REMAINING UNITS SCHEDULE

1.0 OVERVIEW

This exhibit provides the integrated Darlington Refurbishment Program ("DRP" or "Program") schedule and the current schedules for the refurbishment outages of Units 3, 1, and 4 (the "Remaining Units").

Section 2 begins by discussing the approach OPG employed to develop a fully integrated schedule for the four-unit DRP at the time of the Release Quality Estimate ("RQE") and the Unit 2 Execution Estimate ("U2EE"). Section 3 starts by describing the development of the updated integrated Program schedule for the Remaining Units. Discussion of the Remaining Units' schedule continues with a review of the Lessons Learned from the execution of Unit 2 and how these have been applied to the planning of the Remaining Units to produce more refined schedules, with decreased uncertainties around the duration of critical path activities.

The approach used to mitigate schedule risks associated with the first-of-a-kind ("FOAK") turbine-generator controls scope to be installed in the Remaining Units is also discussed. This exhibit then explains the integration of schedule logic[1] for more than one unit in the period of planned overlaps between the refurbishment outages of Units 3 and 1, and Units 1 and 4. It concludes by comparing the planned schedule for Unit 3 to the actual schedule achieved for Unit 2 and explaining the major elements that have allowed OPG to decrease the planned duration of Unit 3 relative to Unit 2.

The Level 1 Working Schedule for each of the Remaining Units' refurbishment outages are provided as attachments.

[1] Schedule logic refers to the logical interrelationships between activities and milestones in the schedule. Specifically, that all of the predecessor activities required to facilitate completion of a successor activity are scheduled appropriately. For example, for fluid containing systems, all activities required to ensure that that system is airtight or watertight (depending on the system), including all appropriate testing, must be completed before the system is filled with fluid.

2.0 SCHEDULE DEVELOPMENT AND MANAGEMENT

OPG developed and maintains a fully integrated Program schedule that reflects the total estimated duration of the individual tasks included within the Program scope. The integrated Program schedule includes the individual Remaining Units' refurbishment schedules and is a critical tool used to properly strategize, plan and prepare for upcoming project work, determine resource requirements, understand how work is progressing and apply corrective actions if, and when, required.

2.1 Schedule Development and Management at the RQE

The overall planning and scheduling process involves two major stages.[2] These stages are: (1) formation of the baseline schedule; and (2) schedule management, including monitoring, analysis, reporting, and risk mitigation.

2.1.1 Formation of the Baseline Schedule

OPG developed the baseline schedule in multiple phases leading up to the RQE. During the development of the RQE, OPG project teams established a work breakdown structure that was deliverable-oriented and addressed all of the project work, down to the individual work package level. The work breakdown structure aligned with the corresponding contracting strategies so that work scope, budgets and contractual rights and obligations were clearly and fairly allocated between OPG and its contractors. OPG and its contractors then collaborated to develop detailed schedules with inputs from appropriate project stakeholders, employing a multi-level scheduling framework.

These detailed schedules included:

- the scope of work to be completed;
- identification of all key activities including their start and finish dates, duration and resources required;
- the sequence and logical interrelationship of activities and milestones; and,
- identification and optimization of the critical path.

[2] EB-2016-0152, Ex. D2-2-6.

After development of the initial schedules, project team members and key project stakeholders reviewed them through an iterative process and approved them when they met process and quality requirements. These reviews considered technical constraints, project and Program constraints, milestones, resource requirements, and critical path approving the schedules.

As noted in Ex. D2-2-2, and previously in EB-2016-0152, OPG utilizes two schedules: (1) a Working Schedule; and, (2) a High Confidence Schedule. The Working Schedule is based on best estimates of the time required to complete the scheduled work tasks and is of shorter duration than the High Confidence Schedule. The Working Schedule is used to manage day-to-day activities, allowing for early escalation of issues, and is used by OPG to calculate performance metrics, e.g., the Schedule Performance Index.

