**Directorate Name (acronym)**

**Program Name (acronym)**

**Project Name (acronym)**

**Schedule Management Plan**

**NASA Program/Project Scheduler: Scheduler Name**

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**Program/Project Acronym-SMP-YYYYMMDD**

**Version X**

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**Note:** This text format indicates text that must be included in every SMP. *This text format is guidance for what should appear in a specific section.*

# Schedule Management Plan Purpose

The purpose of this Schedule Management Plan (SMP) is to provide a description of the processes and procedures necessary to manage the *P/p Name* schedule according to best practices throughout the life cycle. This includes guidance for the design, development, and implementation of all Schedule Management sub-functions. The SMP also provides information on methodologies, techniques, and tools that will should use to produce the required Schedule Management products for the entire *P/p Name* life cycle.

According to the NASA Schedule Management Handbook, “it is a best practice for an SMP to be developed, which defines and explains all aspects needed for managing the P/p schedule scope, including:

* Agency, P/p, Organizational, and Environmental requirements, goals, objectives, and assumptions, as well as internal/external stakeholder priorities, scope of work, roles and responsibilities;
* Establishment of schedule management strategies and processes, that are clear, concise, and descriptive, including:
  + Estimating and development scope, methods, tools, and techniques (including establishment of schedule margin and cost reserves),
  + Assessment and analysis scope, methods, tools, and techniques,
  + Maintenance and control scope (including partners, agreements, etc.), methods, tools, and techniques (including basis for managing scope and schedule margin, process for managing changes and/or replanning, as well as descope trigger points identified), and
  + Documentation and communication/reporting methods (including activity codes), frequency, tools, and necessary P/p personnel interactions.”

The SMP contains four sub-plans: (1) a Schedule Development Plan, (2) a Schedule Analysis and Assessment Plan, (3) a Schedule Maintenance and Control Plan, and (4) a Schedule Documentation and Communication Plan.

*Add additional text as needed. Processes and procedures defined herein should be to the level that another Planner/Scheduler (P/S) or Schedule Analyst could understand the Schedule Management function for this P/p with minimal direction. This is not an instructional document on how to do the P/S’s and/or Schedule Analyst’s job for the P/p. The level of definition for this document should be at a point where anyone inside or outside of the P/p (non-P/S/Schedule Analysts, Independent Assessment teams, etc.) can read and be assured that all aspects of managing the schedule have been considered. When the SMP is complete, the P/p will have a detailed plan to develop and execute the Schedule Management function for the P/p.*

*This is a living document that should be reviewed at least annually or just prior to each major review. In general, the SMP should be consistent with the best practices described in the NASA Schedule Management Handbook; if disconnects from NASA guidance are determined to be appropriate for the P/p, it should be noted in the appropriate sections of the SMP with the associated rationale.*

# Reference Documents

NASA/SP-2010-3403, NASA Schedule Management Handbook

NPD 1000.0A, NASA Governance and Strategic Management Handbook

NPD 7120.4C, Program/Project Management

NPD 1000.5, Policy for NASA Acquisition

NPR 7120.5, NASA Space Flight Program and Project Management Requirements

NPR 7120.8, NASA Research and Technology Program and Project Management Requirements

*Identify other P/p reference documents used to develop and manage the schedule, such as* *NPRs,* *P/p Plans, NASA Handbooks, etc.*

# *P/p Name* Overview

*Provide a summary about the Program/project (P/p) as it relates to Schedule Management to briefly identify:*

* *the organization the P/p falls under (e.g., Mission Directorate, Program Office, etc.), as well as the Centers and/or other entities involved in the P/p*
* *an organizational chart showing the residence of the Schedule Management function within the P/p*
* *the P/p needs, goals, and objectives and how they contribute to the Agency’s needs, goals, and objectives*
* *Agency requirements and guidelines (Formulation Authorization Document (FAD), (Program Commitment Agreement (PCA), Program Formulation Agreement (PFA), P/p plan, P/p Budget, Technical/Schedule/Cost Control Plan)*
* *the technologies being developed and what hardware is being delivered (for 7120.5 P/ps)*
* *the technology development and associated TRL the P/p will attain (for 7120.8 P/ps, if applicable)*
* *the research products (for 7120.8 P/ps, if applicable)*
* *general description of what will make the P/p successful*
* *technical challenges*
* *programmatic constraints (i.e., budget caps, tight schedule windows, etc.)*
* *external requirements and/or deadlines*

