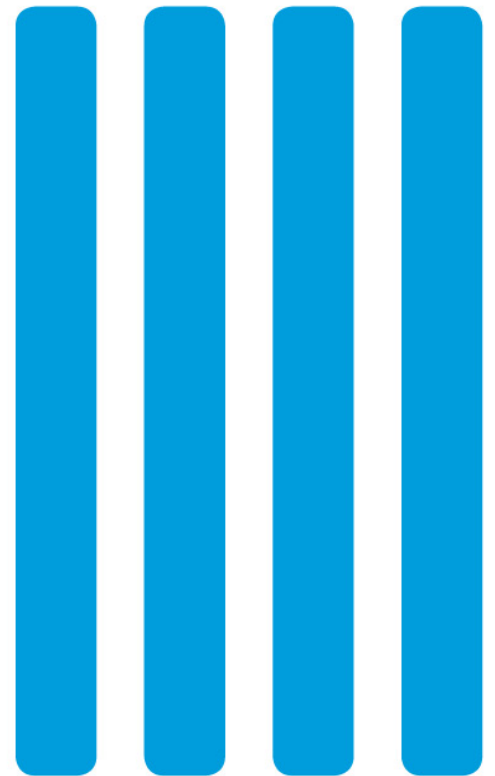




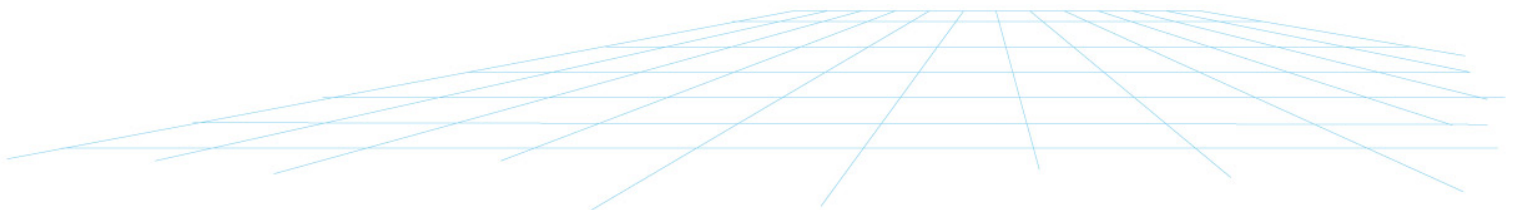
State of California
Franchise Tax Board

Schedule Management Plan

Revised 05.05.11



EDR



Document Information

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Quality Management Review

This document has been reviewed by the following people.

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1.0 Introduction

The purpose of the Schedule Management Plan is to document the approach for planning and managing the complex schedules of the EDR Project. Planning and scheduling play a critical role in the project from the time the project starts through the life of the project.

As one of the crucial first steps of the project, the project schedule provides a framework to specify the detailed activities that lead to the desired goal on the targeted date. This framework allows assignment of budget and staff to complete the work. Schedules are built top-down, reflecting the needs and milestones of the EDR Project, and bottom-up with the details of “how” it will be achieved.

The schedule becomes a map to navigate the project and adjustments are made when deviations are found. This project uses the proven methodology of Cost and Schedule Management also known as “earned value” to measure the progress of the plan versus the initial estimates.

This Schedule Management Plan is a living document and is reviewed quarterly as part of the Project Management Plan (PMP) review. Revisions are made as process improvements are identified and implemented. The changes to the PMP are initiated in accordance with the Change Request Management Plan.

The Schedule Management Plan will adapt to the Prime Solution Provider (SP) plan with the primary objective for the SP to produce a Master Integrated Project Schedule (MIPS) of SP and State activities.

2.0 Scope

The Schedule Management Plan defines the process by which EDR project schedule is defined, estimated, staffed, maintained, tracked and reported.

The Schedule Management Plan provides roles, responsibilities, processes and procedures in each of the following areas:

- Schedule Planning
- Schedule Maintenance
- Schedule Tracking
- Schedule Reporting

All schedule management activities fall under the processes and procedures described in this plan and its accompanying document, the EDR Schedule Desktop Reference Manual (Appendix A) which details specific processes, custom settings and methodology.

2.1 Scope Considerations

Schedule Management is an ongoing function throughout the project. The project schedule, at all levels, must be analyzed on an on-going basis to deal with progress updates, approved change requests, changing conditions and priorities on the project. With the focus on monitoring schedule and progress, there are many participants in this process, from the individual teams to the senior executive management level, each following clearly defined roles and responsibilities.

2.2 Planning and Scheduling Policies

Some of the key policy decisions made during planning include:

- Schedules are developed from the top down and bottom up. The top-down approach reflects contractual dates from a major milestone perspective; the bottom-up dates have been arrived at by estimation which provides detailed and resourced tasks. Contractual dates are captured in the schedule referred to as Project Milestones. The bottom-up task oriented dates are built in a sequential manner as dependent work to various Project Milestones so that slippage of task activity will drive slippage at the Project Milestone level.
- Schedule variance will be continuously assessed by the SP at the project level. However, because the SP may have flexibility to modify the timing of activity details within the project plan as long as Management Milestone dates are not delayed, schedule variance is reported to the EDR Project Director and EDR Schedule Manager at the Management Milestone level.
- Ongoing cost of the EDR Project is calculated by setting each resource to \$1/hr. Thus, cost variance reflects the discrepancy between the original estimate of work and the new estimate of work, which directly ties into the cost of the work item.

