

Portlands Energy Centre Efficiency Upgrades Frequently Asked Questions

Below are some frequently asked questions and answers about the Portlands Energy Centre (PEC) efficiency upgrades (upgrades). If you have a question that is not shown below, please send us an email at portlandsupgrade@aturapower.com and a project representative will respond to your enquiry.

Why is Atura Power making these efficiency upgrades?

After years of strong energy supply, Ontario is entering a period of growing electricity system demand (a predicted energy supply gap) and actions are needed to ensure the continued reliability of the electricity grid.

To close this gap and meet the projected demand, the Independent Electricity System Operator (IESO) is moving forward with a procurement process to meet near, medium, and long-term energy needs while maintaining the province's focus on cost-effective reliability. The upgrades to PEC are part of Atura Power's efforts to address this supply gap. After the upgrade, the plant's thermal efficiency will increase due to a reduced heat rate (British thermal unit/kilowatt-hour (BTU/kWh)). This means that the same amount of fuel used will produce more power after the upgrades.

What is causing the energy supply gap in Ontario?

Ontario's electricity sector is undergoing a period of major transformation. New decarbonization policies coupled with rapid growth in the mining, greenhouse and industrial sectors are accelerating electricity demand growth across the province and heightening needs in certain regions.

The IESO's most recent Annual Planning Outlook (APO) reflects these trends. It projects a steady rise in electricity demand that highlights the strengths of Ontario's communities and economy to navigate the challenges of the pandemic, pursue electrification and support economic growth.

I thought we wanted to stay away from coal and/or natural gas. Why are we still burning fossil fuels? Why are we upgrading a natural gas power plant?

Wind and solar generation are important resources and will continue to play an increasing role in supplying clean electricity; however, other resources are required to maintain system reliability. It is not uncommon to have a week or more of low wind or overcast conditions and for these periods of time, it is critical to have generation resources available that can operate on demand. Natural gas generation operates on demand regardless of weather conditions to ensure electricity system reliability and ensures that wind and solar generation can be reliably incorporated into the electricity system.

The IESO established the Resource Adequacy Framework in 2021 to provide a flexible and cost-effective approach for competitively securing the resources necessary to meet demand and ensure system reliability. These upgrades are part of the plan IESO put in place to meet Ontario's energy needs.

What kind of power plant is PEC?

PEC is a combined-cycle natural gas electricity generating power plant. It can be operated as needed, during periods of peak demand when intermittent energy sources like wind and solar might not be available or might not be enough to meet demand.

What will the upgrades include? What changes will be made?

We will be replacing rotating and non-rotating parts within the gas turbines (blades, seals, nozzles, etc.). These upgraded parts are more efficient due to the advanced materials used to allow the turbines to run hotter and more fuel efficiently, extracting the maximum amount of power possible. The upgrades will take place on our two gas turbines within the existing facility, and there will no change to the physical size or footprint of the station.

How long will the upgrades take?

The upgrades are scheduled to take place in Fall 2024. The upgrade specific work will take approximately four to five weeks per unit to disassemble, replace parts and reassemble the gas turbines. There are two units, and they will be completed one at a time.

By how much will PEC's capacity increase, after the upgrades are complete?

PEC is currently capable of outputting 550 megawatts (MW) to Ontario's electricity grid. Replacing parts of the existing natural gas fired combustion turbines with more efficient parts will increase the output capacity to 600 MW. This means the upgrades will increase the output capacity by 50 MW.

Will there be more upgrades in the future?

These are the only current upgrade plans for PEC, as this is the latest technology available. Atura Power always strives to be on the leading edge of technology and will be open to future advancements that make the engines more fuel efficient.

How many more years is PEC expected to operate?

PEC is contracted to operate until April 2034.

Who will be undertaking the upgrades?

General Electric (GE) Gas Power – Services will be providing the new parts and performing the work using local skilled trades from Ontario.

Once the upgrades are complete, will the plant run more frequently?

PEC operations are dictated by the IESO based on the supply and demand balance. The frequency at which the plant operates will not change going forward; the plant will continue to operate as directed by the IESO.

How often does PEC run now?

