacts of the equipment upgrades, which are expected to be limited to air emissions that will continue to meet provincial emission requirements.

The results of the assessment will be documented in an Environmental Review Report that will be made available for public review. The Environmental Review will assess any potential effects of the equipment upgrades but will not re-evaluate the previously approved, operating GPS facility.

Identifying Cultural Heritage Resources
While some cultural heritage resources may have already been formally identified, others may be identified through screening and evaluation.

Archaeological Resources
The following archaeological assessments have been undertaken for this project area and the reports have been entered into the Ontario Public Register of Archaeological Reports:

> *D.R. Poulton & Associates Inc., 2000. The Stage 1 Archaeological Assessment of the Proposed Goreway Station, Part of Lot 4, Concession 7, Northern Division, Toronto Gore Geographic Township, City of Brampton, Regional Municipality of Peel, Ontario. PIF#: 2000-057-002.*
>
> *D.R. Poulton & Associates Inc., 2001. The Stage 2-3 Archaeological Assessment of the Proposed Goreway Station and Transmission Line, Toronto Gore Geographic Township, City of Brampton, Regional Municipality of Peel, Ontario. PIF#: 2000-057-046.*

The GPS property has been cleared of archaeological concerns.

Please note that Indigenous communities were not engaged by the licensed archaeologist for the above-referenced archaeological assessment reports. MCM recommends that the above referenced archaeological assessments are shared with Indigenous communities who may have an interest in this area.

Built Heritage Resources and Cultural Heritage Landscapes
The Ministry's *Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes* should be completed to help determine whether this EA project may impact known or potential built heritage resources and/or cultural heritage landscapes.

If there is potential for built heritage resources and/or cultural heritage landscapes on the property or within the project area, a Cultural Heritage Evaluation Report (CHER) should be undertaken by a qualified person to determine the cultural heritage value or interest of the property (or project area). If the property (or project area) is determined to be of cultural heritage value or interest and alterations or development is proposed, MCM recommends that a Heritage Impact Assessment (HIA), prepared by a qualified person, be completed to assess potential project impacts. Please send the HIA to MCM, the local municipality and Indigenous communities for review and comment and make it available to local organizations or individuals who have expressed interest in review.

Community input should be sought to identify locally recognized and potential cultural heritage resources. Sources include, but are not limited to, municipal heritage committees, historical societies and other local heritage organizations.

Environmental Assessment Reporting
All technical cultural heritage studies and their recommendations are to be addressed and incorporated into EA projects. Please advise MCM whether any technical cultural heritage studies will be completed for this EA project and provide them to MCM before issuing a Notice of Completion and commencing any work on the site. If screening has identified no known or potential cultural heritage resources, or no impacts to these resources, please include the completed checklists and supporting documentation in the EA report.

Please note that the responsibility for administration of the *Ontario Heritage Act* and matters related to cultural heritage have been transferred from the Ministry of Tourism, Culture and Sport (MTCS) to the Ministry of Citizenship and Multiculturalism (MCM). Individual staff roles and contact information remain unchanged. Please continue to send any notices, report and/or documentation to both Dan Minkin and myself.

- Karla Barboza, Team Lead - Heritage | Heritage Planning Unit (Citizenship and Multiculturalism) | 416-660-1027 | karla.barboza@ontario.ca
- Dan Minkin, Heritage Planner | Heritage Planning Unit (Citizenship and Multiculturalism) | 416-786-7553 | dan.minkin@ontario.ca

Thank you for consulting MCM on this project and please continue to do so throughout the EA process. If you have any questions or require clarification, please do not hesitate to contact me.

Sincerely,

Karla Barboza
Team Lead, Heritage
karla.barboza@ontario.ca

Copied to: CPC Information cpcinfo@capitalpower.com
Capital Power info@capitalpower.com
Dan Minkin, Heritage Planner, MCM

accuracy or quality of the any checklists, reports or supporting documentation submitted as part of the EA process, and in no way shall MCM be liable for any harm, damages, costs, expenses, losses, claims or actions that may result if any checklists, reports or supporting documents are discovered to be inaccurate, incomplete, misleading or fraudulent.

Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48(1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out an archaeological assessment, in compliance with Section 48(1) of the *Ontario Heritage Act*.

The *Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33* requires that any person discovering human remains must cease all activities immediately and notify the police or coroner. If the coroner does not suspect foul play in the disposition of the remains, in accordance with *Ontario Regulation 30/11* the coroner shall notify the Registrar, Ontario Ministry of Public and Business Service Delivery, which administers provisions of that Act related to burial sites. In situations where human remains are associated with archaeological resources, the Ministry of Citizenship and Multiculturalism should also be notified (at archaeology@ontario.ca) to ensure that the archaeological site is not subject to unlicensed alterations which would be a contravention of the *Ontario Heritage Act*.

From: Marks, Jody (MNRF) <Jody.Marks@ontario.ca>
Sent: Thursday, May 25, 2023 8:35:32 AM
To: Jay Shukin <jshukin@capitalpower.com>
Subject: RE: Notices of Commencement – Goreway Power Station Upgrades Project & Goreway Battery Energy Storage System

Hello Jay,

Thank you for circulating the Notices of Commencement – Goreway Power Station Upgrades Project & Goreway Battery Energy Storage System to the Ministry of Natural Resources and Forestry. Please find attached the Ministry's response.

If you have any questions or concerns, please feel free to contact me.

Thank you.

Jody Marks *(her/she)*
Regional Planner
Land Use Planning and Strategic Issues Section | Southern Region |
Ministry of Natural Resources and Forestry (MNRF)
| (249) 733-1376 | jody.marks@ontario.ca

Ontario

From: Jay Shukin <jshukin@capitalpower.com>
Sent: May 5, 2023 12:04 PM
To: Hartman, Gillian (MNRF) <Gillian.Hartman@ontario.ca>
Subject: Notices of Commencement – Goreway Power Station Upgrades Project & Goreway Battery Energy Storage System

Please find attached two Notices of Commencement per the Ontario *Environmental Assessment Act* for the following projects:

Goreway Power Station Upgrades Project

- We are initiating the Environmental Screening Process for Electricity Projects.
- More information at: https://www.capitalpower.com/operations/goreway-power-station-upgrade

Goreway Battery Energy Storage System (BESS)

- We are initiating the Class Environmental Assessment for Minor Transmission Facilities process.
- More information at: https://www.capitalpower.com/operations/goreway-power-station-bess

Please contact us if you wish to learn more about either of these projects or to set-up a technical briefing with our team.

Regards,

Jay Shukin
Manager, Indigenous & Stakeholder Engagement
Capital Power
1-855-703-5005 | info@capitalpower.com

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Ministry of Natural Resources and Forestry

Land Use Planning and Strategic Issues Section
Southern Region

Regional Operations Division
300 Water Street
Peterborough, ON K9J 3C7

Ministère des Richesses naturelleset des Forêts

Section de l'aménagement du territoire et des questions stratégiques
Région du Sud

Division des opérations régionales
300, rue Water
Peterborough (ON) K9J 3C7

Ontario

May 25, 2023

Jay Shukin
Manager, Indigenous & Stakeholder Engagement
Capital Power
Email: jshukin@capitalpower.com

SUBJECT: **Notices of Commencement – Goreway Power Station Upgrades Project & Goreway Battery Energy Storage System**

The Ministry of Natural Resources and Forestry (MNRF) received the Notices of Commencement on May 5, 2023. Thank you for circulating these to our office. Please note that we have not completed a screening of natural heritage or other resource values for the project at this time. This response, however, does provide information to guide you in identifying and assessing natural features and resources as required by applicable policies and legislation, as well as engaging with the Ministry for advice as needed.

Please also note that it is the proponent's responsibility to be aware of, and comply with, all relevant federal or provincial legislation, municipal by-laws or other agency approvals.

Natural Heritage

MNRF's natural heritage and natural resources GIS data layers can be obtained through the Ministry's Land Information Ontario (LIO) website. You may also view natural heritage information online (e.g., Provincially Significant Wetlands, ANSI's, woodlands, etc.) using the Make a Map: Natural Heritage Areas tool.

We recommend that you use the above-noted sources of information during the review of your project proposal.

Natural Hazards

A series of natural hazard technical guides developed by MNRF are available to support municipalities and conservation authorities implement the natural hazard policies in the Provincial Policy Statement (PPS). For example, standards to address flood risks and the potential impacts and costs from riverine flooding are addressed in the *Technical Guide River and Stream Systems: Flooding Hazard Limit (2002)*. We recommend that you consider these technical guides as you assess specific improvement projects that can be undertaken to reduce the risk of flooding.

Petroleum Wells & Oil, Gas and Salt Resources Act

There may be petroleum wells within the proposed project area. Please consult the Ontario Oil, Gas and Salt Resources Library website (www.ogsrlibrary.com) for the best-known data on

any wells recorded by MNRF. Please reference the 'Definitions and Terminology Guide' listed in the publications on the library website to better understand the well information available. Any oil and gas wells in your project area are regulated by the *Oil, Has and Salt Resource Act*, and the supporting regulations and operating standards. If any unanticipated wells are encountered during development of the project, or if the proponent has questions regarding petroleum operations, the proponent should contact the Petroleum Operations Section at POSRecords@ontario.ca or 519-873-4634.

Fish and Wildlife Conservation Act

Please note, that should the project require:

- The relocation of fish outside of the work area, a Licence to Collect Fish for Scientific Purposes under the *Fish and Wildlife Conservation Act* will be required.
- The relocation of wildlife outside of the work area (including amphibians, reptiles, and small mammals), a Wildlife Collector's Authorization under the *Fish and Wildlife Conservation Act* will be required.

Public Lands Act & Lakes and Rivers Improvement Act

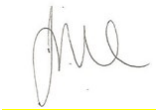
Some Project may be subject to the provisions of the *Public Lands Act* or *Lakes and River Improvement Act*. Please review the information on MNRF's web pages provided below regarding when an approval is, or is not, required. Please note that many of the authorizations under the *Lakes and Rivers Improvement Act* are administered by the local Conservation Authority.

- For more information about the *Public Lands Act*: https://www.ontario.ca/page/crown-land-work-permits
- For more information about the *Lakes and Rivers Improvement Act*: https://www.ontario.ca/page/lakes-and-rivers-improvement-act-administrative-guide

After reviewing the information provided, if you have not identified any of MNRF's interests stated above, there is no need to circulate any subsequent notices to our office. If you have identified any of MNRF's interests and/or may require permit(s) or further technical advice, please direct your specific questions to the undersigned.

If you have any questions or concerns, please feel free to contact me.

Best Regards,



Jody Marks
Regional Planner
jody.marks@ontario.ca
Ph: (249) 733-1376
Land Use Planning and Strategic Issues Section – Southern Region
Ministry of Natural Resources and Forestry

Appendix C-5
Indigenous Community Correspondence

From: Jay Shukin <jshukin@capitalpower.com>
Sent: Wednesday, April 5, 2023 4:57 PM
To: Abby LaForme <Abby.LaForme@mncfn.ca>; communications <communications@mncfn.ca>
Subject: Notice of Request to Consult – Goreway Power Station Upgrades Project

Hello:

I would like to submit the attached Notice of Request to Consult on behalf of Capital Power. This letter provides a general introduction and overview of our proposed Goreway Power Station Upgrades Project.

We thank you for your time and consideration in reading this letter. Should you have any questions, comments or a specific consultation protocol, please let us know. We look forward to hopefully speaking with you soon.

Regards,

Jay

Jay Shukin
Manager, Indigenous and Stakeholder Engagement
Capital Power
250-882-5188

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This email message, including any attachments, is for the intended recipient(s) only, and contains confidential and proprietary information. Unauthorized distribution, copying or disclosure is strictly prohibited. If you have received this message in error, or are obviously not one of the intended recipients, please immediately notify the sender by reply email and delete this email message, including any attachments. Thank you.

From: Jay Shukin <jshukin@capitalpower.com>
Sent: May 31, 2023 1:10 PM
To: Abby LaForme <Abby.LaForme@mncfn.ca>
Cc: Mark LaForme <Mark.LaForme@mncfn.ca>; Wilhelm Danek <wdanek@capitalpower.com>; Lawrence Nasen <lnasen@capitalpower.com>; Kara Hearne <khearne@slrconsulting.com>; Bill Mercer <bnmercer@capitalpower.com>
Subject: Capital Power's Goreway Projects: Archaeology Report & summary of May 10 meeting

Hi Abby – I hope you're well.

I'm following up on the meeting of May 10, 2023, which was held to provide background on the two projects that Capital Power has proposed at the existing Goreway Power Station: 1) the Battery Energy Storage System (BESS), and 2) the upgrade projects within the existing facility. Attached is the presentation from the meeting, as well as a summary.

As requested, please also find attached the Stage 2-3 Archaeological Assessment prepared by D.R. Poulton & Associates in January 2001 prior to construction of the existing Goreway Power Station. The area within which the BESS is proposed is within the area marked as "surface survey @ 5 m intervals" on Figure 3.

Please let us know if you require any additional information.

All the best,

Jay

Jay Shukin
Manager, Indigenous and Stakeholder Engagement
Capital Power
250-882-5188

From: Jay Shukin
Sent: Wednesday, May 10, 2023 1:44 PM
To: Abby LaForme <Abby.LaForme@mncfn.ca>
Cc: Mark LaForme <Mark.LaForme@mncfn.ca>
Subject: Presentation on Capital Power's Goreway projects

Hi Abby and Mark – It was a pleasure meeting you both earlier today. Attached is the presentation that we went through. Our team is in the process of assembling the archaeological materials for previous work at the Goreway site. I'll get that to you ASAP.

All the best,

Jay

Jay Shukin
Manager, Indigenous and Stakeholder Engagement
Capital Power
250-882-5188

Jay

Meeting Summary
Mississaugas of the Credit First Nation & Capital Power
Goreway Battery Energy Storage System (BESS) & Goreway Upgrades Projects
May 10, 2023 (1:00pm to 2:10pm ET) – Held via Microsoft Teams

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Present:
MCFN: Mark LaForme (Director of Consultation and Accommodation), Abby LaForme (Consultation and Accommodation Coordinator).

Capital Power: Wil Danek (Senior Business Development Manager), Jay Shukin (Manager, Indigenous and Stakeholder Engagement), Lawrence Nasen (Senior Specialist, Environment), Kara Hearne (Environmental Planner, SLR).

Summary:

1. Introductions were made.
2. Mark provided information on the Treaties between MCFN and the Crown. There are eight covering ~4M acres. The Goreway facility is within the Ajetance Purchase (1818) lands. Mark also provided background on the MCFN's Department of Consultation and Accommodation.
3. Capital Power's team provided background on the company, the Ontario's power market, and an overview of the both the BESS and upgrade projects, and the regulatory processes for each (see attached slides).
4. There was discussion about MCFN's interests, particularly around a review of information on environmental impacts. Mark and Abby noted funding for capacity support for reviews and provided background on MCFN's approach
5. There was discussion about archaeology. A stage 2-3 assessment was completed in 2001 of the entire Goreway site. Capital Power to send this report to MCFN for their review and further discussion.
6. Mark outlined the Mississauga's of the Credit Business Development LP, indicating that he would pass our information to them for possible follow-up with Capital Power.
7. Discussion occurred on other points:
    a. No increase or change in footprint because of the upgrades
    b. For the BESS, an underground transmission line will be extended to a new transformer and then connected to the grid via the existing Goreway substation.
    c. The BESS will be charged independently of the existing Goreway facility.
    d. The Goreway Power Station runs exclusively on natural gas, with the amount of gas used varying greatly depending on how/when the facility is dispatched by the Ontario Independent Electricity System Operator (IESO). The BESS will also be dispatched by the IESO.

The meeting ended at 2:10pm Eastern.

Capital Power

Goreway Battery Energy Storage System Project

and

Goreway Power Station Upgrades Project

Presentation to
Mississaugas of the Credit First Nation
May 10, 2023

Welcome!

Meeting Overview

- Background on Capital Power
- The need for new generation and capacity in Ontario
- Proposed Goreway Power Stations Upgrades Project
- Proposed Goreway Battery Energy Storage System (BESS) Project

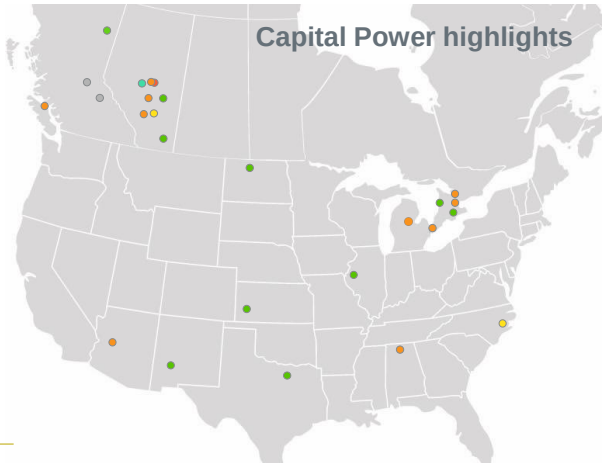
Capital Power highlights

Publicly-traded company (TSX: CPX) headquartered in Edmonton

~800 employees; regional offices in Boston, Toronto and Calgary

Own ~**7,400** MW of power generation produced at **28** facilities in Canada and U.S. **5 Facilities and ~1500 MW in Ontario**

Named one of the World's Most Ethical Companies® by the Ethisphere Institute (2019-2022)



Providing Safe, Reliable Electricity to Ontario

Five facilities
1,500 megawatts
40 employees
Millions spent annually on contracted support and equipment

York Energy Centre
Goreway Power Station
East Windsor Cogeneration Centre
Port Dover and Nanticoke Wind Energy
Kingsbridge Wind Energy Project

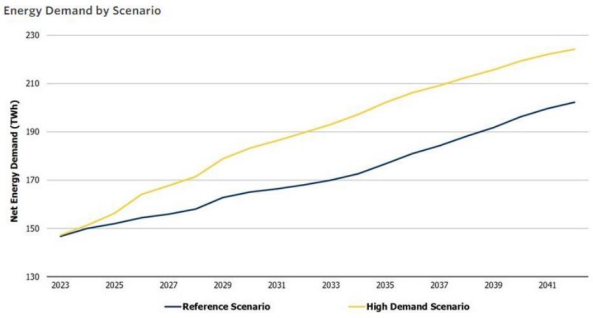
The Growing Demand for Electricity in Ontario

Capital Power

The Future Need for Power in Ontario

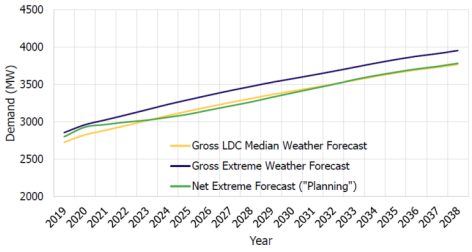
- Ontario's Independent Electricity System Operator (IESO) has identified a significant need for new power supply in the province. The short fall is driven by:
  - Increasing demand.
  - Retirement and refurbishment of Ontario's nuclear fleet.
  - Expiring contracts at existing facilities.
- Demand for electricity is increasing in Ontario due to:
  - Population growth.
  - Electrification of certain sectors and vehicles.
  - Economic growth in the mining, industrial, and agricultural sectors.
- The GTA is a priority for the IESO.

Anticipated Ontario Demand, 2023 to 2041



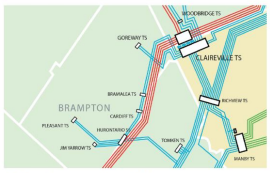
Anticipated Demand in the GTA

- The City of Brampton and surrounding area need capacity additions.
- Need for new capacity and generation as early as 2026.

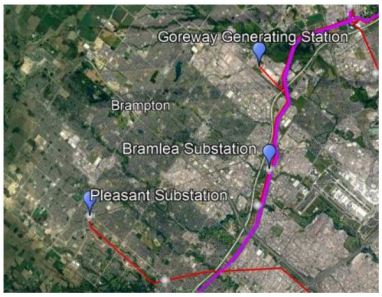


Servicing Local Needs

- Goreway BESS well positioned to meet local demand.
- Limited local generation.



IESO Integrated Regional Resource Plan



The IESO Procurement Process

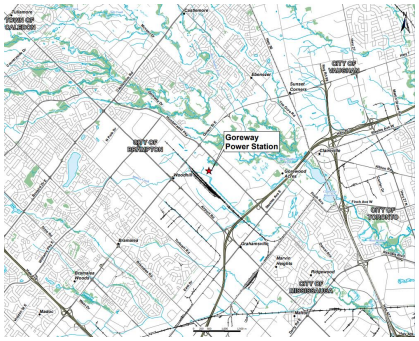
- The IESO is seeking 4,000 MW of new capacity:
  - 1,500 MW will be procured under the Expedited Long-Term Request for Proposal (RFP) process (600 MW of natural gas generation and 900 MW of battery storage). Another 2,500 MW will be procured under the Long-Term 1 RFP.
  - Project bids submitted in February 2023.
  - Contract with the IESO for approximately 22 years (BESS).
  - IESO is targeting commercial operation in the May 2025 – May 2026 period.