2.3 Integration with Other EDR Processes

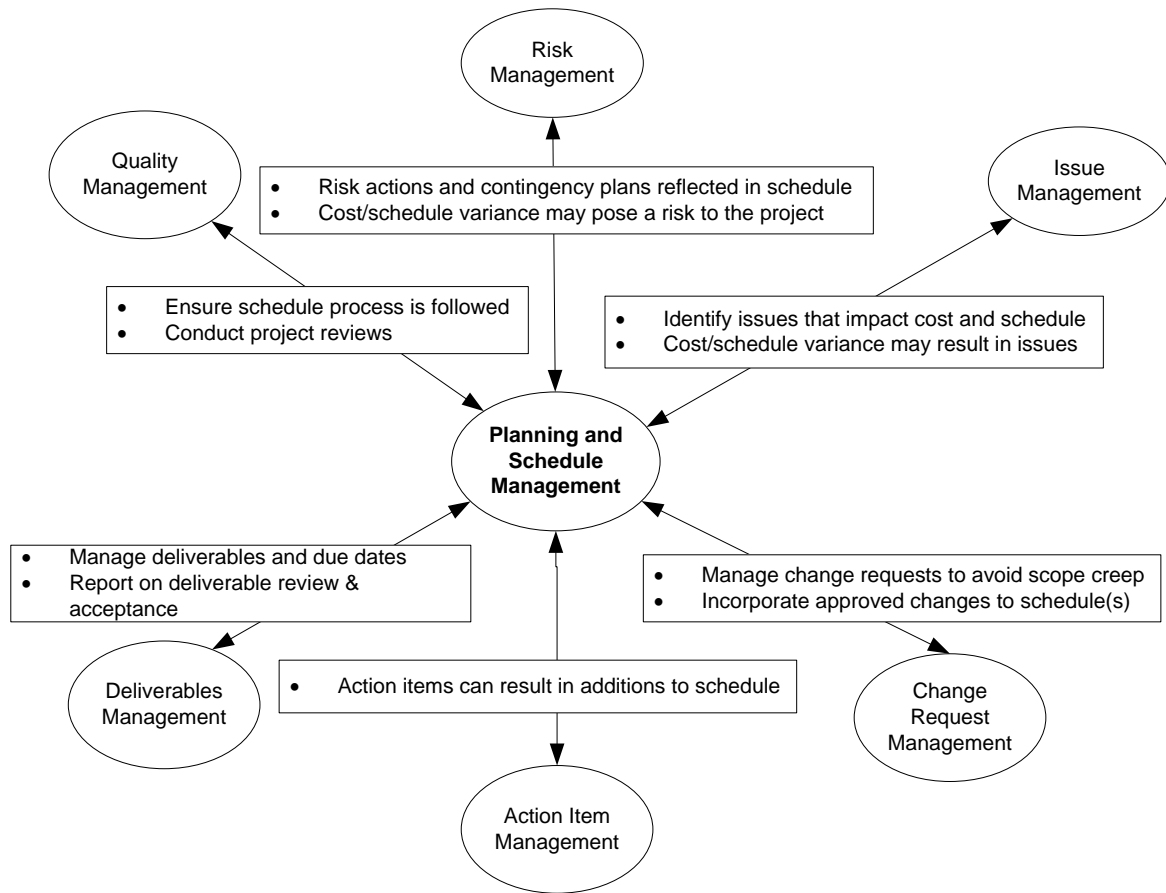


Figure 1 Planning and Schedule Integration with Other Management Processes

3.0 Definitions

The following terms and definitions are defined for use in the Schedule Management Plan:

Baseline: The original approved plan for the EDR Project, plus or minus approved changes.

Dependency Chart: An overview of the major project elements that highlights the cross-project dependencies and their sequence.

Earned Value Management: A method for integrating scope, schedule and resources, and for measuring project performance. It compares the amount of work that was planned with what was actually earned to what was actually spent to determine if cost and schedule performance are as planned.

Master Integrated Schedule (MIPS): Schedule will be used after Solution Provider (SP) start and will replace the MPS. Any activities that remain from the MPS will be moved and become part of the MIPS. This schedule will integrate with the SP schedule to provide a global perspective of SP and FTB activities.

Master Project Schedule (MPS): Schedule for the EDR Project that includes all the procurement tasks, the overall support processes, and the activities to prepare for the PSP. MPS is being used to track and update activities that occur prior to the PSP start date. This schedule will be replaced by the Master Integrated Schedule (MIPS).

Project Milestones: Key milestones produced by each of the Project Milestones dates are established via the EDR Project Contract; as such these milestones are preceded by project start plus some number of days to match the contract requirement. These milestones are also preceded by milestones from the actual work efforts so that any delays can be seen.

Roadmap: A summary chart that provides an overview of the agreed timeframes and milestones for project activities over the lifecycle. The Roadmap is then used as a tool to track project progress/status at a major milestone level.

Task Owner: This person is responsible for gathering updates from EDR team members with assigned tasks on the master project schedule and providing the schedule information to the EDR Schedule Manager. In some cases, the task owner may be a member of the EDR Management team.

4.0 Objectives

The Schedule Management Plan describes the EDR Project's approach to:

- Initially planning the work

- Measuring the progress of work completed
- Comparing the actual progress to planned progress
- Initiating corrective action when actual progress falls behind planned hours enough to potentially cause a Major Milestone to slip

This plan specifies the types of reviews and tools that are used to create, and then monitor, track, and maintain the EDR Project Management Schedule. The EDR Project Director is responsible for the execution of the Schedule Management Plan in support of the EDR Project's progress.

5.0 Roles and Responsibilities

This section defines the participants involved in the planning and scheduling of tasks and their associated responsibilities.

Table-1 Schedule Management Roles and Responsibilities

Project Role	Responsibilities
EDR Project Director	<ul style="list-style-type: none">• Measure and monitor EDR Project milestones, anticipate changes in major milestone dates and support mitigation plans when possible• Assess scope and review changes in project scope, milestone dates, and roadmap and vote as member of Change Control Board (CCB)• Review and accept EDR and SP Management team's variance analysis reports
EDR Project Manager	<ul style="list-style-type: none">• Measure and monitor EDR Project milestones and anticipate slippage and mitigate when possible in major milestones• Review Roadmap on a regular basis and recommend project adjustments as necessary• Measure and verify project scope• Review of EDR Management team's variance analysis reports
EDR Team Members	<ul style="list-style-type: none">• Provide accurate and timely reporting of actual work against plan• Provide revised estimates to complete work• Assist in estimating task durations/level of work• Assist in identifying task dependencies• Identify any risks, issues and assumptions related to tasks
EDR Management Team	<p><i>New tasks:</i></p> <ul style="list-style-type: none">• Assign task responsibilities• Estimate task durations• Identify dependencies• Define milestones <p><i>Existing tasks:</i></p> <ul style="list-style-type: none">• Analyze the schedule for completeness, practicality, and risk• Identify updates to schedule• Accept/modify estimates to start/finish dates

