OPERATIONS CAPITAL BUDGET – NUCLEAR

1.0 PURPOSE

This evidence provides an overview of the nuclear operations capital budget for the historical period, bridge year and the test period. It also provides period-over-period explanations and an overview of the nuclear project management processes. This evidence does not address the generation development capital budgets for Darlington Refurbishment and New Nuclear Build at Darlington, which are discussed at Ex D2-T2-S1.

Together, operations capital and generation development capital make up the total Nuclear capital budget, as presented in Ex. D2-T1-S1 Table 1.

2.0 OVERVIEW

OPG's capital expenditures for the nuclear facilities are $296.9M and $447.3M in 2011 and 2012, respectively. Of these amounts, $191.7M in 2011 and $191.5M in 2012 are for nuclear operations capital expenditures. The balance in each year is attributable to nuclear generation development capital expenditures separately discussed in Ex. D2-T2-S1.

A summary of the nuclear operations capital expenditures is provided in Ex. D2-T1-S1 Table 2 for the 2007 - 2012 period. This table demonstrates that the nuclear operations capital project portfolio is relatively stable at historical levels over the test period. This table also provides a breakdown of the nuclear operations capital expenditures between those included in the nuclear project capital portfolio and the capital expenditures on the P2/P3 Isolation project and minor fixed assets that are outside of the portfolio.

The balance of section 2 presents an overview of nuclear operations projects, in particular, the project portfolio approach that governs both capital and OM&A projects. Section 3 presents the nuclear operations project management process. Section 4 provides a description of the trends in capital expenditures and sections 5 to 7 provide period-over-period changes in capital expenditures. Section 8 provides detail on the accounting for the P2/P3 Isolation project in response to an OEB direction in EB-2007-0905.

Exhibits F2-T3-S1 to Ex. F2-T3-S3 provide similar trend and period-over-period trend information for nuclear operations OM&A projects.

2.1 Project Portfolio Approach

OPG Nuclear employs a portfolio approach to assess all nuclear operations projects (OM&A and capital) in the same manner. The portfolio management process description provided here is therefore equally applicable to nuclear operations projects presented in Ex. F2-T3-S1 to Ex. F2-T3-S3.

Consistent with OPG's corporate policy, a nuclear project, whether OM&A or capital, is defined as a temporary, unique endeavour undertaken outside the routine base activities of the normal work program. The final decision on whether work will be classified as a project is made by the Nuclear Asset Investment Screening Committee ("AISC") having regard to the complexity and materiality of the work, and the following criteria:

- Whether the incremental cost, over and above base OM&A (see Ex. F2-T2-S1), is greater than $200k per generating unit.
- Whether the execution duration is limited, with defined start and finish dates.
- Whether the work is clearly incremental to regular ongoing work, non-repetitive in nature, recurring at a frequency of less than once every six years.
- Whether sponsorship and management accountabilities can be clearly defined.

OPG Nuclear projects are developed to meet regulatory commitments (e.g., from the Canadian Nuclear Safety Commission ("CNSC")), decrease future base or outage OM&A expenditures, increase system or unit reliability, address system obsolescence or increase the output of the station. OPG Nuclear manages projects, both capital and OM&A, by way of a project portfolio management procedure. Among other things, the nuclear project portfolio facilitates comparative value assessments for project prioritization, and also forms the basis for project budgeting during the business planning process.

The nuclear project portfolio is approved via the OPG business planning process with the OPG Board of Directors (the "OPG Board") approving the OM&A and capital projects

portfolio budget which is then administered via the portfolio management process described below in section 3.0.

