



Pickering Nuclear 2025

Darlington Community Advisory Council

| February 22, 2022

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Pickering Nuclear

- One of the world's largest nuclear stations
- Six operating units provide 3,100 megawatts
- 14% of Ontario's electricity
- 4,500 highly-skilled direct and indirect jobs across Durham Region; 7,500 jobs across the Province.
- 10-year operating license to 2028
- Gold Level certification from the Wildlife Habitat Council.
- Recognized for environmental stewardship and sustainable operations:
 - Pickering Nuclear, 2019, Local Business Civic Award, City of Pickering
 - Pickering Nuclear, 2020, Environmental Civic Award, City of Pickering
- OPG continues to generate reliable electricity to power Ontario's hospitals, care facilities and homes during the COVID-19 crisis.



Pickering End of Commercial Operations

- The Province of Ontario is supporting an optimization plan to end commercial operations in 2025.
- Under the proposed plan, OPG will shutdown Pickering's units 1 and 4 in 2024 and units 5 to 8 in 2025.
- OPG's plan requires approval from the CNSC.
- After commercial operations cease, the station will be placed in a safe storage state beginning in 2028 and eventually decommissioned, after nominal 30 year storage with surveillance period.



Why Optimization

Need:

- Extensive refurbishment programs on both the Bruce and Darlington Units
- Planned shutdown of Pickering Units 1 & 4 in 2024 as per the current license
- The Independent Electricity System Operator is projecting a significant and growing capacity deficit on the Ontario system, beginning in 2023
- The safe, sequential shutdown of all units will maximize the economic benefits of the generation station in the community



Operations to 2025 - Planning

Highlights

- Identification of Incremental Scope supporting Optimization (Complete)
- Cost Benefit Analysis (Complete)
- Approval from Ontario Government (Complete)
- Periodic Safety Review (Addendum) (In Progress – 2022)
- Approval from CNSC (In Progress – 2023)
 - Formal application requesting extension to be submitted in 2022
- Public Hearings in 2023

Operations to 2025 - Execution

Highlights:

- New Outages Added: P2211 (Unit 1), P2341 (Unit 4), P2451 (Unit 5)
- Safely Execute Major Component Scope within Outages
 - Address all incremental inspections of major components and any life enabling scope
- Integrated Implementation Plan Actions
 - All actions identified as required to operate the units to the end of 2024 have been completed and accepted by the CNSC
 - Any new actions required will be known based on the outcome of the next step in the PSR2 Addendum
- Safely Shutdown Units per Shutdown Schedule
 - Plan is to shutdown Units 1 & 4 in 2024 and Units 5 through 8 at the end of 2025

Pickering End of Commercial Operations (Safe Storage)

- Following shut down of the reactors all fuel bundles and heavy water will be removed from each unit
- Fuel will be transferred to the irradiated fuel bays and heavy water into storage tanks on site
- Other activities include safe stating equipment no longer required and reconfiguring equipment that will continue to support fuel bay operation or station monitoring
- Lay-up activities are expected to wrap up within the licensing period (2028)
- a predictive effects assessment was completed to assess hazards associated with Stabilization activities

What's Next

- OPG is committed to ongoing and respectful Indigenous and community engagement related to our current and future nuclear operations
- With respect to the licensing process for Pickering Optimization OPG will continue to engage with our community members throughout the project



Questions?



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