Project Role	Responsibilities
	<p>based on analysis</p> <ul style="list-style-type: none"> • Review team members' actual and revised estimates • Escalate any delays or changes in schedule to Project Manager
EDR Schedule Manager	<ul style="list-style-type: none"> • Coordinate MIPS and sub schedule updates with EDR Schedule Analysts • Analyze variances, prepare reports for schedule variances in all project schedules to show implications to project schedule dates and milestones • Review and consider options for any changes to milestone activities • Identify any risks, issues and assumptions related to tasks and conduct variance/mitigation meetings with EDR schedule task owners when required. In some cases, communicate to EDR Project Manager • Review and acceptance of EDR Management team's variance analysis reports • Implement changes to the EDR sub-schedules at the direction of the EDR Project Director • Implement changes to the EDR MPS at the direction of the EDR Project Director • Create and present bi-weekly and monthly – complete review, analysis, and options for schedule and cost variances • Communicate schedule progress and updates • Develop and maintain Schedule Road Maps, Dependency Charts, Project Milestones, and WBS • Re-baseline the schedule as directed by EDR Management • Define the milestones in conjunction with the EDR schedule task owners and/or EDR management team • Coordinate with SP Schedulers on cross-plan dependencies and answer questions regarding the EDR schedules and the EDR MIPS • Ensure consistency and integrity of the EDR

Project Role	Responsibilities
	MPS
EDR Schedule Analysts	<ul style="list-style-type: none"> • Assist EDR Management Team and Task Owners with the development of new WBS components' and MPS sub-schedules as needed • Coordinate MPS and sub schedule updates with EDR Schedule Task Owners and make appropriate updates to the schedules • Develop and maintain the MPS Resource Pool and Calendars • Analyze variances and prepare reports for schedule variances to show implications to project schedule dates and milestones • Review and consider options for any changes to milestone activities • Identify and record any risks, issues and assumptions related to tasks and conduct variance/mitigation meetings with EDR schedule task owners when required and escalate to EDR Schedule Manager. • Implement changes to the EDR sub-schedules at the direction of the EDR Schedule Manager • Coordinate with SP Schedulers on cross-plan dependencies and answer questions regarding the EDR schedule
EDR Schedule Task Owner	<ul style="list-style-type: none"> • Provide updates to assigned tasks in a timely manner during each reporting cycle • Ensure assigned task(s) are completed on time or escalate to Manager and EDR Schedule Manager as soon as potential delay is known • Assist in estimating task durations/work • Assist in identifying task dependencies • Identify any risks, issues and assumptions related to tasks <p>Note: This role/responsibility may also be an EDR Management team member.</p>
EDR Steering Committee	<ul style="list-style-type: none"> • Review and consider options when the schedule and cost variance is significant enough to escalate

6.0 Schedule Planning

6.1 Overview of EDR Planning Methodology

The planning methodology followed for EDR consists of developing a series of work products that communicate project-planning information at different levels and for different purposes. The planning approach focuses on cross-project coordination and identifying and managing dependencies between related activities.

Initially, the project work is divided using a top-down approach. The first step in project decomposition is the development of a Roadmap and Dependency Charts. High-level estimates and a schedule of phases are created and captured on the Roadmap. The work is then divided into project areas each of which is then decomposed into manageable work groups or Phases. Cross-project dependencies are identified and highlighted on a Dependency Chart. High-level scheduling milestones are then identified and established for each of the project areas and are captured as Major Project Milestones.

Next, a Work Breakdown Structure is developed and a detailed work plan is developed; these are consistent with the common framework and expectations set by the Roadmap, Dependency Charts, and Major Project Milestones. The project schedule is then developed in Microsoft Project detailed to a target task duration of 8-80 hours. The effort for each task is detailed by resource with resource leveling occurring after the completion of resource loading into the master project schedule.

A draft schedule was provided by the SP with EDR RFP response. Upon contract award, the SP provides the EDR Management Team a detailed schedule for the first portion of a rolling wave planning effort. This approach provides detailed tasks for the first 18 months and high level tasks for the remaining portion of the project. The schedule is provided under Management Deliverable Requirement (MRD002) initially due one month after project start and monthly thereafter.

Once the project work plan has been developed and staffed, bottom-up estimates are reconciled with the initial high-level estimates, and the planning work products are revised and refined until a single consistent, integrated, comprehensive plan evolves. The critical path for the overall project is computed by Microsoft Project and adds another perspective into the critical elements of the schedule.

Throughout the course of the EDR Project, progress is monitored through the use of the roadmap, the dependency charts, the schedule, and the critical path. The roadmap is an effective communication vehicle for communicating project status with the EDR Steering Committee and other interested parties.

6.2 EDR Roadmap

The Roadmap is a high level Gantt-like summary chart that provides a clear overview of the timeframes and milestones for major efforts and associated activities over the

lifecycle of the EDR Project. The EDR Project Manager, Project Director and the EDR Management Team use the Roadmap to:

- Provide EDR Project Sponsors and team members an ongoing overview and current status of key activities and milestones throughout the project
- Graphically illustrate the degree of overlap in key activities
- Uncover any differences in stakeholder expectations and reinforce common planning terminology
- Provide a framework for aligning project work plans with expected timeframes and key milestones

The Roadmap is refreshed as needed for significant changes from change orders or schedule slippages, as approved by executive management. All current Roadmaps are available in the EDR Project Library.

6.3 Dependency Chart

Dependency Charts are one-page overviews of the major project elements important to overall success. They highlight the key dependencies and their sequence and illustrate how key elements highlighted in the EDR Roadmap will be achieved and who is responsible.

The EDR Project uses the detailed schedule and roadmaps (stored in the EDR Project Library) to manage high level project planning and re-planning. The initial Dependency Charts will be developed jointly with the SP.

6.4 Work Breakdown Structure (WBS)

The EDR Work Breakdown Structure to be developed by the SP must be organized to align with the schedule. The WBS decomposes the work elements to the lowest level of detail within the plan – tasks and milestones.

6.5 Schedule Structure

The schedule structure is anticipated to be based upon a Master Integrated Project Schedule (MIPS) with many sub-project schedules. The sub-project schedules are further broken out into groups of SP, State and State/SP Dependency sub-schedules. The SP will manage the MIPS and the State will be responsible for the required State schedules which track state resources and state activities which are not included in the SP tasks.

