

Numbers may not add due to rounding.

Filed: 2013-09-27

EB-2013-0321

Exhibit D2

Tab 1

Schedule 3

Table 1

Table 1
Capital Project Listing - Nuclear Operations Facility Projects
Projects ≥ \$20M Total Project Cost¹

Line No.	Facility	Project Name	Project Number	Category	Start Date	Final In-Service Date	Total Project Cost ² (M\$)	Partial/Devmt Release (\$M)	Initial Full Release (\$M)	Superceding Full Release ³ (\$M)	In-Service 2013 (\$M)	In-Service 2014 (\$M)	In-Service 2015 (\$M)
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)
		ONGOING PROJECTS FROM EB-2010-0008											
1	SEC	Physical Barrier System	25609	Regulatory	Nov-05	Feb-13	56.9		49.5	56.9	0.0	0.0	0.0
2	DN	Improve Maintenance Facilities at Darlington	31717	Sustaining	Aug-07	Oct-14	43.2		43.2		31.4	2.0	0.0
3	DN	Chiller Replacement to Reduce CFC Emissions	33631	Regulatory	Jan-04	Jan-13	30.0		30.0		4.1	0.0	0.0
4	DN	Standby Generator Controls Replacement	33973	Sustaining	Dec-06	Oct-13	21.8	13.5			8.9	3.9	0.0
5	DN	DCC Replacement / Refurbishment / Upgrades	33977	Sustaining	Sep-03	Sep-14	22.1	22.1			0.8	1.7	0.0
6	PN	Standby Generator Governor Upgrade	49109	Sustaining	Oct-05	Feb-13	23.3		23.3		0.0	0.0	0.0
7		Subtotal					197.3				45.2	7.5	0.0
		COMPLETED/DEFERRED/CANCELLED FROM EB-2010-0008											
8	SEC	Security Monitoring Room	25905	Regulatory	Nov-05	Nov-11	19.2		20.4		0.0	0.0	0.0
9	SEC	Security Project F	25909	Regulatory	May-08	Nov-11	39.9		42.9		0.0	0.0	0.0
10	DN	New Change Room Facility	31718	Sustaining	Jul-07	Jul-10	23.8		23.8		0.0	0.0	0.0
11	PN	Reactor Structures-Calandria Vault Inspection	46537	Value Enhancing	Aug-06	Aug-10	23.6		23.9	26.4	0.0	0.0	0.0
12	PN	Site - D2O Storage Facility	49251	Sustaining	Nov-06	Cancelled	0.4	2.5			0.0	0.0	0.0
13	PN	ISTB Cabling Permanent Modification	49270	Regulatory	May-08	May-10	40.3		19.4	40.3	0.0	0.0	0.0
14	PN	P2/P3 Isolation Project	Various	Sustaining	Aug-05	Aug-10	36.1		38.5		0.0	0.0	0.0
15	ENG	Feeder Repair by Weld Overlay	62568	Sustaining	May-09	Deferred	0.0		53.2		0.0	0.0	0.0
16		Subtotal					183.4				0.0	0.0	0.0
		PROJECTS NOT IN EB-2010-0008											
17	PN	PA Mod/Replace FRP Components During 2010 VBO	49285	Sustaining	Nov-09	Jun-10	17.8		12.8	24.5	0.0	0.0	0.0
18	PN	Fuel Handling Single Point of Vulnerability Equipment Reliability Improvement	46634	Sustaining	Feb-11	Dec-13	27.3	14.6	27.3		8.8	2.0	0.0
19		Subtotal					45.1				8.8	2.0	0.0
20		Total									54.0	9.6	0.0
		DIVISION TOTALS:											
21		Darlington									45.2	7.5	0.0
22		Pickering									8.8	2.0	0.0
23		Nuclear Support Divisions									0.0	0.0	0.0
24		Total									54.0	9.6	0.0

Notes:

- 1 Projects with expenditures during Test Period OR In-Service Amounts in Bridge or Test Period, AND Completed/Deferred Projects (from EB-2010-0008 or subsequent).
- 2 "Total Project Cost" reflects BCS amounts, with the exception of Completed/Deferred/Cancelled Projects (for which actual costs are shown).
- 3 Superceding release approved for Project 46537, but not required. Project completed for less than initial full release amount.

Table 2a
Capital Project Listing - Nuclear Operations Facility Projects
Projects \$5M - \$20M Total Project Cost¹

