BASE OM&A – NUCLEAR

1.0 PURPOSE
This evidence provides a description of the nuclear base OM&A expense for the historical years, bridge year, and test period.

2.0 OVERVIEW
The nuclear base OM&A expense for 2007 - 2012 is provided in Ex. F2-T2-S1 Table 1. The test period base OM&A expense of $1,192.3M and $1,219.8M in 2011 and 2012, respectively forms part of the OM&A expense in the revenue requirement.

OPG has made significant operational and cost improvements which have been demonstrated since the previous application: Specifically:

• 2012 base OM&A costs are to be forecast to be below 2008 actual costs, with cumulative work-driven cost savings of $260M for the 2010 - 2012 period;
• 2012 regular staff levels are forecast below 2008 levels by 689 staff, while non-regular staff FTEs (“full time equivalents”) are reduced by 559;
• 2009 elective and corrective maintenance backlogs are below 2008 actuals, with 2012 forecast levels for maintenance backlogs significantly lower again.
• 2009 total Nuclear FLR is below 2008 actual (2008 actual of 12.3 per cent versus 2009 actual of 6.4 per cent); with 2012 forecast levels of 2.8 per cent.

Further details are provided in this exhibit and in Ex. E2-T1-S1. Base OM&A provides the main source of funding for operating and maintaining the nuclear stations in support of:

• The ongoing production of electricity from the operating units
• Ensuring safe operation of the plants
• Maintaining or improving reliability of the nuclear assets
• Ensuring compliance with applicable legislation and nuclear regulatory requirements

In addition to the routine activities listed here, base OM&A is also used to fund the cost of:

• Regular staff labour for planned outages.
• All costs associated with forced outages and derates. Forced outages, in particular, can require significant efforts to address the cause of the outage and return a unit to operation. As these are unplanned events for which no budget is provided, other base OM&A work is carefully reviewed, and very selectively reduced or deferred on a prioritized basis to accommodate this effort. (See Ex. F2-T4-S1 section 5.0 for further details of outage costing.)

• Inventory adjustments that periodically re-value inventory (see section 2.2), including an obsolescence provision.

• Indirect costs associated with commercial activities and providing inspection and maintenance services to OPG’s stations and external customers.

While base OM&A is the predominant funding source for the nuclear business, there are other sources of funding as noted here:

• Outage OM&A (Ex. F2-T4-S1), which provides incremental funding for work performed during planned outages, excluding regular staff labour (as noted above), and excluding all project OM&A or project capital work executed during the outage (as described in Ex. F2-T3-S1 and Ex. D2-T1-S1).

• Fuel Cost (Ex. F2-T5-S1), which covers all nuclear fuel bundles issued for loading into the reactors, the variable cost component of OPG’s nuclear used fuel management liabilities as well as the cost of fuel for standby generators.

• Project OM&A (Ex. F2-T3-S1) and project capital (Ex. D2-T1-S1), which fund non-repetitive, incremental work reflecting an investment of greater than $200k per unit.

• Decommissioning Fund (Ex. C2-T1-S1) which funds the Pickering A Unit 2 and 3 Safe Storage Project, and will ultimately fund decommissioning activities and management of low and intermediate level waste at all OPG reactors.

• Used Fuel Fund (Ex. C2-T1-S1) which funds the handling of used fuel when it is removed from the irradiated fuel storage bay.

• Provision funding, to manage other nuclear waste obligations in the short term (Ex. C2-T1-S1).

• Nuclear Generation Development (Ex. F2-T7-S1), which funds the activities in support of Darlington Refurbishment and New Nuclear Generation at Darlington.
As discussed at Ex. A1-T4-S3, the Nuclear business unit is comprised of Nuclear Operations, Darlington New Nuclear Project and Nuclear Refurbishment, Projects and Support. As noted in Chart 1, in addition to the three generating stations (Pickering A, Pickering B, and Darlington – as described in Ex. A1-T4-S3), the support divisions within Nuclear Operations are: Engineering, Programs and Training, Supply Chain, Performance Improvement and Nuclear Oversight (“PINO”), Nuclear Waste Management and Nuclear Level Common.

<table>
<thead>
<tr>
<th>Chart 1: Nuclear Operations Divisions/Functions</th>
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<tbody>
<tr>
<td>Chief Nuclear Officer</td>
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<tr>
<td>Stations</td>
</tr>
<tr>
<td>- Pickering A</td>
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<tr>
<td>- Pickering B</td>
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<td>- Darlington</td>
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<tr>
<td>Support Divisions</td>
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<td>- Nuclear Engineering</td>
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<td>- Programs and Training</td>
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<tr>
<td>- Supply Chain</td>
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<td>- Performance Improvement and Nuclear Oversight</td>
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<tr>
<td>- Nuclear Waste Management</td>
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<tr>
<td>- Nuclear Level Common</td>
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<tr>
<td>SVP Nuclear Refurbishment, Projects and Support</td>
</tr>
<tr>
<td>Support</td>
</tr>
<tr>
<td>- Nuclear Facilities, Nuclear Facility Management</td>
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<tr>
<td>- Inspection, Maintenance and Commercial Services</td>
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<tr>
<td>- Projects &amp; Modifications</td>
</tr>
</tbody>
</table>

The three functions of Nuclear Facilities/Facility Management, Projects and Modifications, and Inspection, Maintenance and Commercial Services were transferred without change of function or incremental costs to the newly-created position of SVP - Nuclear Refurbishment, Projects and Support in 2009. This was done to consolidate nuclear projects and non-core support organizations under one OPG senior executive, and allow the Chief Nuclear Officer (“CNO”) to focus solely on the core business of operating and improving the operation of the ten in-service units.
This base OM&A evidence addresses the budget for the Nuclear Operations business unit, as well as those aspects of the Projects and Support budgets indicated above which are directly related to ongoing nuclear operations. In total, these functions represent Nuclear Operations as described in this filing.

The expenditures for Darlington New Nuclear and Nuclear Refurbishment are addressed at Ex. D2-T2-S1.

