



***Pickering B Licence Renewal
Day 1 Hearing
Presentation to CNSC***

Pierre Tremblay, Senior Site Vice President, February 20, 2008

Pickering B Station (4 x 540 MW)

- Units 5-8 came into service between 1983-1986
- Current operating licence expires on June 30, 2008
- OPG has applied to the CNSC for renewal for a period of five years
- Significant incremental effort has been made over the past three years to improve plant performance
- Pickering B is now performing better with a continual focus on safety
- Public and community stakeholders have been informed of the renewal process

Safety Performance Has Improved

Industrial Safety:

- Top quartile performance (Canadian Electrical Association)
- Over 4 million hours without a lost-time accident

Radiological Safety:

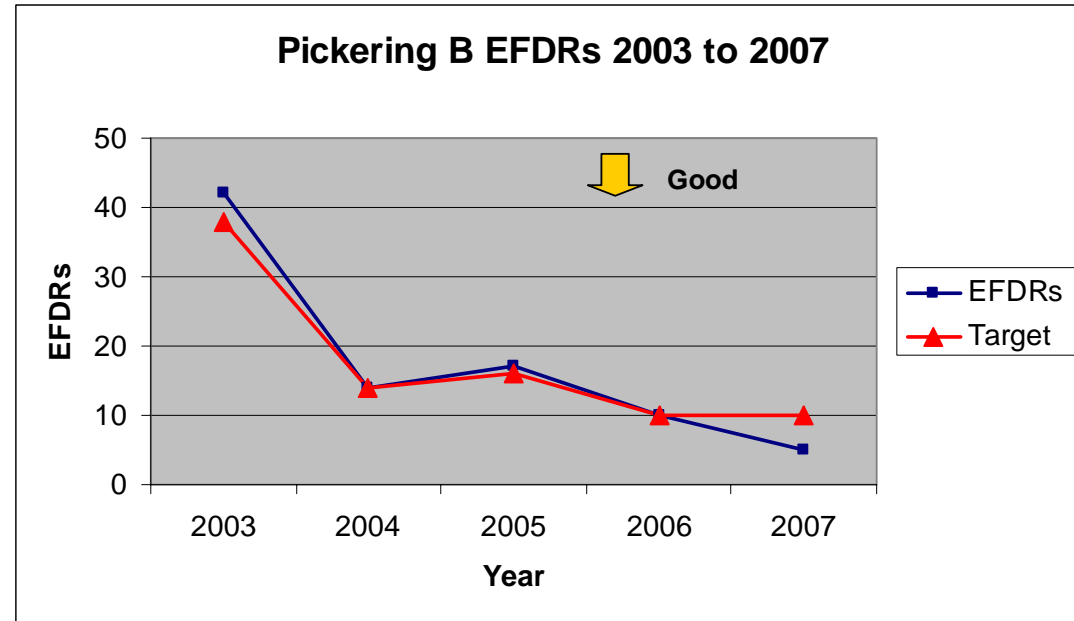
- Station collective radiation exposures reduced by 25% in 2006 and a further 25% in 2007
- 45% reduction in areas requiring special contamination control measures (Zone 3)
- 20 year low for production of low level radioactive waste

Environmental Stewardship

- ISO 14001 Certification maintained
- Awarded 2007 “Corporate Habitat of the Year”
- No spills with an environmental impact in the last 3 years
- Environmental Index improved and was better than target
- Public Dose remains \ll 1% of legal limit

Nuclear Safety Has Improved

- Safety systems meet availability and reliability targets
- Fewer reactor trips and transients
- Major improvement in Standby Generator starting reliability
- Risk Assessment (PBRA) submitted to CNSC
- Achieved CNSC commitment for ANO staffing
- Five Event Free Day Resets (EFDR) in 2007 versus year end target of 10



Plant Upgrades:

- Environmental Qualification implemented and maintained
- Fire protection upgrade completed
- Plant Condition Index showing continuing improvement:
 - Modification completed on 5 of 6 Standby Generators
 - D₂O drier upgrades on all units
 - Extensive valve maintenance completed
- Spacer Location and Repositioning (SLAR) completed on all units completed (1534 fuel channels)

Behavioural Focus

- Coaching is part of the culture
- Use of event free tools well practiced
- Housekeeping Standards – continuous focus as an indication of work quality.
- Site Safety Culture assessment completed in 2005 and another currently in progress
- Benchmarking best industry practices in process and behaviours is an on-going activity

Regulatory Reporting

- Concerns of CNSC staff in CMD:
 - Time between event and preliminary report
 - Use of additional reports
 - Reporting of hazardous effluents
 - Reporting of a research finding was not in accordance with S-99
- Actions taken:
 - Time between event and preliminary report reduced, now inline with other stations
 - Steps taken to expedite investigations to reduce additional reports
 - Reporting of hazardous effluents now being done
 - Expectations about need to report research findings have been re-enforced