Line No.	Facility	Project Name	Project Number	Category	Project Description	Start Date	Final In-Service Date	Total Project Cost ² (\$M)	In-Service 2013 (\$M)	In-Service 2014 (\$M)	In-Service 2015 (\$M)
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
		ONGOING PROJECTS FROM EB-2010-0008									
1	DN	Fuel Handling Power Track Improvement	31438	Sustaining	Install a video surveillance system to monitor operation and condition of the fuel handling power track system.	May-07	Feb-12	16.2	0.0	0.0	0.0
2	DN	Installation of partial discharge monitors	33623	Sustaining	Provide a means of assessing the stator winding conditions of the Main Generators and PHT Pump motors.	May-07	Feb-14	7.1	1.7	1.7	0.0
3	DN	Replacement of Obsolete Computer Components	33509	Sustaining	Replace components of the digital control computers that are obsolete.	Jun-00	Jul-14	9.1	0.0	0.0	0.0
4	DN	Fuel Handling Computer Replacement	33815	Sustaining	Replace components of the fuel handling system control computers that are obsolete.	Aug-05	Feb-12	12.5	0.0	0.0	0.0
5	DN	Major Pump-sets Vibration Monitoring System Upgrades	33819	Sustaining	Upgrade the major pump set vibration monitoring system. Current system has already reached end of life and uses obsolete hardware & software with no spares. (Turbine generator scope of work transferred to Refurbishment).	Mar-06	Feb-17	8.0	0.0	3.2	2.7
6	DN	Shutdown System (SDS) Computer Aging Management	33955	Sustaining	Replace components of the shutdown system computers that are obsolete.	Nov-06	Jun-14	17.2	10.8	1.9	0.0
7	DN	DND Feeder Replacement ALARA/Optimization	34008	Sustaining	Provide tooling and capability to optimize feeder replacements, fuel channel reconfiguration and single-fuel channel replacements while minimizing dose.	Aug-09	Jun-12	14.0	0.0	0.0	0.0
8	DN	Reactivity Mechanism Replacement Tooling	34111	Sustaining	Develop tooling for the replacement of reactivity mechanisms.	Oct-01	Mar-12	8.8	0.0	0.0	0.0
9	IMS	Upper Feeder Cabinet Inspection Robot	66266	Sustaining	Develop robotic tooling to perform visual inspections in the feeder insulation cabinets.	Jun-06	Apr-11	11.4	0.0	0.0	0.0
10	IMS	ANDE/CIGAR Hybrid	66423	Sustaining	Increase the speed of fuel channel inspections by integrating the ANDE (Advanced Non-Destructive Examination) probe with the CIGAR delivery system.	Apr-09	Mar-13	10.0	0.5	0.0	0.0
11	PN	Airlocks System Relief Valve Replacements for Regulatory Compliance	40673	Sustaining	Replace obsolete airlock relief valves with new seismically qualified valves and alternate air supply to ensure maintenance of containment.	Sep-09	Oct-12	11.7	0.0	0.0	0.0
12	PN	EPG Control Upgrade	49110	Sustaining	Replace obsolete controls with modern equivalents to ensure availability of emergency power generators.	Mar-06	Dec-12	16.5	0.0	0.0	0.0
13	PN	Powerhouse Office Facilities	49126	Sustaining	Upgrade offices inside the powerhouse to meet heating, ventilation and air conditioning, building and fire codes.	May-09	Oct-13	9.5	3.2	0.0	0.0
14	PN	Replacement of Standby Boilers	49267	Regulatory	Provide reliable back-up supply for heating steam for Pickering.	Sep-06	Oct-14	6.1	0.2	1.4	0.0
15	PN	Pickering Fish Diversion System	49280	Regulatory	Install full coverage barrier screen in Pickering inlet channel to divert fish and reduce fish mortality to meet CNSC requirements.	Feb-09	Apr-12	10.8	0.0	0.0	0.0
16	PN	Radioactive Emission Reduction (EV-005)	79140	Sustaining	Improve the Radioactive emissions monitoring and control performance per CNSC Operating License requirements.	Mar-99	Jun-12	13.4	0.0	0.0	0.0
17		Subtotal						182.2	16.3	8.1	2.7
Table continues on Ex. D2-1-3 Table 2b											

Notes:
1 Projects with expenditures during Test Period OR In-Service Amounts in Bridge or Test Period, AND Completed/Deferred Projects (from EB-2010-0008 or subsequent).
2 "Total Project Cost" reflects BCS amounts, with the exception of Completed/Deferred Projects (for which actual costs are shown).

Table 2b
Capital Project Listing - Nuclear Operations Facility Projects
Projects \$5M - \$20M Total Project Cost¹