The High Confidence Schedule includes schedule contingency amounts that are determined based on a detailed evaluation of risks and uncertainties for critical path activities in the schedule. OPG's commitments to its Board of Directors and to external stakeholders, such as the Independent Electricity System Operator, are based on the High Confidence Schedule. The High Confidence Schedules for Units 3, 1, and 4 are the underlying basis for OPG's 2020-2026 Business Plan and, therefore, of the approvals requested in this application. In EB-2016-0152, the Unit 2 High Confidence Schedule underpinned OPG's requested approvals and the amounts the OEB approved for Unit 2.

2.1.2 Schedule Management

To facilitate schedule management and control, OPG prepares project schedules with up to four levels of detail, from Level "0", which contains the Program milestones managed by OPG and which identify the major deliverables and timelines for the overall DRP, to Level "3", which shows individual work components at the task level. See Attachment 1 for an explanation of the multi-level scheduling approach used by OPG.

An accurate, detailed and realistic schedule facilitates risk mitigation because it allows precise monitoring of progress. Progress monitoring against the Working Schedule allows for early identification of potential schedule deviations, whether delays or early completion of activities,

and the development of strategies and appropriate adjustments to upcoming activities. Examples of these adjustments are:

1. Reallocation of resources as required to address emergent issues;
2. Revising the timing of onboarding of resources for upcoming activities;
3. Reviewing and potentially revising the schedule logic for upcoming activities; and,
4. Re-assessments to determine if certain activities, which had been planned to be executed in series, could be fully or partially executed in parallel.

During the execution of Unit 2, OPG employed all of the above listed actions at various times to adjust the schedule to reflect the impact of delays or early completion of specific work activities, and to help manage unforeseen challenges. The actions taken on Unit 2 informed the schedules for the Remaining Units. Section 3.2 explains the important role that such information played in the refinement of the schedules for the Remaining Units.

3.0 REMAINING UNITS SCHEDULE

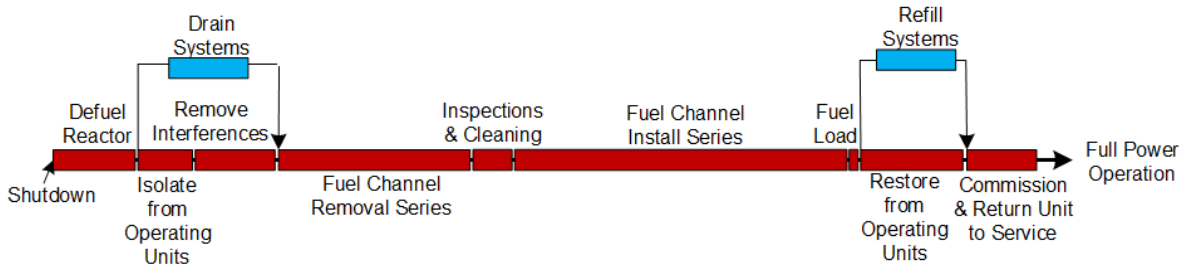
This section presents the changes to the Program schedule and explains the drivers behind those changes. It addresses the process used to refine the individual units' working schedules, by using phased milestones established for schedule development and introducing refinements for the Remaining Units.

Figure 1 shows a simplified overview of the major critical path steps in the schedule of refurbishing a unit. The critical path refers to the longest sequence of activities in a project plan that must be completed on schedule for the timely delivery of the overall project. Subsequent activities on the critical path cannot be started until predecessor activities are complete. For example, if an activity on the critical path were completed one day earlier than planned, the entire project would be completed one day ahead of plan, provided all subsequent critical path activities were completed in their planned durations. As shown in Figure 1, the major critical path steps are:

- Reactor shutdown
- Defuel reactor
- Drain systems and isolate from containment (and the other operating units)