Proposed Goreway Power Station Upgrades

Capital Power

Goreway Power Station (GPS) Location

- 8600 Goreway Drive, City of Brampton
- North of Hwy 407, east of Airport Rd.
- Adjacent to the Canadian National (CN) Brampton Container Terminal



GPS Overview

- GPS generates ~875 megawatts (MW) of power
- Began operating in 2009 and acquired by Capital Power in 2019
- Combined cycle facility with state-of-the-art emission controls

GPS Upgrades Project

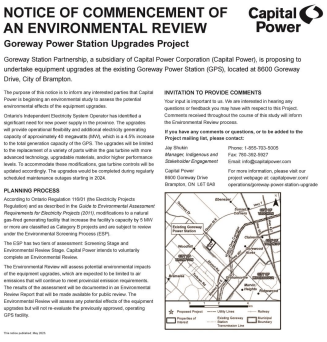
- Upgrade package offered by turbine manufacturer (General Electric)
  - Includes replacement of various turbine parts with more advanced technology
  - Construction work will only involve equipment upgrades within the existing facility, with no change to the existing GPS footprint.
- No physical earthworks and associated disturbance-related activities required
- To be completed during regularly scheduled maintenance outages starting in early 2024.

Regulatory Approvals

- Various permit and approval applications will be made:
  - *Environmental Assessment Act* requirements (Environmental Screening Process for Electricity Projects)
  - Environmental Compliance Approval (ECA) Amendment (Air & Noise)
- Engagement with the public and Indigenous communities will be undertaken.

Engagement

- Introduction letters sent to Indigenous communities on April 12, 2023, and meetings with interested communities currently underway.
- A Notice of Commencement published in the Brampton Guardian on May 4th, 2023, and mailed to nearby property owners.



NOTICE OF COMMENCEMENT OF AN ENVIRONMENTAL REVIEW

Capital Power

Goreway Power Station Upgrades Project

Goreway Station Partnership, a subsidiary of Capital Power Corporation (Capital Power), is proposing to undertake equipment upgrades at the existing Goreway Power Station (GPS), located at 8600 Goreway Drive, City of Brampton.

The purpose of this notice is to inform any interested parties that Capital Power is beginning an environmental study to assess the potential environmental effects of the equipment upgrades.

Ontario's Independent Electricity System Operator has identified a significant need for new power supply in the province. The upgrades will provide operational flexibility and additional electricity generating capacity of approximately 40 megawatts (MW), which is a 4.5% increase to the total generation capacity of the GPS. The upgrades will be limited to the replacement of a variety of parts within the gas turbine with more advanced technology, upgradable materials, and/or higher performance levels. To accommodate these modifications, gas turbine controls will be updated accordingly. The upgrades would be completed during regularly scheduled maintenance outages starting in 2024.

PLANNING PROCESS

According to Ontario Regulation 116/01 (the Electricity Projects Regulation) and as described in the *Guide to Environmental Assessment Requirements for Electricity Projects* (2011), modifications to a natural gas-fired generating facility that increase the facility's capacity by 5 MW or more are classified as Category B projects and are subject to review under the Environmental Screening Process (ESP).

The ESP has two tiers of assessment: Screening Stage and Environmental Review Stage. Capital Power intends to voluntarily complete an Environmental Review.

The Environmental Review will assess potential environmental impacts of the equipment upgrades, which are expected to be limited to air emissions that will continue to meet provincial emission requirements. The results of the assessment will be documented in an Environmental Review Report that will be made available for public review. The Environmental Review will assess any potential effects of the equipment upgrades but will not re-evaluate the previously approved, operating GPS facility.

This notice published: May 2023.

INVITATION TO PROVIDE COMMENTS

Your input is important to us. We are interested in hearing any questions or feedback you may have with respect to this Project. Comments received throughout the course of this study will inform the Environmental Review process.

If you have any comments or questions, or to be added to the Project mailing list, please contact:

Jay Shukri
Manager, Indigenous and Stakeholder Engagement
Capital Power
8800 Goreway Drive
Brampton, ON L6T 0A3

Phone: 1-855-703-5005
Fax: 780-392-5927
Email: info@capitalpower.com

For more information, please visit our project webpage at: capitalpower.com/operations/goreway-power-station-upgrade

Proposed Goreway BESS

Capital Power

Battery Energy Storage System (BESS)

- BESS enclosures are similar in size to shipping containers, approx. 9m x 3m x 2m.
- Each BESS enclosure is fully sealed, centrally controlled, and individually temperature monitored with an HVAC system to ensure optimum performance.
- Numerous interconnected, weather-proof modular enclosures are managed and operated as a single unit.

BESS Overview

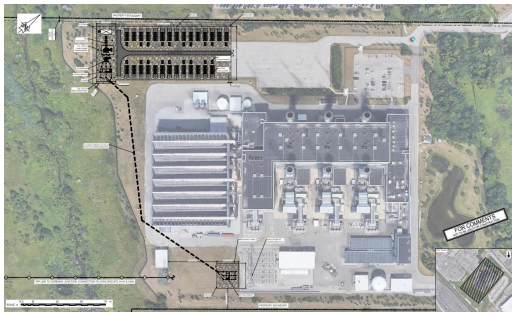
- BESS facilities help balance the electricity grid.
- Charged when demand is low and feed electricity into the grid when demand is high and/or generation from other resources is low.
- The BESS will use lithium-ion batteries, the most common type of system for utility-scale energy storage.

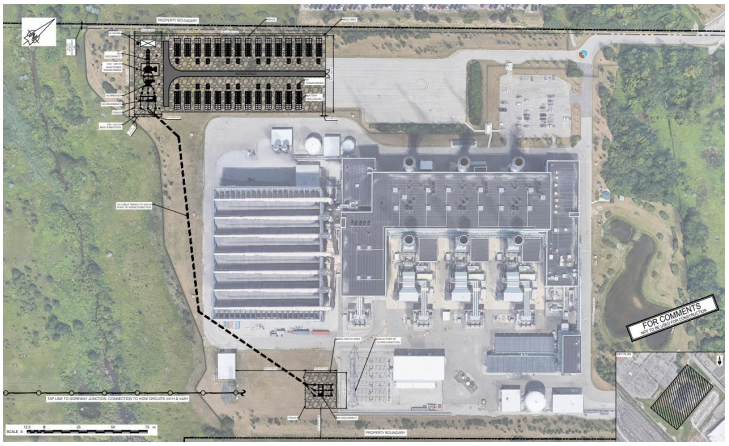
BESS Site

- Proposed in southwest corner of the GPS site.
- BESS footprint will be 0.65 ha.
- New high-voltage transformer will connect the BESS to the GPS substation for interconnection with the existing power grid.

Key Design Elements and Conceptual Layout

- BESS to provide up to 50 MW of output for up to 4-hours.
- An enclosure wall may be built to reduce noise.
- No air emissions.
- Sited to avoid naturalized area along Mimico Creek.
- Slab on grade or helical screw pile foundations.
- Gravel laneway for BESS access.





BESS Construction

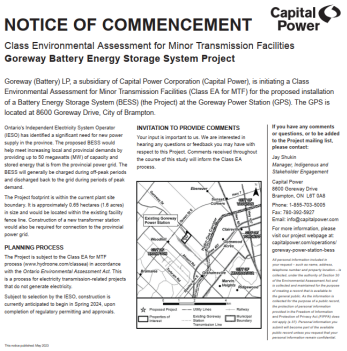
- Duration of approx. 1-year:
  - Site preparation
  - Component delivery and installation
  - Post-construction site restoration of temporary construction areas
- Temporary laydown area proposed within existing facility fenceline

Regulatory Approvals

- If selected by the IESO, various permit and approval applications will be made. These are expected to include:
  - *Environmental Assessment Act* requirements (Class EA for Minor Transmission Facilities process)
  - Environmental Compliance Approval (Stormwater)
  - Environmental Activity and Sector Registry (EASR) (Noise)
  - Local & Municipal Approvals, working with:
    - City of Brampton and Peel Region
    - Toronto and Region Conservation Area (TRCA)
- Engagement with the public and Indigenous communities will be undertaken.

Engagement

- Introduction letters sent to Indigenous communities on April 20, 2023, and meetings with interested communities are currently underway.
- Notice of Commencement published in the Brampton Guardian on May 4, 2023, and mailed to nearby property owners.
- Public meeting to be held in 2023.



NOTICE OF COMMENCEMENT

Capital Power

Class Environmental Assessment for Minor Transmission Facilities

Goreway Battery Energy Storage System Project

Goreway (Battery) LP, a subsidiary of Capital Power Corporation (Capital Power), is initiating a Class Environmental Assessment for Minor Transmission Facilities (Class EA for MTF) for the proposed installation of a Battery Energy Storage System (BESS) (the Project) at the Goreway Power Station (GPS). The GPS is located at 8600 Goreway Drive, City of Brampton.

Ontario's Independent Electricity System Operator (IESO) has identified a significant need for new power supply in the province. The proposed BESS would help meet increasing local and provincial demands by providing up to 50 megawatts (MW) of capacity and stored energy that is from the provincial power grid. The BESS will generally be charged during off-peak periods and discharged back to the grid during periods of peak demand.

The Project footprint is within the current plant site boundary. It is approximately 0.85 hectares (1.8 acres) in size and would be located within the existing facility fence line. Construction of a new transformer station would also be required for connection to the provincial power grid.

PLANNING PROCESS

The Project is subject to the Class EA for MTF process (www.hydrotone.com/classea) in accordance with the Ontario Environmental Assessment Act. This is a process for electricity transmission-related projects that do not generate electricity.

Subject to selection by the IESO, construction is currently anticipated to begin in Spring 2024, upon completion of regulatory permitting and approvals.

INVITATION TO PROVIDE COMMENTS

Your input is important to us. We are interested in hearing any questions or feedback you may have with respect to this Project. Comments received throughout the course of this study will inform the Class EA process.

If you have any comments or questions, or to be added to the Project mailing list, please contact:

Jay Shukin
Manager, Indigenous and Stakeholder Engagement

Capital Power
8600 Goreway Drive
Brampton, ON L6T 0A4
Phone: 1-855-703-5005
Fax: 780-392-5927
Email: info@eastidpower.com

For more information, please visit our project webpage at capitalpower.com/operations/goreway-power-station-bess

All personal information included in your request – such as name, address, telephone number and property location – is collected under the authority of the Environmental Assessment Act and is collected and maintained for the purpose of creating a record that is available to the general public. As the information is collected for the purpose of creating a record available to the public, the protection of personal information provided in the Freedom of Information and Protection of Privacy Act (FIPPA) does not apply (s.37). Personal information you submit will become part of the available public record unless you request that your personal information remain confidential.

Future Studies

- Various studies are required to inform the project design and support regulatory approvals. Assessments are underway to identify features that may need protection, mitigation and/or monitoring and will consider:
  - Stormwater Management
  - Noise
  - Natural Environment
  - Visual Aesthetics
  - Land Use Planning
  - Socio-Economic
  - Cultural Heritage

Project Timeline

- If the Project is successful in the IESO Expedited RFP process:

Milestone	Anticipated Timing
Environmental studies and regulatory approvals	2023
Construction mobilization	Early 2024 *(pending regulatory approvals)*
Delivery and installation of battery modules	Mid-2024
Technical commissioning activities	Early 2025
Commercial operation requirement	May 2025 to May 2026

From: Neil Freeman <nfreeman@mncbc.ca>
Sent: Friday, June 30, 2023 9:43 AM
To: Jay Shukin <jshukin@capitalpower.com>
Cc: Mark LaForme <Mark.LaForme@mncfn.ca>
Subject: RE: Update Goreway Battery Energy Storage System and Goreway Power Station Upgrades

Hi Jay: I am the CEO of the Mississaugas of the Credit Business LP. I would be interested to speak to you about your project and your other plans in the treaty territory of MCFN. Could we arrange a time for a call? Neil

Neil Freeman
Mississaugas of the Credit Business LP
647-225-5775

From: Mark LaForme <Mark.LaForme@mncfn.ca>
Sent: Friday, June 30, 2023 12:03 PM
To: Neil Freeman <nfreeman@mncbc.ca>
Cc: Abby LaForme <Abby.LaForme@mncfn.ca>
Subject: FW: Update Goreway Battery Energy Storage System and Goreway Power Station Upgrades

Hi Neil. Please see the email below. A Capital Power Battery Energy Storage System (BESS)

project contract negotiation approval and a contract award by IESO.

Regards,

Mark LaForme (he/him)
Director
MCFN-DOCA
4065 Hwy. 6
Hagersville, ON N0A 1H0
Phone: 905-768-4260

http://mncfn.ca/doca
Google Maps: https://www.google.ca/maps/place/MNCFN-DOCA/@42.9718566,-80.0429177,15z/data=!4m5!3m4!1s0x0:0xd52b4642633e9aa2!8m2!3d42.9718566!4d-80.0429177

From: Jay Shukin <jshukin@capitalpower.com>
Sent: Friday, June 30, 2023 11:36 AM
To: Abby LaForme <Abby.LaForme@mncfn.ca>
Cc: Mark LaForme <Mark.LaForme@mncfn.ca>; Wilhelm Danek <wdanek@capitalpower.com>; Lawrence Nasen <lnasen@capitalpower.com>; Kara Hearne <khearne@slrconsulting.com>; Bill Mercer <bnmercer@capitalpower.com>
Subject: Update Goreway Battery Energy Storage System and Goreway Power Station Upgrades

Hi Abby:

A quick update for you.

I wanted to let you know that Capital Power has been selected by the Independent Electric System Operator (IESO) to negotiate a contract for the 50 megawatts Goreway Battery Energy Storage System (BESS). The contracted amount will be 48 MW for 22 years. I also wanted to let you know of an earlier contract award by the IESO for the 40MW upgrade to the Goreway Power Station. Please see the news release that we put out yesterday.

As you'll know, neither project can proceed until we have obtained both provincial and municipal approvals. In terms of the Goreway BESS, Capital Power is currently underway with the Class Environmental Assessment process for the Project (per our notes below). Regarding the Goreway upgrade project, we are underway with an Environmental Review. Please see notes below on both projects.

Please let us know if there are questions or the interest in a technical briefing on either project by our team.

Best,

Jay

Jay Shukin
Manager, Indigenous and Stakeholder Engagement
Capital Power
250-882-5188

From: Jay Shukin
Sent: Tuesday, September 19, 2023 1:09 PM
To: Abby LaForme <Abby.LaForme@mncfn.ca>
Cc: Mark LaForme <Mark.LaForme@mncfn.ca>
Subject: Environmental Review Report for the Goreway Power Station Upgrades Project

Hi Abby:

I hope this message finds you well. I wanted to inform you that we are expected to provide you with the Environmental Review Report (ERR) for the Goreway Power Station (GPS) Upgrades Project soon. I am reaching out to inquire if you would be interested in providing your input on the ERR and, if so, if you require capacity funding to support your review.

Project Background
In terms of the project itself, Capital Power is seeking approval to undertake upgrades to the existing generation equipment at the GPS. The upgrades will provide operational flexibility and additional electricity generating capacity of approximately 40 megawatts (MW), which is a 4.5% increase to the total generation capacity of the GPS. The upgrades will be limited to the replacement of a variety of parts within the gas turbine with more advanced technology, upgradable materials, and/or higher performance levels.

The upgrades would be completed during regularly scheduled maintenance outages starting in 2024. This work will take place within the existing facility and will consist of component delivery, installation, performance testing, and changes in control logic. This Project will not involve excavations, earth movement or tree removal.

The ERR is being prepared to meet the requirements of the Environmental Screening Process as required under Ontario Regulation 116/01 (the Electricity Projects Regulation) of the Ontario *Environmental Assessment Act*.

The Environmental Review Report (ERR)
The ERR is a comprehensive document comprising approximately 100 pages. It will provide detailed information on the following aspects of the project:

- The rationale for the project, outlining why the IESO requires additional generation capacity.
- Technical details on the upgrades.
- Engagement efforts with Indigenous communities, government agencies and other stakeholders.
- An assessment of the impact of the facility on air emissions, including greenhouse gas emissions. It should be noted that the upgrades will not result in a change to the overall emissions intensity (t CO_2e/MWh) and the facility will continue to meet provincial requirements.

Due to time constraints associated with the scheduled maintenance outage and IESO contract requirements, we must file the Notice of Completion by September 28, 2023 to initiate the formal 30-calendar day public review period. If you wish to review the report, we are happy to further discuss

timelines.

Capacity Funding Support
Please advise if you wish to review the report and secondly, if you wish to discuss funding to support your review. If possible, it would be helpful to have an initial assessment of the time you anticipate for the review and your hourly rates.

Please let me know if you wish to talk further about the project and the process.

Sincerely,

Jay

Jay Shukin
Manager, Indigenous and Stakeholder Engagement
Capital Power
250-882-5188

Subject: Notice of Request to Consult – Goreway Power Station Upgrades Project
Date: Wednesday, April 5, 2023 at 3:02:09 PM Central Standard Time
From: Jay Shukin
To: tammymartin@sixnations.ca
Attachments: GPS Upgrades Intro Letter_2023-04-05_Six Nations.pdf

Hello:

I would like to submit the attached Notice of Request to Consult on behalf of Capital Power. This letter provides a general introduction and overview of our proposed Goreway Power Station Upgrades Project.

We thank you for your time and consideration in reading this letter. Should you have any questions, comments or a specific consultation protocol, please let us know. We look forward to hopefully speaking with you soon.

Regards,

Jay

Jay Shukin
Manager, Indigenous and Stakeholder Engagement
Capital Power
250-882-5188

Capital Power
1200-10423 101 Street NW
Edmonton, AB T5H 0E9

April 5, 2023

Chief and Council
c/o Tammy Martin
Six Nations of the Grand River
1695 Chiefswood Rd, PO Box 5000
Ohsweken, ON N0A 1M0

SENT VIA E-MAIL (tammymartin@sixnations.ca)

Re: Project Introduction
Proposed Goreway Power Station Upgrades Project

Dear Chief Mark Hill,

We are writing today to formally introduce our proposed Goreway Power Station Upgrades Project (the Project), and to invite your guidance as to how we might engage your community in a respectful manner.

We acknowledge that Six Nations of the Grand River is located within approximately 100-150 km of the proposed Project site. We recognize and respect your care for, knowledge of, and stewardship of the lands and waters in your homeland. We are committed to, and interested in, building positive relationships with all Indigenous communities that may have an interest in the proposed Project.

Capital Power is a North American power producer (TSX: CPX), headquartered in Edmonton, Alberta. We are committed to creating dependable, cost-effective and innovative electricity solutions to power a sustainable future and are targeting net zero by 2045. As part of this commitment, we are taking steps to transition how we generate power. We are doing this by growing our fleet of renewables (wind, solar), developing storage facilities and by accelerating world-leading emissions reduction initiatives such as carbon capture technology at our natural gas facilities. With a dedicated team of ~800 people we operate 29 electrical generating facilities in both Canada and the U.S., including five facilities in Ontario. One of these facilities is the existing Goreway Power Station (GPS), located in the City of Brampton at 8600 Goreway Drive, Brampton.

In early 2022, the Ontario Independent Electricity System Operator (IESO) identified a significant need for new power supply in the province and is looking to procure an additional 1,500 megawatts (MW) of capacity from both existing and new facilities across Ontario. As a

result, Capital Power is proposing equipment upgrades at the existing GPS (see **Figure 1**, attached) to meet the demand for additional capacity

The Project is part of an overall effort to help meet increasing local and provincial electricity demands by providing critical generation support, better enabling both a reliable supply of electricity and flexibility in support of intermittent renewable energy sources like wind and solar energy.

The GPS is a combined cycle natural gas-fired power generating facility that produces approximately 875 MW of power (up to 990 MW at -20ºC) that has been in operation since 2009. The GPS equipment upgrades will provide a combined total of up to approximately 40 MW of additional electricity generating capacity. These upgrades will include replacement of a variety of gas turbine parts with more advanced technology and/or parts with higher performance levels, and repair of various parts with upgradable materials. **Project construction work is related only to equipment upgrades within the existing facility, and no physical earthworks or disturbance-related activities are required**.

We would be pleased to meet with the Six Nations of the Grand River Chief and Council, either in person in your community, virtually, or at a location of your choosing, to introduce ourselves, discuss our proposed Project, and answer any questions you may have. Alternatively, please reach out to us at your convenience should you have any questions, comments, or concerns regarding our proposed Project.