Base OM&A is budgeted on an organizational basis as well as by using a series of standard resource types to ensure appropriate resources to execute planned work. Specifically, the major resource types used in budgeting are:

- Labour: Salary and benefit costs of staff on OPG's payroll, both regular and temporary.
- Overtime: Pay for staff on OPG's payroll, both regular and temporary, for work outside of normal hours of work.
- Augmented Staff: The costs of specialized, incremental staff resources paid by purchase order, but supervised by OPG staff; for example, specialised engineering staff supplementing core resources for peak workload.
- Materials: The costs of all consumables, replacement parts, and associated transportation service costs incurred in performance of ongoing maintenance and repair work, as well as the cost of all such items used during forced outages.
- Licence: The costs of licensing-related fees paid to the Canadian Nuclear Safety Commission (“CNSC”).
- Other Purchased Services: The costs of specialized resources paid by purchase order, but supervised by an external company; e.g., construction and maintenance services, personal protective equipment laundry services, specialised technical services including research and development, testing services and security services. This category also includes direct costs of inspection and maintenance services provided to the stations.
- Other: The costs of miscellaneous items such as staff travel, fees to industry peer groups, utility expenses (water, sewage, and electricity for administration buildings), inventory adjustments, and contingency provisions.
Exhibit F2-T2-S1 Table 1 provides a summary of base OM&A over the 2007 - 2012 period, by organization and function. Exhibit F2-T2-S1 Table 2 provides a summary of base OM&A over the 2007 - 2012 period by resource type.

2.1 Operational Functions Supported by Base OM&A

The Nuclear business plan outlines base OM&A requirements for each generating station and support division, as noted previously. A detailed description of the activities performed by these divisions was provided in Ex. F2-T2-S1 in EB-2007-0905 and is not repeated here. A summary description is provided below.

For the operational functions listed below, the vast majority of funding is provided by base OM&A. However, some functions are partially funded by project OM&A (Ex. F2-T3-S1), outage OM&A (Ex. F2-T4-S1) or project capital (Ex. D2-T1-S1), as outlined in those exhibits.

2.1.1 Operational Functions within the Generating Stations

At each of the generating stations, operational functions are broken down into four main components: Operations and Maintenance, Station Engineering, Work Management, and Support Services as described below. In addition, for the Pickering site, there is a fifth function, noted as Common Services.

- Operations and Maintenance includes:
  - Operations: Operations staff operate the plant on a 24-hour basis, which includes starting up and shutting down components/systems/plant, system monitoring, ensuring safety of stations operations, responding to non-standard conditions, and performing activities associated with preparing and placing systems and components in-service and out-of-service for maintenance. The CNSC approves the Operations organization structure, including mandating minimum shift complement to address foreseeable emergency response requirements.
- Maintenance: Performs all activities directly related to the preventive, elective, and corrective maintenance of structures, systems, or components so as to address material condition issues, maintain equipment reliability, and optimize equipment life.
- Fuel Handling: Includes all activities in support of refuelling the reactor during unit operation; maintenance of the fuelling machines, and related systems; support of outage activities requiring fuelling machine or related systems; and, management of new fuel storage.
- Radiation Protection, Chemistry, and Environment: Includes assistance with radiation protection during plant operation and maintenance activities, and administration of the program for keeping radiation As Low As Reasonably Achievable (“ALARA”); operation of the chemistry lab; environmental compliance and monitoring; and, assistance in managing plant chemistry.

- Station Engineering: Provides engineering oversight, analysis, and support for Work Management and Operations and Maintenance at the stations in the areas of components and equipment, performance engineering, plant design, and reactor safety.
- Work Management: Includes two main functions – Work Control and Outage Planning. The Work Control function utilizes a 16 week rolling schedule to ensure corrective, elective, and preventive maintenance is performed effectively and efficiently. The Outage Planning function (funded by base OM&A) supports outage execution by utilizing an 18 month planning process to develop specific milestones for critical activities such as scope definition, long lead materials, schedule development, and pre-requisite work.

- Support Services: Generally includes Business and Strategic Planning, Fire Protection, and station-specific aspects of both PINO (see section 2.1.2), and Regulatory Affairs. In more detail:
  - Business Support is accountable for the station-specific accounting/controllership function, cost reporting and analysis, and business plan coordination.
  - Strategic Planning is accountable for producing long range outage plans; supporting outage scoping, forced loss rate assessments, and asset management/investment
planning efforts; and, providing support for financial modeling of staffing requirements.

- Fire protection is accountable for around-the-clock fire protection, first aid, and hazardous materials response at the stations. In addition, they are accountable for fire safety inspections, and performing surveillance of fire protection systems and equipment. There is a minimum staffing level specified in each station's operating license. (For the Pickering site, this function resides in Pickering B Maintenance, and provides fire protection services to Pickering A and B).
  - PINO is accountable for managing each station’s human performance, operating experience and corrective action programs, supporting station performance improvements, and providing support to the corporate audit function.
  - Regulatory Affairs is accountable for managing the station regulatory affairs function, in particular, interactions with the CNSC. For the Pickering site, this is a common function managed by Pickering B.

Pickering Common Services: operates and maintains station and site support systems for Pickering A and B, specifically, management of heavy water and operation of facilities common to Pickering A and Pickering B (e.g., heavy water upgraders and radioactive waste management). These services are planned, budgeted and managed by Pickering A staff, though for calculations of total generating cost (as defined in Ex. F2-T2-S1) by station and all tables accompanying in this application, these costs are allocated to Pickering A and B on a per unit basis.

While work activities and associated organization structures are to a large extent consistent across generating stations, there are some areas where OPG has pursued cost efficiencies through consolidation. Specifically, as noted above, Pickering A manages common services for both Pickering A and B, while Pickering B manages a common Chemistry and Environment Department, as well as the Regulatory Affairs and Fire Protection functions.

The Tritium Removal Facility (“TRF”), located at Darlington, provides tritium removal services to all OPG nuclear stations and third party customers (as discussed in Ex. G2-T1-S1).
In addition to these ongoing operational functions, Ex. F2-T2-S1 Table 1 and associated tables include two non-standard operational functions that are also funded by base OM&A. Specifically, Pickering B Continued Operations and Pickering B Refurbishment. These activities are discussed in detail in Ex. F2-T2-T3.