Line No.	Facility	Project Name	Project Number	Category	Project Description	Start Date	Final In-Service Date	Total Project Cost ² (\$M)	In-Service 2013 (\$M)	In-Service 2014 (\$M)	In-Service 2015 (\$M)
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
		COMPLETED/CANCELLED PROJECTS FROM EB-2010-0008									
18	DN	Second Darlington Full Scope Simulator	28452	Sustaining	Install second full scope Darlington simulator to increase capacity for initial training and requalification of authorized operators.	Sep-06	Jan-10	16.2	0.0	0.0	0.0
19	DN	DLC Modifications – Simulator Based Training	28453	Sustaining	Develop tooling for the replacement of reactivity mechanisms.	Sep-06	Jan-10	11.8	0.0	0.0	0.0
20	IMS	CIGAR Control System Replacement Obsolescence/Configuration Management	66260	Sustaining	Upgrade the CIGAR control system by replacing obsolete PDP computer hardware, drive system hardware and software.	Oct-06	Dec-10	8.8	0.0	0.0	0.0
21	SEC	Security Hardening Project	25901	Regulatory	Security Protected	May-03	Jun-11	10.9	0.0	0.0	0.0
22	SEC	Controlled Area Improvements	25902	Regulatory	Security Protected	Nov-05	Cancelled	1.5	0.0	0.0	0.0
23	SEC	Security Doors Upgrade	25908	Regulatory	Security Protected	Aug-06	Dec-10	15.0	0.0	0.0	0.0
24	PN	P2/P3 D2O Storage Tanks	46576	Sustaining	Install tanks to store heat transport heavy water drained from Pickering Units 2 and 3.	Dec-06	Dec-10	15.9	0.0	0.0	0.0
25	PN	Channel Isolation and Draining Tool for Feeder Replacement	46600	Sustaining	Develop tools to isolate and drain fuel channels without tying up the fuelling machines.	Aug-08	Jun-10	5.8	0.0	0.0	0.0
26	PN	PB Debris Filter Improvement Modification	49113	Sustaining	Install improved debris filters to minimize impact of algae runs on condenser cooling flows.	Jun-09	Cancelled	2.1	0.0	0.0	0.0
27	PN	New Redundant Calandria Vault Dryer	49252	Sustaining	Install additional dryers to ensure maintenance of dry atmosphere in calandria vaults to minimize corrosion of carbon steel components.	Sep-05	Apr-10	11.2	0.0	0.0	0.0
28	PN	Switchyard Relay Building Cable Replacement	49266	Sustaining	Improve reliability of main output system by replacing degraded and damaged cables from the plant to the switchyard protection & control equipment.	Dec-06	Jul-10	15.8	0.0	0.0	0.0
29	PN	Chemistry Standards (CH-002)	79147	Sustaining	Install upgrades to chemical addition, control and monitoring to improve station performance.	Jan-01	May-11	18.9	0.0	0.0	0.0
30		Subtotal						133.8	0.0	0.0	0.0
Table continues on Ex. D2-1-3 Table 2c											

Notes:
1 Projects with expenditures during Test Period OR In-Service Amounts in Bridge or Test Period, AND Completed/Deferred Projects (from EB-2010-0008 or subsequent).
2 "Total Project Cost" reflects BCS amounts, with the exception of Completed/Deferred Projects (for which actual costs are shown).

Table 2c
Capital Project Listing - Nuclear Operations Facility Projects
Projects \$5M - \$20M Total Project Cost¹

Line No.	Facility	Project Name	Project Number	Category	Project Description	Start Date	Final In-Service Date	Total Project Cost ² (\$M)	In-Service 2013 (\$M)	In-Service 2014 (\$M)	In-Service 2015 (\$M)
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
		PROJECTS NOT IN EB-2010-0008									
31	DN	Passive Auto-Catalytic Recombiners	31306	Regulatory	Install passive auto-catalytic recombiners for long-term post-accident hydrogen mitigation.	Dec-09	Sep-15	5.8	0.5	1.2	0.3
32	DN	Active Liquid Waste System Upgrade	31403	Regulatory	Add aeration and chemical addition to system to ensure compliance with liquid waste discharge criteria.	Nov-09	Jan-14	12.1	0.0	6.7	0.0