6.6 Schedule Definition

Using the high-level planning framework as defined by the Roadmap and the Dependency Charts, the SP is responsible for creating a detailed schedule that represents the tasks and activities necessary to produce the deliverables within their area of responsibility. Scheduling activities for initial project schedule development and subsequent updates include:

- Defining tasks and subtasks
- Linking dependencies across tasks or Project Milestones
- Assigning resources and expected work effort
- Following established guidelines
- Working within the established budget for their project area
- Working within the established Project Milestone dates for their project area

These scheduling activities will be performed in Microsoft Project. Resource balancing and reconciliation between top-down Project Milestones and bottom-up tasks take place once the schedule is in its completed draft form.

6.7 Cross-Schedule Integration

Multiple MS Project mpp files will be managed for the EDR Project in order to break the files into manageable sizes. The individual files will be inserted into the master project schedule at regular reporting intervals. An individual .mpp may have “cross-schedule” task dependencies to a different project mpp file. These cross-schedule dependencies will be managed via a manual task tracking update process. Each individual mpp file will have summary tasks near the top entitled “Inbound Dependencies” and “Outbound Dependencies”.

Inbound Dependencies and Outbound Dependencies are demonstrated in the example below. File A and File B are each individual .mpp files. A Cross Project dependency exists between File A (inbound task - *Design Engine Complete*) and File B (outbound task – *Design Engine Complete*). Finally the outbound dependency in File B has a predecessor from the detailed tasks in File B where the actual work took place; the predecessor being the milestone “*Design Engine Complete*” from the detailed project tasks in File B:

1. File A .mpp: **Inbound Dependency:** *Design Engine Complete* (cross-project dependency from File B *Design Engine Complete*)
2. File B .mpp: **Outbound Dependency:** *Design Engine Complete*
3. File B .mpp: Detailed *Task Completion Milestone (Design Engine Complete)* within detailed tasks below is a dynamic predecessor to bullet two above.
4. Note: the predecessor within File B (item #3 to item #2 above) updates automatically through the MS Project scheduling engine. The update of the predecessor from item #2 to item #1 is a manual process (between files). This latter manual task link is the “cross-schedule” dependency.

This process for managing cross-schedule dependencies will be used throughout the project to ensure schedule integrity is maintained. For more detail reference the EDR Schedule Desk Reference Manual ([Appendix A](#)).

Each project area may have dependencies that it has on other project areas or that other project areas have on it. These are referred to as “cross-project” dependencies.

SP will determine milestones based on EDR schedule methodology the management of cross-schedule integration.

6.8 Resource Balancing

Multiple MS Project mpp files will be managed for the EDR Project in order to break the files into manageable sizes. The individual files will be inserted into a master project schedule at regular reporting intervals. An individual .mpp may have “cross-schedule” task dependencies to a different project mpp file. These cross-schedule dependencies will be managed via a manual task tracking update process. Each individual mpp file will have summary tasks near the top entitled “Inbound Dependencies” and “Outbound Dependencies”.

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5. File A .mpp: **Inbound Dependency:** *Design Engine Complete* (cross-project dependency from File B Design Engine Complete)
6. File B .mpp: **Outbound Dependency:** *Design Engine Complete*
7. File B .mpp: Detailed *Task Completion Milestone (Design Engine Complete)* within detailed tasks below is a dynamic predecessor to bullet two above.

Note: the predecessor within File B (item #3 to item #2 above) updates automatically through the MS Project scheduling engine. The update of the predecessor from item #2 to item #1 is a manual process (between files). This latter manual task link is the “cross-schedule” dependency.

This process for managing cross-schedule dependencies will be used throughout the project to ensure schedule integrity is maintained. For more detail reference the EDR Schedule Desk Reference Manual.

6.8.1 Roadmap Updates

Once the project work plan has been defined and integrated with the Project Milestones, the EDR Project Management Office (PMO) must review the Roadmap to see if the high-level dates represented therein are still valid. Any changes to the previous dates on the Roadmap must be reviewed and approved by EDR Project Manager and Project Director. All schedule changes to Project Milestones must come through the Change Request Management Process.

6.8.2 Scheduling Guidelines

In order to make the EDR MPS more maintainable, several guidelines have been established by the EDR Schedule Manager. In creating the EDR Master Project Schedule, scheduling guidelines defined to date are detailed in the Schedule Desktop Reference document and include:

1. Resource assignments are made to actual named staff persons for the detailed task portion and resource/roles/teams for the rolling wave portion.
2. Task type is fixed duration, non-effort driven.
3. Tasks are defined to within a target of 8 (1 day) to 80 hours (2 weeks) duration. That task may span more than 80 hours duration and it may contain multiple resource assignments. Tasks with durations greater than 80 hours should be used judiciously.
4. Task detail in the rolling wave planning portion should have durations of less than 20 days.
5. Names of tasks shall be unique within the overall schedule and formatted in an "Action Verb + Descriptive Noun" sentence structure (example: "Schedule plan" is unacceptable, "Develop schedule management plan" is acceptable.)
6. Dependencies should be at the lowest level of the WBS (no dependencies on summary tasks).
7. The use of Start-No-Later-Than (SNLT) and Finish-No-Later-Than (FNLT) constraints should not be used as they potentially constrain the schedule from moving in an "accordion" fashion.
8. The use of Must-Start or Must-Finish constraints should only be used on the first task (project start) and last task (project end) respectively. As-Soon-As-Possible constraint should be used whenever possible so that the float/slack is accurate.
9. The use of Start-to-Finish dependencies with lead on concurrent tasks should be avoided. Finish-to-Finish dependency with appropriate lag should be used only when required. Generally, appropriate lag is considered the amount of time required to complete the successor task after the predecessor has completed. This results in both tasks driving the successor finish date.

6.9 Major Project Milestones

The major project milestones are tracked in the master project schedule. The following table lists the current high level project milestones. Refer to the master project schedule for target start and finish dates.