Within the stations, the majority of base OM&A costs are with the Operations and Maintenance functions. The relatively lower base OM&A cost for operating Pickering A reflects the fact that it is a two unit station versus four units at Darlington and Pickering B. As there are certain minimum functions required at a station regardless of the number of units supported, resources required for Pickering A do not reflect a simple 50 per cent pro-rating of Pickering B resources. The relatively higher cost of Darlington with respect to its four-unit counterpart Pickering B reflects primarily the costs of operating the TRF at Darlington. Further breakdown of the station functions and an explanation of cost trends can be found in Ex. F2-T2-S2.

2.1.2 Operational Functions within the Support Divisions

Support divisions are accountable for providing specialized services to the generating stations, as well as the common procedural framework within which the stations operate. Key functions of the support divisions are outlined here.

Engineering is accountable for:

- Engineering Services, including non-station specific engineering support, project design support, nuclear safety analysis, and life cycle plans for steam generators and fuel channels.
- Science and Technology Development, which provides administration of the nuclear research and development program (see Attachment 1) as well as specialized technical support for key nuclear plant systems and equipment.
- Engineering Codes, Standards and Quality Programs, which provides expert-level support on nuclear industry codes and standards; interfaces with technical standard organizations (the CNSC, as well as Technical Standards and Safety Association, and
Canadian Standards Association); and, manages governance for programs such as the
engineering change control program.

Projects and Modifications, which functions as an internal general contractor, is accountable
for executing or managing the execution of the majority of project work carried out at the
generating stations or their associated sites. Project work (in contrast to base OM&A work) is
defined at Ex. D2-T1-S1. While the Projects and Modifications function is primarily funded by
project OM&A and capital (Ex. F2-T3-S1 and Ex. D2-T1-S1), Projects and Modifications also
provides a limited amount of operational support to the stations which is funded by base
OM&A.

Programs and Training consists of three basic units, with accountabilities as described here:

- Nuclear Programs and Training designs and delivers required training across the Nuclear
  organization. This includes conventional safety, general orientation, licensed and non-
  licensed operator training, skilled trades, engineering and leadership training. Nuclear
  Programs and Training also maintains the nuclear-wide programs and procedures used
  by all stations in the areas of Operations, Maintenance, Radiation Protection, Fire
  Protection, Work Management, Heavy Water Management and Emergency
  Preparedness. This function also includes central Regulatory Affairs, accountable for
developing/maintaining the regulatory programs for nuclear divisions and providing both
  strategic direction and support to stations.

- Security, which provides security services for nuclear sites and facilities, and ensures
  compliance with all CNSC security requirements.

- Records and Administration, which provides centralized business services
  (clerical/administration/records), and maintains the governing document framework for all
  nuclear divisions.

Nuclear Facilities and Facilities Management is accountable for managing all nuclear
facilities outside of the protected areas of the generation stations, but within the station
boundaries.
Supply Chain is accountable for providing the materials and services required by the Nuclear business, including fuel purchases.

PINO is a central support function that provides the audit function for station operations.

Inspections, Maintenance and Commercial Services functions are for:
- Providing Inspection and Maintenance Services to supplement those carried out by station staff, where the nature of the skills or equipment required makes these more effectively managed as a central function for all stations. Direct costs associated with provision of inspection and maintenance services to OPG stations during outage are presented in Ex. F2-T4-S1, while direct costs associated with external services are discussed in Ex. G2-T1-S1. Costs set out in nuclear base OM&A evidence (Ex. F2-T2-S1 and Ex. F2-T2-S2) are the indirect costs of this function.
- Commercial services, which includes marketing and management of sales of isotope products and services to third parties (see Ex. G2-T1-S1), and managing the Bruce Lease (see Ex. G2-T2-S1). Direct costs associated with external services are discussed in Ex. G2-T1-S1. Costs set out in nuclear base OM&A evidence (here and Ex. F2-T2-S2) are the indirect costs of this function.

Waste and Transportation Services is a function within the Nuclear Waste Management Division, which is also accountable for radioactive waste and used fuel management operations at the stations, and limited conventional waste and transportation service support to the stations. The function of conventional waste and transportation services is funded by base OM&A. This application includes the costs and full time equivalents ("FTE") associated specifically with this work, which includes: managing recycled conventional wastes; providing conventional waste transportation services for all stations.

Expenditures to manage radioactive waste and used fuel management operations are funded by Nuclear Waste Liabilities (see Ex. C2-T1-S1).
Nuclear Level Common includes centralized costs required to manage the Nuclear business overall that are not directly attributable to any one plant or support organization. Typical costs include nuclear level consulting contracts. In addition, Nuclear Level Common includes the labour price variance, which is the difference between actual nuclear payroll costs incurred and the standard labour costing model used in the divisions to facilitate resource planning and cost reporting. For example, the business plan labour cost forecast is established using standardized labour rates calculated for job families, whereas actual costs reflect the true payroll cost for each employee.

Within the support divisions, the largest cost is with Programs and Training, reflecting the significant level of infrastructure associated with providing core services in the key areas outlined above, including developing and delivering training, managing the overall security function for the generating stations and support divisions, administrative support and records management. Further breakdown of Programs and Training functions, and explanation of year-over-year trends for all support divisions can be found in Ex. F2-T2-S2.

2.2 Resources Required to Execute Base OM&A Work Programs
Exhibit F2-T2-S1 Table 2 presents the mix of resources required to execute the broad range of base OM&A functions. Further details of each resource type are provided here.

Labour: The majority of base OM&A costs are labour, averaging 76.7 per cent of total base OM&A expenditures over the test period. Labour costs reflect staffing levels and wages; including negotiated labour agreements for unionized staff (see Ex. F4-T3-S1). The labour rates used to derive Nuclear base OM&A include staff wages and payroll benefit costs, and are therefore impacted by wage rate increases, payroll burden changes as well as accounting provisions for a 53rd fiscal week in 2012 (see Ex. F2-T2-T1 Table 3).

Other Purchased Services: After labour, the next largest cost element is other purchased services, averaging 8.4 per cent of total base OM&A over the test period. For the generating stations, other purchased services represents work done by specialized contractors, such as laundry services, maintenance contractors, material repairs, environmental compliance
testing, facility services, as well as engaging external contractors to perform base work that
cannot be accomplished due to staff shortages or the need for specialised skills. For the
support divisions, other purchased services again reflects some coverage for regular staff
vacancies, but more significantly, nuclear safety analysis services, research and
development ("R&D") program contract costs, and contracted security services (pending
completion of transition to OPG security forces). For further details regarding purchased
services, see Ex. F2-T6-S1.