- Fuel channel removal, inspection and cleaning and installation (includes feeder removal and installation)
- Refuel
- Refill and re-establish normal containment boundary
- Commission and return to service

Figure 1: Major Steps in Refurbishing a Darlington Nuclear Unit



As part of the planning efforts described in Ex. D2-2-3:

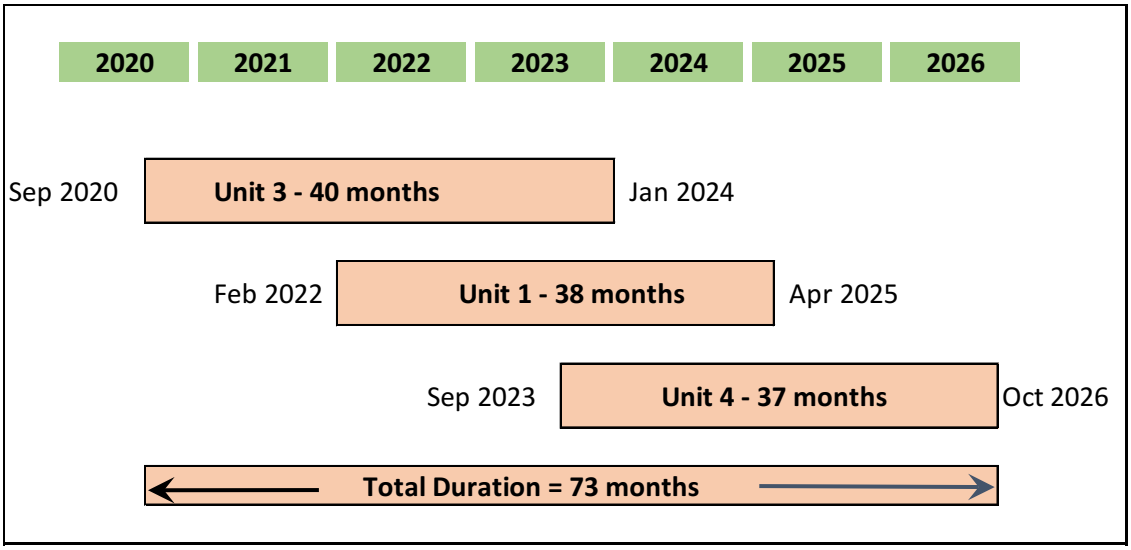
1. The Program schedule (planned start dates and end dates and milestones for each of the Remaining Units) has been updated; and
2. The Working and High Confidence Schedules for each of the Remaining Units have been updated.

3.1 Remaining Units Program Schedule

Figure 2 shows the Program's High Confidence Schedule per the final Unit 3 Execution Estimate ("U3EE").[3]

[3] As discussed in Ex. D2-2-3, the final U3EE reflects the schedule impact of OPG's response actions to COVID-19 that included deferring the start date of the Unit 3 refurbishment in 2020 and correspondingly revising the start dates for Units 1 and 4.

Figure 2: High Confidence Schedule at Final U3EE



The main drivers of the changes from the RQE/U2EE schedule to the final U3EE schedule were the slight delay to the completion of Unit 2 and the deferrals of the start dates of each of the Remaining Units in response to the COVID-19 pandemic. In response to the Unit 2 delayed finish, OPG had made a strategic decision to defer the start of Unit 3 in order to manage resources and to avoid introducing risks into the last segment of the Unit 2 refurbishment outage. OPG also managed the risks to the overall Program by similarly moving the Unit 1 and Unit 4 start dates to avoid potential schedule logic and resource conflicts risks. In response to the COVID-19 pandemic, OPG decided to further shift the start date of the refurbishment outage of Unit 3, by four months, to September 2020.[4] This decision also necessitated a corresponding shift in the start dates of the Units 1 and 4 refurbishment outages by four months.[5]

3.2 Unit Schedules – Development and Refinement

As discussed in Ex. D2-2-3 (Section 3.3), a set of integrated Program, Segment and Window Milestones were established to manage and monitor the progress of planning for each of the

[4] The Unit 3 refurbishment outage is now in progress, with an actual start date of September 3, 2020.