We would be interested in receiving a copy of the *Six Nations of the Grand River Land Use Consultation and Accommodation Procedure Manual*, or any other consultation/engagement requirements or preferences. In the meantime, we expect to soon issue a Notice of Commencement for undertaking the Environmental Screening Process (ESP) for Electricity Projects, which is required as per Ontario Regulation 116/01 for modifications to existing natural gas-fired generating facilities that increase the facility's capacity by 5 MW or more. Unless we hear from you otherwise, you will similarly receive a copy of the Notice of Commencement, as well as all future Project notices.

We thank you for your time in reading this letter, as well as your consideration in meeting with our team. We look forward to hearing from you soon.

Sincerely,

Jay Shukin
Manager, Indigenous and Stakeholder Engagement
Capital Power
250-882-5188 | jshukin@capitalpower.com

Att: Figure 1, GPS Site Location

LEGEND

- Property of Interest
- Permanent Watercourse
- Railway

N

0 25 50 100 150 m

SCALE 1:6,000
PAGE SIZE 11 x 17
NAD 1983 UTM Zone 17N

THIS MAP IS FOR CONCEPTUAL PURPOSES ONLY
AND SHOULD NOT BE USED FOR NAVIGATION

8600 GOREWAY DRIVE
CITY OF BRAMPTON
REGION OF PEEL

GOREWAY
POWER STATION

SITE LOCATION

SLR

FIGURE NO:
1

DATE: March 30, 2023

PROJECT NO: 241.30524.00000

From: Tammy Martin <tammymartin@sixnations.ca>
Sent: Friday, May 5, 2023 6:43 AM
To: Jay Shukin <jshukin@capitalpower.com>
Cc: Trevor Bomberry <adnb@sixnations.ca>; Lonny Bomberry <lonnybomberry@sixnations.ca>; Tayler Hill <tayler.hill@sixnations.ca>
Subject: FW: Notices of Commencement – Goreway Power Station Upgrades Project & Goreway Battery Energy Storage System

Good morning Jay,

Confirming receipt and by copy of this email I've forwarded this information on the our Directors of Lands and Resources, Lonny & Tayer. Should they have questions about the attached someone from their office will be in touch.

Tammy Martin
COS, SNGREC
tammymartin@sixnations.ca
cell 519.717.5637

From: Jay Shukin <jshukin@capitalpower.com>
Sent: Thursday, May 4, 2023 5:29 PM
To: Tammy Martin <tammymartin@sixnations.ca>
Subject: Notices of Commencement – Goreway Power Station Upgrades Project & Goreway Battery Energy Storage System

Hello Tammy:

I'm following up on the previous communication about the proposed Goreway Power Station Upgrades Project (sent on April 5, 2023) and the proposed Goreway Battery Energy Storage System (BESS) (sent on April 20, 2023). Please find attached two Notices of Commencement per the Ontario *Environmental Assessment Act* for those two projects:

Goreway Power Station Upgrades Project
- We are initiating the Environmental Screening Process for Electricity Projects.
- More information at: https://www.capitalpower.com/operations/goreway-power-station-upgrade

Goreway Battery Energy Storage System (BESS)
- We are initiating the Class Environmental Assessment for Minor Transmission Facilities process.
- More information at: https://www.capitalpower.com/operations/goreway-power-station-bess

Please contact us if you wish to learn more about either of these projects or to set-up a technical briefing with our team.

Regards,

Jay

Jay Shukin
Manager, Indigenous and Stakeholder Engagement
Capital Power
250-882-5188

Subject: Update Goreway Battery Energy Storage System and Goreway Power Station Upgrades
Date: Friday, June 30, 2023 at 9:38:17 AM Central Standard Time
From: Jay Shukin
To: Tammy Martin
CC: Trevor Bomberry, Lonny Bomberry, Tayler Hill

Hi Tammy:

A quick update for you.

I wanted to let you know that Capital Power has been selected by the Independent Electric System Operator (IESO) to negotiate a contract for the 50 megawatts Goreway Battery Energy Storage System (BESS). The contracted amount will be 48 MW for 22 years. I also wanted to let you know of an earlier contract award by the IESO for the 40MW upgrade to the Goreway Power Station. Please see the news release that we put out yesterday.

As you'll know, neither project can proceed until we have obtained both provincial and municipal approvals. In terms of the Goreway BESS, Capital Power is currently underway with the Class Environmental Assessment process for the Project (per our notes below). Regarding the Goreway upgrade project, we are underway with an Environmental Review. Please see notes below on both projects.

Please let us know if there are questions or the interest in a technical briefing on either project by our team.

Best,

Jay

Jay Shukin
Manager, Indigenous and Stakeholder Engagement
Capital Power
250-882-5188

From: Tammy Martin <tammymartin@sixnations.ca>
Sent: Tuesday, July 25, 2023 1:30 PM
To: Jay Shukin <jshukin@capitalpower.com>
Cc: Trevor Bomberry <adnb@sixnations.ca>; Lonny Bomberry <lonnybomberry@sixnations.ca>; Tayler Hill <tayler.hill@sixnations.ca>
Subject: RE: Notices of Commencement – Goreway Power Station Upgrades Project & Goreway Battery Energy Storage System

Hi Jay,

I received your voicemail and want to confirm that you have copied the correct people on this email who can share the information with our consultation and accommodation process (CAP) team. Should CAP Team wish to discuss these plans with you they will be in touch.

Tammy Martin
COS, SNGREC
tammymartin@sixnations.ca
cell 519.717.5637

From: Jay Shukin <jshukin@capitalpower.com>
Sent: Friday, July 21, 2023 11:42 AM
To: Tammy Martin <tammymartin@sixnations.ca>
Cc: Trevor Bomberry <adnb@sixnations.ca>; Lonny Bomberry <lonnybomberry@sixnations.ca>; Tayler Hill <tayler.hill@sixnations.ca>
Subject: [External] RE: Notices of Commencement – Goreway Power Station Upgrades Project & Goreway Battery Energy Storage System

Hi Tammy:

As a follow-up to the voice mail I just left you, I wanted to check if there was interest in getting a briefing from our project team on the two energy projects that we are proposing at the Goreway Power Station site. The projects are:

Goreway Power Station Upgrades Project

- Regarding this project, we have initiated an Environmental Screening Process for Electricity Projects.
- More information at: https://www.capitalpower.com/operations/goreway-power-station-upgrade

Goreway Battery Energy Storage System (BESS)

- Regarding this project, we have initiated a Class Environmental Assessment for Minor Transmission Facilities process.
- More information at: https://www.capitalpower.com/operations/goreway-power-station-bess

Please let me know or give me a call when it works for you to further discuss.

Best,

Jay

Jay Shukin
Manager, Indigenous and Stakeholder Engagement
Capital Power
250-882-5188

From: Jay Shukin
Sent: Tuesday, September 19, 2023 1:02 PM
To: Tammy Martin <tammymartin@sixnations.ca>
Cc: Trevor Bomberry <adnb@sixnations.ca>; Lonny Bomberry <lonnybomberry@sixnations.ca>; Tayler Hill <tayler.hill@sixnations.ca>
Subject: Environmental Review Report for the Goreway Power Station Upgrades Project

Hi Tammy:

I hope this message finds you well. I wanted to inform you that we are expected to provide you with the Environmental Review Report (ERR) for the Goreway Power Station (GPS) Upgrades Project soon. I am reaching out to inquire if you would be interested in providing your input on the ERR and, if so, if you require capacity funding to support your review.

Project Background
In terms of the project itself, Capital Power is seeking approval to undertake upgrades to the existing generation equipment at the GPS. The upgrades will provide operational flexibility and additional electricity generating capacity of approximately 40 megawatts (MW), which is a 4.5% increase to the total generation capacity of the GPS. The upgrades will be limited to the replacement of a variety of parts within the gas turbine with more advanced technology, upgradable materials, and/or higher performance levels.

The upgrades would be completed during regularly scheduled maintenance outages starting in 2024. This work will take place within the existing facility and will consist of component delivery, installation, performance testing, and changes in control logic. This Project will not involve excavations, earth movement or tree removal.

The ERR is being prepared to meet the requirements of the Environmental Screening Process as required under Ontario Regulation 116/01 (the Electricity Projects Regulation) of the Ontario *Environmental Assessment Act*.

The Environmental Review Report (ERR)
The ERR is a comprehensive document comprising approximately 100 pages. It will provide detailed information on the following aspects of the project:
- The rationale for the project, outlining why the IESO requires additional generation capacity.
- Technical details on the upgrades.
- Engagement efforts with Indigenous communities, government agencies and other stakeholders.
- An assessment of the impact of the facility on air emissions, including greenhouse gas emissions. It should be noted that the upgrades will not result in a change to the overall emissions intensity (t CO_2e/MWh) and the facility will continue to meet provincial requirements.

Due to time constraints associated with the scheduled maintenance outage and IESO contract requirements, we must file the Notice of Completion by September 28, 2023 to initiate the formal 30-

calendar day public review period. If you wish to review the report, we are happy to further discuss timelines.

Capacity Funding Support
Please advise if you wish to review the report and secondly, if you wish to discuss funding to support your review. If possible, it would be helpful to have an initial assessment of the time you anticipate for the review and your hourly rates.

Please let me know if you wish to talk further about the project and the process.

Sincerely,

Jay

Jay Shukin
Manager, Indigenous and Stakeholder Engagement
Capital Power
250-882-5188

Subject: Notice of Request to Consult – Goreway Power Station Upgrades Project
Date: Wednesday, April 5, 2023 at 3:04:12 PM Central Standard Time
From: Jay Shukin
To: janicewilliams@hdi.land
Attachments: GPS Upgrades Intro Letter_2023-04-05_HCCC-HDI.pdf

Hello Janice:

I would like to submit the attached Notice of Request to Consult on behalf of Capital Power. This letter provides a general introduction and overview of our proposed Goreway Power Station Upgrades Project. The facility is located in the City of Brampton.

We thank you for your time and consideration in reading this letter. Should you have any questions, comments or a specific consultation protocol, please let us know. We look forward to hopefully speaking with you soon.

Regards,

Jay

Jay Shukin
Manager, Indigenous and Stakeholder Engagement
Capital Power
250-882-5188

Capital Power
1200-10423 101 Street NW
Edmonton, AB T5H 0E9

April 5, 2023

Raechelle Williams
HDI Environmental Supervisor
Haudenosaunee Development Institute (HDI)
16 Sunrise Court, Suite 402B
Ohsweken, ON
P.O. Box 714

SENT VIA E-MAIL (janicewilliams@hdi.land)

Re: Project Introduction
Proposed Goreway Power Station Upgrades Project

Dear Ms. Williams,

We are writing today to formally introduce our proposed Goreway Power Station Upgrades Project (the Project), and to invite your guidance as to how we might engage your community in a respectful manner.

We acknowledge that the nations of the Haudenosaunee Confederacy are located within approximately 100-150 km of the proposed Project site. We recognize and respect your care for, knowledge of, and stewardship of the lands and waters in your homeland. We are committed to, and interested in, building positive relationships with all Indigenous communities that may have an interest in the proposed Project.

Capital Power is a North American power producer (TSX: CPX), headquartered in Edmonton, Alberta. We are committed to creating dependable, cost-effective and innovative electricity solutions to power a sustainable future and are targeting net zero by 2045. As part of this commitment, we are taking steps to transition how we generate power. We are doing this by growing our fleet of renewables (wind, solar), developing storage facilities and by accelerating world-leading emissions reduction initiatives such as carbon capture technology at our natural gas facilities. With a dedicated team of ~800 people we operate 29 electrical generating facilities in both Canada and the U.S., including five facilities in Ontario. One of these facilities is the existing Goreway Power Station (GPS), located in the City of Brampton at 8600 Goreway Drive, Brampton.

In early 2022, the Ontario Independent Electricity System Operator (IESO) identified a significant need for new power supply in the province and is looking to procure an additional

1,500 megawatts (MW) of capacity from both existing and new facilities across Ontario. As a result, Capital Power is proposing equipment upgrades at the existing GPS (see **Figure 1**, attached) to meet the demand for additional capacity

The Project is part of an overall effort to help meet increasing local and provincial electricity demands by providing critical generation support, better enabling both a reliable supply of electricity and flexibility in support of intermittent renewable energy sources like wind and solar energy.

The GPS is a combined cycle natural gas-fired power generating facility that produces approximately 875 MW of power (up to 990 MW at -20ºC) that has been in operation since 2009. The GPS equipment upgrades will provide a combined total of up to approximately 40 MW of additional electricity generating capacity. These upgrades will include replacement of a variety of gas turbine parts with more advanced technology and/or parts with higher performance levels, and repair of various parts with upgradable materials. **Project construction work is related only to equipment upgrades within the existing facility, and no physical earthworks or disturbance-related activities are required**.

We would be pleased to meet with HDI, either in person, virtually, or at a location of your choosing, to introduce ourselves, discuss our proposed Project, and answer any questions you may have. Alternatively, please reach out to us at your convenience should you have any questions, comments, or concerns regarding our proposed Project.

In the meantime, we expect to soon issue a Notice of Commencement for undertaking the Environmental Screening Process (ESP) for Electricity Projects, which is required as per Ontario Regulation 116/01 for modifications to existing natural gas-fired generating facilities that increase the facility's capacity by 5 MW or more. Unless we hear from you otherwise, you will similarly receive a copy of the Notice of Commencement, as well as all future Project notices.

We thank you for your time in reading this letter, as well as your consideration in meeting with our team. We look forward to hearing from you soon.

Sincerely,

Jay Shukin
Manager, Indigenous and Stakeholder Engagement
Capital Power
250-882-5188 | jshukin@capitalpower.com

Att: Figure 1, GPS Site Location

LEGEND

- Property of Interest
- Permanent Watercourse
- Railway

N

0 25 50 100 150 m

SCALE 1:6,000
PAGE SIZE 11 x 17
NAD 1983 UTM Zone 17N

THIS MAP IS FOR CONCEPTUAL PURPOSES ONLY
AND SHOULD NOT BE USED FOR NAVIGATION

8600 GOREWAY DRIVE
CITY OF BRAMPTON
REGION OF PEEL

GOREWAY
POWER STATION

SITE LOCATION

SLR

FIGURE NO:
1

DATE: March 30, 2023

PROJECT NO: 241.30524.00000

Subject: Engagement Application: Capital Power's proposed Goreway Battery Energy Storage System
Date: Tuesday, June 13, 2023 at 9:55:48 AM Central Standard Time
From: Jay Shukin
To: Raechelle Williams
CC: Aaron Detlor, Brian Doolittle, Jake Linklater, Todd Williams, HDI Administration, Sharann Martin
Attachments: Capital Power engagement application Goreway BESS (13.06.23).pdf, Capital Power to HDI Application Supplemental (06.13.23).pdf, Goreway BESS Site Location.pdf, GPS Property Index Map.pdf, Stage 2-3 Arch Assessment of the Proposed Goreway Station and Transmission Line.pdf

Hello Raechelle:

Attached is the engagement application form and supporting information related to the proposed Goreway Battery Energy Storage System (BESS). The application fee is being processed and will be paid through electronic transfer (I'll have our accounts people indicate 0300).

Please let me know if you have any questions about the Project.

All the Best,

Jay

Jay Shukin
Manager, Indigenous and Stakeholder Engagement
Capital Power
250-882-5188

From: Raechelle Williams <raechellewilliams@hdi.land>
Sent: Thursday, May 11, 2023 11:42 AM
To: Jay Shukin <jshukin@capitalpower.com>
Cc: Aaron Detlor <aarondetlor@gmail.com>; Brian Doolittle <ganowa@me.com>; Jake Linklater <jake@detlorlaw.com>; Todd Williams <toddwilliams@hdi.land>; HDI Administration <administration@hdi.land>; Sharann Martin <sharannmartin@hdi.land>
Subject: Re: Notices of Commencement – Goreway Power Station Upgrades Project & Goreway Battery Energy Storage System

Sge:no/Hello Jay,

It was great to touch base with you over the phone and briefly discuss the Haudenosaunee Development Institute (HDI) engagement process.

I want to acknowledge and say nya:weh/thank-you for the notification sent to HDI regarding the proposed project, however this is not considered engagement. The HDI engagement process is completed by filling an

application, providing necessary documentations for our internal review and submitting an application fee. It is necessary that Capital Power provides a completed application so we can participate meaningfully on this project which is going to impair and interfere with our established treaty rights. Please see below the provided instructions on HDI application process:

HDI Application Process:
- Application is accessible at Development - Haudenosaunee Confederacy
- Click on the PDF file download and fill in the application form.
- Once completed, please mail the application along with the necessary documentations for the proposed project to:

Haudenosaunee Development

44 Sixth Line

Caledonia, Ontario

N3W 1Y9

Fee can be provided as a cheque or electronically with reference number 0300

Once the appropriate measures have been followed through, we will discuss how and when we can participate meaningfully and schedule a time to meet.

Nya:weh

Raechelle Williams
HDI Environmental Supervisor
Haudenosaunee Development Institute
16 Sunrise Court, Suite 600 Ohsweken, ON
P.O. Box 714
Ph: 519-445-4222
(Direct): 519-802-9402

On Thu, May 4, 2023 at 5:26 PM Jay Shukin <jshukin@capitalpower.com> wrote:

> Hi Janice:
>
> I'm following up on the previous communication about the proposed Goreway Power Station Upgrades Project (sent on April 5, 2023) and the proposed Goreway Battery Energy Storage System (BESS) (sent on April 20, 2023). Please find attached two Notices of Commencement per the Ontario *Environmental Assessment Act* for those two projects:
>
> **Goreway Power Station Upgrades Project**
>
> - We are initiating the Environmental Screening Process for Electricity Projects.
> - More information at: https://www.capitalpower.com/operations/goreway-power-station-upgrade

Goreway Battery Energy Storage System (BESS)

- We are initiating the Class Environmental Assessment for Minor Transmission Facilities process.
- More information at: https://www.capitalpower.com/operations/goreway-power-station-bess

Please contact us if you wish to learn more about either of these projects or to set-up a technical briefing with our team.

Regards,

Jay

Jay Shukin
Manager, Indigenous and Stakeholder Engagement
Capital Power
250-882-5188

Subject: Update on Goreway Battery Energy Storage System and Goreway Power Station Upgrades
Date: Friday, June 30, 2023 at 9:31:00 AM Central Standard Time
From: Jay Shukin
To: Raechelle Williams
CC: Aaron Detlor, Brian Doolittle, Jake Linklater, Todd Williams, HDI Administration, Sharann Martin

Hi Raechelle:

A quick update for you.

I wanted to let you know that Capital Power has been selected by the Independent Electric System Operator (IESO) to negotiate a contract for the 50 megawatts Goreway Battery Energy Storage System (BESS). The contracted amount will be 48 MW for 22 years. I also wanted to let you know of an earlier contract award by the IESO for the 40MW upgrade to the Goreway Power Station. Please see the news release that we put out yesterday.

As you'll know, neither project can proceed until we have obtained both provincial and municipal approvals. In terms of the Goreway BESS, Capital Power is currently underway with the Class Environmental Assessment process for the Project (per our notes below). Regarding the Goreway upgrade project, we are underway with an Environmental Review. Please see notes below on both projects.

We submitted the engagement application for the BESS project on June 13, 2023 and for the Goreway upgrade project on June 7, 2023. You should have received the application fees for both projects.
Please let us know if there are questions or the interest in a technical briefing on either project by our team.

Best,

Jay

Jay Shukin
Manager, Indigenous and Stakeholder Engagement
Capital Power
250-882-5188

From: Jake Linklater <jake@detlorlaw.com>
Sent: Tuesday, July 11, 2023 12:43 PM
To: Jay Shukin <jshukin@capitalpower.com>
Cc: Brian <ganowa@me.com>; Aaron Detlor <aarondetlor@gmail.com>; sharannmartin <sharannmartin@hdi.land>; Raechelle <raechellewilliams@hdi.land>; Todd Williams <toddwilliams@hdi.land>; Jake Linklater <jake@detlorlaw.com>; Chazz Pitts <chazz@detlorlaw.com>
Subject: Goreway Battery Energy Storage System and Goreway Power Station Upgrades

Good Afternoon Jay...

I have been asked to set up a meeting with you (Capital Power) to discuss this matter further.

I kindly ask that you send a few dates that you and your colleagues are available to meet in the coming weeks.

We look forward to hearing back from you soon.

Respectfully,

Jake Linklater
Director
Engagement & Approvals
519-374-4339

From: Jake Linklater <jake@detlorlaw.com>
Sent: Friday, July 28, 2023 4:22 AM
To: Jay Shukin <jshukin@capitalpower.com>
Cc: Chazz Pitts <chazz@detlorlaw.com>; Aaron Detlor <aarondetlor@gmail.com>; Jake Linklater <jake@detlorlaw.com>
Subject: Re: July 21, 2023 Mtg summary: Goreway Battery Energy Storage System and Goreway Power Station Upgrades

Good Morning Jay...

Many thanks for sending this. Much appreciated.

