

## **S-99 Reports**

In accordance with regulatory standard entitled S-99 Reporting Requirements for Operating Nuclear Power Plants, power reactors operating in Canada must issue formal reports to the Canadian Nuclear Safety Commission (CNSC) on events defined in the S-99 regulatory standard.

The following is a list of S-99 event reports\* that were generated for Pickering operations in 2012, excluding those containing confidential or security-related information. Ontario Power Generation provides an update to this list on a quarterly basis.

**Questions?** For more information on the Event Reports listed, Event Reports from prior years or other reports on OPG's operations, contact **Kevin Powers, Director Nuclear Public Affairs** at 416-592-8470.

### **Pickering A Nuclear Generating Station 2012 S-99 Reporting**

<b>Event Number</b>	<b>S-99 Report Title</b>
<b>1<sup>st</sup> Quarter</b>	
P-2011-25456	Apparent Unapproved Modification: Pump Replacement Completed without final Design Authority Approval
P-2012-00078	Technical Operability Evaluation Initiated on Boiler Feedwater System
P-2012-00259	Missed Test: Hydrogen Igniter Check Test was not Performed within the Required Time Interval, without an Approved Deferral in Place
P-2012-00316	Apparent Fire Standard Non Compliance: Blocked Fire Extinguisher
P-2012-00320	Apparent Fire Standard Non Compliance: Combustible stored in Screen 3 Fire Zone
P-2012-00508	Reactor Trip: Unit 4 Manually Tripped and Placed in Guaranteed Shutdown State to Perform Maintenance.
P-2012-00817	Apparent Fire Standard Non Compliance: Fire Extinguisher not Installed on Hanger
P-2012-00858	Unplanned loss of Auxiliary Irradiated Fuel Bay Lighting
P-2012-00910	Technical Operability Evaluation Initiated with Respect to Digital Control Computer Coding Anomaly – confirmed operable
P-2012-00920	System Unavailable: Ventilating Unit Unavailable in Class II Electrical System Enclosure
P-2012-01525	Apparent Fire Standard Non Compliance: Fire Extinguishers Not Mounted on the Wall
P-2012-01697	Missed Test: Breaker Overhaul and Testing Not Performed by Late Date without an Approved Deferral

<b>Event Number</b>	<b>S-99 Report Title</b>
	in Place
P-2012-01833	Technical Operability Evaluation Raised on Standby Generator Battery Condition – confirmed operable
P-2012-02375	Apparent Fire Standard Non Compliance: Fire Extinguishers Not Mounted in Accordance to National Fire Code
P-2012-02648	Unit 4 Fuelling Machine Relief Valve was not Sample Tested by the Sample Test Date
P-2012-02683	Apparent Fire Standard Non Compliance: Manual Pull Station missing Break Glass
P-2012-02824	Apparent Fire Standard Non Compliance: Fire Detection and Suppression testing not performed on five Trailers
P-2012-03218	Equipment stored in close proximity to Seismically Qualified Auxiliary Boiler Feed Pump
P-2012-03733	Research Finding: Potential Impact of Recent Fuel Thermal Conductivity Data on Safety Analyses
P-2012-03824	Apparent Non-Compliance to Operating Policies and Procedures: Moderator Flow less than 800 kg/s During Emergency Coolant Injection Test
P-2012-04564	Unit 4 Heat Transport Pressurizing Pump Motor Bearing Overheated and had the Potential to result in a Unit Transient
P-2012-04808	Reactor Trip: Unit 1 Reactor Tripped Manually as Part of Planned Outage
P-2012-04919	System Unavailable: Level 1 Impairment of Negative Pressure Containment with U1 in Guaranteed Shutdown System and Heat Transport System Cold - No Impact On Environment or Public
P-2012-05569	Potential for Multi-unit Trip while Inter-unit Venting in Progress which could result in reduced High Pressure Emergency Coolant Injection power supply reliability
P-2012-05649	Research Finding: Potential Detensioning during Service Life of the Fuel Channel Annulus Spacer (Garter Spring)
<b>2<sup>nd</sup> Quarter</b>	
P-2012-05869	System Unavailable: Two Emergency Low Pressure Service Water Pumps Unavailable
P-2012-05984	Apparent Non-Compliance with Radiation Protection Regulations: Unposted Radiation Hazard Discovered in Turbine Loading Bay
P-2012-06961	Apparent Fire Standard Non Compliance: Fire Extinguisher not Installed on Hanger
P-2012-07001	Reactor Trip: Unit 1 Reactor Tripped Manually to Facilitate Repairs to Shutdown Cooling Pump Seal
P-2012-07084	Technical Operability Evaluation Initiated: Emergency Coolant Injection H2O Injection Valves Evaluated and found Operable
P-2012-07177	Apparent Non-Compliance With Radiation Protection Regulations: Unposted Radiation Hazard

