Event Initial Report

Ontario Power Generation

Pickering Nuclear Generating Station
Unit 4: Unplanned Outage due to Condenser Cooling Backpressure

Commission Meeting

August 22, 2018

Rapport initial d’événement

Ontario Power Generation

Centrale nucléaire de Pickering,
tranche 4 : Arrêt imprévu causé par la contre-pression du refroidissement du condenseur

Réunion de la Commission

Le 22 août 2018
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EVENT INITIAL REPORT (EIR)

E-DOCS-# 5605974

EIR: Pickering Nuclear Generating Station Unit 4 Unplanned Outage due to Condenser Cooling backpressure

Prepared by: Directorate of Power Reactor Regulation, Pickering Regulatory Program Division

Licensee: Ontario Power Generation

Date Event was Discovered: July 4, 2018

Have Regulatory Reporting Requirements been met? Yes ☒ No ☐

Proactive Disclosure:
Licensee: Yes ☒ No ☐
CNSC: Yes ☒ No ☐

Overview

Reporting Criteria: REGDOC-3.1.1 - 11(b)

The licensee shall report on:

b. A reactor shutdown or an unplanned change in reactor power

Description: On August 4, 2018, Pickering NGS Unit 4 started to experience high condenser backpressure alarm due to a clogged condenser debris filter. The clogged filter coupled with a four (4) degree Celsius increase in lake temperature reduced the effectiveness of the Unit 4 condenser.

The high condenser back pressure alarm caused an automatic reactor set back to 87% of Full Power. Concurrently, operators manually tripped the turbine to account for the reduction of power. During the manual turbine trip, Unit 4 incurred a partial loss of class IV power; the loss was due to a circuit breaker that failed to close during the transfer of class IV power to the System Service Transformer. The System Service Transformer provides electrical power from the grid to the unit.

Impact of the Event

On People:

How many workers have been (or may be) affected? 0

How many members of the public have been (or may be) affected by the event? 0

How were they affected?
Not Applicable

On the Environment: A spill of demineralized water occurred during the event, but the spill was contained. OPG has confirmed the spill is not reportable to the Ministry of Environment, Conservation and Parks. There was no radiological release and no harm to the environment.

Other Implications:

Licensee Actions

Taken or in Progress: Unit 4 is currently shutdown (0% of Full Power) and has transitioned into a Guaranteed Shutdown State (GSS) with Reactor Shutdown Guarantee #1 (over poisoned moderator). The heat sink currently being used is Shutdown Cooling (SDC).

Planned:

The failed circuit breaker will be repaired prior to Unit 4 being returned to service. All system responses and operator actions were as expected given the partial loss of Class IV power.

CNSC Actions

Taken or in Progress: CNSC staff have met with OPG's Director of Engineering and Director of Maintenance to:

- Gather information and facts about the event
- Ensure the Pickering A Unit 4 reactor is returned to service in a safe manner.

CNSC staff has also reviewed the Station Condition Record pertaining to this event (P-2018-17027)
Planned: CNSC staff will continue to monitor the progress of Unit 4 as it returns to service.

Additional reporting to the Commission Members anticipated:

☐ Yes
☒ No

This issue will be discussed during the next Commission Meeting through the NPP Status Report.

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<tr>
<td>Gerry Frappier, Director General, Directorate of Power Reactor Regulation</td>
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<td>Aug 13/18</td>
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