Total project portfolio amounts in the test period are $280.3M in 2011 and $283.2M in 2012, as presented in Chart 1 below. These amounts are consistent with OPG's target annual re-investment levels of $25M to $30M per nuclear unit (for multi-unit stations). These target portfolio budget levels, established by OPG in the 2008 - 2012 business planning process, were developed in consideration of: historical investment patterns; project execution capabilities; the potential beneficial impact of the improved project portfolio management processes; and high level comparative data from other nuclear utilities. The validity of this approach is supported by the stable cost performance over the period 2008 - 2012 as presented in Chart 1. OPG's cost control and prioritization efforts have allowed OPG to hold nuclear project portfolio capital spending at 2010 levels for both test years in the face of labour and material cost escalation**.**

Cost-focussed reductions in the OM&A portfolio have resulted in a significant deferral of planned work beyond the test period. The OM&A portfolio has been reduced from a budget of $118M for 2008 and 2009 as approved in EB-2007-0905, to a comparative budget of $111.7M in 2010, $108.3M in 2011 and $111.2M in 2012. Managing to the OM&A portfolio levels listed in Chart 1 will therefore require continued careful assessment and prioritization of work across OPG Nuclear.

Chart 1
Total Nuclear Project Portfolio Costs – Project OM&A and Capital

	$M	2007 Actual	2008 Actual	2009 Actual	2010 Budget	2011 Plan	2012 Plan
1	Project Portfolio – Capital	186.5	163.5	159.4	172.0	172.0	172.0
2	Project Portfolio – OM&A	102.1	123.0	118.3	111.7	108.3	111.2
3	**Total Project Portfolio**	**288.6**	**286.5**	**277.7**	**283.7**	**280.3**	**283.2**

Starting in 2010, OPG has adjusted the accounting for project staff SAVH ("sickness, accident, vacation and statutory holiday") costs to more accurately reflect total project costs. SAVH costs for staff dedicated to project work were previously accounted for as part of base OM&A (approximately $12M per year), but will now be included in the labour cost of staff working on capital or OM&A projects. For the OM&A project forecasts, the impact of this change is a transfer of budget and associated costs from base OM&A to project OM&A of $6.7M, $6.9M and $6.2M in 2010, 2011, and 2012, respectively. For capital projects, the cost of SAVH for dedicated project staff (approximately $5M - $6M per year) is being transferred from base OM&A to capital, but the capital project portfolio has been held at $172M as a further project cost control effort.

In addition to the expenditures covered by the nuclear project portfolio, there are other project expenditures that are managed outside of the portfolio: the P2/P3 Isolation project (which has both OM&A and capital expenditures), the purchase of minor fixed assets (capitalized in accordance with OPG's capitalization policy), as well as other OM&A project expenditures (i.e., project costs associated with Pickering B Continued Operations, Pickering B Refurbishment and Fuel Channel Life Cycle Management projects, see Ex. F2-T3-S1). As the project portfolio is focussed on re-investment in ongoing operations, these extraordinary projects are assessed and approved on an incremental basis. Total nuclear operations project costs, as presented in Chart 2, line 10, are forecast to remain at average historical levels over the test period.

Chart 2
Total Nuclear Operations Project Costs – Project OM&A and Capital

	$M	2007 Actual	2008 Actual	2009 Actual	2010 Budget	2011 Plan	2012 Plan
1	Project Portfolio – Capital	186.5	163.5	159.4	172.0	172.0	172.0
2	P2/P3 Isolation Project	9.3	5.7	14.1	8.8	0.0	0.0
3	Minor Fixed Assets	11.5	14.2	17.0	20.2	19.7	19.5
4	**Operations Capital**	**207.2**	**183.4**	**190.6**	**201.0**	**191.7**	**191.5**
5	Project Portfolio – OM&A	102.1	123.0	118.3	111.7	108.3	111.2
6	P2/P3 Isolation Project	9.5	13.5	22.5	20.6	0.0	0.0
7	PB Continued Ops Project[1]	0.0	0.0	0.4	1.8	19.9	17.0
8	FC Life Cycle Mgmt Project[2]	0.0	0.0	2.5	9.7	7.7	4.0
9	**Operations Project OM&A**	**111.6**	**136.5**	**143.7**	**143.8**	**135.9**	**132.2**
10	**Total Operations Projects**	**318.8**	**319.9**	**334.3**	**344.8**	**327.6**	**323.7**