I attach the monitoring agreement as discussed. Please do not hesitate to contact me if you have any questions.

Respectfully,

Jake Linklater
Director
Engagement & Approvals
519-374-4339

On Mon, 24 Jul 2023 at 10:31, Jay Shukin <jshukin@capitalpower.com> wrote:

Hi Jake and Chazz:

Thanks again for your time on Friday (July 21) and the opportunity to brief you on the Goreway Power Station Upgrade project as well as the Goreway Battery Energy Storage Project. The presentation that we went through is attached.

In terms of next steps, this is what I recall:

- Jake and Chazz to send some dates for a site visit to Goreway.
- Jake will be sending further information about HDI's review of these projects and future involvement.
- Jay and Jake will discuss a further meeting.
- Jay will look into a sharepoint site for providing further project information.

Please let me know if I've missed anything.

Jay

_____

Jay Shukin
Manager, Indigenous and Stakeholder Engagement
Capital Power
250-882-5188

Capital Power

Goreway Battery Energy Storage System Project

and

Goreway Power Station Upgrades Project

Presentation to
Haudenosaunee Development Institute
July 21, 2023

1

Welcome!

Meeting Overview

- Background on Capital Power
- The need for new generation and capacity in Ontario
- Proposed Goreway Power Stations Upgrades Project
- Proposed Goreway Battery Energy Storage System (BESS) Project
- Discussion

Goreway Power Station
8600 Goreway Drive | City of Brampton

2

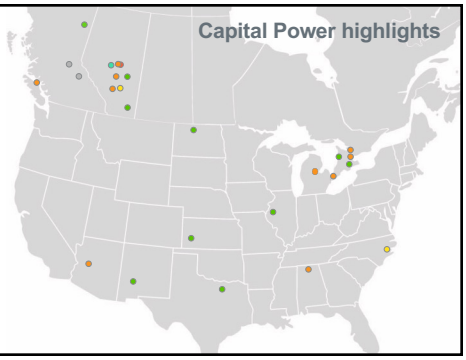
Capital Power highlights

Publicly-traded company (TSX: CPX) headquartered in Edmonton

~800 employees; regional offices in Boston, Toronto and Calgary

Own ~**7,400** MW of power generation produced at **28** facilities in Canada and U.S. **5 Facilities and ~1500 MW in Ontario**

Named one of the World's Most Ethical Companies® by the Ethisphere Institute (2019-2022)



3

Providing Safe, Reliable Electricity to Ontario

Five facilities

1,500 megawatts

40 employees

Millions spent annually on contracted support and equipment

- Goreway Power Station
- York Energy Centre
- East Windsor Cogeneration Centre
- Port Dover and Nanticoke Wind Energy
- Kingsbridge Wind Energy Project

4

Need for the Project: The Growing Demand for Electricity in Ontario

Capital Power

5

Ontario's Independent Electricity System Operator

- Independent Electricity System Operator (IESO) is responsible for planning and operating Ontario's electricity grid.
- IESO forecasts changes in electricity demand and supply to ensure that Ontario ratepayers have an affordable, reliable supply of electricity to meet their needs.

ieso
Connecting Today.
Powering Tomorrow.

6

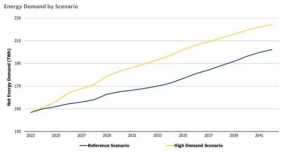
The Future Need for Power in Ontario

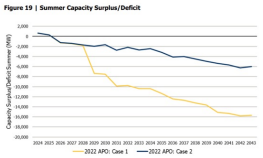
- IESO has identified a need for new generation in the province through its Annual Planning Outlook ("APO").
- Ontario's electricity supply will be reduced in the near term:
  - Potential retirement of the Pickering Nuclear Generating Station and other nuclear refurbishments.
- Demand for electricity is increasing in Ontario due to:
  - Population growth, electrification of certain sectors and vehicles, economic growth in the mining, industrial, and agricultural sectors.
- The APO considers many potential solutions for the expected shortfall and concludes that new generation capacity is required.

7

7

Ontario Supply and Demand, 2023 to 2041





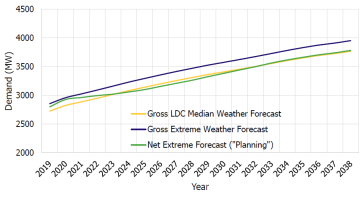
Source: https://www.ieso.ca/en/Sector-Participants/Planning-and-Forecasting/Annual-Planning-Outlook

8

8

Local Need

- The City of Brampton and surrounding area are in need of significant capacity additions.
- The IESO forecast suggests local demand will outstrip existing capacity by 2027.



9

9

IESO Procurement Updates

- The IESO is seeking a total of 4,000 MW of new capacity to help meet anticipated capacity shortfalls.
- IESO's Expedited Long-Term RFP (E-LT RFP) recently concluded with contracts to 17 proponents, representing over 1,170 MW of new capacity to the grid by May 2026.
- Capital Power's Goreway BESS and Goreway Upgrade projects have been selected for a contract to the IESO.
- Subsequent IESO RFP processes are expected to meet the 4,000 MW procurement target.

10

10

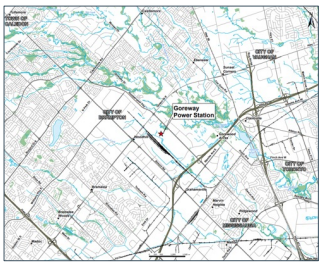
Proposed Goreway Power Station Upgrades

Capital Power

11

Goreway Power Station (GPS) Location

- 8600 Goreway Drive, City of Brampton.
- North of Hwy 407, east of Airport Rd.
- Adjacent to the Canadian National (CN) Brampton Intermodal Terminal.



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GPS Overview

- GPS generates ~875 megawatts (MW) of power.
- Began operating in 2009 and acquired by Capital Power in 2019.
- Combined cycle facility with state-of-the-art emission controls.

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GPS Upgrades Project

- Upgrade package offered by turbine manufacturer (General Electric).
- Will add additional generation capacity of ~40MW
  - Includes replacement of various turbine parts with more advanced technology
  - Construction work will only involve equipment upgrades within the existing facility, with no change to the existing GPS footprint.
- No physical earthworks and associated disturbance-related activities required
- To be completed during regularly scheduled maintenance outages starting in early 2024.

14

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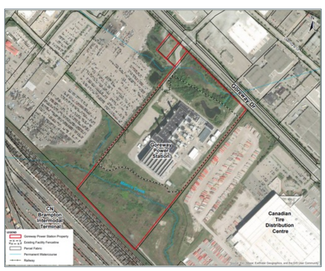
Regulatory Approvals

- Environmental Screening Process for Electricity Projects
- Air and Noise – Environmental Compliance Approval (ECA) Amendment, MECP



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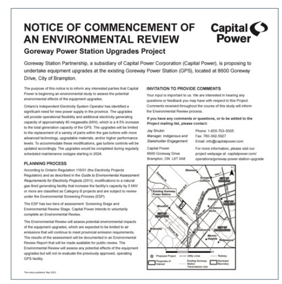
Engagement

- Introduction letters sent to Indigenous communities on April 12, 2023, and meetings with interested communities currently underway.
- A Notice of Commencement published in the Brampton Guardian on May 4th, 2023, and mailed to nearby property owners.
- HDI's Engagement Application sent on June 7, 2023.



NOTICE OF COMMENCEMENT OF AN ENVIRONMENTAL REVIEW

Capital Power

Goreway Power Station Upgrades Project

Goreway Station Partnership, a subsidiary of Capital Power Corporation (Capital Power), is proposing to undertake equipment upgrades at the existing Goreway Power Station (GPS), located at 8600 Goreway Drive, City of Brampton.

The purpose of this notice is to inform any interested parties that Capital Power is beginning an environmental study to assess the potential environmental effects of the equipment upgrades.

Ontario's Independent Electricity System Operator has identified a significant need for new power supply in the province. The upgrades will provide operational flexibility and additional electricity generating capacity of approximately 40 megawatts (MW), which is a 4.5% increase to the total generation capacity of the GPS. The upgrades will be limited to the replacement of a variety of parts within the gas turbine with more advanced technology, upgradable materials, and/or higher performance levels. To accommodate these modifications, gas turbine controls will be updated accordingly. The upgrades would be completed during regularly scheduled maintenance outages starting in 2024.

PLANNING PROCESS

According to Ontario Regulation 116/01 (the Electricity Projects Regulation) and as described in the *Guide to Environmental Assessment Requirements for Electricity Projects (2011)*, modifications to a natural gas-fired generating facility that increase the facility's capacity by 5 MW or more are classified as Category B projects and are subject to review under the Environmental Screening Process (ESP).

The ESP has two tiers of assessment: Screening Stage and Environmental Review Stage. Capital Power intends to voluntarily complete an Environmental Review.

The Environmental Review will assess potential environmental impacts of the equipment upgrades, which are expected to be limited to air emissions that will continue to meet provincial emission requirements. The results of the assessment will be documented in an Environmental Review Report that will be made available for public review. The Environmental Review will assess any potential effects of the equipment upgrades but will not re-evaluate the previously approved, operating GPS facility.

INVITATION TO PROVIDE COMMENTS

Your input is important to us. We are interested in hearing any questions or feedback you may have with respect to this Project. Comments received throughout the course of this study will inform the Environmental Review process.

If you have any comments or questions, or to be added to the Project mailing list, please contact:

Jay Shukin
Manager, Indigenous and Stakeholder Engagement
Capital Power
8600 Goreway Drive
Brampton, ON L6T 0A8

Phone: 1-855-703-5005
Fax: 780-392-5927
Email: info@capitalpower.com
For more information, please visit our project webpage at: capitalpower.com/operations/goreway-power-station-upgrade

Existing Goreway Power Station
Proposed Project
Properties of Interest
Utility Lines
Existing Goreway Station Transmission Line
Railway
Municipal Boundary

This notice published: May 2023.

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Upgrades Project Timeline

- Pending approvals by provincial government:

Milestone	Anticipated Timing
Environmental studies and regulatory approvals	2023 - 2024
Installation - Scheduled Outage	April 2024 *(pending regulatory approvals)*
Commercial operation requirement	May 1, 2025

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Proposed Goreway BESS

Capital Power

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Battery Energy Storage System (BESS) Overview

- BESS facilities help balance the electricity grid:
  - Charged when demand is low and feed electricity into the grid when demand is high and/or generation from other resources is low.
- Use lithium-ion batteries, the most common type for utility-scale energy storage.
- BESS enclosures are similar in size to shipping containers, approx. 9m x 3m x 2m.

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Battery Energy Storage System (BESS) Overview

- Numerous interconnected, weather-proof modular enclosures.
- Include a range of state-of-the-art systems to ensure optimal performance characteristics, such as:
  - Temperature control, HVAC, fire detection & suppression, energy control systems.
- Maintenance requirements are minimal given the simplicity of the design.

20

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Global Growth of BESS Projects

- BESS facilities are becoming vital to the effort of moving to lower-carbon sources of power.
- Large-scale systems are well-known elsewhere. Over 8,200 MW of BESS installed by late 2022 in the U.S.. Global installed BESS expected to 80,000 MW by 2030.
- Smaller scale systems are already in wide use throughout Ontario. Growth is expected in 2023, as the federal government and all provincial governments work to enable power storage development to help the transition to net-zero.

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Project Overview

- BESS would provide up to 50 MW of electricity for up to 4 hours.
- Connection to provincial grid via a new 34.5 kV: 230 kV transformer station and interconnection line.
- Ancillary components:
  - Other electrical components
  - Internal graveled access laneways
  - Stormwater management
  - Temporary construction areas
  - Fencing
- Standalone facility, operating independently of the GPS.

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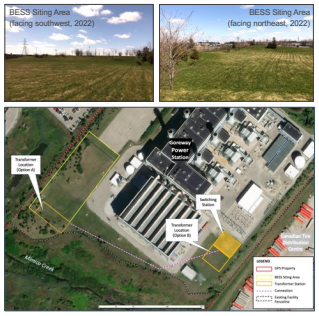
BESS Site

- Proposed in southwest corner of the GPS site, within the existing facility fenceline.
- Currently manicured lawn and parking area.
- Footprint approximately 0.65 ha (or 1.6 acres).
- Two potential configurations (locations for the transformer station).



23

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Key Project Design Elements

- Sited to avoid naturalized area along Mimico Creek.
- Entirely within the existing facility fenceline.
- Use of GPS infrastructure avoids need for new construction of some components.
- Trees/shrubs planted to create visual screening.
- No air emissions.

24

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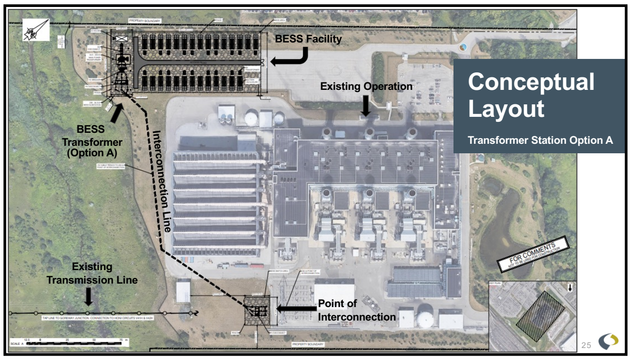

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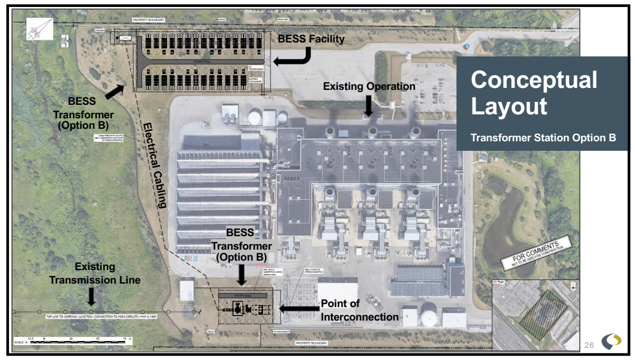

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BESS Construction

- Construction duration: approx. 1 yr.
- Access: via existing GPS entrance.
- Site preparation:
  - Site clearing and grading
  - Earthworks
  - Stormwater management features
- Foundations: slab-on-grade or helical screw pile.
- BESS enclosure delivery & installation using mobile cranes.
- Electrical and mechanical installation activities.
- Commissioning.
- Installation of fencing, gates & site remediation, including landscaping.

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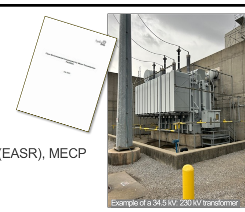
Regulatory Approvals

- Class Environmental Assessment for Minor Transmission Facilities (Class EA)
- Site Plan Approval – City of Brampton
- Noise – Environmental Activity and Sector Registry (EASR), MECP
- Stormwater – ECA, MECP



Technical Studies to Support Regulatory Approvals:

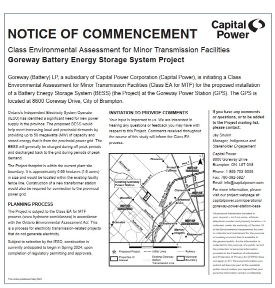
- Land Use Planning
- Natural Environment (Ecology)
- Noise
- Stormwater Management
- Cultural Heritage Resources (Built Heritage, Heritage Landscapes, Archaeology)
- Landscaping (Visual Aesthetics)
- Emergency Response Planning
- Various construction and engineering plans and drawings

28

28

Engagement

- Introduction letters sent to Indigenous communities on April 20, 2023, and meetings with interested communities are currently underway.
- Notice of Commencement published in the Brampton Guardian on May 4, 2023, and mailed to nearby property owners.
- HDI's Engagement Application sent on June 13, 2023.
- Virtual public community meeting held on June 21, 2023.



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BESS Project Timeline

- Pending approvals by provincial government and City of Brampton:

Milestone	Anticipated Timing
Environmental studies and regulatory approvals	2023 – Early 2024
Construction mobilization	Early 2024 *(pending regulatory approvals)*
Delivery and installation of battery modules	Mid-2024
Technical commissioning activities	Early 2025
Commercial operation requirement	May 2025 to May 2026

30

30

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From: Jay Shukin
Sent: Wednesday, September 6, 2023 9:54 AM
To: Jake Linklater <jake@detlorlaw.com>
Cc: Chazz Pitts <chazz@detlorlaw.com>; Aaron Detlor <aarondetlor@gmail.com>
Subject: Goreway Tour - Follow-up

Hi Jake:

It was good to have met you in person last week at the Goreway facility. Attached is a copy of the presentation Bill provided. I've also included a meeting summary. A few further notes:

- You asked about emissions from the facility. I'll get more information to you ASAP.
- You raised the potential of contracting. My task is to further connect with our construction manager. I will do so and get back to you. In the meantime, you may wish to inform affiliated companies that they can register with Capital Power as a potential supplier. The link for on-line form is at this site: https://www.capitalpower.com/suppliers-and-contractors/

I will check further on the Monitoring Agreement and get back to you ASAP.

Best,

Jay

_____

Jay Shukin
Manager, Indigenous and Stakeholder Engagement
Capital Power
250-882-5188

Meeting Summary
August 31, 2023 @ 11:30 am
Goreway Power Station

Present:
HDI: Jake Linklater
Capital Power: Bill Mercer, Jacob Fountain, Jay Shukin
The purpose of the meeting was to provide Jake with a site tour of the GPS.

Summary:
The 'formal' meeting got underway at 11:48am.

Bill provided a site orientation through a powerpoint, which covered the following:

- General on-site safety
- Facility timeline
- Background on a combined-cycle facility
- Technical configuration of the GPS, the gas turbine and HRSG
- General operations
- Background on the two projects: 1) the upgrade; 2) the battery energy storage system.

Questions:

- What agency granted the approvals for the plant in 2002? [**Answer**: Approving agency was the Ministry of Environment]
- What is the dispersion zone in terms of emissions? How will this change with the upgrades? [**NOTE**: More to come on this.]

Bill provided background on several further points:

- The IESO contract. There are some opportunities for merchant sales, but there is still an IESO role in terms of off-taking.
- Water use. Bill noted that the water is all within a closed-loop system, with water re-used. Additional water (as needed) is provided by the City of Brampton per contract.
- The startup sequence and the role the plant plays in supporting system needs. Jake observed that the turbines were essentially jet engines; Bill agreed they were similar, but for the weight of each turbine.
- There is a difference in generation capacity between summer (less) and winter (more) due to the ambient air temperature. Colder air is denser and has more force to drive turbines.

Jacob provided background on the BESS project, including:

- Location.
- General configuration.

- Construction timelines (about a year once the work starts).
- General location of the underground transmission line.
- BESS will be charged from the grid.
- There is a setback from the natural land around Mimico Creek, which under the Toronto Region Conservation Authority.

There was discussion about supply chain matters re. BESS equipment, particularly around rare earth metals. Jacob did not believe this would be an issue in terms of securing BESS units. Lithium Ferrous Phosphate technology is increasingly the standard and the use of rare earth metals was less.

Jake requested that the presentation be sent to him. Jay will send.

There was brief discussion of hydrogen, its use and production.

Jake briefly mentioned the governance model that HDI works with, as in traditional governance vs. the elected Council. The traditional body does not receive revenues from government, so they must find other ways to generate income for community needs.

Jake stated the importance HDI puts in making sure the environmental aspects of a project were done well. But there is also interest in contracting and potential partnership opportunities.

Jake asked about contracting opportunities during the construction. Jay will connect with the project construction lead. Later, Jake noted landscaping and snow-clearing contractors as a potential opportunity.

Jake mentioned potential partnerships, noting that HDI has financial resources to bring into a partnership.

The site tour commenced around 12:35pm.

The visit included:
- The control room.
- Maintenance and parts room.
- Exterior areas: stormwater pond, water storage tank, substation.
- The exterior of the gas turbine areas.
- The HRSG.
- The air condenser.
- And back to the main parking area.

Jacob pointed out the general area of the BESS site, noting the general parameters. The construction area will extend to the current fence line, and trees will be cut down and the berms removed. There is

additional fencing and a buffer for the creek area, and stormwater will be fed (as required) into the piping/infrastructure that's connected to the existing system. Jake asked about GIS mapping. Jacob noted that this and geotechnical work will be done prior to construction.

The tour ended around 1:40pm.

