Attachment 1: OPG's Multi-level Scheduling Approach

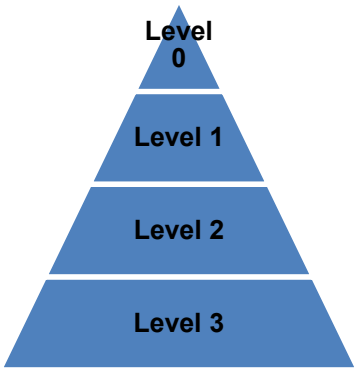
The ability to validate, integrate, oversee and ultimately to retain control over the program schedule is one of the key factors that has driven OPG's Darlington Refurbishment Program ("DRP") strategy. OPG developed a fully integrated Program schedule, which incorporates the project schedules for each of the major work bundles that are detailed down to the individual work packages and work tasks within each bundle. OPG effectively leverages the control it retains over the Program schedule to ensure Program success since the schedule has a direct impact on Program costs. This Attachment describes OPG's multi-level scheduling approach.

Multi-level Scheduling Approach

Based on recommended practices, OPG established its initial schedule using a multi-level scheduling approach. OPG continues to apply the same approach as the schedule is redeveloped and refined. As shown in Figure 1 below, project schedules are prepared 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. For example, projects where most of the work will be performed by contractors utilize detailed Level 3 schedules. OPG as the owner performs project management and control activities utilizing Level 0 to 2 schedules.

Figure 1

Multi-level Scheduling Framework



	Level 0: Program Milestone Schedule, controlled by OPG Senior Management.
	Level 1: Program Integrated Master Schedule, controlled by OPG Senior Management. Program Level 1 contains all Control Accounts from all Projects as well as for Program Management work.
	Level 2: Program Coordination & Control Schedules, controlled by OPG Program/Project teams. Program Level 2 contains all Work Packages in the Program and they are interrelated.
	Level 3: Project Detailed Production Schedules, controlled at the project level, by contractors or OPG (for OPG executed projects).

Level 0 consists of the *Program/Project Milestone Schedule*, and is used by OPG senior management to provide the basis for establishing the master schedule. This includes program release milestones, regulatory milestones, outage preparation milestones and outage execution milestones.

The Level 1 schedule is the *Program/Project Integrated Master Schedule* that contains particular work scopes, a time window and a responsible organization. The Level 1 schedule provides a high-level management summary of the Program or project, represents all units, phases and bundles, and is used by project managers, contractors and scheduling functions.

Level 2 schedules are the *Program/Project Coordination & Control Schedules*. This is the schedule used by OPG to track the overall status of the Program. It is updated and controlled by OPG and is based on the contractors' detailed Level 3 schedules.

Level 3 schedules are *Program/Project Detailed Production Schedules* which further break down work into detailed activities. Level 3 schedules are prepared by the group executing the work (typically by contractors, and in some cases by OPG where OPG is self-performing work). The lowest level of tasks to be executed are developed here.

Once approved, schedules are 'baselined' by the project owners as a benchmark for measuring implementation performance. Baselined schedules are archived and are not modified, except by means of a re-baselining process involving cost and schedule analysis and only through authorized change control.