1. Represents the project costs associated with the Pickering B Continued Operations Initiative
2. Fuel Channel Life Cycle Management Project

3.0 NUCLEAR PROJECT MANAGEMENT PROCESSES

The OPG corporate investment and project approval processes are outlined in Ex. A2-T2-S1 sections 5.0 and 6.0. The nuclear project management processes, outlined below, are developed within, and consistent with, that framework. Other than specific improvements noted within this evidence, the core elements of these processes are unchanged from the information presented in EB-2007-0905.

The five project life cycle phases and the associated “release” normally accompanying each phase are indicated here, and discussed below:

- Project identification (using base OM&A, leading to a request for conceptual funding).
- Project initiation (using conceptual funding from project OM&A, leading to a developmental release).

- Project definition (using a project-specific developmental release consistent with the project's accounting classification, leading to a full or partial release).
- Project execution (using a project-specific budget, leading to a full release if currently partial. A superseding release may be processed if required due to scope change or cost increase).
- Project close-out and post-implementation review.

A project's progression between the five phases is governed by a management process, which ensures that a periodic, systematic review is conducted and that approvals are obtained before proceeding with further investment. The AISC, discussed below, plays a key role in assessing value at these decision points.

3.1 Project Identification

The purpose of the project identification phase is to identify and assess opportunities for project work. The budget for this work is part of base OM&A.

Potential projects are generally identified by Station Engineering through system health reviews, analysis of component failures, and the life cycle plans prepared for major systems. In addition, projects with an anticipated benefit for multiple sites are identified and sponsored by the support divisions.

When an issue or opportunity is identified, a "Part A screening form" is completed to characterize the issue and rank the potential impact. If a system modification is required, an engineering change request is also prepared to initiate the engineering change control process. Projects that require engineering change control compliance receive an additional level of scrutiny to ensure that system modifications are consistent with the station design basis, adhere to all codes and standards, and do not compromise the safety of employees or the public.

A project charter, defining the issue or opportunity and the roles of different OPG departments, is also prepared by the project sponsor at this stage.

During the project identification phase, the project is initially classified as either OM&A or capital based on the nature of the work and by applying the capitalization rules presented in Ex. A2-T2-S1. Expenditure classification decisions are made independently of the impact on either the OM&A or the capital budgets, and all decisions are approved by the Finance function.

The Part A screening form and the project charter are presented to the appropriate station's Project Approval Committee. The Project Approval Committee consists of key management and supervisory staff within Station Engineering, Maintenance, Operations, and Support Services organizations. Projects approved by each Project Approval Committee will normally receive a limited amount of project OM&A budget ("conceptual funding", typically in the order of $50k to $100k) in order to proceed to the project initiation phase. Project cost estimates produced in this phase have an accuracy of +100 per cent/-60 per cent (consistent with Project Management Institute standards), as alternatives have not yet been assessed and no engineering work has been done.

3.2 Project Initiation

The first step in the project initiation phase is a review of the alternatives. If this review concludes that a project is in fact not required, then project analysis terminates at this point.

If the review concludes that it is necessary to undertake a project, the next step for most projects is completion of a developmental business case summary ("BCS"). The developmental BCS provides cost estimates for each of the viable project alternatives, recommends a preferred alternative, outlines the project-specific budget required to advance the project to the next decision phase, and provides a cost estimate for the entire project (including contingency) with an accuracy of +60 per cent/-25 per cent (consistent with Project Management Institute standards).

In addition to the developmental BCS, the following documents are also produced during the project initiation phase:

- A “Part B screening form”, outlining the alternatives considered and the costs for each alternative.
- A level 1 schedule, to define completion dates for specific project milestones and deliverables, to the degree that they are understood in the developmental BCS.