<b>Event Number</b>	<b>S-99 Report Title</b>
	Discovered in Ion Exchange Column area.
P-2012-07284	Access Control Gate Found Open – no unplanned exposures.
P-2012-08521	Reactor Trip: Unit 4 Reactor Tripped Manually to Facilitate Planned Outage
P-2012-09121	Apparent Fire Standard Non Compliance: Fire Extinguishers Not Mounted on the Wall
P-2012-09746	System Unavailability: Main Control room Uninhabitable Impairment Incurred during Maintenance on Emergency Coolant Injection Pressure Transmitter
P-2012-10176	Missed Test: Unit 4 High\Low Pressure Trip Loop Response Test Went Late without an Approved Deferral In Place – No impact on Operability
<b>3<sup>rd</sup> Quarter</b>	
P-2012-09761	Apparent Unapproved Modification: Boiler Room Heat Transport System Piping Insulation changed without Prior Engineering Approval – no impact on operability
P-2012-10185	Apparent Non-Compliance with Nuclear Safety and Control Act or Regulations: Misclassified Radioactive Material Shipment – no hazard to workers or public
P-2012-10202	Technical Operability Evaluation Initiated on Unit 4 Shut Down System Linear Rate Trip Meter due to Grounding Configuration – No impact on Operability
P-2012-10248	Missed Test: Testing of Emergency Water Storage valve was not Performed within the Required Time Interval without an Approved Deferral In Place
P-2012-10403	Technical Operability Evaluation Initiated on Unit 4 Class II Electrical Bus – confirmed operable
P-2012-10846	Reactor Trip: Unit 4 Reactor Tripped Manually to facilitate Outage
P-2012-11113	Reactor Trip: Unit 4 Reactor Tripped on Heat Transport Low Pressure
P-2012-11551	Pressure Boundary Degradation: Pickering A Underground Fire Header Break Outside Unit 1
P-2012-12075	Apparent Non-Compliance With Radiation Protection Regulations: Unposted Radiation Hazard in Pickering A Loading Bay
P-2012-12082	Technical Operability Evaluation Initiated on Unit 1 Black Deposits found on Fuel Bundles
P-2012-12439	Apparent non-compliance with License Condition: Pressure Boundary Component Replaced without Inspection Test Plan
P-2012-12539	Apparent Fire Standard Non Compliance: Compressed Gas Bottles Stored in Flammable Storage Cabinet (non-compliance with CSA N285)
P-2012-12575	Technical Operability Evaluation Initiated on Feeder Cabinet Fan F501 Unavailable
P-2012-12603	Missed Test: Overhaul, Testing and Calibration for Breaker was not Performed within the Required

<b>Event Number</b>	<b>S-99 Report Title</b>
	Time Interval without an Approved Deferral In Place
P-2012-12832	Missed Test: Annual Preventive Maintenance for Diesel Fire Pump Motor was not Performed within the Required Time Interval without an Approved Deferral In Place
P-2012-13238	Missed Test: Sprinkler System Annual Flow Testing was not Performed within the Required Time Interval without an Approved Deferral In Place
P-2012-13943	Technical Operability Evaluation Initiated on Seal and Bearing Flow Switches installed on Units 1 and 4 Emergency Low Pressure Service Water and EHPSW pumps
P-2012-14540	System Unavailability: Emergency Low Pressure Service Water Does Not Meet Design Intent Impairment Declared
P-2012-14545	System Unavailability: Emergency Low Pressure Service Water Does Not Meet Design Intent Impairment Declared
<b>4<sup>th</sup> Quarter</b>	
P-2012-14162	Technical Operability Evaluation Initiated on Back-Up Instrument Air
P-2012-14778	Reactor Trip: Manual Reactor Trip on Unit 1 for planned maintenance outage
P-2012-14929	System Unavailability: Auxiliary Boiler Feed Pump Unavailable
P-2012-15466	System Unavailability: Does Not Meet Design Intent Impairment of Heat Transport System
P-2012-15599	Pressure Boundary Failure: Pickering A Underground Fire Yard Ring Header Break
P-2012-15611	Public Address Speakers Stuffed with Paper
P-2012-15614	Apparent Fire Standard Non Compliance: Fire Extinguishers Not Tested Monthly as per Fire Standard
P-2012-15667	Apparent Non-Compliance to Operating Policies and Procedures: Loss of Back Up Heat Sink - Operating Policies and Principle 33.3
P-2012-15884	Research Finding: Review of Recent Study Suggests Higher Coolant Voiding Reactivity
P-2012-15887	Research Finding: Current TUF Code Version Does Not Accurately Model Void Fraction Distribution in Fuel Channel
P-2012-16004	Radiation Exposure Action Level Reached: unplanned worker exposure (less than Administrative and Legal limits)
P-2012-16150	System Unavailability: Two Heat Transport Check Valve Pistons found Stuck in Open Position
P-2012-16506	Missed Test: Annual Battery Replacement in Four Fire Protection Control Panels not Performed by Late Date
P-2012-16699	Apparent Licence Non-compliance: Fire Standard: Improper Storage of Propane powered Crane in