33	DN	Class II Uninterruptible Power Supply Replacement	31412	Sustaining	Replace obsolete uninterruptible power supplies. These units supply critical instrumentation and operating equipment loads in the station.	Jan-11	Apr-19	19.4	0.0	1.3	3.8
34	DN	Pressurizer Heaters Replacement	31422	Sustaining	Replace heaters in pressurizers that are at the end of their expected life.	Apr-11	Jun-15	14.2	1.6	4.3	0.0
35	DN	Darlington Fuel Handling Inverter Replacement	31426	Sustaining	Replace Fuel Handling Inverters that are used in operating fueling critical components to address obsolescence and reliability.	Nov-11	Sep-19	9.2	0.0	2.1	0.0
36	DN	Darlington Fuel Handling Reactor Area Bridge Independent Power and Control System	31428	Sustaining	Provide independent power and control to the Reactor Area Bridge and increase opportunities to perform maintenance on Fuel Handling systems.	Dec-11	Jul-13	5.5	0.0	0.0	0.0
37	DN	Darlington Fukushima Phase 1 Beyond Design Basis Event (BDBE) Emergency Mitigation Equipment (EME)	31508	Regulatory	Provide capability to respond to Beyond Design Basis Event following the events at Fukushima Daiichi Nuclear Power Plant.	Sep-11	Dec-15	12.0	0.0	0.0	0.0
38	DN	Replacement of EPS Uninterruptible Power Supply	33258	Sustaining	Replace life-expired uninterruptible power supplies to the emergency power system.	Feb-10	Jul-16	12.7	3.6	4.8	0.0
39	DN	Secondary Control Area Air Conditioning Unit Replacement	33621	Sustaining	Replace aging air conditioning units providing cooling to the secondary control areas. Failure to supply cooling could result in unit or station shutdown depending on the area affected.	Feb-09	Oct-14	12.3	3.5	7.3	0.0
40	DN	Suit and Maintenance Communication System Replacement	34006	Sustaining	Replace the Station Suit and Maintenance Communication System, which provides two party and multi party voice communication facility for personnel working in clean and radioactive areas.	Feb-11	May-16	7.1	2.4	1.8	0.9
41	DN	Primary Heat Transport Pump Motor Capital Spares	36001	Sustaining	Mitigate the risk of a forced outage due to Primary Heat Transport Motor failure by acquiring additional spare motors which will facilitate a planned refurbishment program.	Sep-11	Apr-13	15.0	15.0	0.0	0.0
42	DN	Main Output Transformer Capital Spares	36002	Sustaining	Mitigate the risk of a forced outage due to Main Output Transformer failure by acquiring additional spare transformer phases which will facilitate a planned refurbishment program.	Aug-11	Jan-13	8.3	3.8	0.0	0.0
43	PN	Main Generator Automatic Voltage Regulator and Protective Relay Upgrade	40680	Sustaining	Replace analog automatic voltage regulator and electro-mechanical relays with new digital devices.	Feb-10	Dec-14	16.1	3.7	6.6	2.4
44	PN	Passive Auto-Catalytic Recombiners	46605	Regulatory	Install passive auto-catalytic recombiners for long-term post-accident hydrogen mitigation. (Initially Project 49147)	Jan-10	May-14	14.4	2.2	4.3	0.0
45	PN	Standby Generator /Emergency Power Generator Fire Detection Upgrade and CO2 Suppression Removal	49116	Sustaining	Ensure that the Standby Generator, Standby Generator Oil Pump, and Emergency Water & Power System buildings are fire code compliant and possess a reliable and maintainable fire detection system.	Mar-12	Apr-14	5.9	4.0	1.1	0.0
46	PN	Reactor Building Service Water Dechlorination & Municipal-Industrial Strategy for Abatement Cleanup	49132	Regulatory	Replace temporary dechlorination system for the Reactor Building Service Water discharge with permanent system with improved sampling points.	Dec-09	Jul-13	11.8	8.2	0.0	0.0
Table continues on Ex. D2-1-3 Table 2d											