The developmental BCS and the Part A and Part B screening forms are submitted to the AISC.

The AISC consists of executive members from all nuclear sites and Nuclear Finance. The AISC has the mandate to review project recommendations and evaluate acceptance of new projects to be added into the nuclear project portfolio from an OPG nuclear fleet perspective. If the AISC supports the proposal, the developmental BCS will be routed as per the Organizational Authority Register (“OAR”, see Ex. A2-T2-S1 Attachment 2) for approval of the project release and associated budget.

Corporate oversight in the project approval process is through membership of the Director, Nuclear Investment Management (who reports to the corporate finance function) on the AISC. In addition, for projects of $15M or greater, the Vice President - Corporate Investment Planning is required to approve all BCSs, providing additional assurance of alignment and appropriate corporate oversight of these major projects.

Upon approval of the developmental BCS and of the associated release of project budget, the project moves to the project definition phase, and the project-specific budget is released. The project (with identification of the sponsoring division) is then added to the nuclear project portfolio.

3.3 Project Definition

The purpose of the project definition phase is to fully define the scope of the project, complete a portion of the expected engineering work (typically 40 per cent) and, from that, to develop a preliminary project execution plan and a BCS to seek approval for project execution.

A project team of OPG regular staff (supplemented by external resources as required) is assembled during this phase. Work completed during this phase includes the following:

- A review of the documentation associated with the plant systems to be modified.
- A "walk-down" of the plant systems to identify potential issues with respect to construction, operation, maintenance, and safety of the associated systems.
- A review of the major material needs of the project, with consideration for long lead items requiring extended delivery schedules from suppliers.
- Completion of a more detailed work activity schedule (level 2), identifying significant milestones, engineering, and execution work and resources required to support the project.
- Completion of up to 40 per cent of the design engineering work.
- Development of a revised cost estimate for the entire project (including contingency) with accuracy in the range of +30 per cent/-15 per cent (consistent with Project Management Institute standards}.
- Drafting of a partial or full release BCS.

3.3.1 Approval of Project Releases and Project Budgets

For a developmental release, project approval is based on the dollar value of the developmental release work as a stand-alone project. The developmental release is limited to 10 per cent of the estimated total project cost.

If an investment of greater than 10 per cent of total project estimate is required at this stage, or project staff recommend conducting some execution activities in advance of a full release, a partial release BCS will be prepared and reviewed as per the OAR on the basis of estimated total project cost. This approach ensures effective management involvement and oversight by minimizing OPG's financial commitment while providing management with sufficient information to decide on whether to proceed.

A partial BCS may be used to allow execution of the first unit of a multi-unit project or the first stage of a large (multi-stage) project. A phased approach is used to allow confirmation of the costs and benefits from the first unit installation, prior to committing to proceeding with the

project execution phase for the balance of units with a full release BCS. Upon approval of the BCS, the project moves forward to the project execution phase.

In each BCS, a project-specific contingency is included in the total project cost. While the BCS and associated project release amount includes this project-specific contingency, the contingency is excluded from the project-specific budgets assigned to project managers. Should it be necessary for the project manager to access some or all of this contingency, a request must be made to the AISC who would then assess the ability to increase the project budget within the total project portfolio budget approved by OPG's Board of Directors For example, such a request could be accommodated as a trade-off against projects that have been delayed or that are being completed under their project budget. To drive overall cost control, there is no specific contingency held at the Nuclear or portfolio level.

3.4 Project Execution

During the project execution phase, design engineering is completed, a detailed project execution plan is prepared, and requests for proposal of bids from prospective contractors are reviewed for contract award (as applicable). A level 3 schedule (task level detail) and an updated cost estimate for the entire project with an accuracy of +15 per cent/-10 per cent (consistent with Project Management Institute standards) are also prepared, and detailed installation instructions are issued for implementation in the field.