In the case of the R&D program (noted as Other Purchase Services, above), services are
contracted to the CANDU Owners Group, an association conducting research and
development work on industry-wide issues which allows utilities to share R&D costs,
Specifically, Atomic Energy of Canada Limited pays 25 per cent of the costs, while the
balance is divided between participating utilities that includes OPG, Hydro Quebec, Bruce
Power, and New Brunswick Power on the basis of the number of nuclear generating units.
For further details of the R&D, see Attachment 1.

Materials: Materials (averaging 6.7 per cent of total base OM&A over the test period) are the
next most significant component of base OM&A costs. Costs include all consumables and
replacement parts used in the performance of ongoing maintenance and repair work, as well
as items used during forced outages (charged to base OM&A, as indicated above).

Overtime: Overtime (averaging 2.6 per cent of total base OM&A over the test period) covers
the cost of staff working beyond core hours, for example; during forced outages or urgent
repairs, coverage of licensed positions and providing backup for absent staff so as to
maintain minimum staff complement on shifts. In addition to the other purchased services
resource type, overtime is also used to perform work impacted by unfilled vacancies. In the
support divisions, the majority of overtime is associated with maintaining CNSC-mandated
minimum staff complement.

Other: The resource type Other (averaging 3.5 percent of total base OM&A costs over the
test period), covers costs related to utilities for nuclear facilities (water, sewage, electricity for
administrative buildings), maintenance of OPG work equipment and vehicles, and travel and accommodations for staff (associated with off-site technical training, participation in industry conferences, technical standard working committees, World Association of Nuclear Operators audits as well as conducting supplier audits by Supply Chain). The final component of Other is inventory adjustments, which are addressed in two ways:

- An inventory valuation provision, which is assessed on a quarterly basis and adjusted as required. The provision addresses inventory which has been de-valued due to shelf-life expiry and subsequent disposal, and inventory losses identified through the cycle count or physical verification process.

- An obsolescence provision, which is assessed on an annual basis. The provision recognizes the unique nature of the majority of nuclear materials, and their limited use outside of OPG, by allocating (depreciating) the expected residual inventory value at end of station life over the remaining station life. This provision also addresses the cost impact of technical obsolescence, due to design changes or other technical factors that would preclude inventory use within the stations.

License: The resource type License (averaging 1.7 percent of total base OM&A over the test period) covers fixed costs of the station operating licences, as well as a forecast of the costs to be charged by CNSC on a fee-for-service basis relating to services for review of additional work programs such as refurbishment and new nuclear build programs.

Augmented Staff: The resource type Augmented Staff (averaging less than 0.3 per cent of total Base OM&A over the test period) reflects the limited costs of engaging external personnel to backfill for vacancies within the organization or provide specialized expertise within an organization.

3.0 INITIATIVES AND TRENDS
As outlined in Ex. F2-T1-S1, the 2010 - 2014 Nuclear business planning process incorporated the recommendations from the 2009 nuclear benchmarking initiative. The resulting OPG Nuclear business plan therefore specifies financial and operational targets to address performance gaps identified during the benchmarking initiative.
As part of the business planning process, fleet-wide and divisional initiatives were then developed to achieve operational performance targets, with much of this effort carried out by base OM&A resources described in this exhibit.

To achieve the divisional financial performance targets, the business planning process developed a number of fleet level “value for money” initiatives, again supplemented by specific divisional cost control initiatives. Further discussion on operational and financial initiatives is provided in section 3.1.

The associated Nuclear base OM&A budget (established through the business planning process) has been subjected to rigorous review and challenge by the CNO and SVP Nuclear Refurbishment, Projects and Support prior to further senior executive review at the corporate level. The budget was ultimately presented to OPG’s Board of Directors for final approval as part of the overall business plan. Exhibit F2-T2-S1 Table 1 provides a summary of base OM&A over the 2007 - 2012 period, including the approved budgets for the test period.

### 3.1 Business Plan Major Objectives/Focus Areas

As indicated in Ex. F2-T1-S1, the 2010 - 2014 Business Plan indicates specific major objectives and focus areas that will drive nuclear work programs, and impact base OM&A efforts. These priority programs are outlined here.

- Development and execution of fleet-wide performance improvement initiatives, and additional divisional initiatives as required to achieve nuclear performance targets set during business planning. As noted above, these initiatives will be largely executed by base OM&A resources. Further discussion can be found in section 3.3.

- Execution of Pickering B Continued Operations initiative, to sustain base load generation until 2020 (units 5 and 6 to 2018, units 7 and 8 to 2020). This work primarily entails extended outages due to larger and consequently longer inspection programs (boilers and pressure tubes) to ensure fitness for continued service. In addition to the impact on
generation (see Ex. E2-T1-S1), the Continued Operations initiative impacts project
OM&A, outage OM&A and base OM&A. Details of the initiatives and associated benefits
are provided in Ex. F2-T2-S3, and associated base OM&A costs and FTEs are included
in this exhibit.

- Continuing to improve plant reliability. The primary driver of generation reliability is plant
  condition and, to address this, Pickering A has undertaken an Equipment Reliability
  Restoration program. Details of this program, and related initiatives for Pickering B and
  Darlington, are provided in Attachment 2.

- Proceeding with Pickering A and Pickering B consolidation into one station (including
  confirmation of benefits and defining the target structure) to benefit from economies of
  scale. This initiative and the forecast benefits are described further in section 3.3.

3.2 Base OM&A Trends

Base OM&A activities over the period 2007 - 2012 reflect a continued emphasis on improving
plant material condition (corrective and elective maintenance activities) as well as
maintaining plant condition (preventive maintenance activities). There is also continued focus
on sustaining the benefits of previous improvement programs (to retain improved
performance until end of plant life), details of which are provided in Attachment 3 for
reference.

While the business planning process has historically had a performance improvement focus,
the 2010 - 2014 planning process evolution has made the process more rigorous. As a
result, 2010 - 2012 base OM&A budgets reflect an even stronger focus on cost control as
driven by the recent benchmarking efforts -- resulting in forecast 2012 base OM&A levels
that are lower than actual 2008 costs (Ex. F2-T2-S1 Table 1). Achieving these nuclear cost
control targets will present a significant challenge, but one that OPG is committed to meet.