*Possible additional source documents include: P/p Plan along with internal and external requirements documents, such as the P/p Work Breakdown Structure (WBS), WBS Dictionary, Organizational Breakdown Structure (OBS), Cost Breakdown Structure (CBS), Acquisition Plan, Verification Plan, Request for Proposal, Statement of Work (SOW)/contracts, Data Requirements Descriptions (DRDs)\*, other external agreements, including international partnership agreement, including MOUs, MOAs, mission concepts, trade studies, system requirements, test and verification requirements, safety requirements, hardware and software specifications, system design, interface design, tooling requirements/design, manufacturing standards, unique P/p ground rules and assumptions (GR&As), known risks, etc.*

*\*If DRDs exists, include them as appendices to the SMP.*

# Roles and Responsibilities

The execution of the Schedule Management function is the responsibility of the Program/project Planning and Control (PP&C) team. *Reference the Schedule Management Handbook to understand the general roles and responsibilities related to Schedule Management. Provide a list of the key personnel associated with the P/p’s Schedule Management function.*

|  |  |  |
| --- | --- | --- |
| Role | Name | Responsibilities |
| P/p Manager | *PM Name* | *Example: Assumes overall responsibility for Schedule Management. Approval authority for schedule baseline.* |
| Planner/Scheduler (P/S) |  |  |
| Schedule Analyst |  |  |
| Change Control Board Chair |  |  |
| Change Control Board Members |  |  |
| Schedule Analyst |  |  |
| *P/p Element* POC |  |  |
| *P/p Element* POC |  |  |
|  |  |  |

# Schedule Development Plan

*Prepare a Schedule Development Plan that time-phases the activities necessary to build the scheduling capability complete with the reporting processes and tools. The Schedule Development Plan should be completed early in Pre-phase A, and a full-up capability operational at the end of Pre-phase A to support the scheduling activities needed in Phase A.*

*Reference the Schedule Management Handbook to clearly understand the details of Schedule Development, including the data, methods, and tools necessary to build the Schedule Database to produce the P/p schedule.*

*Identify the Schedule Outputs needed, such as:*

* *IMS*
* *Summary Schedule*
* *Analysis Schedule*
* *Schedule Performance Measures/Reports*

*Reference the Schedule Management Handbook to clearly understand the details of the BoE, what it is, and the methods employed for determination and documentation. Document how the content contained in the SMP supports the P/p Schedule BoE. Identify how the P/p will maintain currency of the BoE throughout the P/p life cycle.*

*If the P/p is part of a larger P/p, provide context about how the supporting schedule content is traceable to the IMS. If the P/p has sub-elements that will provide schedule content, explain how the content is traceable to the IMS (e.g., see Schedule Management Handbook for guidance on IMS development techniques used to integrate P/p content into a P/p IMS).*

*Include an estimate of the resources and skill level needed for executing Schedule Development over the life cycle of the P/p.*

## Schedule Development Tools

*Identify the scheduling tool selected for the development of the IMS (e.g., MS Project version). Identify other supplemental tools needed (e.g., Milestone Pro for reporting, specialty software applications for MS Excel for creating receivable/deliverable interfaces, outputs, etc.).*

*For all tools, provide rationale for their use and explanation of what Schedule Outputs they provide/support. Identify tool needs assumptions (e.g., quantity, site licenses needed, etc.). Develop a make/buy plan for all tools. Enough information must be provided to estimate purchase and initiate in-house builds. For example, for commercial off-the-shelf (COTS) tools, estimate the number of licenses and cost for each tool.*

## Activity Attributes/Field Codes

*Activity Attributes are used to assign data fields, or field codes, in the scheduling software. Establishing all the attributes of the activities also facilitates the interface with the Earned Value Management System (EVMS) and facilitates the construction of the Basis of Estimate (BoE) by defining the data needed for the activity.*

*Following the guidance in the Schedule Management Handbook, build and document a table of Activity Attributes. Allocate attributes to fields in the scheduling software. Include a field code table or matrix as an appendix. Identify how the P/p will maintain currency of the Activity Attributes throughout the P/p life cycle.*