Projects are continuously scrutinized during the execution phase. In addition to operational reviews within the Project and Modifications Department, monthly station Project Approval Committee meetings and AISC reviews, the major project status review meeting provides a forum for key finance, project management, engineering staff, and senior management to review and assess all nuclear projects with a total project estimate $\geq$\$5M. Project status, issues, and proposed corrective actions are then formally reported to senior management.

If, during the execution of a project, the completed cost is forecast to exceed the approved project release, a superseding BCS is prepared to document the status of the project, the causes for forecast over-expenditure, the management actions taken to date to control costs, and all viable options for cost control or scope adjustment for management consideration. The request for additional project-specific budget as identified in the superseding BCS is routed for approval as per the OAR. This approval is required before exceeding the previously approved full release amount.

3.5 Project Close-Out and Post-Implementation Review

Upon completion of all execution and commissioning activities, project close-out is performed. This phase involves:

- Closure of engineering activities, including drawing updates.
- Procedure update, as required.
- Financial activities, such as cost account closure and in-service declaration for capital projects.
- Contract closeout activities.

These steps ensure proper completion of all project, engineering and financial activities. At this point, regular employees are assigned to other projects within the nuclear project portfolio, and contractors are released.

As outlined in Ex. A2-T2-S1, a post-implementation review is completed to review the success of the project in achieving the objectives defined in the BCS and to promote continuous improvement and maximum future economic benefit to OPG through dissemination of “lessons learned”. This ensures the sharing of project experience for future benefit.

3.6 Project Management Improvements

OPG Nuclear has undertaken a significant number of initiatives to continue to improve the performance of the project management function, to continually improve cost performance

versus budget as reflected in Ex. D2-T1-S1 Tables 4a - 4c, and to increase value received for money spent.

Based on industry best practices[1], rigorous planning and project evaluation processes have been implemented. These processes, at the front end of the project life cycle, focus on value engineering, project scoping and scheduling, and a disciplined approach to cost estimating and management of project risk. Specifically:

- The value engineering process identifies the most cost-effective solution during the project identification and initiation phases, and at key decision points throughout the project life cycle.
- Project scoping provides an understanding of project deliverables, the basis for the cost estimate and ensures a disciplined approach to the utilization of a standard project breakdown structure to add consistency and accuracy to the identified work.
- Proven industry cost estimating and risk profiling processes have been adopted to develop and implement strategies to reduce cost growth and manage risks at the very early stages of the project.

Further work has been done with project metrics and reporting capabilities, including:

- A project readiness measure (the project definition rating index ("PDRI")) which has been implemented to gauge project readiness to start in the project initiation and definition phases.
- Materials tracking initiatives were implemented in 2009 to help reduce schedule delays. These initiatives have contributed to improved project milestone adherence, reduced project cost growth and reduced delays due to material availability issues.
- Cost and schedule performance for each project is reported on a weekly basis to the Director, Projects & Modifications, and monthly to senior executives including the Vice President, Nuclear Finance and all Nuclear Senior Vice Presidents.

[1] Project Management Institute (PMI), the Association for the Advancement of Cost Engineering (AACE), the U.S. Department of Defence and the Construction Industry Institute (CII).

In addition, project staff is encouraged to identify value improvement opportunities. As a result, cost savings, cost avoidance, and process and technology efficiency improvements have increased significantly in 2009.

The cumulative benefits of the above initiatives are more realistic and achievable project plans and improved cost and schedule performance, as demonstrated in the assessments of completed projects as shown in Ex. D2-T1-S2 section 3.2 and Ex. F2-T3-S3 section 3.2.

4.0 CAPITAL EXPENDITURES

Exhibit D2-T1-S1 Tables 2, 3 and 4a - 4c present Nuclear capital project expenditures by sponsoring division and project category for the period 2007 - 2012.