Event Number	S-99 Report Title
	Screen 3 Fire Zone
P-2012-16902	Release to the Environment: Sodium Hypochlorite Spilled into the Environment – no impact
P-2012-16973	System Unavailability: Level 2 impairment of Emergency Coolant Injection
P-2012-17195	Reactor Trip: Unit 4 Reactor Tripped Manually to Facilitate Outage
P-2012-17276	Technical Operability Evaluation Initiated on Calandria Inlet Valve condition
P-2012-17805	Temporary Loss of Power to Overhead Lighting in the Irradiated Fuel Bay
P-2012-17810	External Event: Unit 1 Loss of Class IV Power Transient During Guaranteed Shutdown State
P-2012-17987	Missed Test: Annual Battery Replacement in Five Fire Protection Control Panels not Performed within Due Date
P-2012-18155	System Unavailability: Does Not Meet Design Intent Impairment of Emergency Low Pressure Service Water System
P-2012-18289	Apparent Licence Non-compliance: Fire Standard: Combustibles Stored under Cable Trays
P-2012-18569	System Unavailability: Does Not Meet Design Intent Impairment of Emergency Low Pressure Service Water System
P-2012-18718	Apparent Fire Standard Non Compliance :Fire Extinguisher not on Hanger
P-2012-18792	Research Finding: Moderator Outlet Temperature Assumption During Emergency Coolant Injection Recovery may be not be Achievable due to Moderator Temperature Control Valve Load Shedding
P-2012-18874	Apparent Missed Test: Heat Transport Relief Valve not Tested by Code Required Date
P-2012-18983	Pressure Boundary Degradation: Wall Thickness below Code Allowable Limit on High Pressure Service Water System Piping
P-2012-19209	Pressure Boundary Degradation: Wall Thickness below Code Allowable Limit on Low Pressure Service Water System Piping
P-2012-19657	Inspection Results Show a Thicker Black Deposit on a Fuel Element than Previously Seen.

### **Pickering B Nuclear Generating Station 2012 S-99 Reporting**

Event Number	S-99 Report Title
<b>1<sup>st</sup> Quarter</b>	
P-2012-00082	Apparent Fire Standard Non Compliance: Scissor Lift Parked under Cables in Screen 3 Fire Zone
P-2012-00541	Apparent Non Compliance to License Condition: Code Classification of Check Valve does not meet