## Scheduling Method and Techniques

*Describe how CPM scheduling is implemented for the overall P/p schedule, to facilitate the development of an IMS that includes all P/p elements and interfaces. Include rationale for any modifications to the standard CPM approach (e.g., progressive elaboration, etc.). Document the rationale for any portions of the schedule that use alternate scheduling methods (e.g., Agile) in the BoE. Use diagrams if necessary to clearly define.*

## Schedule Hierarchy

*Discuss how the IMS is structured. Because the IMS requires traceability to the WBS, it is important to include rationale for any activity flows that are not organized according to the WBS hierarchy/numbering scheme. Providing justification for the hierarchy used in the schedule will aid in resource allocation and understanding the critical path, as well as tracing accountability to the appropriate Technical Leads.*

## Activity Naming Convention

*Define the naming convention used for activities and milestones in the IMS. Consistency in the naming approach supports the alignment of the IMS with the WBS. It also aids in traceability of activities for Assessment and Analysis, and the tracking of activities for Maintenance and Control, and alignment of the IMS with the WBS.*

## P/p Scope

*Identify whether this schedule is integrated into a schedule at another NASA Center or whether other schedules are integrated into this schedule.*

*If the entire scope of work for the P/p was not included in the WBS and WBS Dictionary, identify the additional source documentation from which the P/p scope was determined for the development of the IMS. Include the WBS to Level 3 as an appendix.*

*Identify the P/p’s procurements and discuss how they are identified in the schedule. If procurements are not tracked in the schedule, note that. Address the different types of procurements such as: COTS/Hardware, Long Lead Items, External/Vendor Items and Software.*

*Identify and explain each contract and how they are captured in the P/p schedule.*

*The phase and maturity of a P/p often dictate how the scope is modeled in the schedule.* *Because the SMP is a living document, identify how the IMS will maintain currency of the P/p scope throughout the P/p life cycle as the P/p phase and maturity evolve.*

## Schedule Detail

*Discuss how milestones are acquired and agreed upon. Include the Milestone Registry as an appendix. Explain how different milestones are identified (e.g., Notification Milestones, Control Milestones, other contractual or acquisition milestones, life cycle milestones, etc.). Identify how the P/p will maintain the currency of the Milestone Registry throughout the P/p life cycle (e.g., how changes are tracked).*

*Identify all level-of-effort activities.*

*Identify any additional activities maintained in the IMS that do not specifically map back to the WBS and provide rationale for their inclusion in the IMS (e.g., external effort that impacts the IMS).*

*Document the expected schedule maturity and level of detail justification for each life cycle phase, especially where differences or inconsistencies exist among various schedule elements, as lack of adequate detail in any area of the schedule may affect performance measurements, critical path or driving path identification, or how uncertainty is applied when performing a schedule risk analysis.*

## Schedule Logic

*Define any in-house schedule handoffs, such as receivables/deliverables. Define any in-house interfaces, such as facility interfaces. Define any external NASA organization interfaces, such as multi-Center interfaces. Define contractor and partner schedule interfaces, such as contract deliverables. Create documents to control the data exchanges for software, hardware, and other data products. Include as Appendices to the SMP.*

*Document the rationale for non-standard dependencies between activities (e.g., relationships other than Finish-to-Start).*

*Document the rationale for the use of leads and/or lags.*

*Document the rationale for the use of constraints other than ASAP (e.g., to represent the way in which work is actually being performed).*

## Activity Durations

*Define time units that will be included in the schedule. Provide rationale for any time units other than “days”.*

*Define work calendars that will be included in the schedule.*

*Document the rationale for schedule estimating techniques and estimates themselves for each element of the schedule (e.g., driven by individual activity estimates or external requirements, etc.). Include assumptions related to activity estimates. Document the process for identifying and maintaining activity duration uncertainty parameters.*

*It is best if the BoEs are integrated or at least traceable to the cost BoEs; document the schedule and cost BoEs separately, but reference in the SMP.*

## Critical Path(s)

*Describe how the critical path(s) and driving paths are calculated. Identify the P/p’s critical path(s) (at least the top three) and other driving paths. If feasible, also include the critical paths for individual P/p elements (e.g., subsystems, instruments, etc.).*

## Schedule Margin

*Define the methods used in the establishment and allocation of schedule margin. Describe whether the identified margin in the IMS meets the “needed” amount of margin, either due to uncertainty and risks associated with the P/p’s plan (e.g., as determined through a schedule risk analysis or other analytical means) or according to established organizational standards or requirements.*