Notes:

- 1 Projects with expenditures during Test Period OR In-Service Amounts in Bridge or Test Period, AND Completed/Deferred Projects (from EB-2010-0008 or subsequent).
- 2 "Total Project Cost" reflects BCS amounts, with the exception of Completed/Deferred Projects (for which actual costs are shown).

Table 2d
Capital Project Listing - Nuclear Operations Facility Projects
Projects \$5M - \$20M Total Project Cost¹

Line No.	Facility	Project Name	Project Number	Category	Project Description	Start Date	Final In-Service Date	Total Project Cost ² (\$M)	In-Service 2013 (\$M)	In-Service 2014 (\$M)	In-Service 2015 (\$M)
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
		PROJECTS NOT IN EB-2010-0008 (Continued from Ex. D2-1-3 Table 2c)									
47	PN	Replacement of Containment Box-up Monitors	49134	Sustaining	Replace obsolete ventilation exhaust radioactivity monitors.	Dec-10	Aug-14	8.7	3.5	3.2	0.0
48	PN	Pickering Vacuum Building Outage Valve Replacement Program ³	49137	Sustaining	Replace critical life-expired negative pressure containment and emergency coolant injection valves during Vacuum Building Outage.	Jun-10	Jun-10	7.9	0.0	0.0	0.0
49	PN	Low Pressure Turbine Spindle Capital Spares	49150	Sustaining	Refurbish existing Pickering A low pressure turbine spindles to allow use in Pickering B and support turbine maintenance strategy through 2020.	Aug-11	Jul-12	5.5	0.0	0.0	0.0
50	PN	Pickering Fukushima Phase 1 Beyond Design Basis Event (BDBE) Emergency Mitigation Equipment (EME)	49158, 49299	Regulatory	Provide capability to respond to Beyond Design Basis Event following the events at Fukushima Daiichi Nuclear Power Plant.	Sep-11	Dec-15	12.2	0.0	0.0	8.1
51	PN	Unit 1 & 4 Fuel Channel East Pressure Tube Shift Tooling	49247	Sustaining	Develop tooling to reposition fuel channels in Pickering A to maximize bearing life.	Nov-09	Jan-14	15.7	0.0	15.4	0.0
52	PN	Fixed Area Gamma Monitor Replacements	49282	Sustaining	Replace aging and obsolete fixed area gamma monitors.	Nov-09	Dec-12	6.6	0.0	0.0	0.0
53	PN	Pickering A Powerhouse Emergency Venting System Long-Term Fix	49283	Sustaining	Replace obsolete programmable logic controllers and revise logic.	Jan-10	Nov-12	5.5	0.0	0.0	0.0
54	PN	Administration Building Rehabilitation	49284	Sustaining	Complete rehabilitation of the Administration Building to support operations and post-operation activities.	Oct-09	May-13	13.6	0.0	0.0	0.0
55	PN	Emergency Power Generator Protective Relays	40691	Sustaining	Improve the reliability of the Emergency Power Generator and the Main Output Power Protective Systems to reduce EPG unavailability and eliminate obsolescence and spare part issues.	Feb-12	Dec-15	5.2	1.4	1.7	1.1
56	PN	Pickering Emergency Coolant Injection Strainer Capacity Margin	40984	Regulatory	Sustain Pickering 1&4 operability by improving the design margin of the Emergency Coolant Injection strainers.	May-12	Jan-14	9.2	0.0	3.6	0.0
57	PN	Pickering 1&4 Turbine Governor System Upgrade	41013	Sustaining	Replace the existing turbine mechanical governors with new hydraulic pressure converters including new auxiliary components for turbine monitoring and control.	Jun-12	Jul-16	13.8	0.0	0.0	0.0
58	PN	Fire Code Compliance for Relocatable Structures in Un-Zoned Area for Pickering Station	49146	Regulatory	Ensure that the re-locatable structures in the un-zoned area of the Pickering Station are in compliance with Canadian Standards Association (CSA) N293-07 — Fire Protection for CANDU Nuclear Plants.	Sep-11	Dec-13	11.1	9.3	0.0	0.0
59	PN	Replacement of Obsolete Instrumentation and Control Equipment	49154	Sustaining	Replacement of obsolete Instrumentation and Control equipment.	Aug-11	Dec-13	6.8	0.0	0.0	0.0
60	PN	Class II Emergency Lighting	49296	Regulatory	Upgrade emergency lighting system to meet electric codes and address employee safety concerns.	Aug-11	Dec-14	6.2	3.7	0.8	0.2
61	IMS	Pressure Tube to Calandria Tube Gap Measurement Capability	66255	Value Enhancing	Develop capability to directly measure the gap between the pressure tube and calandria tube.	Feb-10	Apr-14	17.5	8.3	2.1	0.0
62	IMS	Multiple Simultaneous Inspections for Feeders	66533	Value Enhancing	Develop tooling to perform thickness measurements on multiple feeders and with less passes to reduce amount of time required to perform inspections and reduce radiation dose to technicians.	Dec-10	Apr-14	8.5	5.0	2.0	0.0
63	IMS	Inspection & Maintenance Services CIGAR Gap System and Drive Reliability	66594	Sustaining	Improve the reliability, operability and functionality of CIGAR (Channel Inspection and Gauging Apparatus for Reactors) system.	Jun-12	Dec-15	9.0	1.2	2.4	0.7
64		Subtotal						344.6	80.8	72.7	17.4
65		Total							97.1	80.8	20.0
		DIVISION TOTALS:									
66		Darlington							42.9	36.3	7.7
67		Pickering							39.3	38.1	11.6
68		Nuclear Support Divisions							15.0	6.4	0.7
69		Total							97.1	80.8	20.0

Notes:
1 Projects with expenditures during Test Period OR In-Service Amounts in Bridge or Test Period, AND Completed/Deferred Projects (from EB-2010-0008 or subsequent).
2 "Total Project Cost" reflects BCS amounts, with the exception of Completed/Deferred Projects (for which actual costs are shown).
3 Project completed. Actual in-service date and project cost are shown.

Numbers may not add due to rounding.

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EB-2013-0321

Exhibit D2

Tab 1

Schedule 3

Table 3

Table 3
Capital Project Listing - Nuclear Operations Facility Projects
Projects < \$5M Total Project Cost¹

Line No.	Sponsoring Division	Number of Projects	Total Project Cost (\$M)	Average Cost Of All Projects (\$M)	In-Service 2013 (\$M)	In-Service 2014 (\$M)	In-Service 2015 (\$M)
		(a)	(b)	(c)	(d)	(e)	(f)
1	Darlington NGS	19	41.5	2.2	1.8	0.0	0.0
2	Pickering NGS	52	87.7	1.7	5.5	8.7	0.9
3	Nuclear Support Divisions ²	10	18.9	1.9	2.4	0.0	0.0
4	Total	81	148.1	1.8	9.7	8.7	0.9

Notes:

- 1 Projects with expenditures during Test Period, or In-Service Amounts in Bridge or Test Period.
- 2 Nuclear Support Divisions with capital projects includes Engineering, Inspection and Maintenance Services, and Security & Emergency Services.

Numbers may not add due to rounding.

