ONTARIO POWER GENERATION

Records File Information:
Attach to Master EC

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N-FORM-10529-R002*

Reactor Safety Designer's Checklist

Facility:	☒ DND ☐ PND ☐ NWM ☐ Nuclear Other: _____	Master EC Number:	88528

Purpose of this Checklist:

1. To ensure no adverse public safety impacts.
2. To ensure worker safety is considered.
3. To ensure that serious problems that have occurred due to workgroup interfaces are queried to avoid repeat problems.

Answer all of the following questions. This sheet shall be done at the start of the Modification to assist in scope definition.	Yes	No	N/A	RSED Evaluation:	
1. Is the modification to a:				Assessment Notes	Document Impacted
• Special Safety System (SSS)?	☐	☒		New D2O storage facility will be interfacing with several safety related systems in the HWMB and TRF. Not a SIS, unless there are tie ins to ESW.	☐ Safety Report Part 2 to be updated. ☐ No further action ☐ Other (specify):
• S-98 System Important to Safety (SIS) other than SSS?	☐	☒			
• Safety Related Systems other than S-98 SIS?	☒	☐			
• If not identified as one of the systems above, will the change affect safety related function of an interfacing system?	☐	☐			
S-98 System Related to Safety (SIS) Lists:.0. Pickering A: NA44-REP-03611-00004 Pickering B: NK30-INS-03611-00001 Darlington: Memo, P. Lawrence to M. Tulett, "Recommendations for S-98 Systems Important to Safety," November 23, 2005, NK38-01600. Safety Related Systems Lists: Pickering A and B: P-PROC-MP-0006 Darlington: NK38-LIST-06937-10001				RSED Evaluator:	_____ Name and Initials

*Associated with N-FORM-10959, Design Scoping Checklist

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Answer all of the following questions. This sheet shall be done at the start of the Modification to assist in scope definition.	Yes	No	N/A	RSED Evaluation:		
2. Change impact to reactor safety analysis:				Assessment Notes		Document Impacted
• Does the change impact safety analysis?	☒	☐		Safety Report (appendix 11.8) considers the radiological release to the environment from a failure of the HWMB following a seismic event. Since the volume of D2O stored in the HWMB will increase during and after Refubishment, the impact to the dose calculation may need to be assessed. New design requirements will be required for the new facility.	☒	Updates to Safety Report Part 3.
• Does the change require a change to Design Guides (P) or Nuclear Safety Design Guides (D)?	☐	☒	☐		☐	Nuclear Safety Design Guide exception (D) or Supplement (P) needed.
• Does the change require a change to nuclear safety design requirements and/or other design requirements related to nuclear safety (e.g. System Design Requirements Document)?	☒	☐	☐		☐	Other (specify):
				RSED Evaluator:		Name and Initials

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Answer all of the following questions. This sheet shall be done at the start of the Modification to assist in scope definition.	Yes	No	N/A	RSED Evaluation:	
3. Does this modification impact on a safety function qualification, assessment or analysis for the following:				Assessment Notes	Document Impacted
• Safe Operating Envelope – Safety Limits, instrument uncertainty?	☐	☒		☐	Updates to OSR/IUC.
• Containment Boundary?	☐	☒		☐	Updates to Containment Boundary Report.
• Changes or reduction of personnel or equipment accessibility for normal operation and/or accident conditions?	☒	☐		☒	Updates to accident AIMs/ Operating Manuals..
• Are new and/or modified actions expected from the operator as a result of the modification?	☒	☐		☐	Updates to Impairment AIM.
				☐	Other (specify):
				RSED Evaluator:	Name and Initials

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Answer all of the following questions. This sheet shall be done at the start of the Modification to assist in scope definition.	Yes	No	N/A	RSED Evaluation:		
4. Modification impact Reliability Program:				Assessment Notes		Document Impacted
• Does the change potentially impact reliability or redundancy, such as: • Failure rates or mean time between failures (MTBF)? • Failure mode effect analysis (FMEA)?	☐	☒		Additional D2O storage will not be credited for D2O make-up and will not connect to units directly.	☐	Updates to Risk Assessment.
• Does the change affect unavailability models?	☐	☒			☐	Update to unavailability model and test procedures.
					☐	Other (specify):
				RSED Evaluator:		Name and Initials

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Answer all of the following questions. This sheet shall be done at the start of the Modification to assist in scope definition.	Yes	No	N/A	RSED Evaluation:
5. Function impact:				Assessment Notes
• Will this modification impact on primary, backup or emergency heat sink?	☒	☐		Without appropriate isolation, rupture of the proposed piping or tanks could draw water from the existing S&I system (req'd to supply the unit's D2O storage tank). ☐ Thermal-hydraulic review during implementation.
• Will the modification impact on reactivity management including GSS?	☒	☐		☐ Reactor Safety Support review during implementation. ☒ Reactor Physics review during implementation. ☐ Other (specify):
				Suggest Reactor Physics review how the potential addition/removal of poision in the new storage tanks will affect how GSS may be obtained upon refuel of the reactor after refurbishment, and subsequent outages.
				RSED Evaluator: Name and Initials

Julian Read		
Prepared by (print name)	Signature	Date (YYYY-MM-DD)
Peter Moore		
Reviewed by (print name)	Signature	Date (YYYY-MM-DD)
RSED Reviewed by (print name)	Signature	Date (YYYY-MM-DD)