<b>Event Number</b>	<b>S-99 Report Title</b>
	Requirements of Pressure Boundary Code
P-2012-00933	System Unavailability: Fixed Air Discharge Purge Sump Level Potentially Went Below Impairment Level
P-2012-01122	Apparent Fire Standard Non Compliance: Crane parked in Screen 3 Fire Zone
P-2012-01155	Apparent Fire Standard Non Compliance: Scissor Lift Parked under Cables in Screen 3 Fire Zone
P-2012-01245	System Unavailability: Fixed Air Discharge Purge Sump Level Assumed to go Below Impairment Level
P-2012-01285	Release to the Environment: Small amount of Lubricating Oil (5L) Spilled to the Environment
P-2012-01555	Technical Operability Evaluation Raised On Operational Concern Regarding Shutdown System 1 Ion Chamber Amplifiers
P-2012-02283	Apparent Fire Standard Non Compliance: Crane parked in Screen 3 Fire Zone
P-2012-02388	Apparent Non-Compliance with License Condition: ACU Coil Design not in conformance with Pressure Boundary Code
P-2012-02519	Missed Test: Positioner Switch not Replaced within the Required Time Interval
P-2012-03735	Research Finding: Potential Impact of Recent Fuel Thermal Conductivity Data on Safety Analyses
P-2012-03792	Missed Test: Functional check of Pressure Switches on Reactor Building Ventilation System not Performed within the required Time Interval
P-2012-03862	Activation of Shutdown System 1 Occurred during Channelized Maintenance on SDS2
P-2012-04207	Apparent Fire Standard Non Compliance: Crane Parked in Screen 3 Fire Zone
P-2012-04212	Pressure Boundary: Reduction in Wall Loss Found on Emergency Water System Piping
P-2012-04659	Potential for Multi-unit Trip while Inter-unit Venting in Progress which could result in reduced High Pressure Emergency Coolant Injection power supply reliability
P-2012-04864	Apparent Fire Standard Non Compliance: Material Stored in Screen 3 Fire Zone
P-2012-05173	System Unavailability: Auxiliary Boiler Feed Pump Unavailable due to Unacceptable Levels of Water in Oil
P-2012-05651	Research Finding: Potential Detensioning during Service Life of the Fuel Channel Annulus Spacer (Garter Spring)
<b>2<sup>nd</sup> Quarter</b>	
P-2012-03196	Apparent Non Compliance to License Condition. Missing Pressure Test Concession for Replacement of Emergency Coolant Injection valve
P-2012-07057	Apparent Fire Standard Non Compliance: Improper Storage of Gas Cylinders in Screen 3 Fire Zone
P-2012-07957	Non-conservative assumption made in a Licensee Produced Document for certain events

<b>Event Number</b>	<b>S-99 Report Title</b>
P-2012-08476	Technical Operability Evaluation Initiated: U8 Reactor Building Instrument Air In-leakage Exceeds Level 3 Impairment Level of Containment.
P-2012-08839	System Unavailability: Auxiliary Boiler Feed Pump Unavailable due to Unacceptable Levels of Water in Oil
P-2012-08949	Apparent Fire Standard Non Compliance: Fire Barrier Not Installed in Cable Penetration after Maintenance
P-2012-08985	Apparent Missed Test: Main Steam System Relief Valve Not Tested by Late Date without an Approved Deferral in Place
P-2012-09151	External Event: Unit 7 Shut Down due to Algae Run
P-2012-09174	Exceedance of Certificate of Approval Limit for Daily Average Temperature Difference (outfall vs intake)
P-2012-09455	Apparent Missed Test: Instrument Air Relief Valve Not Tested by Late Date without an Approved Deferral in Place
P-2012-09591	Apparent Release to the Environment: Approximately One Liter of Oil Spilled into the Environment
<b>3<sup>rd</sup> Quarter</b>	
P-2012-10839	Apparent Release to the Environment: Approximately 90 Liters of Lubricating Oil Spilled into the Environment
P-2012-11410	External Event: Unit 5 Shut Down due to Algae Run
P-2012-11492	Research Finding: Effect of Reactor Aging on Pickering B Neutron Over Power Trip Setpoint Rate of Reduction
P-2012-12524	Apparent Release to the Environment: Approximately 150 Liters of Oil Spilled into the Environment
P-2012-13170	Apparent Non-Compliance with License Condition: Operator shifts deferred twice in 12 month period
<b>4<sup>th</sup> Quarter</b>	
P-2012-13822	System Unavailability: Unit 5 Site Electrical System Unavailable due to External Equipment Failure
P-2012-13893	Apparent Fire Standard Non Compliance: Compressed Gas Cylinders not Properly Secured
P-2012-15648	Apparent Fire Standard Non Compliance: Items Found Stored in a Screen 3 Fire Zone
P-2012-15886	Research Finding: Review of Recent Study Suggests Higher Coolant Voiding Reactivity
P-2012-15889	Current TUF Code Version Does Not Accurately Model Void Fraction Distribution in Fuel Channel
P-2012-16761	Apparent Fire Standard Non Compliance: Missing Fire Extinguisher
P-2012-16906	Apparent Fire Standard Non Compliance: Improper Storage of Forklift and Skid with a Motor
P-2012-17126	Apparent Non-compliance to Radiation Protection Regulations: Unposted Radiation Hazard in

Event Number	S-99 Report Title
	Irradiated Fuel Bay-B
P-2012-20230	Station Emergency: Declaration of Emergency following Steam Leak, to ensure staff assembly and accounting – no injuries or impacts

\*This list is for events reportable under section 6.3 of the S-99 regulatory standard, including immediate and next business day reportable events. In accordance with S-99, additional reporting is required on a quarterly and annual basis.