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Exhibit D2
Tab 1
Schedule 3
Table 4

Table 4
Comparison of In-Service Capital Additions - Nuclear Operations (\$M)

Line No.	Sponsoring Division/Category	2010 Budget	(c)-(a) Change	2010 Actual	(g)-(c) Change	2011 Board Approved	(g)-(e) Change	2011 Actual	(i)-(g) Change	2012 Actual
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
1	Darlington NGS	43.1	(11.9)	31.2	1.1	32.9	(0.6)	32.3	20.6	52.9
2	Pickering NGS	103.1	63.7	166.8	(139.4)	4.5	22.9	27.4	13.6	41.0
3	Nuclear Support Divisions ¹	25.1	10.5	35.6	(5.0)	67.9	(37.3)	30.6	(8.1)	22.5
4	Subtotal	171.3	62.3	233.6	(143.3)	105.3	(15.0)	90.3	26.2	116.5
5	Supplemental In-Service Forecast ²	0.0	0.0	0.0	0.0	50.5	(50.5)	0.0	0.0	0.0
6	Total Portfolio In-Service Forecast	171.3	62.3	233.6	(143.3)	155.8	(65.5)	90.3	26.2	116.5
7	Minor Fixed Assets	20.2	(4.8)	15.4	(2.5)	19.7	(6.8)	12.9	2.6	15.5
8	Total In-Service Capital Additions	191.5	57.5	249.0	(145.8)	175.5	(72.3)	103.2	28.7	131.9

Line No.	Sponsoring Division/Category	2012 Board Approved	(c)-(a) Change	2012 Actual	(e)-(c) Change	2013 Budget	(g)-(e) Change	2014 Plan	(i)-(g) Change	2015 Plan
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
9	Darlington NGS	90.1	(37.2)	52.9	36.9	89.9	(46.0)	43.8	(36.2)	7.7
10	Pickering NGS	17.9	23.1	41.0	12.6	53.6	(4.8)	48.8	(36.3)	12.5
11	Nuclear Support Divisions ³	12.5	10.0	22.5	(5.1)	17.4	(11.0)	6.4	(5.7)	0.7
12	Subtotal	120.5	(4.0)	116.5	44.4	160.8	(61.8)	99.1	(78.2)	20.9
13	Supplemental In-Service Forecast ²	47.6	(47.6)	0.0	0.0	0.0	37.9	37.9	61.2	99.1
14	Total Portfolio In-Service Forecast	168.1	(51.6)	116.5	44.4	160.8	(23.8)	137.0	(17.0)	120.0
15	Minor Fixed Assets	19.5	(4.0)	15.5	4.4	19.9	1.4	21.3	0.4	21.7
16	Total In-Service Capital Additions	187.6	(55.6)	131.9	48.8	180.7	(22.4)	158.3	(16.6)	141.7

Notes:

- 1 Includes Engineering, Projects & Modifications, Programs and Training, Facilities, Supply Chain and Inspection & Mtce Services.
- 2 Supplemental forecast to reconcile BCS in-service estimates to final business plan (see Ex. D2-1-3, Section 4.0).
- 3 Includes Engineering, Inspection and Maintenance Services, and Security & Emergency Services.

Table 5a
Capital Project Listing - Nuclear Operations
Portfolio Projects (Unallocated)¹