Milestone
Special Project Report (SPR) Approved
Section 11 Letter Approved
Spring Finance Letter Approved
Solution Provider (SP) Contract Award
SP Start

IV&V Final Bid Due
IV&V Evaluation Complete
IV&V Contract Award
IV&V Start
Pipeline Documentation Complete
BES Manual Processes Complete
Update PIT/BETS Documentation Complete
PIT Return Modeling Strategy Complete
BE Return Modeling Strategy Complete
Audit E Data Modeling
Early Wins Priority 1 Packages Complete
Early Wins Priority 1 Specification Complete
Early Wins Priority 2 Packages Complete
Early Wins Priority 2 Specification Complete
Early Wins Priority 3 Packages Complete
Early Wins Priority 3 Specification Complete
Staffing Facilities March Complete
Staffing Facilities May Complete
Staffing Facilities July Complete
Windows Migration Complete
MSProject 2010 Migration Complete
PM Plan Updates Complete
OCM Plan Update Complete
MIPS 1 st Draft Complete

Communication

Communication of project planning is handled through a variety of channels.

- The cycle of schedule updates including team member status, variance analysis reports, and EDR Management Team review provides an opportunity for discussion
- Schedule changes managed through Microsoft Project, which provides shared visibility to the plans
- Regular meetings – including the bi-weekly EDR Management Team meeting, EDR Steering Committee meeting, and other team meetings
- Publishing of schedule after status updates on FTBNet and Y drive

7.0 Schedule Maintenance

Schedule maintenance is the activity of keeping schedules current and accurate. The Master Project Schedule is maintained in Microsoft Project by the EDR Schedule Manager and EDR Schedule Analysts.

7.1 Baseline Schedule Data

Baseline schedule data are those activities that have, through management processes, been agreed to as the established dates for the project. They represent the plan of record and are the base against which progress and deviations are measured. The baseline is established at the start of the project and then revised by management action and through the Change Management process.

Adjustments can occur from:

- Approved changes to the requirements baseline
- Revised details from planned updates
- Revision to estimate to complete dates that have significant consequences to the overall project schedule
- Changes based on new approaches to implement the solution

Change Requests altering scope or methodology often alter the schedule for the project. When a Change Order for an approved Change Request indicates that a schedule change is required, it will specify the areas of the schedule to be changed. The schedule will then be updated in a timely manner as specified in the Change Order and those elements affected will be rebaselined.

When there is no Change Order, project plans can only be rebaselined with approval by the appropriate level of SP management and EDR Project Director. The schedule will be baselined by the SP as needed and with the approval of the EDR Project Director. Baselining requests to the EDR Project will only be made in the event of a movement in Project Milestones. Substantial rebaselining will be noted in the monthly *Time and Schedule Variance Report*.

Prior to a schedule being baselined (or rebaselined), SP scheduling staff will verify that all required dependencies are in place and that a calculation at the EDR Master Project level is completed and analyzed. The focus of the analysis should be to verify that no unintended schedule changes are included in the baselining. SP scheduling staff review trends weekly with the EDR Project Director and EDR Management Team, and review requests for baselining with the EDR Project Director for final approval.

7.2 Actual and Planned Schedule Data

As the name implies, actual data captures the precise dates that tasks or milestones occurred on. Actual data is updated and maintained by the team members reporting tasks. On a weekly basis, they input their time against their tasks. This provides for accurate and timely reporting of actual starts, actual finishes, estimates to complete, and a detailed basis for earned value reporting. Planned data is the current best assessment of when tasks or milestones are likely to occur. They are based on past history, subject matter expertise (SME), revised plans, and management insight.

It is the responsibility of the SP and EDR Management Team to accurately maintain planned data based on input from their teams. The SP and EDR Management Team are free to modify the tasks within their detailed plans as long as they do not negatively impact a Management Milestone. If a Management Milestone is impacted and cannot be recovered to its original date, a completed change request form is required for the EDR Project to review and approve the change. Planned dates are reflected at the project area level and Management Milestone level on a weekly basis once the EDR master project schedule has been calculated as a whole.

8.0 Schedule Tracking

This section documents the efforts involved in tracking, maintaining, and updating the schedule for the EDR Project and specifics are available in the EDR Schedule Desk Reference Manual.

EDR Master Project Schedule of Activities:

- Daily maintenance – update and validation of task status
- Weekly team review
- Quarterly project review

1. The EDR Schedule Manager collaborates for the integration of the sub-project files into the EDR Master Project Schedule updating the schedule status date to the current status date.
2. The EDR Schedule Manager and EDR Schedule Analysts perform schedule QA checks as outlined in the EDR Schedule Desk Reference Manual.
3. The EDR Schedule Manager and SP Schedule Manager build final version of the EDR Master Project Schedule.
4. The EDR Schedule Manager runs EDR Task Status and Cost/Schedule Reports. The SP Scheduling team prepares preliminary variance analysis reports for cost variances over 10% and variances to Project Milestone schedule dates.
5. The EDR Schedule Manager will either email the SP Scheduling Team or schedule a meeting as group to discuss and adjust plans as necessary if variances remain.

9.0 Schedule Reporting

This section briefly covers the flow of the planning and scheduling process with a focus on activities required to prepare the bi-weekly reports that the Project Scheduler provides to the EDR Management Team. Each step and the responsibilities of the involved parties are documented in detail in the [EDR Schedule Desk Reference Manual](#).

The EDR Project uses MS Excel spreadsheets and a custom view within the EDR schedules to provide bi-weekly schedule updates. The workflow for this update process is defined below and starts on the Monday before updates are due. Overall the bi-

weekly update process requires close coordination between the schedule analyst and the task owners to ensure schedule effectiveness and accuracy.