Goreway Power Station

Capital Power

August, 2023

Safety Briefing

- All visitors must have signed in
- The site is a heavy industrial facility, stay within safe walkway and :
  - Hearing protection will be provided, and time in noisy areas will be limited
  - High temperature equipment may make surfaces hot – avoid touching
  - Equipment may start without no notice, always keep distance
  - High voltage electrical systems exist throughout the plant
- PPE required – Hard hats, safety glasses, hearing protection, long sleeved shirts, full length trousers, sensible flat shoes (steel toed preferred)
- In the case of any emergency alarms sound and announced
  - Exit through the nearest exit and muster at the North gate
  - Do not leave site until headcount is completed
- No smoking anywhere on site
- Report any incident and first aid, no matter how small to Capital Power staff, there is full first aid
- Also report any unsafe or hazardous condition in the facility to Capital Power staff
- Washrooms located in operations building second floor

Facility Timeline

- Goreway is an 875 MW nominal, combined cycle facility
- The Station's buildings and facilities occupy about 21% of the 20-hectare site.
- 1998 to 2002: Site Selection, Environmental Studies
- 2002: Major project approvals granted 2005 October
- 2006: Construction started
- 2009 June 4th : - Commercial Operation
- 2015 – 2017: Three GTs upgraded to .04 version with several upgrades
- 2019 : Acquired by Capital Power

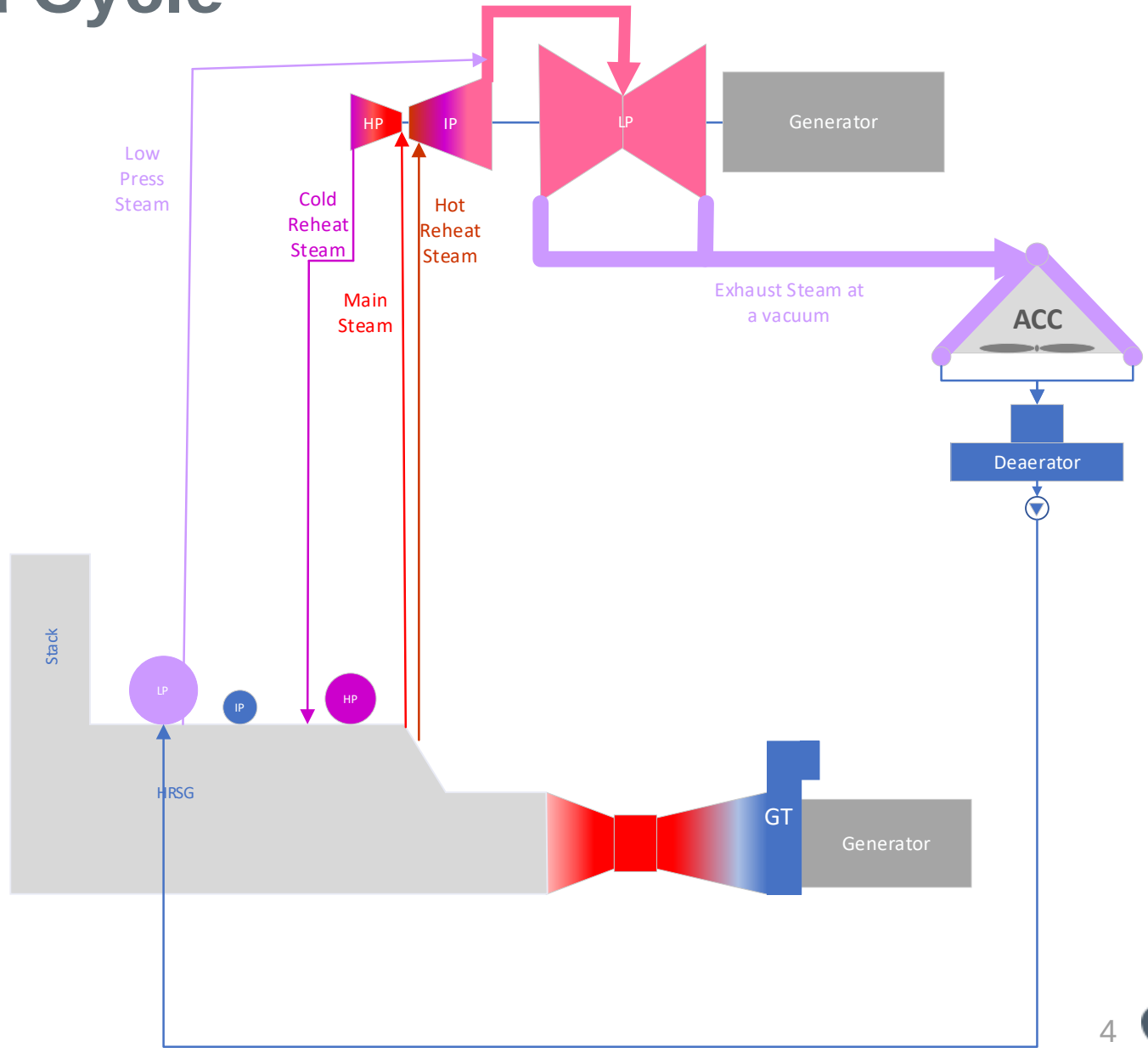
Three by one (3X1) Combined Cycle.

- 3 Combustion Turbines
- 1 Steam Turbine

Combined Cycle

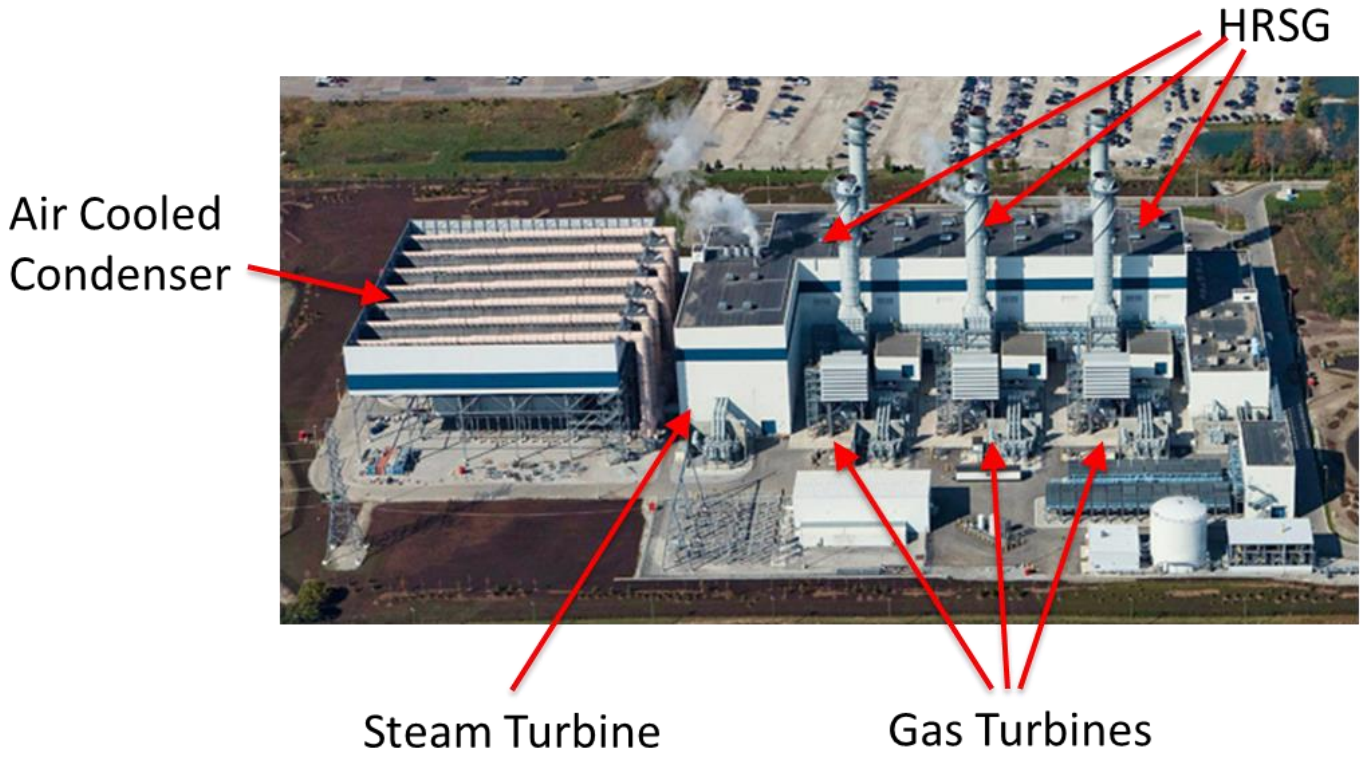
Two Cycles
Gas Turbine +
Steam Turbine

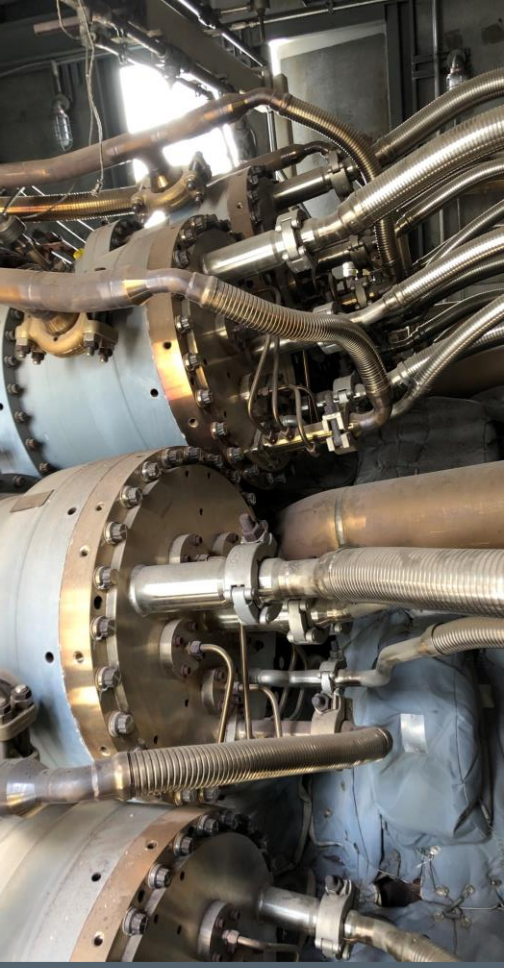
- Used to capture the most energy from the fuel as possible
- Exhaust gas energy from GT used to boil water and make superheated steam
- Steam used on “bottoming cycle” to maximize efficiency.



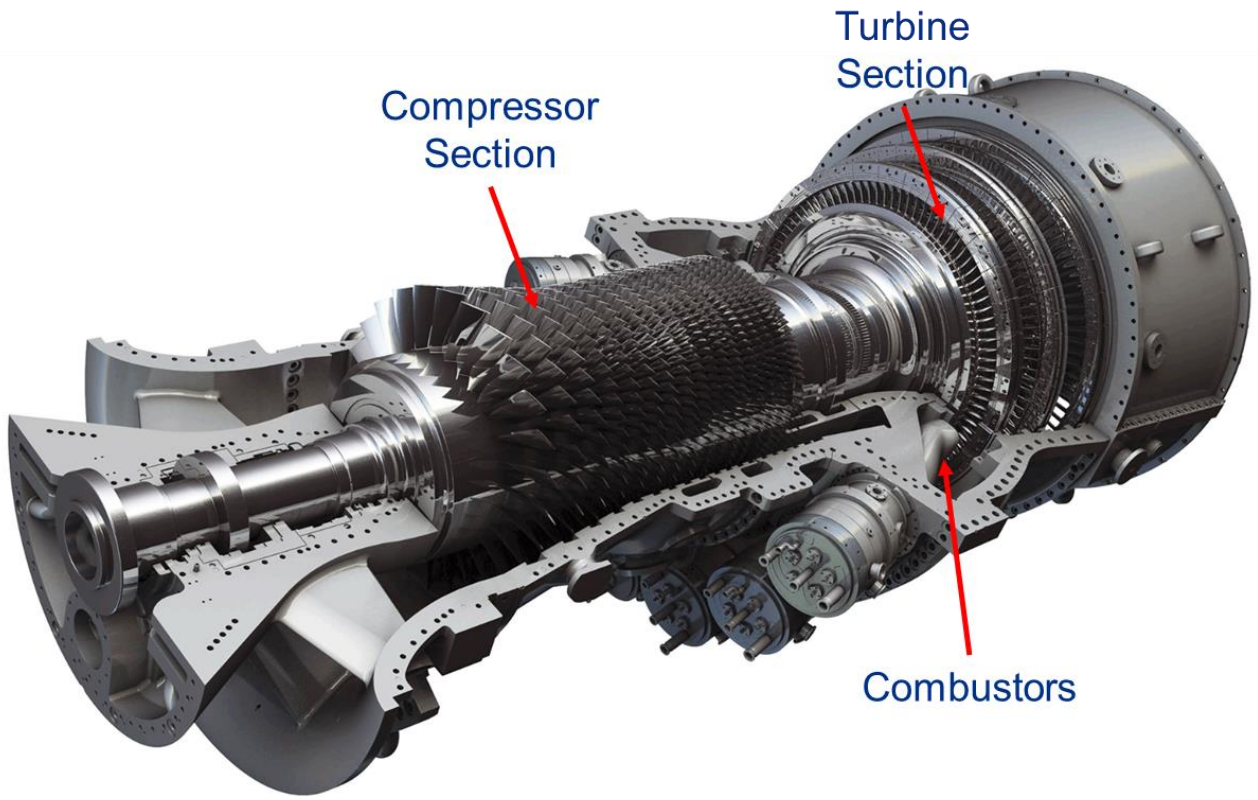
Technical Overview

- Combined cycle plant with three GE 7FB.04 gas turbines
- Three Deltak triple pressure HRSGs with SCR, and duct burners.
- SPX air cooled condenser (ACC) – No water used for cooling
- Three control systems
- Two closed cooling systems with pumping and fin fan coolers
- HV gas insulated switchgear and approx. 2 Km of HV transmission line





Gas Turbine Frame 7FB.04



Turbine

Single Shaft - GE Frame FB.04 Gas Turbine (each 195 MW at ISO)

14 Combustors – Combustor outlet temp aprox 1350°C

Compressor 23-1 compressor ratio 23 bar = 333 psi (300-400 kg/s airflow)

Turbine 3 stages axial flow (620°C - 650°C exhaust temp)

Evaporative Cooling on inlet to improve summer output

Generator -GE

Generator (18kV, 229 MVA), Hydrogen Cooled type.

Heat Recovery Steam Generator (HRSG)

Primary purpose is to capture as much heat from the exhaust gas of the gas turbine as practical to produce useful energy for the steam turbine cycle.

Hot Gas inlet at approximately 640°C (1185 °F) lowered to approximately 100°C (212°F) at the stack.

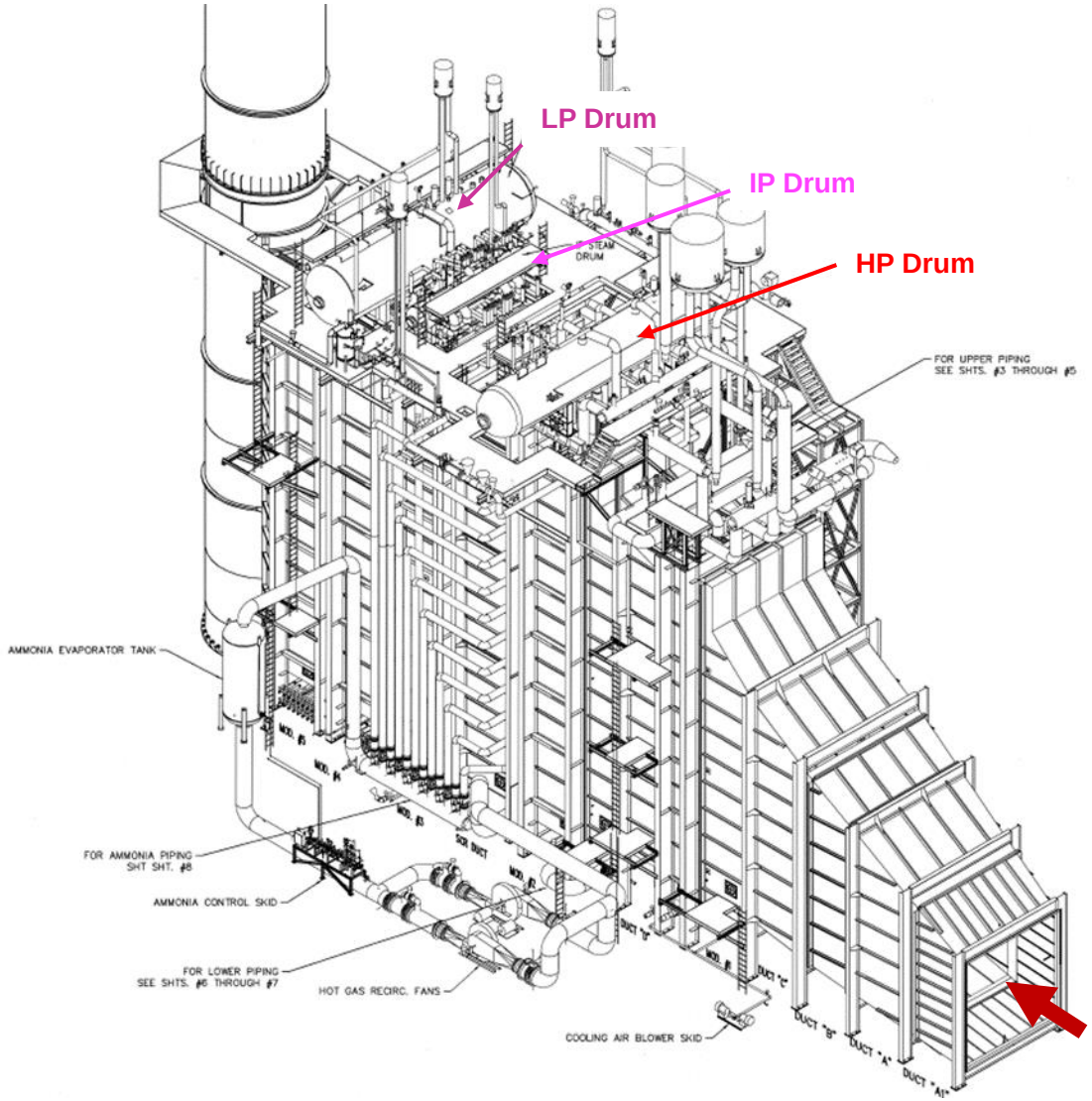
Is comprised of three “boiler” sections within one casing as well as housing the selective catalyst reduction (SCR) section.

Complex units included many control valves, attemperators, pumps and controls. Heavy walled components are the main limiters to ramp rates, especially from cold.

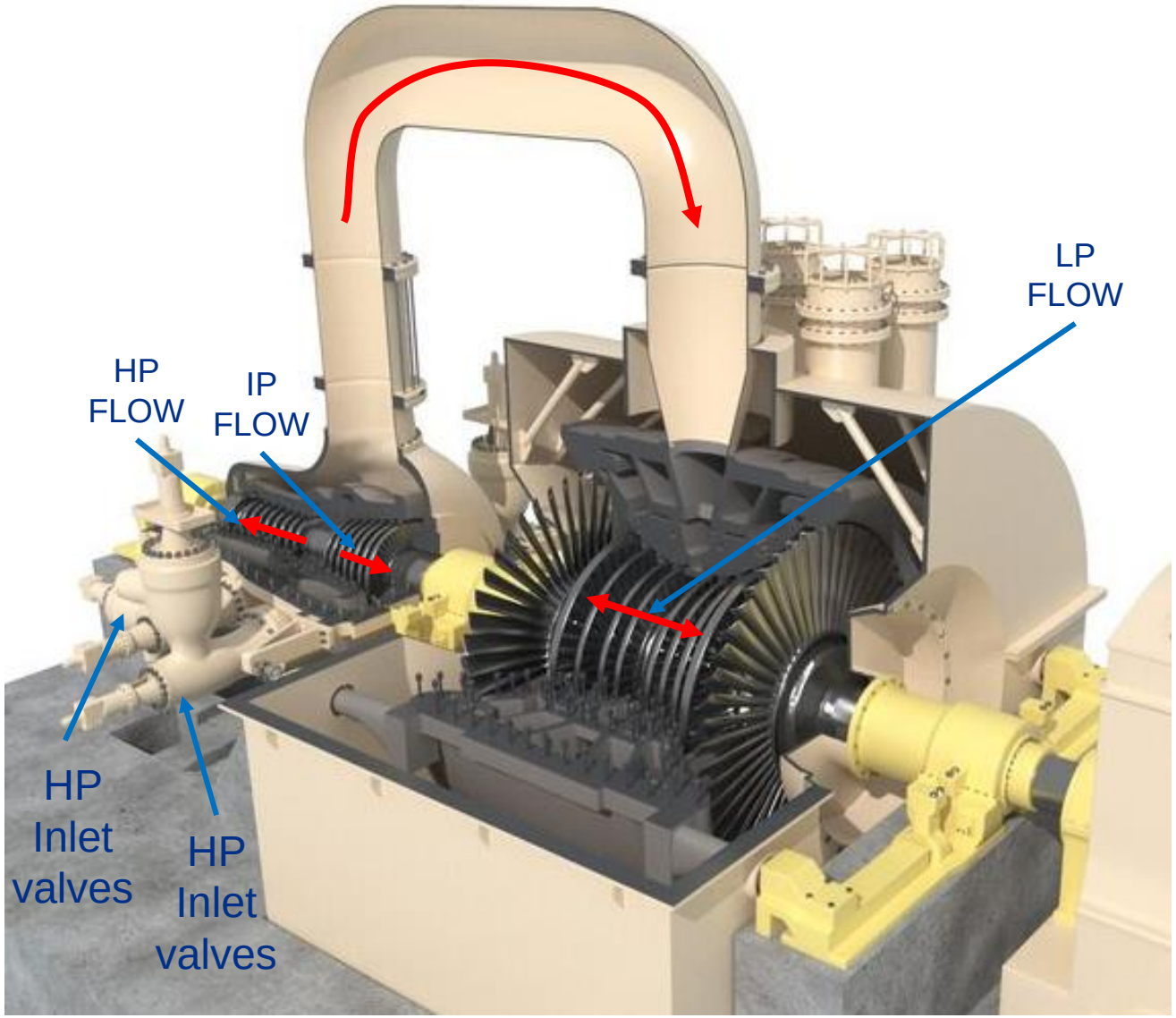
The SCR uses evaporated aqueous ammonia at 19% together with a catalyst bed reduce NOx emissions to below 3.5 ppm at all loads.