PEC operations are dictated by the IESO based on the supply and demand balance, which fluctuates season by season and year to year. Historically, the plant has operated between 1750 to 4500 hours per year, always at the direction of the IESO.

What environmental effects will the upgrades have?

No changes to environmental features are expected given that the upgrades will take place within the existing facility and the existing facility footprint will not change. GE Gas Power – Services, the manufacturer of the equipment being installed for the upgrades, has provided a letter stating that the upgrades to the turbine generator ‘will maintain [air] emissions levels at or below site permit levels’. GE Gas Power - Services further stated that the upgrades are ‘not expected to increase noise levels from the facility.’

The facility will continue to operate within all environmental permitting requirements.

What can you say about the anticipated difference in particulate matter (air emissions) after the upgrades are complete?

GE Gas Power – Services, the manufacturer of the equipment being installed for the upgrades, provided a letter stating that the upgrades to the turbine generator ‘will maintain [air] emissions levels at or below site permit levels’. Emissions concentrations are not expected to change following the upgrades.

How are the air emissions from PEC measured?

PEC operates under an environmental permit called an Environmental Compliance Approval, which dictates nitrogen oxides and carbon monoxide emission limits for the facility. PEC uses a Continuous Emission Monitoring System (CEMS) to monitor emissions in the undiluted gases leaving the exhaust stacks. The CEMS is audited annually by the Ministry of Environment, Conservation and Parks (MECP) and submitted to the MECP annually for assessment.

Where can I find past emission reports for PEC?

All PEC emissions reports are publicly available on the provincial and federal government websites.

Will the upgrades increase the noise at the plant?

GE Gas Power – Services, the manufacturer of the equipment being installed for the upgrades, has provided a letter stating that the upgrades are ‘not expected to increase noise levels from the facility.’

What are Atura Power’s plans for the waste heat? Has Atura Power looked into supplying it as district heating to new Portlands developments?

PEC uses waste heat from the plant to generate steam, which is used to create additional electricity. Exhaust heat from the gas turbines is passed through a heat recovery steam generator which turns water to steam that is then used to power a steam turbine and generate additional electricity. This occurs in a closed loop where the remaining condensation from the steam is captured and reused over and over again.

What is public and Indigenous engagement and how does it involve me?

Public and Indigenous engagement describes the continuous, two-way communication of project information and feedback between the proponent (Atura Power) and members of the public and Indigenous communities. It includes specific communication opportunities like public meetings, comment periods and project notices. It also includes ongoing communication opportunities available

throughout the duration of the project via tools such as the project email address (portlandsupgrade@aturapower.com) and project webpage (aturapower.com/portlandsupgrade).

What is a Screening Stage assessment?

A Screening Stage assessment is a specific environmental assessment process that certain projects that fall under the Ontario Electricity Project Regulation must complete to meet the environmental assessment requirements under the Ontario *Environmental Assessment Act*.

What is the Screening Report?

The upgrades are subject to the Environmental Screening Process for Electricity Projects pursuant to Ontario Regulation 116/01, under the Ontario *Environmental Assessment Act*. As part of the Environmental Screening Process, Atura Power is required to prepare a Screening Report that documents the results of the Environmental Screening Process, including determining the potential for environmental effects of the project.

Will I get to review the Screening Report?

Yes, the assessment process includes a 30-day mandatory review period during which time anyone, including members of the public, can review the Screening Report. Information on the availability of the Screening Report will be published in the same publications used to announce the project in September 2023: the *Toronto Star*, *Toronto Sun*, and *Beach Metro* newspapers. Information will also be posted on the project webpage at aturapower.com/portlandsupgrade.

Is Atura Power asking the Ministry of Environment, Conservation and Parks (MEPC) to exempt the PEC Upgrades from the Ontario *Environmental Assessment Act*?

Atura Power will not be pursuing an exemption from the Ontario *Environmental Assessment Act* for the Portlands Energy Centre efficiency upgrades project.

I have more comments and questions. Who can I speak to about this project?

Comments and questions about the project can be sent to portlandsupgrade@aturapower.com at any time. A project representative will respond to your enquiry.