Week	Monday	Tuesday	Wednesday	Thursday	Friday
1	<ul style="list-style-type: none"> -Weekly Managers Meeting (present Roadmap & MPS Mgrs Rpt) 8:30am -Populate Excel Update Templates from sub schedules -Email Template to Task Owners for updates 		<ul style="list-style-type: none"> -Receive completed Excel status from Task Owners by COB <p>*Note this is Project Status Date</p>	<ul style="list-style-type: none"> -Update sub schedules -Analyze variances & publish variance reports (pdf) to Task Owners - Bi-Weekly Variance/Mitigation Meeting with Task Owners (as required) 1:00pm 	<ul style="list-style-type: none"> -Final schedule update -Insert SP EW Spec sched into Proj Startup sub sched -Create new MPS/archive previous -Prepare Roadmap & create MPS Mgrs View/Report
2	<ul style="list-style-type: none"> -Weekly Managers Meeting (present Roadmap & MPS Mgrs Rpt) 8:30am 	-Publish MPS to EDR Team		- Bi-Weekly EDR Project Team Meeting (present MPS) 9:30am	
3	<ul style="list-style-type: none"> -Weekly Managers Meeting (present Roadmap & MPS Mgrs Rpt) 8:30am-9:30am -Populate Excel Update Templates from sub schedules -Email Template to Task Owners for updates 		<ul style="list-style-type: none"> -Receive completed Excel status from Task Owners by COB <p>*Note this is Project Status Date</p>	<ul style="list-style-type: none"> -Update sub schedules -Analyze variances & publish variance reports (pdf) to Task Owners - Bi-Weekly Variance/Mitigation Meeting with Task Owners (as required) 1:00pm 	<ul style="list-style-type: none"> -Final schedule update -Insert SP EW Spec sched into Proj Startup sub sched -Create new MPS/archive previous -Prepare Roadmap & create MPS Mgrs View/Report
4	<ul style="list-style-type: none"> -Weekly Managers Meeting (present Roadmap & MPS Mgrs Rpt) 8:30am 	-Publish MPS to EDR Team		- Bi-Weekly EDR Project Team Meeting (present MPS) 9:30am	

9.1 Step 1 – Input Actuals

Creating detailed assignments for each person is the basis for the project plan activity reports bi-weekly and return by noon on Wednesday to update their assigned task items with actual data. This includes:

- Entering the percentage of work on each task (25%,50%,75%,100%)
- Adjusting the start date if necessary (if starting early or later than planned)
- Adjusting the finish date (expected estimate to complete)
- Resource updates or changes

This information provides for actual start, actual finish, percent complete, and estimate to complete. When these time sheets are completed, they are ready for management review.

9.2 Step 2 - Acceptance of Time Sheets

EDR Management is responsible for ensuring the integrity and accuracy of the work performed. On a weekly basis, they review the schedule task status available to them, making sure all work is accounted for and all task information is reported accurately.

In the case where team members have revised estimates to complete, EDR Management should consider the impacts of accepting the revised estimates and take appropriate management actions, and as necessary, to modify the plan. The revised estimates to complete do not become part of the EDR master project schedule calculations until they are accepted. As part of this analysis, EDR Management and the SP will give particular attention to the effects of such changes on the critical path elements and outbound dependencies of their plan.

9.3 Step 3 - Earned Value Analysis

Earned value metrics are calculated at all the different levels in the EDR project for SP efforts. If cost variance is greater than 10% (if CPI is under .9 or over 1.1) or if a Management Milestone is projected to be delayed beyond the baseline date, the SP or EDR Project Director is responsible for developing a variance analysis report, a subsection of the *Time and Schedule Variance Report*.

Cost, as measured by this project, is estimated hours as each resource is calculated at \$1/hr; therefore, cost variance represents the deviation from the hours expected for the WBS elements.

The variance analysis report should identify the variance, explain the reason for the variance, the consequences of the variance, and the set of corrective actions that will be executed to bring the variance into tolerance. Understanding past history is very important; if there is continued or escalation in variance numbers in a certain task(s), the EDR Project Director and EDR Management team should take action.

9.4 Step 4 – PMO Schedule Maintenance

The PMO role in relation to schedules is to maintain the overall schedule and administer project coordination and integration. The PMO recalculates the EDR Master Project Schedule to update the Project Milestones weekly after the project area schedules are updated. The Project Milestones are recalculated with actual and revised planned dates from the project schedule. This provides for new planned dates at this Project Milestones level.

The SP PMO organizes and runs reports to gather the information required for the monthly *Time and Schedule Variance Report*.

9.5 Step 5 – Milestone Level Changes

The Project Milestones, as described earlier in this document, represent significant schedule milestones. It is at this level the schedule variance should be addressed by the EDR Management team as changes in Management Milestone planned dates either impact deliverables, key reviews, or dependencies between other project areas.

The EDR Management team and the SP meet to consider these changes, understand their implications and consider what actions should be taken. Some of these actions may involve a rework of the schedule, an approved change control and a new baseline for affected tasks.

There is also a subset of these milestones that are tracked at the EDR Steering Committee. If date changes occur at this level, the EDR Management team may wish to include members of the EDR Steering Committee to participate in deciding on the appropriate actions. New planned dates for these milestones are presented to the EDR Steering Committee at the subsequent EDR Steering Committee meeting.

9.6 Step 6 – Present Recommendations

The SP will have the responsibility of pulling together an accurate review and assessment of the progress and status of the project. This review takes the form of a written status presentation, on a monthly basis, the *Monthly Status Report*.

This process includes gathering and reporting status on deliverables and activities completed in the prior month and those planned for the upcoming month; adjustments to plans, status of exception processes – risks, issues, and changes; quality reviews, staffing summaries; and status of the different infrastructures.

9.7 Step 7 – Monthly Project Status

The EDR Project Director, EDR Management team, and EDR Schedule Manager will meet with SP for the monthly project status meeting. The SP provides a verbal status briefing and as a team they review the assessment and recommendations made. All or some of the recommendations may be accepted, if not, then rework is required by the SP. They are responsible for the go forward plans on the project and any decisions that are required based on current progress.

10.0 Progress Reporting

The main objective of planning and schedule management is accurate assessment and reporting of progress, which allows management to make adjustments as required on a timely basis. Progress reporting consists of comparing the actual progress to the planned progress.

Formal reporting of status for the contract occurs on a monthly cycle and measures status against the cost and schedule baseline. Microsoft Project maintains the baseline schedule, the actual schedule, and the current planned schedule.

10.1 EDR Task Status reports

The EDR Schedule Manager utilizes a set of reports to identify and correct variances from the plan. The EDR Schedule Manager specifies a period to examine along with an 'as of date'. The set of reports are detailed in the [EDR Schedule Desktop Reference Manual](#).

The Baseline version of Tasks Not Started and Tasks Not Completed reports are distributed weekly to the EDR Management team and EDR Project Director.

10.2 Time and Schedule Variance reports

This report consists of:

Management Milestone Schedule assessment

Focused on Schedule Variance, this level of reporting takes place at the Management Milestone level and gives an accurate and summary perspective of those milestones that are of interest to management, including milestones that have happened later or earlier than baselined, the trend (for example tasks are consistently x days late – perhaps representing a process change that needs to happen); and any revised dates in the future (new planned dates).