Contain auxiliary firing (duct burners) to raise additional steam during peak demand periods

Each HRSG has 146,061 m2 (14 hectares / 36 acres) of heating surface



KN Steam Turbine



Steam Turbine

1xSiemens AG, Reheat Condensing Sliding Pressure Steam Turbine (369 MW) nameplate rating

32 stages, tandem compound, 3 pressure, reheat, 2 casing turbine

16 stages HP; steam conditions 15070 kPa (2183 PSI), 563 C (1046 F) at full load

11 stages IP /reheat steam conditions 2980 kPa (432 PSI), 565 C (1050 F) at full load.

2X5 stages LP steam; conditions 540 kPa (78 PSI), 218 C (425 F) fired. Design backpressure 8 kPaA

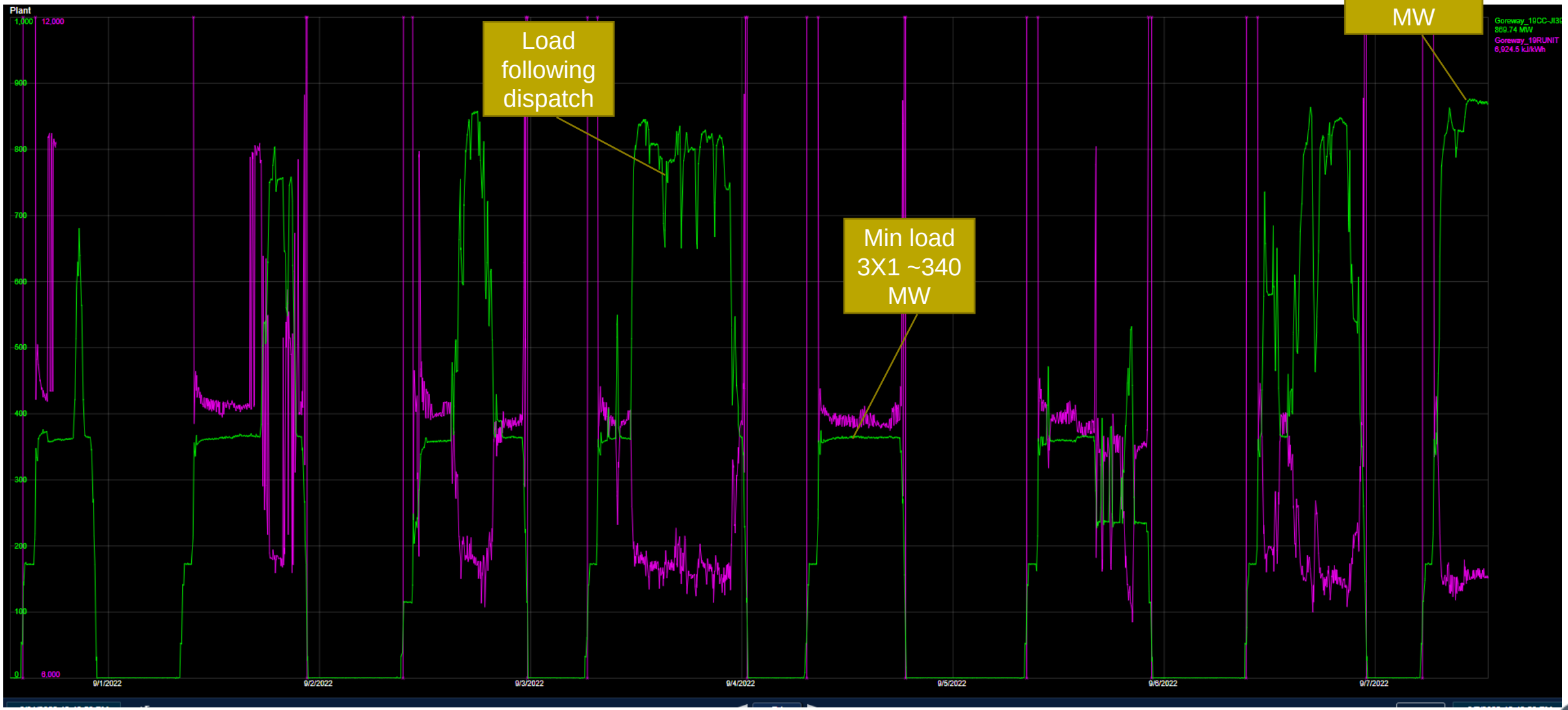
Turbine Bypass for Simple Cycle Operation

Generator

Siemens

447MVA, 23kV, Hydrogen Cooled

Flexible Operation - A Typical Week



Goreway - 50 MW Battery Storage Project

Goreway BESS

- 50 MW, 4 hours (200 MWh per cycle)
- COD as early as May 2025
- The Project will charge from the grid, existing turbines don't need to be running

Dispatch and Ancillary Services

- Immediately available capacity
- Provides fast response Operating Reserve service
- Black start capable

Transmission and System Benefits

- Located east of FETT transmission Interface
- Uses existing transmission infrastructure
- Zero incremental emissions

Goreway – 40 MW Existing Turbine Uprate Project

Goreway Turbines

- Upgrade of existing gas turbine blading during a scheduled maintenance event.
- New components will increase unit performance to allow a 40MW increase for the whole plant. Approximately 4.5% increase in power.
- No change to the existing footprint or configuration – all parts are internal to the GT.

Dispatch and Ancillary Services

- Continues to provide fast response Operating Reserve service
- Continues the same level of turndown for grid flexibility

Transmission and System Benefits

- Located east of FETT transmission Interface
- Existing site and same transmission connection
- No new construction required

Thank You

From: Jay Shukin
Sent: Thursday, September 21, 2023 7:35 AM
To: 'Jake Linklater' <jake@detlorlaw.com>
Cc: Chazz Pitts <chazz@detlorlaw.com>; Aaron Detlor <aarondetlor@gmail.com>; Chris Sutherland <csutherland@capitalpower.com>; Wilhelm Danek <wdanek@capitalpower.com>
Subject: Capacity Funding to support Goreway Upgrade Environmental Report

Hi Jake:

Please find attached a proposed capacity funding agreement to support HDI's technical review of the Environmental Review Report (ERR) for the Goreway Upgrade Project.

As you'll recall, we are seeking regulatory approval to undertake upgrades to the existing generation equipment at the Goreway Power Station. This will provide operational flexibility and an additional electricity generating capacity of approximately 40 megawatts (MW), which is a 4.5% increase to the total generation capacity of the GPS. The upgrades will be limited to the replacement of a variety of parts within the gas turbine with more advanced technology, upgradable materials, and/or higher performance levels. This work will take place within the existing facility as part of our routine maintenance plan. It will not involve any excavations, earth movement or tree removal.

We anticipate providing you with the ERR shortly. Our goal will be to submit the final ERR to the Ministry of Environment, Conservation and Parks (MECP) by late October.

Thank you for providing HDI's Monitoring Agreement earlier this summer. We have thoroughly reviewed the document. With the nature and scope of work of the Upgrade project (i.e. all work is within the existing site and facility and no ground disturbance will occur), we do not understand the need for the Monitoring Agreement in respect of the Upgrade project. More specifically, the Agreement raised concerns for us around the lack of clarity on the role of the Committee and the

uncertainty around the scope of the work to be performed in terms of the Upgrade.

Our hope is that the capacity funding agreement will provide HDI with the resources to review project material.

Our team is continuing to review the Monitoring Agreement as it relates to the Goreway Battery Energy Storage System (BESS). We are aiming to provide you with proposed amendments to the Agreement as it relates to the BESS in October. In terms of the timelines for the BESS project, I can advise you that we are expecting to have materials for review later this year.

I will reach out to you in the next week to see if you would like to talk further about the project and the process.

Sincerely,

Jay

Jay Shukin
Manager, Indigenous and Stakeholder Engagement
Capital Power
250-882-5188

From: Jake Linklater <jake@detlorlaw.com>
Sent: Thursday, September 7, 2023 9:45 AM
To: Jay Shukin <jshukin@capitalpower.com>
Cc: Chazz Pitts <chazz@detlorlaw.com>; Aaron Detlor <aarondetlor@gmail.com>; Jake Linklater <jake@detlorlaw.com>
Subject: Re: Goreway Tour - Follow-up

Good Afternoon Jay...

Very good to meet and many thanks for the tour.

We look forward to receiving your (Capital Power) comments on the monitor agreement, the information that was requested and dates for our next meeting(s).

Respectfully,

Jake Linklater
Director
Engagement & Approvals
519-374-4339

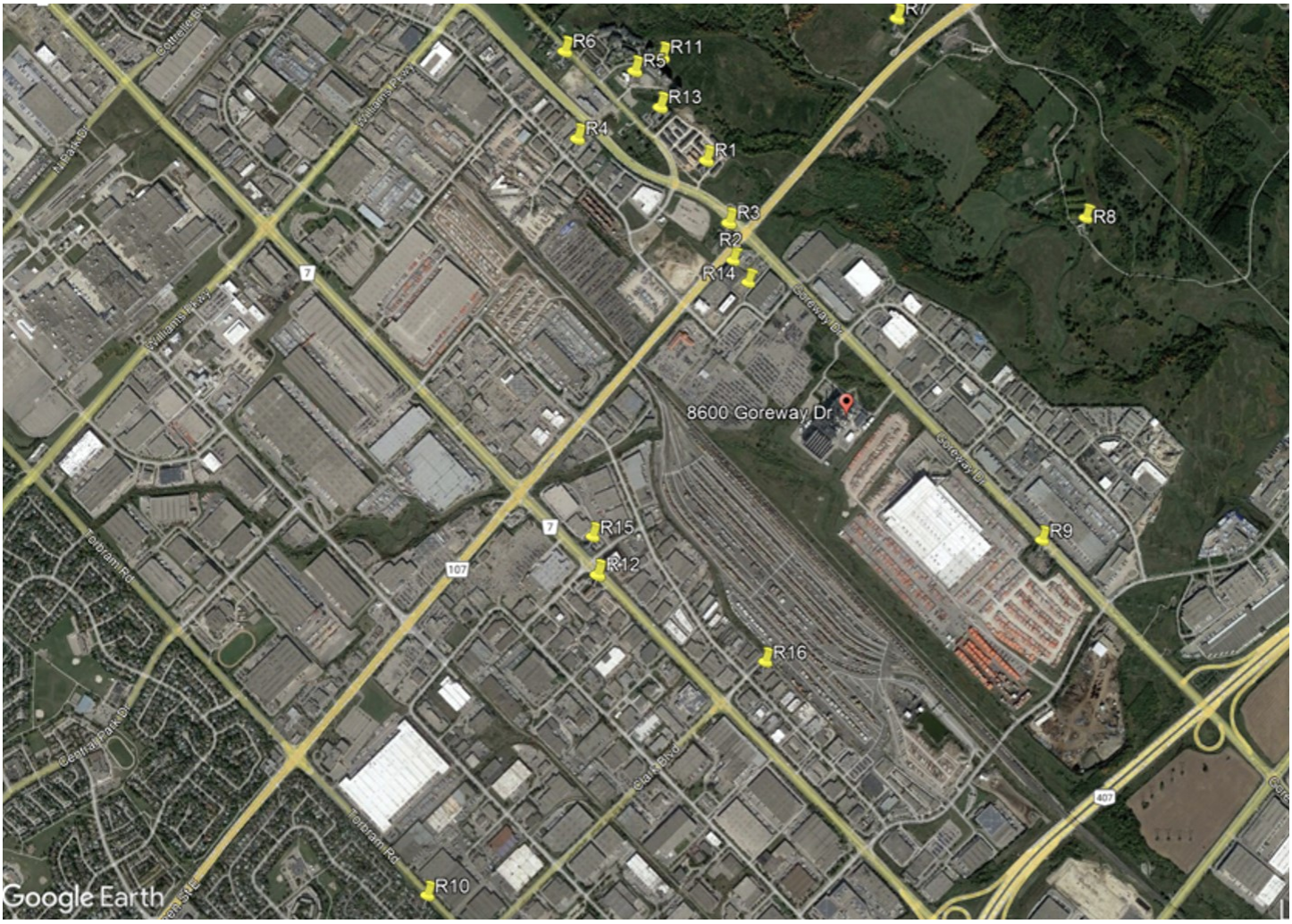
From: Jay Shukin <jshukin@capitalpower.com>
Sent: September 25, 2023 4:57 PM
To: Jake Linklater
Subject: Question on dispersion zone re. emissions - Goreway Facility

Hi Jake – I was hoping to connect with you by phone today, but have come down with COVID and feeling really poor. Do you mind if I try you in the coming days, once my head doesn't feel like it's going to explode?

When you came for the site visit on August 31, you asked about emissions from the plant, and in particular the dispersion zone. Apologies for the delay in getting back to you on this question, but here is information on this matter (and please see map below).

The dispersion zone or area of influence for the Goreway Power Station is the area surrounding the GPS property. The dispersion zone will not be markedly different from the current operations, as there are minimal changes to emissions rates and there are no planned changes to the three existing exhaust stacks which influence air dispersion.

A 64 km^2 area surrounding the Goreway Power Station was identified as the area of study to determine the potential for impacts due to the dispersion of emissions which is a larger grid area than that specified by Provincial guidance. In addition to the large surrounding grid, sixteen discrete receptors were included in the dispersion modelling to represent existing "sensitive" receptors, as illustrated in the figure below. Results of the air dispersion modelling predicted that the maximum concentrations of emissions will be below the applicable air quality criteria (i.e., provincial standards) at all 16 points of reception.


R6
R11
R5
R13
R4
R1
R3
R2
R14
R8
8600 Goreway Dr
R15
R12
R9
R16
R10
Google Earth

From: Jake Linklater <jake@detlorlaw.com>
Sent: Tuesday, September 26, 2023 5:44 AM
To: Jay Shukin <jshukin@capitalpower.com>
Cc: Chazz Pitts <chazz@detlorlaw.com>; Aaron Detlor <aarondetlor@gmail.com>; Chris Sutherland <csutherland@capitalpower.com>; Wilhelm Danek <wdanek@capitalpower.com>; Jake Linklater <jake@detlorlaw.com>
Subject: Re: Capacity Funding to support Goreway Upgrade Environmental Report

Good Morning Jay...

Thank you for your email.

What has been explained and offered is plainly unacceptable at this point.

I propose a face to face meeting in the coming weeks either at our offices in Toronto or at Grand River Ohsweken to discuss what meaningful engagement means and requires.

Respectfully,

Jake Linklater
Director
Engagement & Approvals
519-374-4339

Appendix D Cultural Heritage Checklist

Environmental Review Report

Goreway Power Station Upgrades Project

Capital Power Corporation

SLR Project No.: 241.030524.00025

September 28, 2023

Ontario

Ministry of Tourism, Culture and Sport

Programs & Services Branch
401 Bay Street, Suite 1700
Toronto ON M7A 0A7

Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes

A Checklist for the Non-Specialist

The **purpose of the checklist** is to determine:

- if a property(ies) or project area:
  - is a recognized heritage property
  - may be of cultural heritage value
- it includes all areas that may be impacted by project activities, including – but not limited to:
  - the main project area
  - temporary storage
  - staging and working areas
  - temporary roads and detours

Processes covered under this checklist, such as:

- *Planning Act*
- *Environmental Assessment Act*
- *Aggregates Resources Act*
- *Ontario Heritage Act* – Standards and Guidelines for Conservation of Provincial Heritage Properties

Cultural Heritage Evaluation Report (CHER)

If you are not sure how to answer one or more of the questions on the checklist, you may want to hire a qualified person(s) (see page 5 for definitions) to undertake a cultural heritage evaluation report (CHER).

The CHER will help you:

- identify, evaluate and protect cultural heritage resources on your property or project area
- reduce potential delays and risks to a project

Other checklists

Please use a separate checklist for your project, if:

- you are seeking a Renewable Energy Approval under Ontario Regulation 359/09 – separate checklist
- your Parent Class EA document has an approved screening criteria (as referenced in Question 1)

Please refer to the Instructions pages for more detailed information and when completing this form.

Project or Property Name

Goreway Power Station

Project or Property Location (upper and lower or single tier municipality)

8600 Goreway Drive, Brampton, Ontario

Proponent Name

SLR Consulting (Canada) Limited

Proponent Contact Information

Jennifer Whittard; 226-706-8080; jwhittard@slrconsulting.com

Screening Questions

	Yes	No
1. Is there a pre-approved screening checklist, methodology or process in place?	☐	☑

If Yes, please follow the pre-approved screening checklist, methodology or process.

If No, continue to Question 2.

Part A: Screening for known (or recognized) Cultural Heritage Value

	Yes	No
2. Has the property (or project area) been evaluated before and found **not** to be of cultural heritage value?	☐	☑

If Yes, do **not** complete the rest of the checklist.

The proponent, property owner and/or approval authority will:

- summarize the previous evaluation and
- add this checklist to the project file, with the appropriate documents that demonstrate a cultural heritage evaluation was undertaken

The summary and appropriate documentation may be:

- submitted as part of a report requirement
- maintained by the property owner, proponent or approval authority

If No, continue to Question 3.

	Yes	No
3. Is the property (or project area):		
a. identified, designated or otherwise protected under the *Ontario Heritage Act* as being of cultural heritage value?	☐	☑
b. a National Historic Site (or part of)?	☐	☑
c. designated under the *Heritage Railway Stations Protection Act*?	☐	☑
d. designated under the *Heritage Lighthouse Protection Act*?	☐	☑
e. identified as a Federal Heritage Building by the Federal Heritage Buildings Review Office (FHBRO)?	☐	☑
f. located within a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site?	☐	☑

If Yes to any of the above questions, you need to hire a qualified person(s) to undertake:

- a Cultural Heritage Evaluation Report, if a Statement of Cultural Heritage Value has not previously been prepared or the statement needs to be updated

If a Statement of Cultural Heritage Value has been prepared previously and if alterations or development are proposed, you need to hire a qualified person(s) to undertake:

- a Heritage Impact Assessment (HIA) – the report will assess and avoid, eliminate or mitigate impacts

If No, continue to Question 4.

Part B: Screening for Potential Cultural Heritage Value

	Yes	No
4. Does the property (or project area) contain a parcel of land that:		
a. is the subject of a municipal, provincial or federal commemorative or interpretive plaque?	☐	☑
b. has or is adjacent to a known burial site and/or cemetery?	☐	☑
c. is in a Canadian Heritage River watershed?	☐	☑
d. contains buildings or structures that are 40 or more years old?	☐	☑

Part C: Other Considerations

	Yes	No
5. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area):		
a. is considered a landmark in the local community or contains any structures or sites that are important in defining the character of the area?	☐	☑
b. has a special association with a community, person or historical event?	☐	☑
c. contains or is part of a cultural heritage landscape?	☐	☑

If Yes to one or more of the above questions (Part B and C), there is potential for cultural heritage resources on the property or within the project area.

You need to hire a qualified person(s) to undertake:

- a Cultural Heritage Evaluation Report (CHER)

If the property is determined to be of cultural heritage value and alterations or development is proposed, you need to hire a qualified person(s) to undertake:

- a Heritage Impact Assessment (HIA) – the report will assess and avoid, eliminate or mitigate impacts

If No to all of the above questions, there is low potential for built heritage or cultural heritage landscape on the property.