*Identify where margin is maintained in the schedule (e.g., where risks are identified, prior to key milestones/events, prior to end-time deliverables, etc.).*

*Discuss whether the P/p has budget available for the potential, eventual use of margin (i.e., to cover a reasonable workforce level through the duration of the schedule margin activity).*

## Resource/Cost Loading

*Discuss whether the schedule is resource or cost loaded. If so, document any assumptions related to the resource or cost loading, which may include rationale for the level at which resources or costs are loaded. Reference any source documentation for justification of the resources or costs loaded (e.g., WBS Dictionary, CBS, PPBE, independent cost estimates, resource rates, etc.).*

## Schedule Alignment with Funding

*Document any assumptions, or reference source documentation, associated with the available funding that impact the schedule, including any special circumstances related to how much budget is available and when.*

## Schedule Risks

*Explain how risks are collected and how they are identified in the schedule. Explain the interaction between the P/S and/or Schedule Analyst and the Risk Manager. Document the schedule’s risk parameter set and assumptions, including location with the IMS. Ensure that the risk list includes the appropriate set of acquisition or procurement risks that should be elevated to the P/p level.*

# Schedule Assessment and Analysis Plan

*Prepare a Schedule Assessment and Analysis Plan that time phases the activities necessary to perform assessment and analysis of the P/p schedule complete with the reporting processes and tools. Merge the routine assessments and analyses sub-functions with the P/p’s business rhythm. Where required, align with the P/p life cycle reviews.*

*Reference the Schedule Management Handbook to clearly understand the details of Schedule Assessment and Analysis, including the data, methods, and tools necessary to perform the sub-function.*

*Include an estimate of the resources and skill level needed for executing Schedule Assessment and Analysis over the life cycle of the P/p.*

## Schedule Assessment

*Reference the Schedule Management Handbook to clearly understand the reasons for and benefits of performing Schedule Assessment. Examples include:*

* *Requirements (compliance) Check – assess the schedule’s compliance with Agency and P/p requirements (e.g., the schedule aligns to P/p technical portfolio and there is traceability with the WBS, OBS, and P/p organizational structure)*
* *Schedule Health Check – assess the schedule’s overall integrity by gauging its health aligning with various general best practice categories (e.g., end-to-end logic exists; use of leads, lags, or constraints are valid, etc.)*
* *Risk Identification and Mapping Check – assess the existence and comprehensiveness of P/p schedule risks and their placement within the schedule’s structure*
* *Critical Path and Structural Check – assess the structural quality and fidelity of all possible critical paths and driving paths and compliance with horizontal traceability standards*
* *Basis Check – assess the justification of each discrete schedule element, including risks (e.g., duration estimates are traceable and defined)*
* *Resource Integration Assessment Check – assess whether the P/p’s budget, workforce, and cost estimates at any point in the P/p life cycle map to the corresponding IMS*

*Collect and document all requirements needed for Schedule Assessment. Specify what types of assessments should be performed and when, including the frequency, as well as triggers for performing non-routine assessments. (In general, most Schedule Assessment checks can and should be performed on a routine basis in conjunction with updates to the schedule through Schedule Maintenance.) Specify the Schedule Outputs needed from the assessments. Consider stakeholder as well as P/p needs for the reports.*

*Identify any necessary Schedule Assessment tools (e.g., SMART, STAT, Acumen Fuse, etc.). Identify any other specialty tools needed for Schedule Assessment. For all tools, provide rationale for their use and explanation of what Schedule Outputs they provide/support. Identify tool needs assumptions (e.g., quantity, site licenses needed, etc.). Develop a make/buy plan for all tools. Enough information must be provided to estimate purchase and initiate in-house builds. For example, for commercial off-the-shelf (COTS) tools, estimate the number of licenses and cost for each tool.*

## Schedule Analysis

*Reference the Schedule Management Handbook to clearly understand the reasons for and benefits of performing Schedule Analysis (i.e., schedule risk analysis). Examples include:*