The information in this section of the report includes:

- Project Milestones that occurred but were late or early
- Trend analysis
- Currently planned Project Milestones dates that vary from the baselined dates
- Variance analysis report explaining any variance over 1 day from the baseline and the recommended corrective actions

The Time and Schedule Variance Report is a formal contract work product produced once a month. The EDR Schedule Manager runs EDR Task Status reports against Project Milestones plan to identify variance from baseline and works with EDR Management Team to identify and address cause of variance. The EDR Schedule

Manager will either email the SP Scheduling Team or schedule a meeting to discuss and adjust plans as necessary if variance have been identified.

10.3 Monthly Status Report

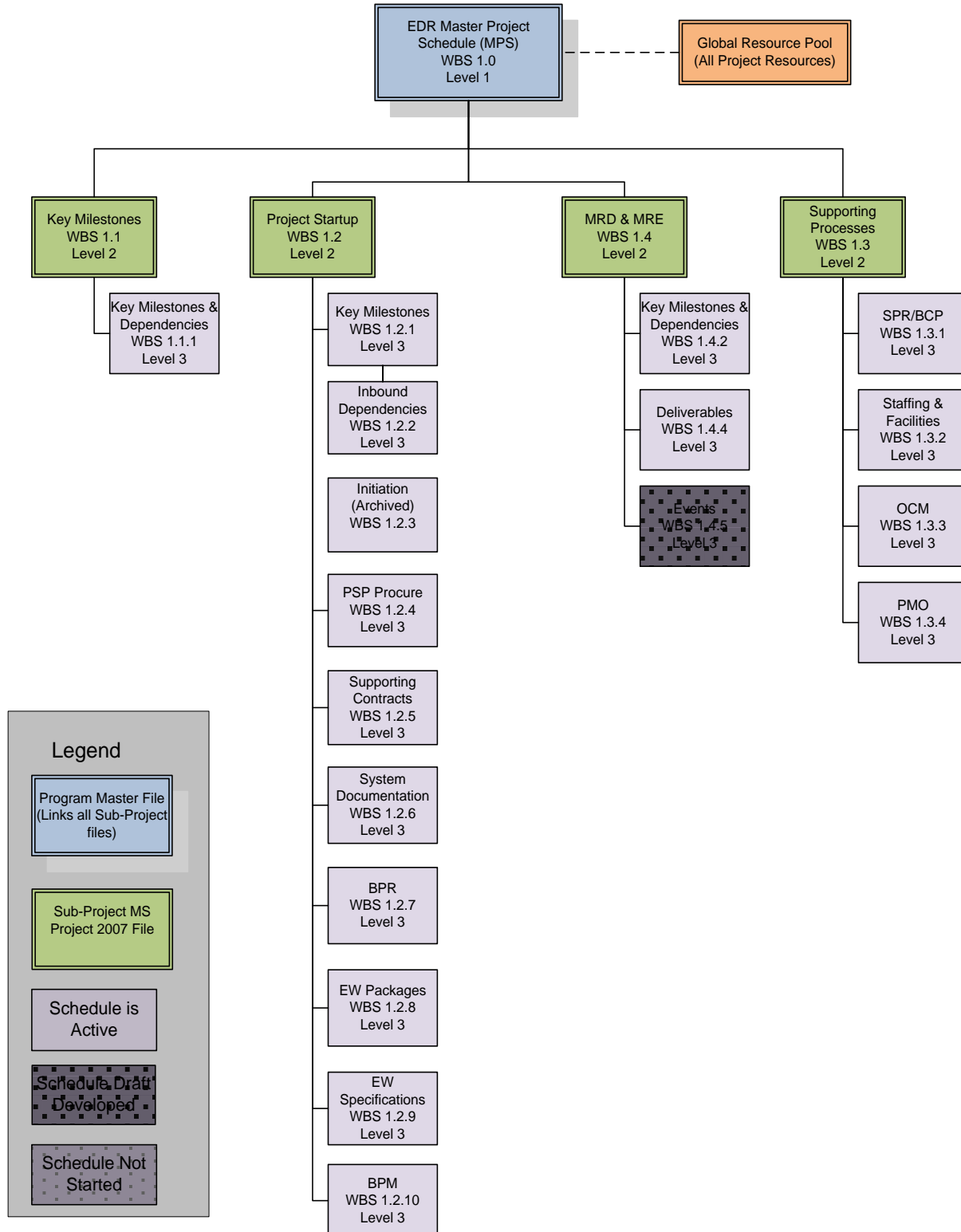
The EDR Project needs to review management indicators on a fixed basis. This provides a comprehensive view on the status of the project and supports management in making informed decisions and changes. The Monthly Status Report contains the set of information that is needed to provide this view, including progress and exception status.

11.0 EDR Schedule Integration

The EDR project has a defined MPS work breakdown structure (WBS). The WBS diagram below shows the contents of the supporting EDR project schedules.

This MPS is being used to track and update activities that occur prior to the SP start date. It includes all the procurement tasks, the overall support processes, and the activities to prepare for the SP. This schedule will be replaced by the Master Integrated Schedule (MIPS). The MPS includes 3 separate subproject schedules, a set of key milestones, and a global resource pool. Specific descriptions of the WBS level 3 tasks and current high level structure is defined in the EDR Schedule Desk Reference Manual.

EDR Pre-Contract Work Breakdown Structure (WBS)



12.0 Earned Value Definitions and Formulas

The section is provided for reference only and contains some of the industry standard definitions for Earned Value and the equations/timing that are used in the earned value calculations as computed by.