[5] As a result of the deferred DRP schedule, OPG moved a regular planned outage from 2020 to 2021 and also added a regular planned outage in 2021 to support Unit 4 operation until its start of refurbishment. See Ex. E2-1-2 for further discussion.

Remaining Units. As a part of that process, milestones were established to manage and monitor the progress of schedule development.

The schedule evolves through four formal revisions with an increasing level of rigour and detail in each revision. The timing and level of detail required in each of these schedules is specified in OPG's Refurbishment Unit Planning Milestones Governance (Ex. D2-2-3, Attachment 2). At a high-level, the four formal revisions of the schedule for each unit's refurbishment result in progression from a Level 1 schedule overview depicting the key components of the critical path and providing the overall duration and layout of the unit's refurbishment outage, to a Level 3 schedule with full details of the critical path, major maintenance and modification activities, and including detailed scripting of work sequences. This schedule, known as Revision 0,[6] serves as the baseline schedule against which performance will be measured. Each revision of the schedule also supports the evolution of the cost estimates for each unit.

Refinement of the individual schedules for the Remaining Units is focused on four main areas:

1. Incorporating Lessons Learned from the work executed to date;
2. Incorporating Strategic Improvements;
3. Developing robust schedule logic, resources and duration for the new turbine generator controls scope in the Remaining Units, and identifying and mitigating the risks introduced by this new scope; and
4. Examining the periods where unit refurbishment outages overlap to ensure that there are no unacceptable plant configurations, resource conflicts, or other logistical conflicts.

Each of these areas is elaborated upon in Sections 3.2.1 to 3.2.4 below.

3.2.1 Lessons Learned

The process of incorporating Lessons Learned in planning for the Program is detailed in Ex. D2-2-3, Section 4. Specific to scheduling, the Lessons Learned exercises conducted after

[6] Because of the changes to the Unit 3 start date, the baseline schedule for Unit 3 is a Revision 2 schedule. See Attachment 2.

completion of each Unit 2 execution work activity were of critical importance in informing the development of the Remaining Units' schedules.

As explained in Ex. D2-2-3, Section 4, the Lessons Learned program examined each completed work activity for Unit 2, with a particular focus on critical path activities, to understand in detail the drivers of good performance (for those activities that took less time than scheduled), and the causes of below target performance (for those activities where actual durations exceeded the planned durations). This detailed understanding of the underlying reasons for better than plan or worse than plan performance on Unit 2 work activities, facilitated adjustments to the planned durations of similar activities in each of the Remaining Units' schedules. When compared to the original planned durations at the RQE/U2EE, the planned duration of activities was reduced in some instances and increased in others.

In performing the detailed analysis of work activities on Unit 2, there was a particular focus on understanding the causes of any delays in work execution as well as the causes of lower-than-plan or higher-than-plan productivity. Many delays were assessed to be one-time events and, therefore, not expected to recur on the Remaining Units. The remaining delays were reviewed to refine the assumptions about how an activity would be completed and, therefore, to adjust the planned duration for that activity in the Remaining Units' schedules.

OPG reviewed the causes of higher-than-plan and lower-than-plan productivity on Unit 2 work activities, particularly critical path activities, in depth. Where higher-than-plan productivity rates were assessed to be fully or partially repeatable on the Remaining Units, these rates were then either partially or fully built into duration assessments for similar activities on the Remaining Units. Where lower-than-plan productivity was achieved, tactical changes (e.g., changes to work procedures) were implemented to facilitate increased productivity for similar activities on the Remaining Units. Section 3.2.2 below discusses three specific Strategic Improvements which are expected to reduce delays and to drive increased productivity on the Remaining Units.