3.2.1 Cost Trends and Reductions

OPG Nuclear has been successful in keeping test period base OM&A costs lower than 2008.
As shown in Ex. F2-T2-S1 Table 1 and as further analysed in Chart 2 below, base OM&A costs increased to approximately $1,252M in 2008 to support ongoing improvement efforts at the stations, and are forecast to remain below 2008 actual cost levels through 2012. This is a clear demonstration of the significant cost containment efforts that OPG has undertaken and is planning for the bridge and test periods. This achievement is particularly noteworthy given the cost pressures over this period from cumulative labour cost escalation, payroll burden change and accounting for the 53rd fiscal week in 2012 (approx. $86.4M over the 2010 - 2012 period, as noted in Chart 2 below, and Ex. F2-T2-S1 Table 3) and the incremental costs required for Pickering B Refurbishment and Continued Operations activities (approximately $43.4M in the same period, Chart 2 below and Ex. F2-T2-S1, Tables 4 - 6). As summarized in Chart 2, this indicates net cumulative cost reductions in the bridge and test period of over $260M (averaging 7 per cent per year) due to improvement initiatives and cost containment efforts. Further details of cost control efforts are provided in section 3.3.

In addition to the impact of cost reduction efforts, base OM&A costs are impacted by the 2009 decision to exit the contract with Bruce Power for the provision of Inspection and Maintenance Services (see Ex. G2-T1-S1). OPG is forecasting a base OM&A reduction of $1.8M in 2010 and $3.0M in 2011 and $3.9M in 2012 as a result of this decision.

### Chart 2:
**Base OM&A Cost Control Results**

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<td></td>
<td></td>
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<td>vs. 2008</td>
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<tr>
<td>Base OM&amp;A</td>
<td>1204.9</td>
<td>1243.4</td>
<td>1216.5</td>
<td>1187.0</td>
<td>1192.3</td>
<td>1219.8</td>
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<tr>
<td>Base OM&amp;A Change versus 2008</td>
<td>(56.4)</td>
<td>(51.1)</td>
<td>(23.6)</td>
<td>(131.1)</td>
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<tr>
<td>Less: Escalation/53rd week in Base OM&amp;A</td>
<td>(0.9)</td>
<td>39.5</td>
<td>47.8</td>
<td>86.4</td>
<td></td>
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<tr>
<td>Less: PB Continued Ops/Refurb in Base OM&amp;A</td>
<td>11.0</td>
<td>17.7</td>
<td>14.7</td>
<td>43.4</td>
<td></td>
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<td>Equals:</td>
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<tr>
<td>Base OM&amp;A - Net change versus 2008</td>
<td>(66.5)</td>
<td>(108.3)</td>
<td>(86.1)</td>
<td>(260.9)</td>
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<tr>
<td>Base OM&amp;A - Net change versus 2008</td>
<td>-5.3%</td>
<td>-8.7%</td>
<td>-6.9%</td>
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Note 1: Excludes $9M of PB Refurb Costs, for consistency with 2010-2012.
3.2.2 Regular Staff Labour Trends and Reductions

As presented in Ex. F2-T1-S1 Table 14 and as summarized in Chart 3 below, total Nuclear Operations regular staff FTEs peaks at 7,348 in 2008 (with completion of the majority of pre-existing improvement programs) trending down to 6,659 regular staff in 2012. Adjusting for the impact of non-standard activities (Pickering B Continued Operations, Pickering B Refurbishment and P2/P3 safe storage project), Chart 3 presents an even more aggressive picture; with regular staff declining from 7,207 in 2008 to 6,586 in 2012, for a reduction of 621 FTEs (8.6 per cent) from 2008 levels.

<table>
<thead>
<tr>
<th>Regular Staff</th>
<th>Headcount</th>
<th>Full Time Equivalents</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Actual</td>
<td>Actual</td>
</tr>
<tr>
<td></td>
<td>2007</td>
<td>2008</td>
</tr>
<tr>
<td>Nuclear Operations -- Gross Total</td>
<td>7281</td>
<td>7348</td>
</tr>
<tr>
<td>Less: PB Continued Ops/PB Refurbishment</td>
<td>50</td>
<td>24</td>
</tr>
<tr>
<td>Less: P2/P3 Safe Storage Project</td>
<td>108</td>
<td>117</td>
</tr>
<tr>
<td>Nuclear Operations -- Net Total</td>
<td>7123</td>
<td>7207</td>
</tr>
<tr>
<td>Regular Staff - Net Change vs 2008</td>
<td>(12)</td>
<td>(160)</td>
</tr>
<tr>
<td>Regular Staff - Net Change vs 2008</td>
<td>-0.2%</td>
<td>-2.2%</td>
</tr>
</tbody>
</table>

Exhibit F2-T2-S1 Table 14 provides further insight into staff trends over the bridge and test period. Forecast 2012 staff levels for all stations and support divisions are less than 2008, with the exception of the Facilities Management function – where apparent increased staff levels reflect the filling of a large number of vacancies that existed in 2007, when the work was accomplished by non-regular staff and overtime.

A significant reduction in non-regular staff is also forecast in Ex. F2-T1-S1 Table 13; with 161 non-regular staff FTE forecast for 2012, versus 720 FTE in 2008. This reduction reflects: divisional cost control efforts introduced in 2010 - 2014 business planning, focused on discretionary cost reduction.
It should be noted that the information provided in Ex. F2-T2-S1 Tables 13 and 14 and referenced above includes staff funded by all sources (base OM&A, outage OM&A, project capital and OM&A, decommissioning provision for P2/P3, etc.). In addition, some of the reductions are the result of discontinuing inspection and maintenance service agreements with Bruce Power. Specifically, exiting the Bruce Power agreements accounts for 15 FTEs in 2010 and a further 49 FTEs in 2011 of the forecast IMS staff reductions for a total of 64 FTEs going forward. The great majority of regular staff reflected above are base OM&A funded, and the regular staff reduction trends most significantly reflect base OM&A improvement efforts.

3.3 Cost Containment/Performance Improvement Initiatives

As indicated above, the 2010 - 2014 Business Plan drove a series of initiatives that impact base OM&A expenditures over the test period. These include: a series of proposed fleet-wide improvement initiatives intended to support achievement of 2014 performance targets; and, specific divisional initiatives to support achieving cost control targets in the early years of the business plan (2010 - 2012).