For business planning purposes, it is useful to characterize forecast project portfolio costs in these tables so as to identify the degree of budget commitment in future years. There is a high level of budget commitment for work that has been released by a BCS approval; a lesser degree for the balance of the project budget that is yet to be released and that's associated with developmental or partial project releases (due to the fact that such projects may not proceed to execution phase, or the project estimate may change); and, essentially no commitment to the large number of projects that are under consideration for potential inclusion in the project portfolio.

In more detail, descriptions of the project categories for these tables are as follows:

- "Facility Projects (Released)" is the amount approved for expenditure through the approval of a business case summary, including the approved project contingency. The associated projects have been added to the nuclear project portfolio, as described in section 3.2.
- "Facility Projects to be Released" is the amount identified in an approved BCS to complete the balance of project work scope for a project with a developmental or partial release. These amounts include approved project contingency. These preliminary estimates are used to assess and balance potential demands for capital portfolio budget in future years.

- ”Listed Work to be Released” reflects the budget available to undertake project work that is currently in the project identification or project initiation phases (see Ex. D2-T1-S2 Table 5a/5b for capital projects, and Ex. F2-T3-S3 Table 4a/4b for OM&A projects). This reflects the difference between the project portfolio envelope approved by OPG’s Board of Directors during business planning, and the cost of identified facility projects that are either ‘Released’ or ‘To Be Released’ at the time of filing. Where Listed Work to be Released exceeds the approved available budget (indicated as a negative entry in the tables), this will be addressed through the portfolio management process and project prioritization.

In addition, Tables 2 and 4a/4b/4c includes non-portfolio capital expenditures, as described here:

- “P2/P3 Isolation Project” reflects work to achieve the operational isolation of Pickering A Units 2 and 3 (i.e., those units in the ‘safe storage’ state), as well as modifications to common system controls which are currently located in Unit 2. The P2/P3 Isolation project enables continued operation of the remaining Pickering A Units 1 and 4, and Pickering B, independent of the Units 2 and 3 that are being placed in safe storage. The P2/P3 Isolation project work is listed separately from the nuclear project portfolio due to its extraordinary nature. In addition to amounts in Ex. D2-T1-S1 Tables 1 and 4a/4b/4c, there is an OM&A component discussed in Ex. F2-T3-S1. In its decision in EB-2007-0905 (page 35) the OEB directed OPG to provide a more detailed analysis of the nature of the P2/P3 Isolation project costs, and the appropriate accounting treatment. This is provided at section 8.0.
- Pickering B Refurbishment Project which specifically includes a 2009 budget for OM&A and capital projects that were placed on hold pending the Pickering B refurbishment decision. For details of the Pickering B Refurbishment Project, see Ex. F2-T2-S3.
- “Minor Fixed Assets” (see Ex. A2-T2-S1 section 5.1) are expenditures on portable assets used in OPG station or support division operations. An example is tooling used for specialized inspection and maintenance services.

In addition, to identify the key drivers of nuclear operations projects, capital project expenditures have been categorized in Ex. D2-T1-S1 Table 3 as regulatory, sustaining or value enhancing/strategic as defined in Ex. A2-T2-S1.

4.1 Capital Project Drivers and Trends

Exhibit D2-T1-S1 Table 2 reveals the following trends in capital expenditures over the period 2007 - 2012:

- "Released Facility Projects" work decreases in the test period, reflecting the completion of previously released project work and the fact that much of the future project work is yet to be released.
- "Facility Projects To be Released" work increases in the test period (relative to the bridge year, and complementary to the trend for "released" work above), reflecting expected further release of budget to complete project work currently in the project definition or early execution phases.
- "Listed Work to be Released" increases in the test period, consistent with expectations that listed projects will move from the project identification and initiation phases into project definition or execution phase as part of the ongoing portfolio management process.
- "P2/P3 Isolation Project" work indicates planned project completion in 2010.
- "Minor Fixed Assets" expenditures increase to a stable level in the $20M range, reflecting the forecast level of reinvestment.