The proponent, property owner and/or approval authority will:

- summarize the conclusion
- add this checklist with the appropriate documentation to the project file

The summary and appropriate documentation may be:

- submitted as part of a report requirement e.g. under the *Environmental Assessment Act, Planning Act* processes
- maintained by the property owner, proponent or approval authority

Instructions

Please have the following available, when requesting information related to the screening questions below:

- a clear map showing the location and boundary of the property or project area
    - large scale and small scale showing nearby township names for context purposes
- the municipal addresses of all properties within the project area
- the lot(s), concession(s), and parcel number(s) of all properties within a project area

For more information, see the Ministry of Tourism, Culture and Sport's Ontario Heritage Toolkit or Standards and Guidelines for Conservation of Provincial Heritage Properties.

In this context, the following definitions apply:

- **qualified person(s)** means individuals – professional engineers, architects, archaeologists, etc. – having relevant, recent experience in the conservation of cultural heritage resources.
- **proponent** means a person, agency, group or organization that carries out or proposes to carry out an undertaking or is the owner or person having charge, management or control of an undertaking.

1. Is there a pre-approved screening checklist, methodology or process in place?

An existing checklist, methodology or process may already be in place for identifying potential cultural heritage resources, including:

- one endorsed by a municipality
- an environmental assessment process e.g. screening checklist for municipal bridges
- one that is approved by the Ministry of Tourism, Culture and Sport (MTCS) under the Ontario government's Standards & Guidelines for Conservation of Provincial Heritage Properties [s.B.2.]

Part A: Screening for known (or recognized) Cultural Heritage Value

2. Has the property (or project area) been evaluated before and found not to be of cultural heritage value?

Respond 'yes' to this question, if all of the following are true:

A property can be considered not to be of cultural heritage value if:

- a Cultural Heritage Evaluation Report (CHER) - or equivalent - has been prepared for the property with the advice of a qualified person and it has been determined not to be of cultural heritage value and/or
- the municipal heritage committee has evaluated the property for its cultural heritage value or interest and determined that the property is not of cultural heritage value or interest

A property may need to be re-evaluated, if:

- there is evidence that its heritage attributes may have changed
- new information is available
- the existing Statement of Cultural Heritage Value does not provide the information necessary to manage the property
- the evaluation took place after 2005 and did not use the criteria in Regulations 9/06 and 10/06

Note: Ontario government ministries and public bodies [prescribed under Regulation 157/10] may continue to use their existing evaluation processes, until the evaluation process required under section B.2 of the Standards & Guidelines for Conservation of Provincial Heritage Properties has been developed and approved by MTCS.

To determine if your property or project area has been evaluated, contact:

- the approval authority
- the proponent
- the Ministry of Tourism, Culture and Sport

3a. Is the property (or project area) identified, designated or otherwise protected under the *Ontario Heritage Act* as being of cultural heritage value e.g.:

i. designated under the *Ontario Heritage Act*

- individual designation (Part IV)
- part of a heritage conservation district (Part V)

Individual Designation – Part IV

A property that is designated:

- by a municipal by-law as being of cultural heritage value or interest [s.29 of the *Ontario Heritage Act*]
- by order of the Minister of Tourism, Culture and Sport as being of cultural heritage value or interest of provincial significance [s.34.5]. **Note**: To date, no properties have been designated by the Minister.

Heritage Conservation District – Part V

A property or project area that is located within an area designated by a municipal by-law as a heritage conservation district [s. 41 of the *Ontario Heritage Act*].

For more information on Parts IV and V, contact:

- municipal clerk
- Ontario Heritage Trust
- local land registry office (for a title search)

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ii. subject of an agreement, covenant or easement entered into under Parts II or IV of the *Ontario Heritage Act*

An agreement, covenant or easement is usually between the owner of a property and a conservation body or level of government. It is usually registered on title.

The primary purpose of the agreement is to:

- preserve, conserve, and maintain a cultural heritage resource
- prevent its destruction, demolition or loss

For more information, contact:

- Ontario Heritage Trust - for an agreement, covenant or easement [clause 10 (1) (c) of the *Ontario Heritage Act*]
- municipal clerk – for a property that is the subject of an easement or a covenant [s.37 of the *Ontario Heritage Act*]
- local land registry office (for a title search)

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iii. listed on a register of heritage properties maintained by the municipality

Municipal registers are the official lists - or record - of cultural heritage properties identified as being important to the community.

Registers include:

- all properties that are designated under the *Ontario Heritage Act* (Part IV or V)
- properties that have not been formally designated, but have been identified as having cultural heritage value or interest to the community

For more information, contact:

- municipal clerk
- municipal heritage planning staff
- municipal heritage committee

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iv. subject to a notice of:

- intention to designate (under Part IV of the *Ontario Heritage Act*)
- a Heritage Conservation District study area bylaw (under Part V of the *Ontario Heritage Act*)

A property that is subject to a **notice of intention to designate** as a property of cultural heritage value or interest and the notice is in accordance with:

- section 29 of the *Ontario Heritage Act*
- section 34.6 of the *Ontario Heritage Act.* **Note**: To date, the only applicable property is Meldrum Bay Inn, Manitoulin Island. [s.34.6]

An area designated by a municipal by-law made under section 40.1 of the *Ontario Heritage Act* as a **heritage conservation district study area**.

For more information, contact:

- municipal clerk – for a property that is the subject of notice of intention [s. 29 and s. 40.1]
- Ontario Heritage Trust

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v. included in the Ministry of Tourism, Culture and Sport's list of provincial heritage properties

Provincial heritage properties are properties the Government of Ontario owns or controls that have cultural heritage value or interest.

The Ministry of Tourism, Culture and Sport (MTCS) maintains a list of all provincial heritage properties based on information provided by ministries and prescribed public bodies. As they are identified, MTCS adds properties to the list of provincial heritage properties.

For more information, contact the MTCS Registrar at registrar@ontario.ca.

3b. Is the property (or project area) a National Historic Site (or part of)?

National Historic Sites are properties or districts of national historic significance that are designated by the Federal Minister of the Environment, under the *Canada National Parks Act*, based on the advice of the Historic Sites and Monuments Board of Canada.

For more information, see the National Historic Sites website.

3c. Is the property (or project area) designated under the *Heritage Railway Stations Protection Act*?

The *Heritage Railway Stations Protection Act* protects heritage railway stations that are owned by a railway company under federal jurisdiction. Designated railway stations that pass from federal ownership may continue to have cultural heritage value.

For more information, see the Directory of Designated Heritage Railway Stations.

3d. Is the property (or project area) designated under the *Heritage Lighthouse Protection Act*?

The *Heritage Lighthouse Protection Act* helps preserve historically significant Canadian lighthouses. The Act sets up a public nomination process and includes heritage building conservation standards for lighthouses which are officially designated.

For more information, see the Heritage Lighthouses of Canada website.

3e. Is the property (or project area) identified as a Federal Heritage Building by the Federal Heritage Buildings Review Office?

The role of the Federal Heritage Buildings Review Office (FHBRO) is to help the federal government protect the heritage buildings it owns. The policy applies to all federal government departments that administer real property, but not to federal Crown Corporations.

For more information, contact the Federal Heritage Buildings Review Office.

See a directory of all federal heritage designations.

3f. Is the property (or project area) located within a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site?

A UNESCO World Heritage Site is a place listed by UNESCO as having outstanding universal value to humanity under the Convention Concerning the Protection of the World Cultural and Natural Heritage. In order to retain the status of a World Heritage Site, each site must maintain its character defining features.

Currently, the Rideau Canal is the only World Heritage Site in Ontario.

For more information, see Parks Canada – World Heritage Site website.

Part B: Screening for potential Cultural Heritage Value

4a. Does the property (or project area) contain a parcel of land that has a municipal, provincial or federal commemorative or interpretive plaque?

Heritage resources are often recognized with formal plaques or markers.

Plaques are prepared by:

- municipalities
- provincial ministries or agencies
- federal ministries or agencies
- local non-government or non-profit organizations

For more information, contact:

- municipal heritage committees or local heritage organizations – for information on the location of plaques in their community
- Ontario Historical Society's Heritage directory – for a list of historical societies and heritage organizations
- Ontario Heritage Trust – for a list of plaques commemorating Ontario's history
- Historic Sites and Monuments Board of Canada – for a list of plaques commemorating Canada's history

4b. Does the property (or project area) contain a parcel of land that has or is adjacent to a known burial site and/or cemetery?

For more information on known cemeteries and/or burial sites, see:

- Cemeteries Regulations, Ontario Ministry of Consumer Services – for a database of registered cemeteries
- Ontario Genealogical Society (OGS) – to locate records of Ontario cemeteries, both currently and no longer in existence; cairns, family plots and burial registers
- Canadian County Atlas Digital Project – to locate early cemeteries

In this context, adjacent means contiguous or as otherwise defined in a municipal official plan.

4c. Does the property (or project area) contain a parcel of land that is in a Canadian Heritage River watershed?

The Canadian Heritage River System is a national river conservation program that promotes, protects and enhances the best examples of Canada's river heritage.

Canadian Heritage Rivers must have, and maintain, outstanding natural, cultural and/or recreational values, and a high level of public support.

For more information, contact the Canadian Heritage River System.

If you have questions regarding the boundaries of a watershed, please contact:

- your conservation authority
- municipal staff

4d. Does the property (or project area) contain a parcel of land that contains buildings or structures that are 40 or more years old?

A 40 year 'rule of thumb' is typically used to indicate the potential of a site to be of cultural heritage value. The approximate age of buildings and/or structures may be estimated based on:

- history of the development of the area
- fire insurance maps
- architectural style
- building methods

Property owners may have information on the age of any buildings or structures on their property. The municipality, local land registry office or library may also have background information on the property.

Note: 40+ year old buildings or structure do not necessarily hold cultural heritage value or interest; their age simply indicates a higher potential.

A building or structure can include:

- residential structure
- farm building or outbuilding
- industrial, commercial, or institutional building
- remnant or ruin
- engineering work such as a bridge, canal, dams, etc.

For more information on researching the age of buildings or properties, see the Ontario Heritage Tool Kit Guide Heritage Property Evaluation.

Part C: Other Considerations

5a. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area) is considered a landmark in the local community or contains any structures or sites that are important to defining the character of the area?

Local or Aboriginal knowledge may reveal that the project location is situated on a parcel of land that has potential landmarks or defining structures and sites, for instance:

- buildings or landscape features accessible to the public or readily noticeable and widely known
- complexes of buildings
- monuments
- ruins

5b. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area) has a special association with a community, person or historical event?

Local or Aboriginal knowledge may reveal that the project location is situated on a parcel of land that has a special association with a community, person or event of historic interest, for instance:

- Aboriginal sacred site
- traditional-use area
- battlefield
- birthplace of an individual of importance to the community

5c. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area) contains or is part of a cultural heritage landscape?

Landscapes (which may include a combination of archaeological resources, built heritage resources and landscape elements) may be of cultural heritage value or interest to a community.

For example, an Aboriginal trail, historic road or rail corridor may have been established as a key transportation or trade route and may have been important to the early settlement of an area. Parks, designed gardens or unique landforms such as waterfalls, rock faces, caverns, or mounds are areas that may have connections to a particular event, group or belief.

For more information on Questions 5.a., 5.b. and 5.c., contact:

- Elders in Aboriginal Communities or community researchers who may have information on potential cultural heritage resources. Please note that Aboriginal traditional knowledge may be considered sensitive.
- municipal heritage committees or local heritage organizations
- Ontario Historical Society's "Heritage Directory" - for a list of historical societies and heritage organizations in the province

An internet search may find helpful resources, including:

- historical maps
- historical walking tours
- municipal heritage management plans
- cultural heritage landscape studies
- municipal cultural plans

Information specific to trails may be obtained through Ontario Trails.

Appendix E Air Quality Tables

Environmental Review Report

Goreway Power Station Upgrades Project

Capital Power Corporation

SLR Project No.: 241.030524.00025

September 28, 2023

Table E-1: Stack Parameters and Emission Data - Cold Start Combined Scenario

Source ID	Source Type	Source Description	Stack Parameters								Emission Data						
			Stack Volumetric Flow Rate (m^3/s)	Stack Exit Gas Temperature (°C)	Stack Inner Diameter/ Initial Vertical Dispersion (m)	Stack Exit Velocity (m/s)	Stack Height Above Grade / Release Height (m)	Stack Height Above Roof (m)	Source Coordinates (UTM, m)		Contaminant	CAS #	Maximum Emission Rate (g/s)	Avg. Period	Emission Estimating Technique (1)	Emissions Data Quality	% of Overall Emissions
GT4	Point	Turbine	222	92	5.64	8.91	65.5	30.5	606213	4844551	Nitrogen Oxides	10102-44-0	2.18E+01	1, 24	EF	Average	33%
											Carbon Monoxide	630-08-0	2.25E+01	0.5	EF	Average	33%
GT5	Point	Turbine	222	92	5.64	8.91	65.5	30.5	606238	4844580	Nitrogen Oxides	10102-44-0	2.18E+01	1, 24	EF	Average	33%
											Carbon Monoxide	630-08-0	2.25E+01	0.5	EF	Average	33%
GT6	Point	Turbine	222	92	5.64	8.91	65.5	30.5	606262	4844609	Nitrogen Oxides	10102-44-0	2.18E+01	1, 24	EF	Average	33%
											Carbon Monoxide	630-08-0	2.25E+01	0.5	EF	Average	33%

(1) EF = Emission Factor

Table E-2: Stack Parameters and Emission Data- Normal Combined Cycle Scenario

Source ID	Source Type	Source Description	Stack Parameters								Emission Data						
			Stack Volumetric Flow Rate (m3/s)	Stack Exit Gas Temperature (°C)	Stack Inner Diameter/ Initial Vertical Dispersion (m)	Stack Exit Velocity (m/s)	Stack Height Above Grade / Release Height (m)	Stack Height Above Roof (m)	Source Coordinates (UTM, m)		Contaminant	CAS #	Maximum Emission Rate (g/s)	Avg. Period	Emission Estimating Technique (1)	Emissions Data Quality	% of Overall Emissions
GT4	Point	Turbine	540	88	5.64	21.62	65.5	30.5	606213	4844551	Nitrogen Oxides	10102-44-0	3.20E+00	1, 24	EF	Average	23%
											Carbon Monoxide	630-08-0	6.89E+00	0.5	EF	Average	33%
											Sulphur Dioxide	7446-09-5	8.16E-01	1, annual	EF	Average	33%
											Ammonia	7664-41-7	3.95E+00	24	EF	Average	33%
											Particulate Matter	N/A	1.28E+00	24	EF	Average	33%
GT5	Point	Turbine	540	88	5.64	21.62	65.5	30.5	606238	4844580	Nitrogen Oxides	10102-44-0	3.20E+00	1, 24	EF	Average	23%
											Carbon Monoxide	630-08-0	6.89E+00	0.5	EF	Average	33%
											Sulphur Dioxide	7446-09-5	8.16E-01	1, annual	EF	Average	33%
											Ammonia	7664-41-7	3.95E+00	24	EF	Average	33%
											Particulate Matter	N/A	1.28E+00	24	EF	Average	33%
GT6	Point	Turbine	540	88	5.64	21.62	65.5	30.5	606262	4844609	Nitrogen Oxides	10102-44-0	3.20E+00	1, 24	EF	Average	23%
											Carbon Monoxide	630-08-0	6.89E+00	0.5	EF	Average	33%
											Sulphur Dioxide	7446-09-5	8.16E-01	1, annual	EF	Average	33%
											Ammonia	7664-41-7	3.95E+00	24	EF	Average	33%
											Particulate Matter	N/A	1.28E+00	24	EF	Average	33%
GENSET	Point	Emergency Generator	7.8	525	0.2	249.50	65.5	30.5	606262	4844609	Nitrogen Oxides (EGC)	10102-44-0	4.40E+00	0.5 h	EF	Average	31%

(1) EF = Emission Factor

Table E-3: Stack Parameters and Emission Data - Peak Firing Combined Cycle Scenario

Source ID	Source Type	Source Description	Stack Parameters								Emission Data						
			Stack Volumetric Flow Rate (m3/s)	Stack Exit Gas Temperature (°C)	Stack Inner Diameter/ Initial Vertical Dispersion (m)	Stack Exit Velocity (m/s)	Stack Height Above Grade / Release Height (m)	Stack Height Above Roof (m)	Source Coordinates (UTM, m)		Contaminant	CAS #	Maximum Emission Rate (g/s)	Avg. Period	Emission Estimating Technique (1)	Emissions Data Quality	% of Overall Emissions
GT4	Point	Turbine	540	88	5.64	21.62	65.5	30.5	606213	4844551	Nitrogen Oxides	10102-44-0	3.95E+00	1, 24	EF	Average	33%
											Carbon Monoxide	630-08-0	7.15E+00	0.5	EF	Average	33%
											Sulphur Dioxide	7446-09-5	8.16E-01	1, annual	EF	Average	33%
											Ammonia	7664-41-7	3.95E+00	24	EF	Average	33%
											Particulate Matter	N/A	1.28E+00	24	EF	Average	33%
GT5	Point	Turbine	540	88	5.64	21.62	65.5	30.5	606238	4844580	Nitrogen Oxides	10102-44-0	3.95E+00	1, 24	EF	Average	33%
											Carbon Monoxide	630-08-0	7.15E+00	0.5	EF	Average	33%
											Sulphur Dioxide	7446-09-5	8.16E-01	1, annual	EF	Average	33%
											Ammonia	7664-41-7	3.95E+00	24	EF	Average	33%
											Particulate Matter	N/A	1.28E+00	24	EF	Average	33%
GT6	Point	Turbine	540	88	5.64	21.62	65.5	30.5	606262	4844609	Nitrogen Oxides	10102-44-0	3.95E+00	1, 24	EF	Average	33%
											Carbon Monoxide	630-08-0	7.15E+00	0.5	EF	Average	33%
											Sulphur Dioxide	7446-09-5	8.16E-01	1, annual	EF	Average	33%
											Ammonia	7664-41-7	3.95E+00	24	EF	Average	33%
											Particulate Matter	N/A	1.28E+00	24	EF	Average	33%

(1) EF = Emission Factor

Table E-4: Stack Parameters and Emission Data- Combined Low Load Scenario

Source ID	Source Type	Source Description	Stack Parameters								Emission Data						
			Stack Volumetric Flow Rate (m3/s)	Stack Exit Gas Temperature (°C)	Stack Inner Diameter/ Initial Vertical Dispersion (m)	Stack Exit Velocity (m/s)	Stack Height Above Grade / Release Height (m)	Stack Height Above Roof (m)	Source Coordinates (UTM, m)		Contaminant	CAS #	Maximum Emission Rate (g/s)	Avg. Period	Emission Estimating Technique (1)	Emissions Data Quality	% of Overall Emissions
GT4	Point	Turbine	540	88	5.64	21.62	65.5	30.5	606213	4844551	Nitrogen Oxides	10102-44-0	1.48E+00	1, 24	EF	Average	33%
											Carbon Monoxide	630-08-0	2.25E+01	0.5	EF	Average	33%
GT5	Point	Turbine	540	88	5.64	21.62	65.5	30.5	606238	4844580	Nitrogen Oxides	10102-44-0	1.48E+00	1, 24	EF	Average	33%
											Carbon Monoxide	630-08-0	2.25E+01	0.5	EF	Average	33%
GT6	Point	Turbine	540	88	5.64	21.62	65.5	30.5	606262	4844609	Nitrogen Oxides	10102-44-0	1.48E+00	1, 24	EF	Average	33%
											Carbon Monoxide	630-08-0	2.25E+01	0.5	EF	Average	33%

(1) EF = Emission Factor

Table E-5: Stack Parameters and Emission Data - Simple Cycle Main Stack Scenario

Source ID	Source Type	Source Description	Stack Parameters								Emission Data						
			Stack Volumetric Flow Rate (m3/s)	Stack Exit Gas Temperature (°C)	Stack Inner Diameter/ Initial Vertical Dispersion (m)	Stack Exit Velocity (m/s)	Stack Height Above Grade / Release Height (m)	Stack Height Above Roof (m)	Source Coordinates (UTM, m)		Contaminant	CAS #	Maximum Emission Rate (g/s)	Avg. Period	Emission Estimating Technique (1)	Emissions Data Quality	% of Overall Emissions
GT1	Point	Turbine	948	359	5.58	38.77	65.5	30.5	606262	4844515	Nitrogen Oxides	10102-44-0	6.93E+00	1, 24	EF	Average	33%
											Carbon Monoxide	630-08-0	1.21E+01	0.5	EF	Average	33%
											Sulphur Dioxide	7446-09-5	8.16E-01	1, annual	EF	Average	33%
											Particulate Matter	N/A	6.94E+00	24	EF	Average	33%
GT5	Point	Turbine	540	359	5.64	37.91	65.5	30.5	606238	4844580	Nitrogen Oxides	10102-44-0	1.28E+00	1, 24	EF	Average	33%
											Carbon Monoxide	630-08-0	6.93E+00	0.5	EF	Average	33%
											Sulphur Dioxide	7446-09-5	1.21E+01	1, annual	EF	Average	33%
											Particulate Matter	N/A	8.16E-01	24	EF	Average	33%
GT6	Point	Turbine	540	359	5.64	37.91	65.5	30.5	606262	4844609	Nitrogen Oxides	10102-44-0	6.94E+00	1, 24	EF	Average	33%
											Carbon Monoxide	630-08-0	1.28E+00	0.5	EF	Average	33%
											Sulphur Dioxide	7446-09-5	6.93E+00	1, annual	EF	Average	33%
											Particulate Matter	N/A	1.21E+01	24	EF	Average	33%