- The fleet-wide initiatives (as identified in Ex. F2-T1-S1) identify process or system level improvements that potentially benefit all stations. The seven highest impact initiatives were presented to the OPG Board of Directors during business plan approval, and are listed here:
  - EN-01: Work Order Readiness (Reliability Cornerstone)
  - OU-02: Outage Improvement Strategy (Reliability Cornerstone)
  - ER-01: Standard Equipment Reliability (Reliability Cornerstone)
  - ER-02: Preventive Maintenance Program Improvement (Reliability Cornerstone)
  - EN-02: Engineering Value for Money Improvement (Value for Money Cornerstone)
  - OP-05: Human Performance Improvement (Human Performance Cornerstone)
  - MA-06: Days Based Maintenance (Value for Money Cornerstone)

Of these seven initiatives, four are associated with the reliability cornerstone (supporting achievement of associated operational performance targets identified during business
planning). OP-05 supports human performance improvement targets. Improvement Initiatives EN-02 and MA-06 are value for money initiatives, the primary focus and benefit of which is cost control. However, the nature of the fleet-wide improvement initiatives is such that they require more detailed planning and assessment prior to implementation, and are therefore more related to achieving 2014 performance targets. As a result, and as discussed further below, the majority of the 2010 - 2012 year-over-year cost savings are the result of divisional cost control efforts as opposed to the fleet-wide initiatives.

- The divisional cost improvement initiatives are expected to close or narrow the remaining financial target gaps. The majority of the cost savings noted in section 3.2.1 are the result of aggressive support division and station efforts to control overtime, and to reduce purchased services and discretionary costs to the greatest extent possible. For example, contractor “in-processing” time; introducing efficiencies to reduce the cost of internally-provided, on-line inspection and maintenance services for the stations; and, numerous divisional efforts to reduce FTEs through process improvement and organizational consolidation.

One such divisional initiative is the proposed Pickering A and B site consolidation effort. As noted in Section 2.1.1, numerous departmental consolidation activities have been implemented across the Pickering site; for example, Pickering A manages common services for both Pickering A and B, while Pickering B manages a common Chemistry and Environment Department, as well as the Regulatory Affairs and Fire Protection functions for both Pickering stations. The natural evolution of this process was to seek out and capture any remaining economies of scale, up to and including the combination of the two stations into a single organizational unit. Following completion of the upcoming Vacuum Building Outage in 2010, a study will be undertaken and more detailed proposal developed. In anticipation of a financial benefit, the reductions indicated in Chart 4 have been built into the 2010 - 2014 business plan.
Chart 4: Forecast Benefits of Pickering A and B Consolidation

<table>
<thead>
<tr>
<th>Savings $M/FTEs</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Savings</td>
<td>$1.0M / 0 FTEs</td>
<td>$3.6M / 28.5 FTEs</td>
<td>$7.6M / 48 FTEs</td>
</tr>
<tr>
<td></td>
<td>Attachment 1</td>
<td>Research and Development Program Overview</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>----------------------</td>
<td>--------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Attachment 2</td>
<td>Equipment Performance Improvement Initiatives</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Attachment 3</td>
<td>Status of Base OM&amp;A Initiatives Reported in EB-2007-0905</td>
<td></td>
</tr>
</tbody>
</table>
Research and Development Program Overview

Objective

The objective of the Research & Development ("R&D") program is to develop tools and methods to address technical, design basis, and operational issues in its fleet of CANDU reactors.

Background

There is a CNSC regulatory obligation to fund nuclear research. Experience has shown that R&D in support of OPG’s nuclear plants is most cost-effectively handled on a shared-basis with other CANDU owners, and that is the basis for the programs outlined below.

Program Overview

OPG is planning to invest approximately $16M per year during the test period on nuclear R&D programs in partnership with other industry participants. Costs are shared on a per unit basis. As outlined in Chart 1 below, the main elements are:

• The CANDU Owners Group ("COG") R&D Program (approximately $41M/yr), shared by OPG (approximately $13M/yr, as indicated in Chart 1), Bruce Power, Atomic Energy of Canada Limited ("AECL"), Hydro-Quebec, New Brunswick Power, and SNN of Romania.
• The COG Joint Program includes additional, small-scale R&D programs that OPG undertakes jointly with one or more COG members.
• Membership in the U.S. Electric Power Research Institute ("EPRI") Nuclear Sector, shared by OPG, Bruce Power, Hydro Quebec, New Brunswick Power, and SNN of Romania.
• University Network of Excellence in Nuclear Engineering ("UNENE") research and training programs shared by OPG, Bruce Power, and AECL.

To achieve the objectives noted above, the program focuses on the following key areas:

• Addressing safety issues and resolving regulatory-mandated generic action items.
• Developing, validating, and qualifying industry standard computer codes used in nuclear safety analysis. They include modeling containment response, thermal hydraulics, reactor physics, and fuel and fuel channels.

• Investigating materials and system aging issues that impact the safety, reliability and economic performance of the plants. This work encompasses a broad range of components including fuel channels, feeders, and steam generators. It develops mitigation strategies, non-destructive examination methods and tools, fitness-for-service guidelines, and assessment techniques. The work is focused on CANDU-specific issues for which solutions are not available in international R&D programs.

• Addressing radiation protection and environmental safety issues to ensure that the impacts of nuclear plant operations on people and environment are as low as reasonably achievable.

• Providing access to the EPRI Nuclear R&D program. This U.S. research program addresses a broad range of topics in material reliability and life cycle management, risk and safety management, corrosion and chemistry control, instrumentation and control, non-destructive examination, and equipment assessment. Although primarily focused on light water reactor issues, the technology created by the EPRI programs is relevant to CANDU.

• Creating a university-based nuclear engineering program: The UNENE initiative sponsors university-based research on critical CANDU topics, trains nuclear professionals and creates a network of credible experts for public, industry, and regulatory consultations.

Program Benefits

The R&D program comprises a large number of projects. The majority of these have produced results which have been of direct benefit to the safe, reliable and economic operation of the OPG plants. The following examples outline typical benefits of the R&D program.