- CNSC cited in CMD concern about resourcing and staffing
- OPG's Program:
 - Comprehensive and integrated resource planning for all key job families
 - External recruitment aggressively pursued with excellent results
 - Positioning OPG as a preferred employer
 - Partnering with educational institutions and unions
 - Close partnering with key vendors & contractors to manage overflow/support projects for sustainable performance

- Succession plans developed for all management and supervisory positions
- Development programs are in place for knowledge-based and production staff supported by accountable line leaders
- Use of Mentors
- Paired Observation and Coaching

Loss of Bulk Electrical Supply

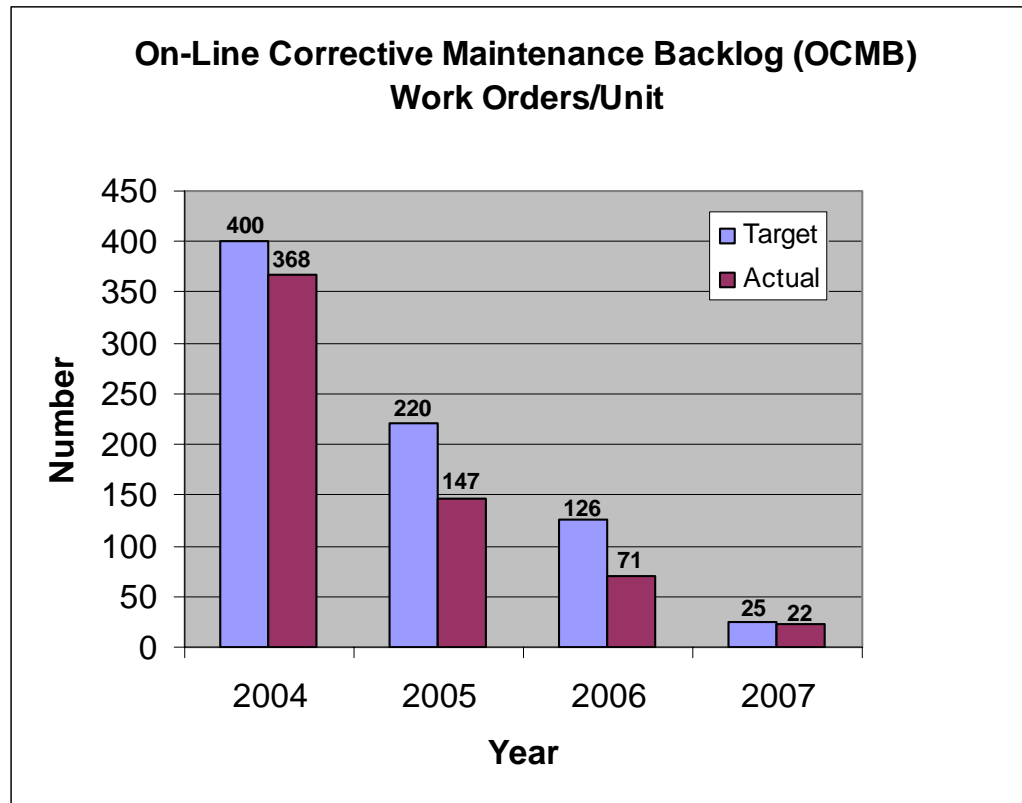
- Pickering B has significantly improved its preparedness for a LOBES event
- Service water, HPECI availability, unit survivability, emergency response and IT issues have all been addressed
- APS commissioning completed. This will provide independence from the electrical grid to support cool down of the units
- Self-assessment performed and included a review of all 150 corrective actions initiated as a follow-up to LOBES event