3.2.2 Strategic Improvements

OPG is implementing, or has implemented, a number of Strategic Improvements for the Remaining Units which have more overarching impacts on the Program than the typical Lessons Learned. Six Strategic Improvements are described in Ex. D2-2-3, Section 5. Three of the Strategic Improvements which have positively impacted schedule are explained below:

- Radiation Protection Improvements: Improvements to radiation protection are a major contributor to schedule improvements. Over one hundred specific actions have been implemented under the Radiation Protection Strategic Improvement (Ex. D2-2-3, Section 5.1.4), the majority of which aim to eliminate or reduce delays. Examples of these actions include: (1) ensuring that the demand for radiation protection coordinators is integrated into the schedule and tied to specific tasks which require a radiation exposure permit, thereby eliminating delays caused by the lack of a radiation protection coordinator; (2) implementing self-issue of electronic personal dosimeters to reduce the wait times for field personnel who require radiation dose measuring instruments to perform their work; (3) developing a new qualification and changing procedures to allow contractors to perform self-protection for low risk activities.
- Training: The focus of the Training Strategic Improvement (Ex. D2-2-3, Section 5.1.5) is to improve productivity. Specific examples are: (1) intensively training a smaller group on troubleshooting, and the ability to understand the intricacies of the work series, contingencies, the tooling, and the overall process (facilitated by implementation of the hybrid schedule as discussed in the next bullet); and, (2) better aligning training schedules with execution schedules, thereby having the training fresh in the minds of the tradespersons as they prepare to execute the tasks in the field.
- Hybrid Schedule: A significant focus of the implementation of the Hybrid Schedule Strategic Improvement (see Ex. D2-2-3, Section 5.1.6 for a detailed discussion) is on achieving improved productivity on the Remaining Units. Two examples are: (1) the Hybrid Schedule will require fewer trades to be trained and allow more time for training on the reactor mock-up, which will result in improved task execution proficiency; and (2) the Hybrid Schedule will mean that each tradesperson will spend more time in the field in experiential learning, which is expected to result in a shorter learning curve, as well as higher, and more sustained, peak performance.

3.2.3 Developing Robust Schedule Logic

OPG employs many processes to verify the quality of its schedules and improve the robustness of the schedule logic.

A key process is a review of the work which is scheduled to be done in parallel, with particular focus on periods when there is more than one work team scheduled to work in the same area of the plant. These reviews, known as vertical slice reviews, identify potential conflicts in very specific work areas of the plant (e.g., the North-East Reactor Vault, Elevation 104). In a workshop setting, all of the stakeholders involved in executing the work activities review the schedule in detail. Conflicts can arise in many ways when more than one work group is scheduled to work in the same area. For example, conflicts may arise in the use of breathing air, when radiography is scheduled (radiography interrupts the work of other work groups), in electrical needs for the different work packages, and in radiation protection requirements.

During the latter stages of the Unit 2 refurbishment outage, OPG deployed for the first time a technique known as “4D scheduling.” This technique utilizes computer graphics to create a visual simulation of an area of the plant or a piece of major equipment. The visual simulation is tied to, and driven by, the schedule logic built for that particular activity. Using this technique allows the people who are planning and executing the work to view a simulation of the sequence of activities in the schedule prior to executing the activities in the field, thereby becoming better equipped to identify and resolve potential issues. An additional benefit of 4D scheduling is that it can be used to improve the training for a sequence of activities.

Another on-going process reviews the optimal timing of efficient work package execution. This process particularly applies to work that is off critical path, where greater flexibility exists to review and make adjustments to the sequence of work activities. Reviews are conducted frequently to identify work that could be completed earlier in the refurbishment outages of the Remaining Units, which would reduce the risk of this work becoming critical path. For example, opportunities are regularly assessed to maximize any work that could be done on each unit before breaker open, thereby reducing risks associated with the volume of work, and facilitating a more manageable work load and resource profile, during the refurbishment outage itself.