• Pressure tube technology: Pressure tubes are CANDU-unique components that operate under harsh conditions. Understanding pressure tube degradation mechanisms is important to ensure that CANDU units operate safely. The CANDU Owners Group R&D program is the principal source of understanding of pressure tube behaviour.
- Safety and Licensing: OPG manages long standing design basis issues and newly developing issues using results from the R&D program.

- Components and Materials: The large number of components unique to CANDU reactors poses challenges, and R&D results have been beneficial in addressing many issues.

- Health and Safety: CANDU reactors pose some unique radiological and environmental hazards which are addressed through the R&D program. For example, validation of the model for calculating derived release limits and annual dose to the public, to provide assurance to OPG’s stakeholders, regulators, and the public that the calculated annual dose is correct.

- Feeders: Feeders are CANDU-specific components which have aged unexpectedly. Industry-wide R&D has determined the mechanism of feeder thinning and has tested the impact of potential mitigation methods. An extensive array of inspection tools has been developed to characterize the thinning of the feeders and other aging mechanisms. A “fitness for service guideline” has been developed to provide guidance on managing all forms of feeder aging.

- EPRI products and services: The use of EPRI products has grown over the past four years and the value of utilized products has increased to nearly $30M/year. Numerous cases of beneficial application of EPRI products have been reported, which represents major financial benefits in avoiding forced outages or very expensive solutions.

In addition to the work outlined here, the Fuel Channel Life Cycle Management Project (see Exhibit F2-T3-S1) can also be considered as a Nuclear R&D initiative. While this project is being managed as a COG Joint Program, the costs are incremental to those shown in Chart 1.

Resource Profile

<table>
<thead>
<tr>
<th>Chart 1: Research and Development Program Resource Profile</th>
</tr>
</thead>
<tbody>
<tr>
<td>COG R&amp;D Program</td>
</tr>
<tr>
<td>COG Joint Programs</td>
</tr>
<tr>
<td>EPRI</td>
</tr>
<tr>
<td>UNENE</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>
ATTACHMENT 2

Equipment Performance Improvement Initiatives

Objective
In order to safely, efficiently, and reliably operate nuclear units, it is essential that plant equipment is operated and maintained to industry-accepted standards. The objective of this program has therefore been to develop processes (or adopt them from other utilities) for: assessing nuclear system performance; setting equipment performance improvement targets as part of the annual business planning process; and, investing the required resources to achieve targets.

Background
Maximizing a generating unit's equipment availability directly supports reliable and cost-effective electricity generation. Not only is this the business strategy and operating philosophy of OPG, but it is the expectation of both the CNSC and World Association of Nuclear Operators.

Consistent with the setting of value for money targets described in section 3.1, and as outlined in Ex. F2-T1-S1, the 2010 - 2014 business planning process confirmed on-line elective maintenance backlogs and on-line corrective maintenance backlogs as appropriate metrics for external benchmarking. On-line corrective maintenance backlog is a measure of the number of out-of-service or broken pieces of equipment (e.g., a pump which will not operate). On-line elective maintenance backlog is a measure of the number of pieces of equipment that can still operate, but have a deficiency (e.g., an oil or water leak) that could develop into a corrective maintenance problem. Top down targets were then set during business planning to drive performance improvement.
Program Overview

Equipment Performance Improvement consists of two primary areas: maintenance backlog reduction at all stations; and, the supplemental “equipment reliability restoration program” at Pickering A.

On-line Maintenance Backlog Reductions

As opposed to a standalone program, this initiative is a collection of station programs to improve the performance of the units. Additionally, each station’s improvement plan will have elements to address equipment reliability and human performance.

Since 2007, OPG has been focusing resources on programs to reduce outstanding on-line maintenance items (backlogs) with the goal of improving reliability and reducing the number of forced production losses due to unplanned outages. Backlog reduction initiative efforts are largely funded by base OM&A and stations will allocate significant resources (Operations, Engineering, Maintenance, and/or Work Control) to support the backlog reduction efforts.

The magnitude of the backlog varies from station to station depending on the rate of new deficiencies identified, available resources to support backlog reduction, and ability to address repetitive equipment failures.

At Darlington and Pickering A, the primary focus has been on reducing elective backlogs which are above the industry standard of 350 work orders per unit. The level of corrective backlogs is comparable with the industry standard of 20 to 25 work orders per unit. For Pickering B, the initial focus has been on reducing corrective backlogs before major steps can be made to reduce the elective maintenance backlogs. As a result of external benchmarking done in conjunction with 2010 - 2014 business planning, test period targets for on-line elective and corrective backlogs at Pickering A and Darlington have been set below previous industry standards.

Chart 1 provides an overview of backlog reduction history and future plans (repeated from Ex. E2-T2-S1 Appendix A),
Chart 1: One-year Maintenance Backlogs

<table>
<thead>
<tr>
<th>Station</th>
<th>Backlog (work orders/unit)</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pickering A</td>
<td>Elective Mtce</td>
<td>428</td>
<td>420</td>
<td>333</td>
<td>350</td>
<td>335</td>
<td>320</td>
</tr>
<tr>
<td></td>
<td>Corrective Mtce</td>
<td>14</td>
<td>17</td>
<td>11</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Pickering B</td>
<td>Elective Mtce</td>
<td>926</td>
<td>681</td>
<td>554</td>
<td>500</td>
<td>425</td>
<td>400</td>
</tr>
<tr>
<td></td>
<td>Corrective Mtce</td>
<td>22</td>
<td>24</td>
<td>20</td>
<td>25</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Darlington</td>
<td>Elective Mtce</td>
<td>373</td>
<td>313</td>
<td>279</td>
<td>275</td>
<td>250</td>
<td>235</td>
</tr>
<tr>
<td></td>
<td>Corrective Mtce</td>
<td>13</td>
<td>8</td>
<td>7</td>
<td>9</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Nuclear Total</td>
<td>Elective Mtce</td>
<td>605</td>
<td>482</td>
<td>400</td>
<td>380</td>
<td>337</td>
<td>318</td>
</tr>
<tr>
<td></td>
<td>Corrective Mtce</td>
<td>17</td>
<td>16</td>
<td>13</td>
<td>16</td>
<td>13</td>
<td>13</td>
</tr>
</tbody>
</table>

Resource Profile

Prior to 2010, incremental funding and FTEs had been assigned to all stations to drive the backlog reduction effort. As part of the 2010 - 2014 business planning process, incremental funding for these activities has been removed with the exception of the Pickering A equipment reliability restoration (“ERR”) program, described below, and stations are now expected to continue backlog reduction efforts through prioritization of base OM&A work and efficiency improvements.