Regulatory projects account for a significant component of historical capital project expenditures, with security-driven projects predominating. As indicated in Ex. D2-T1-S1 Table 3, this trend diminishes in the test period, as many ongoing regulatory projects (including major security projects) are completed and come into service over the 2008 - 2010 period. However, history indicates that new regulatory projects will likely continue to emerge.

As these currently identified regulatory projects come to completion, sustaining projects may become the predominant factor – with focus on plant reliability, and addressing systems and components of the nuclear facilities that are either approaching end of life, or for which

replacement parts are no longer readily available. This trend is also evident in Ex. D2-T1-S2 Tables 1a/1b and 2.

Ex. D2-T1-S2 presents further details of capital projects expenditures.

5.0 PERIOD-OVER-PERIOD CHANGES – TEST PERIOD

Year-over-year variances are presented in Ex. D2-T1-S1 Table 4c and are explained below. Essentially, test period expenditures for the project capital portfolio and minor fixed assets remain unchanged from the bridge year, while P2/P3 Isolation project expenditures decrease following project completion in 2010.

2012 Plan versus 2011 Plan

Planned spending is stable.

2011 Plan versus 2010 Budget

The decrease in planned spending on total nuclear operations capital in 2011 (-$9.3M) primarily reflects completion of the P2/P3 Isolation project in 2010.

6.0 PERIOD-OVER-PERIOD CHANGES – BRIDGE YEAR

Year-over-year variances are presented in Ex. D2-T1-S1 Table 4c, and are explained below.

2010 Budget versus 2009 Actual

The increase in planned spending on total nuclear operations capital in 2010 (+$10.4M) primarily reflects the planned return to the $172M portfolio level following the under-expenditure in 2009 (+$12.6M, see below) and the planned increase in Minor Fixed Assets expenditure (+$3.2M), partly offset by planned decrease in P2/P3 isolation work (-$5.3M).

7.0 PERIOD-OVER-PERIOD CHANGES – HISTORICAL PERIOD

Year-over-year variances are presented in Ex. D2-T1-S1 Tables 4a and 4b, and explained here.

A significant factor common to the historical years is the P2/P3 Isolation project – which was originally planned to be completed and in-service in 2009. Changing regulatory requirements caused significant delays to the project in 2007/2008, and required revision to planned timing of expenditures for planned completion in 2011.

2009 Actual versus 2009 Budget

Expenditures were less than planned in 2009 (-$157.1M) mainly due to deferral of planned project on hold (-$148.8M) pending the Pickering B refurbishment decision. Other contributors are lower than planned portfolio spending (-$12.6M) primarily due to the deferral of planned work on the Darlington Auxiliary Heating System project (to further assess alternatives to full-scale replacement) and the Darlington Maintenance Facility Improvement project (to assess cost reduction alternatives). The portfolio under-expenditure is partly offset by revised timing of expenditures for the P2/P3 Isolation project (+$4.1M).

2009 Actual versus 2008 Actual

The increase in spending in 2009 ($7.2M) primarily reflects changes in the timing of P2/P3 Isolation project expenditures (+$8.4M), and an increase in minor fixed assets expenditures (+$2.8M), partly offset by a decrease in portfolio expenditures due to the major project deferrals noted above.

2008 Actual versus 2008 Budget

The under expenditure in 2008 (-$23.4M) reflects three factors: changes in the timing of P2/P3 Isolation project expenditures (-$11.3M); less than planned spending on minor fixed assets (-$3.6M)**;** and less than planned spending on project portfolio (-$8.5M), reflecting minor variances on a number of projects.

2008 Actual versus 2007 Actual

The decrease in planned spending in 2008 (-$23.8M) is a result of reducing project portfolio capital to OPG's Board of Director's approved level of $172M (-$14.5M); 2008 under expenditure as noted above (-$8.5M); and, the impact of changes in the timing of P2/P3 Isolation project expenditures (-$3.6M). This reduction is partly offset by the impact of minor fixed assets under-expenditure in 2007, which is recovered in 2008 ($2.7M).