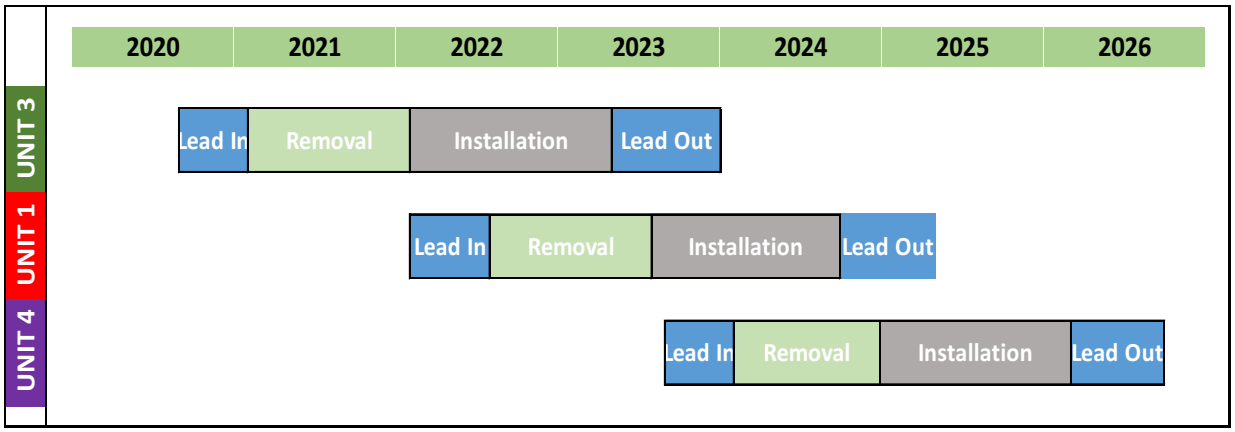
3.2.4 Reviewing the Overlapped Periods

The degree of overlap between the prior and subsequent unit refurbishments is subject to a number of constraints that must be evaluated in detail. For example, bulkhead installation on a unit that is being readied for the mechanical removal of the fuel channels and feeders (Segment 1 - Lead In - Defuelling and Containment Isolation) cannot take place concurrently with bulkhead removal on a unit that is being prepared to be returned to service (Segment 4 - Plant Restoration Start-up) because of reactor safety considerations.

Potential resource constraints also must be taken into account. For example, work activities across units that are operator intensive should not overlap to a degree that would cause operator resource availability to affect execution. Also, scheduling two infrequently performed technical evolutions at the same time, requires carefully assessing the executing organizations' capacity to undertake those evolutions safely and with quality, and determining whether changes to the schedule may be necessary to mitigate risk.

A Strategic Improvement directly related to managing overlapping refurbishment outages is Workstream Specialization, which was introduced in Ex. D2-2-3, Section 5.1.1, and is explained in detail in Ex. D2-2-8, Section 2.2. Workstream Specialization involves the development of highly trained specialized work crews to execute the same series of work by moving directly from one unit's refurbishment outage to the next. For example, this sequencing of work allows the crew which has just completed the feeder removal series of work activities on one unit, to move to the next unit and complete the same series. The expectation is that this team will continuously improve their high proficiency levels through specialization and repetition. Implementation of Workstream Specialization requires careful attention to how activities are overlapped. Figure 3 shows that similar segments of consecutive refurbishment outages on the Remaining Units are never overlapped, thereby allowing the same team to execute the same work on each of the Remaining Units.

Figure 3: Remaining Units Schedule Showing No Overlaps of Lead In, Removal, Installation and Lead Out Work Activities on Consecutive Units



3.3 Remaining Units Schedules

Chart 1 provides the High Confidence Schedule dates and durations for the Remaining Units. High confidence durations have not changed since RQE.