(1) EF = Emission Factor

Table E-6: Stack Parameters and Emission Data - Simple Cycle Bypass Stack Scenario

Source ID	Source Type	Source Description	Stack Parameters								Emission Data						
			Stack Volumetric Flow Rate (m3/s)	Stack Exit Gas Temperature (°C)	Stack Inner Diameter/ Initial Vertical Dispersion (m)	Stack Exit Velocity (m/s)	Stack Height Above Grade / Release Height (m)	Stack Height Above Roof (m)	Source Coordinates (UTM, m)		Contaminant	CAS #	Maximum Emission Rate (g/s)	Avg. Period	Emission Estimating Technique (1)	Emissions Data Quality	% of Overall Emissions
GT1	Point	Turbine Bypass Stack	948	359	5.58	38.77	65.5	30.5	606262	4844515	Nitrogen Oxides	10102-44-0	3.43E+01	1, 24	EF	Average	33%
											Carbon Monoxide	630-08-0	1.26E+01	0.5	EF	Average	33%
											Sulphur Dioxide	7446-09-5	8.16E-01	1, annual	EF	Average	33%
											Particulate Matter	N/A	1.28E+00	24	EF	Average	33%
GT2	Point	Turbine Bypass Stack	948	359	5.58	38.77	65.5	30.5	606268	4844545	Nitrogen Oxides	10102-44-0	3.43E+01	1, 24	EF	Average	33%
											Carbon Monoxide	630-08-0	1.26E+01	0.5	EF	Average	33%
											Sulphur Dioxide	7446-09-5	8.16E-01	1, annual	EF	Average	33%
											Particulate Matter	N/A	1.28E+00	24	EF	Average	33%
GT3	Point	Turbine Bypass Stack	948	359	5.58	38.77	65.5	30.5	606309	4844575	Nitrogen Oxides	10102-44-0	3.43E+01	1, 24	EF	Average	33%
											Carbon Monoxide	630-08-0	1.26E+01	0.5	EF	Average	33%
											Sulphur Dioxide	7446-09-5	8.16E-01	1, annual	EF	Average	33%
											Particulate Matter	N/A	1.28E+00	24	EF	Average	33%

(1) EF = Emission Factor

Table E-7: COC Concentrations at POI Compared to Criteria for Cold Start Scenario

Contaminant Name	CAS #	Total Emission Rate (g/s)	Air Dispersion Model Used	Maximum POI Concentration (µ/m^3)	Averaging Period (hours)	MECP POI Limit (µ/m^3)	Limiting Effect	Source Benchmark	Regulation Schedule #	Percentage of MECP POI Limit (%)
Nitrogen Oxides	10102-44-0	2.64E+01	AERMOD	1.36E+02	24	200	Health	Standard	B1	68%
			AERMOD	2.16E+02	1	400	Health	Standard	B1	54%
Carbon Monoxide	630-08-0	5.25E+01	AERMOD	2.07E+02	0.5	6000	Health	Standard	B1	1%

Table E-8: COC Concentrations at POI Compared to Criteria for Normal Combined Scenario

Contaminant Name	CAS #	Total Emission Rate (g/s)	Air Dispersion Model Used	Maximum POI Concentration (µ/m^3)	Averaging Period (hours)	MECP POI Limit (µ/m^3)	Limiting Effect	Source Benchmark	Regulation Schedule #	Percentage of MECP POI Limit (%)
Nitrogen Oxides	10102-44-0	9.61E+00	AERMOD	6.99E+00	24	200	Health	Standard	B1	3.5%
			AERMOD	1.35E+01	1	400	Health	Standard	B1	3.4%
Nitrogen Oxides (EGC)	10102-44-0	1.40E+01	AERMOD	7.79E+02	0.5	1880	Health	Guideline	EGC	41%
Carbon Monoxide	630-08-0	2.07E+01	AERMOD	3.50E+01	0.5	6000	Health	Standard	B1	1%
Sulphur Dioxide	7446-09-5	2.45E+00	AERMOD	3.33E+00	1	100	Health & Vegetation	Standard	B1	3%
			AERMOD	7.70E-02	annual	10	Health & Vegetation	Standard	B1	1%
Ammonia	7664-41-7	1.19E+01	AERMOD	8.63E+00	24	100	Health	Standard	B1	9%
Particulate Matter	N/A	3.85E+00	AERMOD	2.77E+00	24	120	Visibility	Guideline	B1	2%

Table E-9: COC Concentrations at POI Compared to Criteria for Peak Firing Scenario

Contaminant Name	CAS #	Total Emission Rate (g/s)	Air Dispersion Model Used	Maximum POI Concentration (µ/m^3)	Averaging Period (hours)	MECP POI Limit (µ/m^3)	Limiting Effect	Source Benchmark	Regulation Schedule #	Percentage of MECP POI Limit (%)
Nitrogen Oxides	10102-44-0	1.19E+01	AERMOD	8.63E+00	24	200	Health	Standard	B1	4%
			AERMOD	1.67E+01	1	400	Health	Standard	B1	4%
Carbon Monoxide	630-08-0	2.15E+01	AERMOD	3.63E+01	0.5	6000	Health	Standard	B1	1%
Sulphur Dioxide	7446-09-5	2.45E+00	AERMOD	3.33E+00	1	100	Health & Vegetation	Standard	B1	3%
			AERMOD	7.70E-02	annual	10	Health & Vegetation	Standard	B1	1%
Ammonia	7664-41-7	1.19E+01	AERMOD	8.63E+00	24	100	Health	Standard	B1	9%
Particulate Matter	N/A	3.85E+00	AERMOD	2.77E+00	24	120	Visibility	Guideline	B1	2%

Table E-10: COC Concentrations at POI Compared to Criteria for Low Load Scenario

Contaminant Name	CAS #	Total Emission Rate (g/s)	Air Dispersion Model Used	Maximum POI Concentration (µ/m^3)	Averaging Period (hours)	MECP POI Limit (µ/m^3)	Limiting Effect	Source Benchmark	Regulation Schedule #	Percentage of MECP POI Limit (%)
Nitrogen Oxides	10102-44-0	4.43E+00	AERMOD	1.16E+01	24	200	Health	Standard	B1	6%
			AERMOD	7.35E+00	1	400	Health	Standard	B1	2%
Carbon Monoxide	630-08-0	6.75E+01	AERMOD	2.11E+02	0.5	6000	Health	Standard	B1	4%

Table E-11: COC Concentrations at POI Compared to Criteria for Simple Cycle Main Stack Scenario

Contaminant Name	CAS #	Total Emission Rate (g/s)	Air Dispersion Model Used	Maximum POI Concentration (µ/m^3)	Averaging Period (hours)	MECP POI Limit (µ/m^3)	Limiting Effect	Source Benchmark	Regulation Schedule #	Percentage of MECP POI Limit (%)
Nitrogen Oxides	10102-44-0	2.08E+01	AERMOD	5.43E+00	24	200	Health	Standard	B1	3%
			AERMOD	2.00E+01	1	400	Health	Standard	B1	5%
Carbon Monoxide	630-08-0	3.63E+01	AERMOD	4.18E+01	0.5	6000	Health	Standard	B1	1%
Sulphur Dioxide	7446-09-5	2.45E+00	AERMOD	2.00E+00	1	100	Health & Vegetation	Standard	B1	2%
			AERMOD	1.76E-02	annual	10	Health & Vegetation	Standard	B1	0.2%
Ammonia	7664-41-7	2.08E+01	AERMOD	5.44E+00	24	100	Health	Standard	B1	5%
Particulate Matter	N/A	3.85E+00	AERMOD	1.00E+00	24	120	Visibility	Guideline	B1	1%

Table E-12: COC Concentrations at POI Compared to Criteria for Simple Cycle Bypass Stack Emission Scenario

Contaminant Name	CAS #	Total Emission Rate (g/s)	Air Dispersion Model Used	Maximum POI Concentration (µ/m^3)	Averaging Period (hours)	MECP POI Limit (µ/m^3)	Limiting Effect	Source Benchmark	Regulation Schedule #	Percentage of MECP POI Limit (%)
Nitrogen Oxides	10102-44-0	1.03E+02	AERMOD	2.81E+01	24	200	Health	Standard	B1	14%
			AERMOD	9.22E+01	1	400	Health	Standard	B1	23%
Carbon Monoxide	630-08-0	3.77E+01	AERMOD	4.05E+01	0.5	6000	Health	Standard	B1	1%
Sulphur Dioxide	7446-09-5	2.45E+00	AERMOD	1.95E+00	1	100	Health & Vegetation	Standard	B1	2%
			AERMOD	2.15E-02	annual	10	Health & Vegetation	Standard	B1	0%
Particulate Matter	N/A	3.85E+00	AERMOD	1.05E+00	24	120	Visibility	Guideline	B1	1%

Table E-13: VOC & PAH Concentrations at POI Compared to Criteria for Normal Operation Scenario

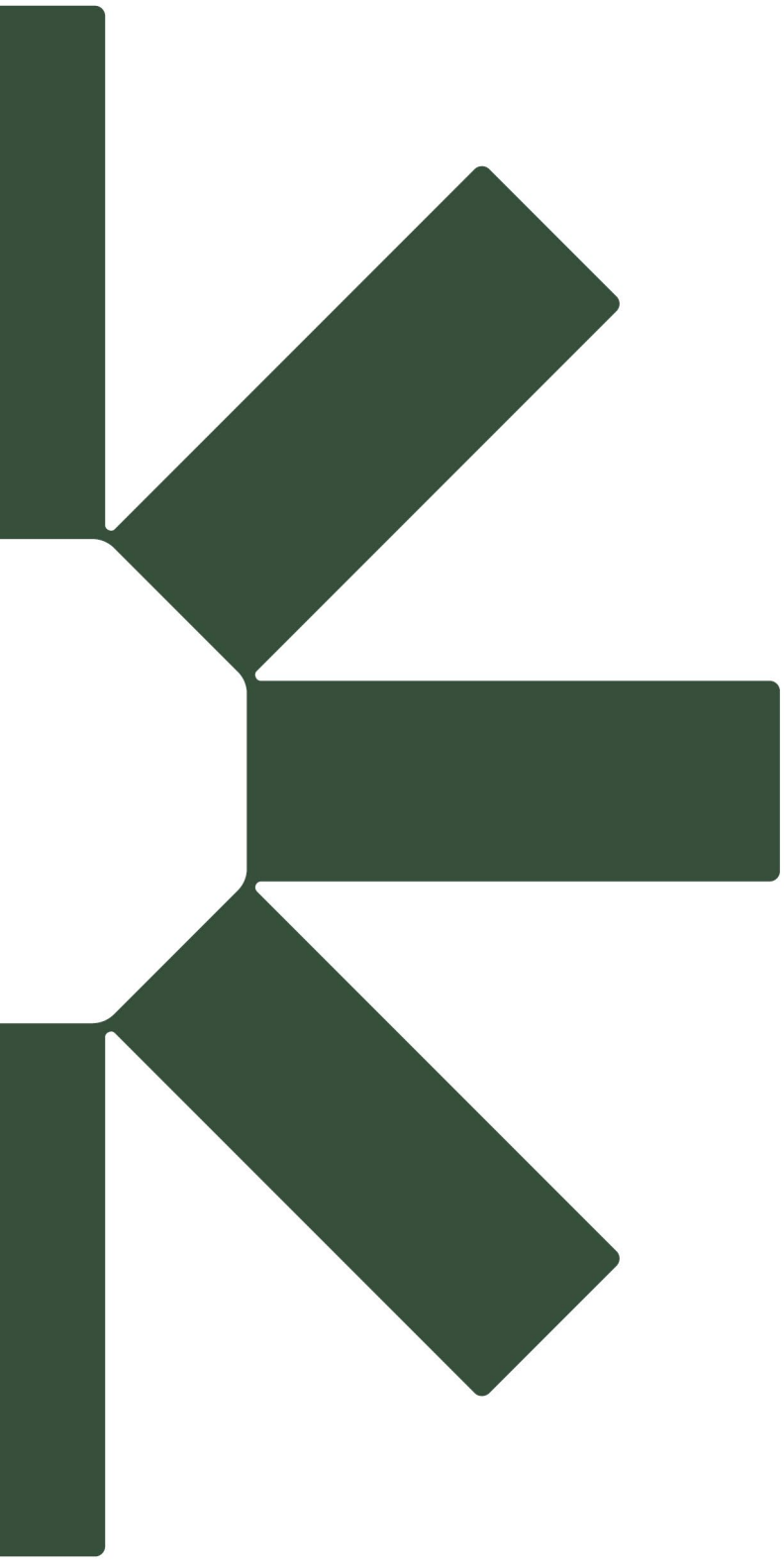
CAS#	COC	Emission Factor (lb/MMbtu)	Emission Rate (g/s)	24-hour POI (ug/m^3)	Annual POI (ug/m^3)	MECP Limit (ug/m^3)	AAQC Limit (ug/m^3)	Percentage of MECP Limit	Percentage of AAQC Limit
91-57-6	2-Methylnaphthalene	2.35E-08	4.48E-05	4.56E-06	35.5	-	0.0004%	-	4.56E-06
71-43-2	Benzene	2.06E-06	3.92E-03	3.99E-04	0.45 annual	0.45 annual	0.1%	0.1%	3.99E-04
50-32-8	Benzo(a)pyrene	1.18E-09	2.24E-06	2.28E-07	0.000001 annual	0.000001 annual	22.8%	22.8%	2.28E-07
106-97-8	Butane	2.06E-03	3.92E+00	3.99E-01	3550	-	0.3%	-	3.99E-01
25321-22-6	Dichlorobenzene	1.18E-06	2.24E-03	2.28E-04	80	-	0.01%	-	2.28E-04
74-84-0	Ethane	3.04E-03	5.79E+00	5.89E-01	14500	-	0.1%	-	5.89E-01
50-00-0	Formaldehyde	7.35E-05	1.40E-01	1.42E-02	65	65	0.6%	0.6%	1.42E-02
110-54-3	Hexane	1.76E-03	3.36E+00	3.42E-01	7500	7500	0.1%	0.1%	3.42E-01
91-20-3	Naphthalene	5.98E-07	1.14E-03	1.16E-04	22.5	22.5	0.01%	0.01%	1.16E-04
109-66-0	Pentane	2.55E-03	4.86E+00	4.94E-01	35500	-	0.04%	-	4.94E-01
74-98-6	Propane	1.57E-03	2.99E+00	3.04E-01	215000	-	0.004%	-	3.04E-01
108-88-3	Toluene	3.33E-06	6.35E-03	6.46E-04	2000	2000	0.001%	0.001%	6.46E-04

Table E-14: Metals Concentrations at POI Compared to Criteria during Normal Operation Scenario

CAS#	COC	Emission Factor (lb/MMbtu)	Emission Rate (g/s)	24-hour POI (ug/m^3)	Annual POI (ug/m^3)	MECP Limit (ug/m^3)	AAQC Limit (ug/m^3)	Percentage of MECP Limit	Percentage of AAQC Limit
7440-38-2	Arsenic	1.96E-07	3.74E-04	1.10E-03	3.80E-05	0.3	0.3	0.4%	0.4%
7440-39-3	Barium	4.31E-06	8.22E-03	2.43E-02	8.35E-04	10	10	0.2%	0.2%
7440-41-7	Beryllium	1.18E-08	2.24E-05	6.61E-05	2.28E-06	0.01	0.01	0.7%	0.7%
7440-43-9	Cadmium	1.08E-06	2.05E-03	6.06E-03	2.09E-04	0.025	0.025	24.3%	24.3%
7440-43-9	Cadmium	1.08E-06	2.05E-03	6.06E-03	2.09E-04	-	0.005 annual	-	4.2%
7440-47-3	Chromium	1.37E-06	2.62E-03	7.72E-03	2.66E-04	0.5	0.5	1.5%	1.5%
7440-48-4	Cobalt	8.24E-08	1.57E-04	4.63E-04	1.59E-05	0.1	0.1	0.5%	0.5%
7440-50-8	Copper	8.33E-07	1.59E-03	4.69E-03	1.61E-04	50	50	0.01%	0.01%
7439-96-5	Manganese	3.73E-07	7.10E-04	2.09E-03	7.22E-05	0.4	50	0.5%	0.004%
7439-97-6	Mercury	2.55E-07	4.86E-04	1.43E-03	4.94E-05	2	2	0.1%	0.1%
7439-98-7	Molybdenum	1.08E-06	2.05E-03	6.06E-03	2.09E-04	120	120	0.01%	0.01%
7440-02-0	Nickel	2.06E-06	3.92E-03	1.16E-02	3.99E-04	0.04 annual	0.04 annual	1.0%	1.0%
7440-02-0	Nickel	2.06E-06	3.92E-03	1.16E-02	3.99E-04	-	0.1	-	11.6%
7782-49-2	Selenium	2.35E-08	4.48E-05	1.32E-04	4.56E-06	10	10	0.001%	0.001%
7440-62-2	Vanadium	2.30E-06	4.37E-03	1.29E-02	4.45E-04	2	2	0.6%	0.6%
7440-66-6	Zinc	2.84E-05	5.42E-02	1.60E-01	5.51E-03	120	120	0.1%	0.1%

Table E-15: Cumulative COC Concentrations at Sensitive Receptors during Normal Operations Scenario

Receptor	COC Specific Cumulative Concentrations at Sensitive Receptors For Normal Operations																	
	NO_2 24-Hour		NO_2 1-Hour		PM_{10} 24-Hour		$PM_{2.5}$ 24-hour		$PM_{2.5}$ annual		CO 1-Hour		CO 8-Hour		SO_2 1-Hour		SO_2 24-Hour	
	Cumulative Concentration (ug/m3)	Percentage of AAQC Limit	Cumulative Concentration (ug/m3)	Percentage of AAQC Limit	Cumulative Concentration (ug/m3)	Percentage of AAQC Limit	Cumulative Concentration (ug/m3)	Percentage of AAQC Limit	Cumulative Concentration (ug/m3)	Percentage of AAQC Limit	Cumulative Concentration (ug/m3)	Percentage of AAQC Limit	Cumulative Concentration (ug/m3)	Percentage of AAQC Limit	Cumulative Concentration (ppb)	Percentage of AAQC Limit	ppb	Percentage of AAQC Limit
R1	40	20%	49	12%	23	46%	12	46%	7.70	87%	423	1%	399	3%	1.7	4%	0.62	16%
R2	41	21%	51	13%	23	46%	13	47%	7.84	89%	428	1%	402	3%	1.9	5%	0.69	17%
R3	41	20%	51	13%	23	46%	13	47%	7.81	89%	428	1%	402	3%	1.9	5%	0.67	17%
R4	40	20%	47	12%	23	45%	12	46%	7.57	86%	419	1%	397	3%	1.5	4%	0.58	14%
R5	40	20%	48	12%	23	45%	12	46%	7.57	86%	421	1%	398	3%	1.6	4%	0.58	14%
R6	40	20%	48	12%	23	45%	12	46%	7.53	86%	422	1%	398	3%	1.6	4%	0.56	14%
R7	40	20%	49	12%	23	45%	12	45%	7.47	85%	424	1%	400	3%	1.7	4%	0.58	14%
R8	42	21%	47	12%	23	47%	13	47%	7.80	89%	420	1%	397	3%	1.5	4%	0.73	18%
R9	42	21%	48	12%	24	47%	13	47%	7.93	90%	422	1%	398	3%	1.6	4%	0.79	20%
R10	40	20%	47	12%	23	46%	12	45%	7.43	84%	419	1%	397	3%	1.5	4%	0.61	15%
R11	40	20%	48	12%	23	45%	12	46%	7.57	86%	421	1%	398	3%	1.6	4%	0.58	14%
R12	40	20%	48	12%	23	46%	12	45%	7.44	85%	421	1%	398	3%	1.6	4%	0.62	16%
R13	40	20%	47	12%	23	46%	12	46%	7.61	87%	420	1%	397	3%	1.5	4%	0.59	15%
R14	41	21%	51	13%	23	46%	13	47%	7.84	89%	429	1%	402	3%	1.9	5%	0.70	17%
R15	41	21%	48	12%	23	46%	12	45%	7.44	85%	421	1%	398	3%	1.6	4%	0.68	17%
R16	42	21%	48	12%	23	47%	12	46%	7.67	87%	423	1%	399	3%	1.6	4%	0.74	18%



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