2007 Actual versus 2007 Budget

The under expenditure in 2007 (-$60.5M), is primarily due to deferral of potential 'Listed Work to be Released' (-$22.6M), no requirement to draw on planned contingency (-$5.0M), and the net impact of project-specific variances associated with the 118 capital projects that were managed in 2007 (-$12.8M). The balance of the under expenditure results from delays in the P2/P3 Isolation project (-$14.3M), reflecting deferral of construction and maintenance ramp-up (to allow greater progress on engineering/assessing activities), and the new CNSC requirement for an environmental assessment (which resulted in the deferral of potentially-impacted activities). In addition, there were under expenditures on minor fixed assets (-$5.8M) across several divisions.

8.0 ACCOUNTING FOR P2/P3 ISOLATION PROJECT COSTS

In the EB-2007-0905 Decision, page 35, the OEB directed OPG to provide a more detailed analysis of the treatment of Pickering 2/3 Isolation project costs, including an explanation of why certain costs are capitalized. Specifically, the Decision states:

> Unless OPG intends in the future to shutdown all units at a station at the same time, the accounting for unit isolation costs is likely to recur. Thus, the Board directs OPG to provide in its next application a more detailed analysis of the nature of the costs and why accounting standards require that such costs be capitalized as part of the book values of the operating units, rather than treated as costs of shutting down units.

In response to the OEB's direction, the section below discusses why it was appropriate to charge amounts spent on this project to OM&A and capital respectively.

8.1 Accessing Decommissioning Funds

OPG must demonstrate to the Province that work is driven exclusively by decommissioning needs and receive Provincial approval in order for the work to be eligible for funding as decommissioning. This requirement is set out in the Ontario Nuclear Funds Agreement ("ONFA") between OPG and the Province as discussed in Ex. C2-T1-S1. Acting on behalf of the Province, the Ontario Financing Authority has responsibility for releasing ONFA funds for decommissioning.

In the case of the P2/P3 Isolation project, OPG was unable to pass the ONFA eligibility test because the project's primary purpose is to allow Pickering A Units 1 and 4 to continue operating, not the decommissioning of Units 2 and 3. As a result the cost of the P2/P3 Isolation project had to be funded by OPG and OPG used its standard accounting policies for capital or OM&A to determine the appropriate treatment for these costs. In contrast, OPG did satisfy ONFA's eligibility test with respect to costs associated with the safe storage of Pickering A Units 2 and 3 and was thus eligible to recover these costs from the decommissioning fund. Both the P2/P3 Isolation project and the requirement for Pickering A Units 2 and 3 safe storage resulted from OPG's decision not to return Pickering A Units 2 and 3 to service.

8.2 Basis for Cost Classification Decision

OPG's Decommissioning Cost Studies assume that all four units in a station will be shutdown and prepared for long term safe storage within 6 months to one year of each other. With minimal time between successive shutdowns, there would be no requirement for unit separation or reconfiguration for the long term operation of some of the units within the station.

However, as OPG expects to operate Pickering A, Units 1 and 4 for an extended period following the shutdown of Units 2 and 3, it was necessary to modify common power systems, support systems (e.g., common service water supplies) and special safety systems (containment and emergency coolant injection) to allow for the independent operation of Units 1 and 4. A number of these required systems had been supported from Units 2 and 3.

OPG undertook a detailed breakdown of the work required under the Pickering 2/3 Isolation project. A detailed accounting review of all project activities was then undertaken by OPG in October 2005, to identify the specific driver and the consequent accounting classification of each work activity.

The accounting analysis applied OPG's capitalization policy, as discussed in section 3.1, to determine which of the Pickering 2/3 Isolation project costs should be capitalized and which would default to project OM&A. This accounting analysis and OPG's resulting conclusions in terms of capitalization have been reviewed and approved by OPG's external auditors in every year since 2005.