Chart 1: High Confidence Schedule Dates for Units 3, 1, and 4 Refurbishments

High Confidence Schedule			
	Start	End	Duration (Months)
Unit 3	3-Sep-2020[7]	2-Jan-2024	40
Unit 1	15-Feb-2022	18-Apr-2025	38
Unit 4	15-Sep-2023	16-Oct-2026	37

The Level 1 Working Schedules for the Remaining Units with details of the planned start dates, durations, end dates and of critical path activities are provided as Attachments 3, 4, and 5 for Units 3, 1, and 4 respectively. These are the high-level Working Schedules that OPG uses to manage day-to-day performance on the unit refurbishment outages.

[7] Actual start date of the Unit 3 refurbishment outage.

3.4 Unit-Over-Unit Efficiencies

As shown in Chart 1, and consistent with the RQE and U2EE, OPG is planning to achieve improvements in the High Confidence Schedule durations as the refurbishment outages of Units 3, 1, and 4 are executed. The planned High Confidence durations decrease from 40 months on Unit 3, to 38 months on Unit 1, to 37 months on Unit 4. Given the actual achieved duration of just over 43.5 months on Unit 2, these planned durations represent substantial improvements of 3.5 months, 5.5 months and 6.5 months for Units 3, 1, and 4 respectively, when compared to Unit 2.

Similarly, the Working Schedules for Units 3, 1, and 4, which OPG will use to manage day-to-day performance on the unit refurbishment outages, are 36 months, 33 months, and 32 months respectively. These durations represent improvements of 7.5 months, 10.5 months and 11.5 months for Units 3, 1, and 4 respectively, when compared to the actual achieved duration of just over 43.5 months on Unit 2.

Chart 2 shows a high-level comparison of the planned durations of major critical path work activities for Unit 3 versus the durations achieved on the same activities on Unit 2.

Chart 2: Major Critical Path Series on Unit 3
Planned Improvements versus Unit 2 Actuals[8]

	Shutdown and Defuelling	Vault Prepara-tion	Feeder Removal	Fuel Channel Removal	Calandria Tube Installation	Fuel Channel Installation	Feeder Installation	Vault Restora-tion	Run-up and Syn-chronize	Total
Days Difference	-1	-35	-4	-58	-32	-30	-63	-17	12	-230
Improvement	2%	19%	6%	26%	18%	19%	30%	9%	-49%	17%

Chart 2 shows Working Schedule planned durations for Unit 3 being shorter than the Unit 2 actual achieved durations in 7 of the 8 major phases. On a plan-versus-plan basis however, not all activities for Unit 3 are being planned with shorter execution durations than those achieved on Unit 2. Chart 3 provides examples of select critical path work activities which are

[8] The Unit 2 actuals are compared against the planned durations in the Unit 3 Working Schedule.

planned to be shorter, and examples of activities planned to be longer for the Unit 3 plan compared to the Unit 2 plan.

Chart 3: Select Examples of Critical Path Durations - Unit 3 Plan vs. Unit 2 Plan

Unit 3 Critical Path Activities Forecast Shorter than U2	Days	Unit 3 Critical Path Activities Forecast Longer than U2	Days
Defuel Reactor	-23	Bulkhead Installation	+8
Install Shielding	-19	Remove Bridge/Install Retube Tooling Platform	+13
Pressure Tube Removal*	-34	End Fitting Removal	+10
Calandria Tube Insert Release	-8	Lower Feeder Installation	+47
Tube Sheet Bore Cleaning	-7	Lower Body Tubing Install	+31
Airlock Close and Pressure Test	-10		
Bulkhead Removal	-7		

*Pressure Tube Removal will be done concurrently with Calandria Tube Removal for Unit 3, saving 34 days on the schedule compared to Unit 2. This Darlington 3 Innovations Project Strategic Improvement is described in Ex. D2-2-3, Section 5.1.3.