Pickering A Equipment Reliability Restoration Program

Recognizing the need for significant generation performance improvement, the objective of the Pickering A ERR program is to restore Pickering A plant performance to historically achieved levels, reduce forced losses and improve generation performance.

The program consists of five key elements:

- Focusing corrective and elective maintenance efforts on work having the most significant impact on plant reliability and improving execution rate for this work (e.g., resolution of recent issues with the liquid zone control system at Pickering A Unit 4, which have been a significant contributor to forced loss rate).
- Improving material condition of plant equipment that represents reliability vulnerability.
- Focus project spending on upgrades that improve reliability.
• Increase availability of spare parts for maintenance to improve plant health including the U2/3 parts recovery initiative.

• Define optimum maintenance methods and procure required parts.

Resource Profile
Incremental resources have been planned for Pickering to implement this critical program. This includes test year funding, as indicated below:

Chart 2: ERR Program Resource Profile

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Base OM&amp;A Cost ($M)</td>
<td>0.0</td>
<td>0.0</td>
<td>9.3</td>
<td>9.8</td>
<td>7.4</td>
<td>0.0</td>
</tr>
<tr>
<td>Regular Staff</td>
<td>0</td>
<td>0</td>
<td>12</td>
<td>15</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

Current Status/Results
Program is on track for 2011 completion. Highlights for 2009 include:

• Actual on-line elective maintenance backlog reductions for 2009 better than target (333 actual versus a target of 375).

• Completed 637 planned “plant reliability list” work orders (versus a target of 600) to improve system health and plant reliability update.

• Completed major work programs associated with pump and motor refurbishments, and critical system modifications and improvements. On track for 2010 completion.

• Achieved CNSC agreement for removal of 3 per cent power de-rating.
ATTACHMENT 3

Status of Base OM&A Initiatives Reported in EB-2007-0905

Supply Chain Improvement Initiatives: Supply Chain is continuing with their performance improvement plan which commenced in 2005, with a focus on three broad program objectives that include; improving material availability, establishing a competent nuclear supply chain organization, and re-establishing commercial leverage. Results at year-end 2009 include: staff levels cut back to below 2005 levels; average cycle time backlogs reduced from an average of 930 days in 2005 to 113 days; stock-out levels are down from 20 per cent to 4 per cent; and, materials on-site for outages has increased from 88 per cent to 99 per cent. The base OM&A and regular staff reductions for Nuclear Supply Chain included in this evidence (and highlighted in Ex. F2-T2-S1 Table 1 and Ex. F2-T2-S1 Table 14) are a direct result of these initiatives.

Addressing Demographics of an Aging Workforce: Consistent with experience in the nuclear industry and other industries, workplace demographics mean that OPG will be facing a significant loss of key staff in the very near future. In response to this, a workforce development plan, initiated in 2004, continues throughout the bridge and test periods. The goal of this plan is to attract, hire and retain new staff for Nuclear Operations to address the challenge of an aging workforce. Costs relate to the hiring and initial salary costs of inexperienced new hires, as well as strategic partnerships with colleges and universities to help ensure a supply of high quality candidates. In addition to engineering graduates, the workforce development plan targets skilled trades, including an apprenticeship program, and licensed/non-licensed operator positions. The incremental investment in this program is shown here, with budgeted costs accounted for in the division receiving the trainees.
Addressing Tritium Removal Facility (“TRF”) Reliability: The TRF condition had degraded over the years, such that reliability is impacting station performance and limiting revenue from external sales of detritiation services. The TRF improvement plan was an initiative to improve the facility’s material condition, thereby improving reliability and reducing outages. Through these improvements, the goal by 2011 is to increase the volume of heavy water treated (detritiated) to 2,300 Mg/yr (calculated on a three year average), from a historical average of 1,600 Mg/yr. The improvement program continues, but there will be no incremental funding beyond 2009. TRF reliability has improved over the past year, such that detritiation services supplied in 2009 were above business plan targets (1,940 MG versus 1,795 MG), and there were no unplanned outages in 2009. Performance is on track to achieve target volume of 2,300 Mg/yr by 2011.

Addressing Programs and Training Infrastructure: Over the 2007 - 2009 period, Programs and Training faced increased short-term program and resource demands in three key areas; facilities, training, and security. Addressing these issues required incremental costs of $7.7M ($3.4M 2007, $2.4M 2008, and $1.9M in 2009). Initiatives were successfully completed over the 3-year time period, with key highlights noted below:

- Leadership Academy Program Development – Programs were developed and delivered to new supervisors and incumbents, with focus on improving supervisory and managerial capability particularly in Operations and Maintenance. Post-training feedback indicates that the programs were successful in accomplishing this objective.

<table>
<thead>
<tr>
<th>Costs ($M)</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual</td>
<td>Actual</td>
<td>Actual</td>
<td>Plan</td>
<td>Plan</td>
<td>Plan</td>
<td>Plan</td>
</tr>
<tr>
<td>Operations WDP</td>
<td>6.8</td>
<td>13.1</td>
<td>13.9</td>
<td>14.3</td>
<td>11.8</td>
<td>12.3</td>
</tr>
<tr>
<td>Maintenance WDP</td>
<td>4.2</td>
<td>3.5</td>
<td>2.4</td>
<td>1.7</td>
<td>1.8</td>
<td>2.2</td>
</tr>
<tr>
<td>Engineering WDP</td>
<td>4.9</td>
<td>5.8</td>
<td>5.8</td>
<td>3.7</td>
<td>4.3</td>
<td>4.6</td>
</tr>
<tr>
<td>Total</td>
<td>15.9</td>
<td>22.4</td>
<td>22.1</td>
<td>19.6</td>
<td>17.8</td>
<td>19.1</td>
</tr>
</tbody>
</table>
• Pandemic Planning – all OPG Business units have completed planning, and the OPG CEO has issued a declaration of pandemic readiness. In response to the H1N1 influenza virus, pandemic plans were revised, updated and reissued in August 2009.

• Training Material Updates - Identified revision backlogs in the operations and maintenance training programs have been addressed, such that training program materials for these critical skill job families are now current.