* *Analysis of Alternatives – understand schedule options based on alternative workflows or alternative technical options*
* *Confidence Levels and Completion Ranges – understand the probability of meeting the planned schedule given the associated uncertainties and risks*
* *Joint Confidence Level (JCL) Analysis – understand the probability of meeting both the planned cost and the planned schedule given the associated uncertainties and risks*
* *Risk Sensitivity Analysis – understand risk drivers/risk prioritization, as well as schedule duration uncertainty sensitivity vs. schedule risk sensitivity*
* *Stochastic Critical Path Analysis – understand the “most likely” critical paths and driving paths given associated uncertainties and risks*
* *Allocation and Sufficiency of Margin – understand how much margin is necessary in the schedule to accommodate the impact of uncertainties and risks*

*Collect and document all requirements needed for Schedule Analysis. Specify what types of analyses should be performed and when, including the frequency, as well as triggers for performing non-routine analyses. Examples include, but are not limited to:*

* *At specified milestones to support the establishment of the baseline*
* *At specified milestones in preparation for reviews*
* *At regular intervals for tracking risk-based estimates-at-completion*
* *As regular intervals, or as specified, to support risk mitigation planning*
* *As specified to support Schedule Development to ensure sufficient margins*

*Collect data required for analysis:*

* *Collect schedule data and ensure suitability for analysis*
* *Collect uncertainty and risk data and ensure suitability for analysis*
* *Collect cost data and ensure suitability for analysis*
* *Collect schedule and cost performance data*

*Specify the Schedule Outputs needed from the analysis. Consider stakeholder as well as P/p needs for the reports.*

*For NPR 7120.5 required analysis, specific data products are specified in the NPR. Examples of required analysis products include, but are not limited to:*

* *Confidence Level plots and data tables*
* *Probability Density Functions and data tables*
* *Scatterplots and data tables*
* *Risk sensitivity indicators such as tornado charts*
* *Risk prioritization list*
* *Risk trends over time*

*Identify any necessary Schedule Analysis (i.e., schedule risk analysis) tools (e.g., JACS, Polaris, Primavera Risk Analysis, @Risk, etc.). Identify any other specialty tools needed for Schedule Analysis (e.g., interface applications to ensure the SRA tool can export the required data to support the reporting products). For all tools, provide rationale for their use and explanation of what Schedule Outputs they provide/support. Identify tool needs assumptions (e.g., quantity, site licenses needed, etc.). Develop a make/buy plan for all tools. Enough information must be provided to estimate purchase and initiate in-house builds. For example, for commercial off-the-shelf (COTS) tools, estimate the number of licenses and cost for each tool.*

# Create the Schedule Maintenance and Control Plan

*Prepare a Schedule Maintenance and Control Plan that time phases the activities necessary to perform the maintenance and control of the P/p schedule complete with the reporting processes and tools. Merge the routine maintenance and control sub-functions with the P/p’s business rhythm. Where required, align with the P/p life cycle reviews.*

*Reference the Schedule Management Handbook to clearly understand the details of Schedule Maintenance and Control, including the data, methods, and tools necessary to perform the sub-function.*

*Identify any necessary Schedule Maintenance and Control tools in addition to the P/p’s scheduling tool (e.g., interface tools with other PP&C functions such as Cost, Resource Management, Earned Value Management (EVM), and Risk Management, reporting/visualization tools, etc.). Identify any other specialty tools needed for Schedule Maintenance and Control. For all tools, provide rationale for their use and explanation of what Schedule Outputs they provide/support. Identify tool needs assumptions (e.g., quantity, site licenses needed, etc.). Develop a make/buy plan for all tools. Enough information must be provided to estimate purchase and initiate in-house builds. For example, for commercial off-the-shelf (COTS) tools, estimate the number of licenses and cost for each tool.*

*Include an estimate of the resources and skill level needed for executing Schedule Maintenance and Control over the life cycle of the P/p.*

*Collect and document all requirements needed for Schedule Maintenance and Control. Specify what types of maintenance and control activities should be performed and when, including the frequency, as well as triggers for performing non-routine maintenance and control processes. (Where appropriate, other P/p process documents can be referenced.) Integrate processes with the routine P/p review processes and the schedule management CM/DM process. Specify the data reports required. Consider stakeholder as well as P/p needs for the reports.*

*For Space Flight (NPR 7120.5) P/ps, a Technical, Schedule, Cost (TSC) Control plan is a required product at certain life cycle milestones. The TSC Plan documents, in an integrated manner, how the P/p plans to control requirements, technical design, schedule, and cost to achieve its high-level requirements. Baseline and threshold values will be established in the TSC Plan. The Schedule Control section of the SMP should be consistent with the TSC Plan.*