Contributing to OPG's confidence in achieving Unit-over-Unit efficiencies is OPG's implementation of the Hybrid Schedule for the Remaining Units. In the Hybrid Schedule, the number of working days are fewer than the elapsed calendar days. As discussed in Ex. D2-2-3, for those work activities executed utilizing a 24 hours per day/5 days per week schedule, weekends provide opportunities to perform near critical path work and to recover lost time on critical path, as required. For example, in the case of Unit 3, the number of elapsed days in the Working Schedule of 36 months, is 1,096 calendar days; however, the number of working days is 930 days. Sections 3.2.1 and 3.2.2 explain that the application of Lessons Learned and the implementation of Strategic Improvements are expected to address challenges experienced on Unit 2 and to result in improved productivity. In addition, Ex. D2-2-3, Section 5.1.3 describes the Darlington Unit 3 Innovations Project ("D3IP") Strategic Improvement.

Chart 4 summarizes OPG's analysis of the contributors to the improved schedule duration for Unit 3. Comparing the planned High Confidence Schedule duration for Unit 3 of 1216 days to the achieved duration of 1,328 days for Unit 2, the difference is 112 days. Comparing the planned Working Schedule duration for Unit 3 of 1096 days to the achieved duration of 1,328

days for Unit 2, the difference is 232 days. Comparing the planned working days for Unit 3 of 930 days to the achieved duration of 1,328 days for Unit 2, the difference is 398 days.

Chart 4: Contributors to Unit-Over-Unit Efficiencies - Unit 2 Actual vs. Unit 3 Planned

	Days
Unit 2 Achieved Duration	**1328**
Forecast Improvements for Unit 3	
Resolved Challenges (i.e. not expected to recur)	205
Performance Improvements (Productivity)	115
D3IP Tooling/Methods Improvement	78
Unit 3 Planned Working Days	**930**
Unit 3 Planned Working Schedule (Calendar Days)	**1096**
Unit 3 Planned High Confidence Schedule (Calendar Days)	**1216**

Resolved challenges are issues that were experienced on Unit 2 that are not expected to recur because, utilizing Lessons Learned, mitigation has been put in place or procedures modified to avoid the occurrence of these items. Chart 4 shows a reduction of 205 days from resolved challenges when comparing Unit 3 planned working days to Unit 2 actuals. Some examples of these resolved challenges and the resulting reduction in the number of days are: (a) feeder installation challenges because of welding issues (99 days); (b) fuel channel installation delays due to various issues such as hoisting and tooling breakdowns (58 days); (c) calandria tube installation delays due to various issues such as leak testing and issues with positioning the tubes (15 days); and, (d) bulkhead installation delays attributed to issues related to counter balance lifting beam (16 days).

OPG is forecasting performance or productivity improvements totalling 115 days through the application of Lessons Learned and the implementation of Strategic Improvements when comparing Unit 3 planned working days to Unit 2 actuals. Some examples of the number of schedule improvement days for certain work activities, include: (a) the fuel channel install

series (30 days); (b) calandria tube removal, tube sheet bore cleaning and bellows inspections (10 days).

The improved tooling initiatives under the D3IP are expected to yield a total of 78 days improvement. The contributors to this 78 day improvement are: (a) pressure tube and calandria tube combined removal (34 days); (b) modified installation worktables (36 days); (c) use of double tool sets (4 days), and; (d) bellows cut tool enhancement (4 days).

In conclusion, OPG has carefully developed the schedules for the Remaining Units, based on detailed analysis of its actual performance on Unit 2, and the application of Lessons Learned and Strategic Improvements. OPG has high confidence in being able to achieve the forecasted unit-over-unit efficiencies and overall duration improvements reflected in these schedules.

ATTACHMENTS

Attachment 1:	OPG's Multi-Level Scheduling Approach
Attachment 2:	Unit 3 Level 1 Working Schedule
Attachment 3:	Unit 1 Level 1 Working Schedule
Attachment 4:	Unit 4 Level 1 Working Schedule