Line No.	Project Name	Category	Potential Start Date
	(a)	(b)	(c)
	Darlington NGS - Projects With Potential Cost < \$20M		
1	Fuel Handling - Computer Multiplexer / ACE / Peripheral Replacement (include spares)	Sustaining	2012
2	Powerhouse Water Air Conditioning Unit Replacement	Sustaining	2012
3	Reactor Inlet Header Instrumentation Upgrade	Sustaining	2012
4	Reactor Regulating System Module Logic Redesign	Sustaining	2012
5	Tritium Removal System CRS Hydrogen Compressors Condition Monitoring System	Value Enhancing	2012
6	Containment Button-up Activity Monitor Replacement	Sustaining	2012
7	Computer Upgrade for Heavy Water Management System (TRF/SUP)	Sustaining	2012
8	Tritium Removal Facility Tritium Emissions Reduction Project	Sustaining	2012
9	Zebra Mussel Mitigation Improvements	Sustaining	2012
10	Turbine-Generator Lubricating Oil Purifier System Replacement	Sustaining	2012
11	Domestic Water Supply Line Replacement	Sustaining	2012
12	Spare Transformer Storage Facility (MOT/LIST/SST/10MVA)	Sustaining	2012
13	Station Lighting Retrofit	Sustaining	2012
14	Procure Spare Turbine Intercept Valve	Sustaining	2012
15	DN Feeder Scanner Refurbishment	Sustaining	2012
16	DN Install Multi-Gas Analysers on Transformers MOT/SST/UST	Sustaining	2012
17	DN Replacement of Obsolete Online Chemistry Analysers	Sustaining	2012
18	DN IA Compressor and SDC Pump Motor Cooler Strainer Installation	Sustaining	2012
19	DN UST Capital Spare	Sustaining	2012
20	Fuel Handling - Obsolete Control Relay Re-Engineer/Replacement	Sustaining	2013
21	Fuel Handling - Replacement of Head Pressure Boundary Peripherals	Sustaining	2013
22	Neutron Overpower & Ion Chamber Amplifier Replacement (RRS, SDS1 & SDS2)	Sustaining	2013
23	R22 Refrigerant ACU Replacement	Sustaining	2013
24	Radiation Detection Equipment Replacement	Sustaining	2013
25	Retractable Radiation Shield in CSA Duct	Sustaining	2013
26	TRF Deuterium Make-up System (DMS) Electrolyzer Replacement	Sustaining	2013
27	Emergency Connections for CSA Sewage Sump	Sustaining	2013
28	Permanent Detectors for Startup Instrumentation	Value Enhancing	2013
29	DN T/G HP Rotor Blading Spares	Sustaining	2013
30	DN Vapour Recovery Button-Up Valve Replacements	Sustaining	2013
31	DN Auxiliary Boiler Feed Pump Seal Cooling	Sustaining	2013
32	Hydrogen Cooling TCV 20 Redesign	Sustaining	2013
33	DN Feedwater Chemistry Control Improvements	Sustaining	2013
34	DN CCW and LPSW Travelling Screens Replacement	Sustaining	2013
35	DN Frazil Ice Gate Replacement	Sustaining	2013
36	DN TRF CRS TOSS/Turbine Replacement	Sustaining	2013
37	DN 64453 - PC90 SPV Enhancement and Obsolesence	Sustaining	2013
38	DN F/H Encoder Replacement	Sustaining	2013
39	DN Generator Core Spare	Sustaining	2013
40	DN Generator H2 Cooler Spares (4)	Sustaining	2013
41	DN Large Steam Generator LCV Replacement	Sustaining	2013
42	DN Procure Spare CCW Pump Motors	Sustaining	2013
43	DN SDS1: Replace Rod Ready Switches	Sustaining	2013
44	DN T/G HP Rotor Blading Spares	Sustaining	2013
45	DN EPG Power Turbine Capital Spare	Sustaining	2013
46	DN SST Captial Spare	Sustaining	2013
47	DN 2.5 MVA 600V Transformer Capital Spares	Sustaining	2013
48	DN CEP Pump Motor Spare	Sustaining	2013
49	DN Feeder Scanner Spares	Sustaining	2013
50	DN FH Computer Multiplexer / ACE / Peripheral Replacement (include spares)	Sustaining	2013
51	DN Generator Brushgear Spares	Sustaining	2013
52	DN T/G LP Rotor Blading Spares	Sustaining	2013
53	DN Generator Core Spare	Sustaining	2013
54	DN Generator H2 Cooler Spares (4)	Sustaining	2013
55	DN Procure Spare CCW Pump Motors	Sustaining	2013
56	Replace TDO Automatic Loading/Unloading Controller	Sustaining	2014
57	Replacement/Removal of "Standard" Module Frames from IFB(s)	Sustaining	2014
58	Class 1 Rectifier Replacement	Sustaining	2014
59	Modicon PLC Replacement/Upgrade	Sustaining	2014
60	Separate SDS2 Moderator Level Taps	Sustaining	2014
61	Feeder Freezing Penetration on the South Side of the Reactor	Sustaining	2014
62	Fuel Handling - PT Platform & Maintenance Cut Out	Sustaining	2014
63	Vapour Recovery Button-Up Valve Replacements	Sustaining	2014
	Darlington NGS - Projects With Potential Cost ≥ \$20M		
64	Water Treatment Plant Replacement	Sustaining	2011
65	Restore Emergency Service Water and Firewater Margins	Regulatory	2012
66	Station Roof Replacement	Sustaining	2012
	Table continues on Ex. D2-1-3 Table 5b		

Notes:

1 Projects with potential expenditures during Test Period.

Table 5b
Capital Project Listing - Nuclear Operations
Portfolio Projects (Unallocated)¹