*Reference the Schedule Management Handbook to understand the breadth of performance measurement report formats.*

## Schedule Baseline

*Define the process to create the P/p’s schedule baseline. Include a description about the content to be baselined (e.g., the entire IMS, or a subset of the IMS - usually key contractual and programmatic (target) milestones). Document how the P/p’s schedule baseline corresponds to the Agency Baseline Commitment (ABC) date and the Management Agreement (MA) date, if applicable.*

*Define the process for schedule coordination with in-house entities (e.g., other Centers), contractors, and/or external partners, as appropriate.*

*Document the schedule performance baseline, or if required, the Performance Measurement Baseline (PMB).*

*Describe how the P/p will manage to a preliminary schedule baseline versus the official P/p schedule baseline. Include the required timeframe for the schedule to be baselined (i.e., preliminary schedules required at SDR/MDR for NPR 7120.5 P/ps and at ATP KDP for NPR 7120.8 P/ps; schedule baselines are required at KPD C for NPR 7120.5 P/ps and at Program Approval KDP for NPR 7120.8 P/ps).*

*Document how the schedule baseline is informed by the Planning Programming Budgeting and Execution (PPBE) process. Explain the process for validating and approving the schedule baseline and identify the P/p staff and other stakeholders that participate in this process.*

*Explain the P/p’s change control process. Identify the members of the Schedule Change Control Board (CCB).*

*Identify who is responsible for approving the baseline.*

## Progress-Based Schedule Updates

*Define the processes for performing routine progress-based schedule updates. Identify the frequency of the updates. Identify the meetings and reporting methods necessary for obtaining schedule status updates. Identify the points of contact for schedule data update inputs (e.g., other Centers, vendors, contractors, external partners, etc.). If there are no contractor or external partner schedules state that there are none.*

*Explain how the schedule will be updated using actual progress, which may include revising activity/milestone data, adding new activities/milestones, and/or deleting existing activities/milestones. Describe the processes for non-routine, as-needed updates, such as those performed to decompose high level tasks into detailed tasks (or planning packages into work packages) as part of rolling wave planning, refining schedule detail, replacing estimates of contractor schedules with contractor-provided schedules, or making retroactive changes to correct errors. Explain how traceability of activity changes are maintained (e.g., flagging “deleted” activities so traceability exists).*

*Define the Schedule Outputs required form the routine update process to support the P/p monthly and quarterly management review cycle.*

## Performance Measurements and Trends

*Define the processes for measuring performance and monitoring trends. Identify the schedule metrics used to measure deterministic performance, which may include but are not limited to:*

* *Activity/Milestone Variances and Schedule Variances (SV)*
* *Activity/Milestone Performance Trends*
* *Baseline Execution Index (BEI), Current Execution Index (CEI), and Hit or Miss Index (HMI)*
* *Schedule Performance Index (SPI), Time-based Schedule Performance Index (SPIt) and Earned Schedule (ES)*
* *Critical Path Length Index (CPLI)*
* *Margin and Float (Slack) Erosion*

*If EVM is required, explain the Performance Measurement Techniques (PMTs) used to measure performance.*

*Identify the schedule metrics used to measure stochastic performance, which may include but are not limited to:*

* *Probability of On-time Delivery of Critical Items*
* *Risk-based Completion Trends*
* *Risk-based Sufficiency of Margin*
* *Risk-based Tracking against the MA and ABC*

*Reference the Schedule Management Handbook for a detailed list of metrics and associated thresholds that support the measurement of deterministic and stochastic schedule performance. Specify the Schedule Outputs needed from the performance measurements. Consider stakeholder as well as P/p needs for the reports. Reference the Schedule Management Handbook to understand the breadth of performance measurement report formats available.*

## Corrective Actions and Retention Rationale

*Define the processes for implementing corrective actions and documenting retention rationale. Define the criteria and any associated performance thresholds that trigger each type of corrective action as it pertains to the P/p: Watch, Retain, Replan, and Rebaseline. Explain the procedures the P/p uses to bring the schedule back into compliance.*

## Corrective Action-based Schedule Updates

*Define the process for updating the schedule according to corrective actions (replanning or rebaselining) as part of the P/p’s change control process. Describe the P/p’s preferred methods for controlling the schedule due to corrective actions, which may include:*