Auxiliary Power System

2x45 MWe Combustion Turbines Installed

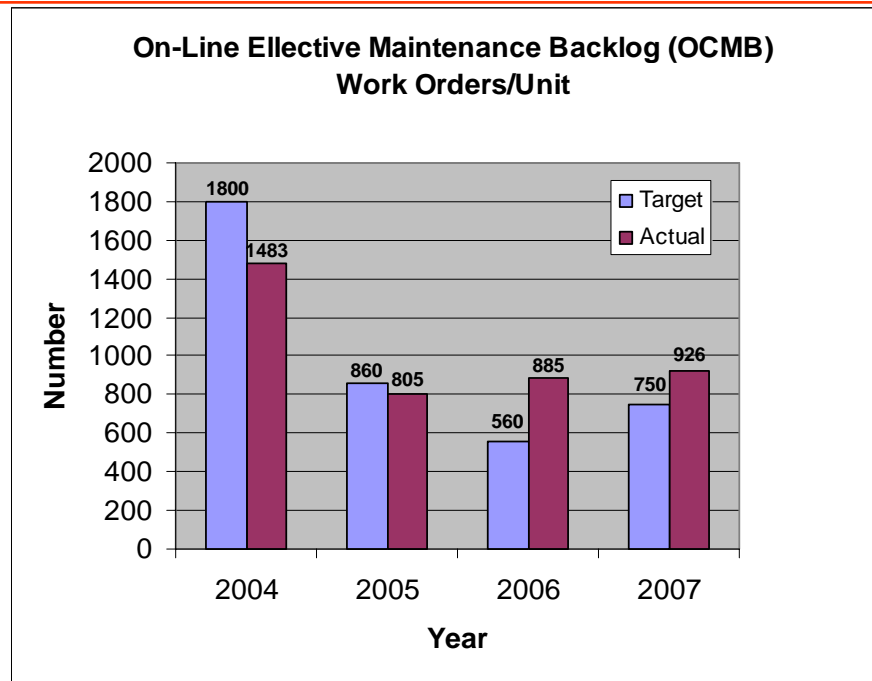


Corrective Maintenance Backlogs



Reduction of corrective maintenance backlog from 368 per unit to the industry standard of <25 per unit in three years through focused effort by Maintenance

Elective Maintenance Backlogs



- Elective Maintenance deficiencies are prioritized
- Priority was placed on addressing higher priority Elective Maintenance deficiencies
- Pickering B did not meet its overall target for Elective Maintenance Backlogs
- Cross functional system health teams implemented
- Improved Fix it Now (FIN) team capability protects schedule and allows planned work to be completed

Safety Analysis: General

CNSC staff identified four issues as the reasons for a deteriorating trend in the safety analysis area:

- Large Break LOCA (LBLOCA) Analysis
- HTS Aging Impact
- 28-element Critical Heat Flux (CHF) Test Results
- Safety Report Updates

Safety Analysis: LBLOCA

- OPG recently submitted updated Large Break Loss of Coolant Accident (LBLOCA) analysis for Pickering B which confirms we have adequate safety margins
- CNSC staff will be undertaking a detailed review of the analysis
- OPG and its industry partners are working together to develop a resolution to long standing LBLOCA analysis issues that will be acceptable to the CNSC
- BEAU Analysis

Safety Analysis: HTS Aging

- Heat Transport System (HTS) aging effects are known and monitored
- Updated NOP analyses for all stations completed which include the impacts of HTS aging and which employ improved methodology.
- The CNSC advised OPG that they would be undertaking a detailed review, focusing on the Darlington station
- OPG continues to refine and improve its HTS aging program

Safety Analysis: 28-Element CHF Issue

- In 2006 and 2007, a series of 28-element Critical Heat Flux (CHF) experiments at Stern Labs indicated that the CHF correlation for Pickering A and B overestimated dryout power
- OPG has proposed a new CHF correlation which reflects the results and this correlation has been submitted to the CNSC for concurrence
- Action taken to lower trip setpoints on both SDS1 and SDS2

Safety Analysis: Safety Report Update

- The Pickering B safety case is not in question
- In 2007, the CNSC staff issued letters to all licensees, identifying both generic and station-specific issues on Safety Report scope and updates issues
- In response, OPG presented a schedule of activities to address the CNSC staff's issues

Pickering B Station Improvements

Improvement Focus (2003-2007)	Improvement Focus (2008-2012)
Pressure Tube Life Cycle Work	Outage Improvement Plan
Physical Plant Improvements	Equipment Reliability Plan
System Health Targets Achieved	Workforce Development & Succession
Corrective Maintenance Backlog Reduction	Elective Maintenance Backlog Reduction
Event-Free Day Reset Reduction	Human Performance Improvement Plan

New Licence Conditions

- There are several new conditions being proposed by CNSC staff for the renewed licence
- OPG understands the intent and interpretation of each condition
- Pickering B can and will comply

Potential Refurbishment

- Assessment in progress to determine if refurbishment has a sound business case
- Pickering B will operate beyond the current licencing period
- Systematic reviews of the station by non-station staff to determine project scope in progress:
 - Environmental Assessment
 - Integrated Safety Review based on IAEA Periodic Safety Review methodology
- Refurbishment would allow continued operation in the future
- If approved, only preparation work would take place in the licence period

In Conclusion

Through improvements over the last five years and plans for the future, OPG has demonstrated that:

- It is qualified to operate Pickering B, and
- It will make adequate provision for the protection of the environment, the health and safety of persons, and the maintenance of national security and measures required to implement international obligations to which Canada has agreed.

Questions?