Line No.	Project Name	Category	Potential Start Date
	(a)	(b)	(c)
	Pickering NGS - Projects With Potential Cost < \$20M		
67	Critical Pumps and Motors Spares Project	Sustaining	2012
68	Replacement of Chemistry Obsolete and/or Malfunctioning Online Analysers	Sustaining	2012
69	Third Auxiliary Boiler Feed Pump Project	Sustaining	2012
70	Unit 1 Main Generator Stator Core Replacement	Sustaining	2012
71	Unit Vapour Recovery Improvement	Sustaining	2012
72	Fuel Handling Reliability Modifications	Sustaining	2012
73	Fuelling Machine Magazine and C-Ram Controller Replacement	Sustaining	2013
74	Bleed Condenser Modification and Bundle Replacement	Sustaining	2012
75	Replacement of U1, U4 and IFB-A Stack Monitors	Sustaining	2012
76	Chlorination Pumps Skid Replacement (Screenhouse)	Sustaining	2012
77	East West FMSR Grating Modification	Sustaining	2012
78	Reheat Drain Pumps Reliability Improvement	Sustaining	2012
79	Comfo Washer Replacement	Sustaining	2012
80	Dryer Beetle Power Supply Modification (from 120VAC to 24VDC)	Sustaining	2012
81	Emergency Power Generator 3 Permanent Installation	Regulatory	2013
82	Tritium Monitor Replacement	Regulatory	2013
83	IM&CS Reactor Face Inspection and Maintenance Platform	Value Enhancing	2013
84	Fuel Handling Failed Shield Plug Repair/Replace	Sustaining	2013
85	Fuel Handling King Kong Transporter Refurbishment	Sustaining	2013
86	Generator Turbine Temperature Monitor Replacement	Sustaining	2013
87	Install Permanent Shielding L88W12/L9W12	Sustaining	2013
88	Teledosimetry Facility Amalgamation	Sustaining	2013
89	Pickering Facilities Services Building	Sustaining	2013
90	SST/GST Spare Transformer Capability (Capital)	Sustaining	2013
91	ISTB Sub Station Winter Access Way	Sustaining	2013
92	Critical Pump and Motor Spares	Sustaining	2013
	Nuclear Programs & Training - Projects With Potential Cost < \$20M		
93	Regional Emergency Response Centre (Fukushima)	Regulatory	2011
94	Engineering Desktop Simulators-Lifecycle Sustaining Training	Sustaining	2012
95	Certification Training Classroom Refurbishment-Lifecycle Sustaining	Sustaining	2012
	Inspection & Maintenance Services - Projects With Potential Cost < \$20M		
96	8-Probe Tool (6-Probe Tool Upgrade for Feeder Thickness Inspections)	Value Enhancing	2013
97	Rapid Delivery System for Fuel Channel Scrape Sampling	Value Enhancing	2013
98	Inspection Practical Training	Value Enhancing	2013
99	Feeder Data Management System Version 3.0	Value Enhancing	2013
	Other Nuclear Support < \$20M		
100	EWMS Technology Upgrade	Sustaining	2013
101	Tritiated Heavy Water Transportation Package Replacement	Sustaining	2013

Notes:

- 1 Projects with potential expenditures during Test Period.

Table 6
Capital Projects - Nuclear Operations
Listing of Business Case Summaries Filed

Line No.	Facility	Business Case Summary (BCS) Title	Project Number	BCS Approval Date	Project Stage	BCS Status	BCS Status in EB-2010-0008
	(a)	(b)	(c)	(d)	(e)	(f)	(g)
		ONGOING PROJECTS FROM EB-2010-0008					
1	DN	Improve Maintenance Facilities at Darlington	31717	Apr-10	Definition	Partial	Partial
2	DN	Chiller Replacement to Reduce CFC Emissions	33631	Sep-10	Execution	Full	Partial
3	DN	Standby Generator Controls Replacement	33973	Sep-11	Execution	Partial	Developmental
4	DN	DCC Replacement / Refurbishment / Upgrades	33977	Jun-06	Execution	Full	Full
5	PN	Standby Generator Governor Upgrade	49109	Mar-07	Execution	Full	Full
		COMPLETED/DEFERRED/CANCELLED FROM EB-2010-0008					
6	DN	New Change Room Facility	31718	Mar-09	Complete	Full	Full
7	PN	Reactor Structures-Calandria Vault Inspection	46537	Aug-09	Complete	Superceding	Superceding
8	PN	Site - D2O Storage Facility	49251	Aug-11	Cancelled	Developmental	Developmental
9	PN	ISTB Cabling Permanent Modification	49270	Feb-11	Complete	Superceding	Full
10	ENG	Feeder Repair by Weld Overlay	62568	May-09	Deferred	Full (OM&A)	Full (OM&A)
		PROJECTS NOT IN EB-2010-0008					
11	PN	Fuel Handling Single Point of Vulnerability Equipment Reliability Improvement	46634	Feb-11	Execution	Partial	N/A
12	PN	PA Mod/Replace FRP Components During 2010 VBO	49285	Apr-10	Complete	Superceding	N/A

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 Exhibit D2
 Tab 1
 Schedule 3
 Table 7

Table 7
 Capital Projects - Nuclear Operations
Status of Projects \$5M and Greater with 2011 and 2012 In-Service Dates in EB-2010-0008

Line No.	Project Number	Project Name	In-Service Date at Time of EB-2010-0008 Application	Project Stage at Time of EB-2010-0008 Application	Current Project Status	
					Project Status	Projected/Actual In-Service Date
	(a)	(b)	(c)	(d)	(e)	(f)
1	25901	Security Hardening Project	Dec 2011	Definition	Complete	Jun 2011
2	25909	Security Project F	Oct 2011	Definition	Complete	Nov 2011
3	33631	DN Chiller Replacement to Reduce CFC Emissions	Dec 2011	Definition	Execution	Jan 2013
4	33815	DN FH Computer Replacement	Feb 2012	Execution	Execution	Oct 2014
5	33973	DN SG Controls Replacement	May 2012	Definition	Execution	Oct 2013
6	49267	PN Replacement of Standby Boilers	Dec 2012	Definition	Execution	Oct 2014
7	62568	Feeder Repair by Weld Overlay	Jun 2011	Definition	Deferred	Deferred
8	66423	ANDE/CIGAR Hybrid	Dec 2011	Execution	Execution	Mar 2013
9	79140	Radioactive Emission Reduction (EV-005)	Dec 2012	Execution	Close-Out	Jun 2012