* *Complete Schedule Baseline Update Method*
* *Baseline Control Milestone Update Method*
* *P/p Element Baseline Method*
* *Contractor’s Schedule Baseline Control Process Update Method*
* *Annual PPBE Schedule Baseline Reset Method*
* *Schedule Margin Maintenance*

# Create the Schedule Documentation and Communication Plan

*Prepare a Schedule Documentation and Communication Plan that time phases the activities necessary to support the documentation and communication activities that flow from the other Schedule Management sub-function. Merge the routine documentation and communication sub-functions with the P/p’s business rhythm. Where required, align with the P/p life cycle reviews.*

*Reference the Schedule Management Handbook to clearly understand the details of Schedule Documentation and Communication, including the data, methods, and tools necessary to perform the sub-function.*

*Identify any necessary Schedule Documentation and Communication tools in addition to the P/p’s scheduling tool (e.g., interface tools with other PP&C functions such as Cost, Resource Management, Earned Value Management (EVM), and Risk Management, reporting/visualization tools, etc.). Identify any other specialty tools needed for Schedule Documentation and Communication. For all tools, provide rationale for their use and explanation of what Schedule Outputs they provide/support. Identify tool needs assumptions (e.g., quantity, site licenses needed, etc.). Develop a make/buy plan for all tools. Enough information must be provided to estimate purchase and initiate in-house builds. For example, for commercial off-the-shelf (COTS) tools, estimate the number of licenses and cost for each tool.*

*Include an estimate of the resources and skill level needed for executing Schedule Documentation and Communication over the life cycle of the P/p.*

## Configuration Management and Data Management (CM/DM)

*The requirements for the CM/DM of the Schedule Management plans, processes, and products are derived from the P/p overall CM/DM plan. Reference the Schedule Management Handbook to identify the data products for CM/DM. Typical data and products to be managed are:*

* *SMP*
* *Schedule Database, including its data inputs*
* *Schedule Outputs, including but not limited to: IMS, Summary Schedule, and Analysis Schedule*
* *Schedule Assessment Outputs/Reports and Schedule Analysis Outputs/Reports*
* *Schedule Performance Reports*
* *Corrective Actions*

*Describe the P/p’s file management system for schedule information. Define process steps to merge the documentation process with the P/p’s CM/DM process.*

## Reporting

*Describe the P/p’s strategies, plans, and processes to be routinely communicated with P/p stakeholders (e.g., P/p management, Technical Leads, PP&C Leads, contractors, and external partners).*

*Identify the interface tools and techniques to support the delivery/receipt of schedule information and data (e.g., permission-based website to facilitate independent assessments). Describe processes specific to contractor or external partner reporting. If DRDs exist, include them as appendices to the SMP.*

*Reference the Schedule Management Handbook to define the communication products for internal and external use. Be sure to address the frequency of the reports: Annually, Monthly, Center Specific, Ad-hoc etc. Define the distribution lists.*

*Define the report types and formats required for routine status reporting, progress reporting, and forecast reporting. Define the P/p’s reporting requirements for internal reviews, LCRs, and KDPs. Define the P/p’s reporting requirements related to responding to findings, recommendations, and actions stemming from LCRs and KDPs, or other non-standard reviews. Ensure that the Schedule Outputs from the Schedule Database can provide the data products needed.*

## Schedule Information and Knowledge Capture

*Define the process and frequency for informal schedule backups, including backups of the IMS and schedule-related data.*

*Define the process and frequency for formal schedule archives, including but not limited to:*

* *Original baseline IMS*
* *Replan IMS(s)*
* *Rebaseline IMS(s)*
* *IMS versions at major LCRs or other key milestones*
* *Schedule actuals at major LCRs or other key milestones (i.e., schedule-related data that supports the IMS – e.g., CADRe data, EVM metrics, critical path reports, total slack reports, schedule margin reports, performance trend reports, etc.)*
* *Schedule Analysis, including analysis input data, analysis models, and analysis reports*
* *Lessons Learned*

*Identify whether the P/p meets the Agency Schedule Repository requirement, and/or the EVM Data Repository requirement. Document the P/p’s schedule submission process to meet the repository requirements, as applicable.*

*Describe how historical narrative will be captured for archived schedule versions. Explain how lessons learned will be captured and documented. Explain how schedule data and associated information will be archived at P/p closeout.*