Table 2 – Earned Value Definitions and Formulas

Definition	Formula
Percent Complete (%C)	The percent duration complete computed for the WBS element, calculated as an aggregated rollup from the task level.
Planned Value (PV)	Planned Value to be accomplished through a given time period for the WBS element. For the EDR project, because all resources are listed as 1\$/hr cost rate, this is equal to the number of hours that have been scheduled for this WBS element. $PV = \text{Planned \% Complete} * BAC$
Earned Value (EV)	Earned Value through a given time period for the WBS element. This term (EV) is also referred to as the "Budgeted Cost of Work Performed." For the EDR project, because all resources are listed as 1\$/hr cost rate, this is equal to the budgeted hours of work performed. $EV = BAC * \text{Actual Percent Complete (\%c)}$
Actual Cost (AC)	The actual through a given time period for the WBS element. For the EDR project, because all resources are listed as 1\$/hr cost rate, this is equal to the number of hours that have been claimed to the WBS element. $AC = \text{Assignment Actual Work To Date (Hours)} * \text{Assignment Actual Cost (\$/Hour)}$
Cost Variance (CV)	The difference between the budgeted cost of a WBS element and the actual cost of that WBS element. Negative values of Cost Variance indicate the WBS element is over budget. $CV = \text{Earned Value (EV)} - \text{Actual Cost (AC)}$
Cost Performance Index (CPI)	A ratio of budgeted costs to actual costs that indicates how well the project is managing to the baselined cost for the WBS element. Values of CPI greater than 1.0 indicate WBS element costs are below budget. $CPI = \text{Earned Value (EV)} / \text{Actual Cost (AC)}$
Schedule Variance (SV)	The difference between the scheduled completion of a WBS element and the actual completion of that element. Negative values of Schedule Variance indicate that the WBS element is behind schedule. $SV = \text{Earned Value (EV)} - \text{Planned Value (PV)}$

Schedule Performance Index (SPI)	<p>A ratio of work performed to work scheduled that indicates how well the project is managing to the baselined schedule for the WBS elements. Values of SPI greater than 1.0 indicate WBS element completion ahead of schedule.</p> <p>$SPI = \text{Earned Value (EV)} / \text{Planned Value (PV)}$</p>
Budget at Completion (BAC)	<p>How much was originally planned for this project to cost</p> <p>BAC = no one formula exists. BAC is derived by looking at the total budgeted cost for the project.</p>
Estimate to Complete (ETC)	<p>The estimates to complete the remaining baselined work effort for the WBS elements.</p> <p>$ETC = EAC - AC$. If $AC > BAC$, then $ETC = 0$. If Percent Complete = 100%, then $ETC = 0$.</p>
Estimate at Completion (EAC)	<p>The total cost now estimated to complete the WBS element.</p> <p>$EAC = AC + ETC$.</p>
Variance at Completion (VAC)	<p>The difference between the budget at completion and the estimate at completion.</p> <p>$VAC = BAC - EAC$</p>

Appendix A



State of California
Franchise Tax Board

Schedule Desk Reference Manual - Version 1.4

May 2011



Document Information

Revision History

Version No.	Date	Summary of Changes	Author
0.1	01/10/2011	Initial Version Created	PMSC
0.2	2/16/2011	Updated based on revised processes	PMSC
1.0	3/4/2011	Final Published	PMSC
1.1	3/9/2011	Revisions based on feedback	PMSC
1.2	3/17/2011	Updated bi-weekly schedule process	PMSC
1.3	4/20/2011	Updated Custom Fields, Tables, & Views - Section 3.4.12	PMSC
1.4	5/6/2011	Updated bi-weekly schedule process	PMSC

Schedule Desk Reference Manual Review

This document has been reviewed by the following people:

Name	Date

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13.0 About This Document

13.1 Purpose

This Schedule Desk Reference Manual has been developed as a companion document in support of the EDR Schedule Management Plan. It will be used to define the procedural information required to achieve compliance with the guidelines outlined in the EDR Project's Schedule Management Plan. The goal of this document is to gain consistency in the way the EDR schedules are developed and managed, as well as, increasing the accuracy of the content of the data found in the performance reports and quality assurance documents generated by the EDR schedule management team.

13.2 Scope

The scope of this document is to establish the processes and procedures related to the development, management and maintenance of the initial EDR Master Project Schedule (MPS), the subsequent post contract startup Master Integrated Program Schedule (MIPS), and the related sub-schedules. This manual provides the processes and procedures that support the scheduling guidelines defined in the EDR Schedule Management Plan.

13.3 Assumptions and Constraints

The following assumptions and constraints were identified during the development of this Manual:

- The FTB PMO has established guidelines for schedule creation, monitoring and governance which have been incorporated into the EDR Schedule Management Plan for reference. Any related procedures which support the EDR Schedule Management Plan have been verified and included in this manual, as appropriate.
- The EDR Project has adopted Project Management Institute's (PMI) Practice Standard for Scheduling and is incorporating those high level processes into this manual.
- The EDR Project has adopted PMI's Standard for Program Management in the construction of the EDR Integrated Program Schedule and other subproject schedules.
- This Manual will be updated when processes, procedures, tools and techniques are refined or added either within this plan or as implemented within the latest approved EDR Schedule Management Plan.

13.4 Acronyms

Acronyms specific to these procedures are identified in table below.

Table 1 – Acronym List

Acronym	Description
CA-PMM	California Project Management Methodology
MIPS	Master Integrated Schedule
MPS	Master Project Schedule
PERT	Program Evaluation and Review Technique
PMBOK	Project Management Body of Knowledge
PMI	Project Management Institute
PMO	Project Management Office
PMSC	Project Management Support Consultants
PSP	Primary Solution Provider
WBS	Work Breakdown Structure

Other acronyms that are common throughout the Project are provided in the Project Glossary.

13.5 Document Maintenance

This document will be reviewed for updates at least quarterly in accordance with the EDR Document Management Plan. This document contains a revision history log. When changes occur, the version number will be updated according to the EDR Document Management Plan.

When major updates occur the version number will be updated to the next sequential whole number and follow the conventions outlined in the previous sentence.

14.0 Schedule Management Overview

14.1 Introduction

The Schedule Desk Reference Manual will provide the foundational procedures for all schedule management guidelines documented in the EDR Schedule Management Plan. Consistency in the way individual schedules are developed, integrated into the master schedules, updated, and reported on is key to the overall success of the EDR Project. The goal of this manual is to provide a procedural document in support of the EDR Schedule Management Plan for the consistent development of the EDR master schedules and the individual subproject schedules.

The EDR Project consists of a master schedule that has subproject schedules linked to it. The schedule is primarily bounded by the Prime Solution Provider (PSP) contract start date with the MPS defining the activities that occur prior to PSP start and the MIPS defining activities after the PSP start date. Some subproject schedules that span both pre and post PSP start will be maintained in MPS up until PSP start and then moved to the MIPS after PSP start. Currently, the MPS has been defined and is being actively managed and the MIPS will be after contract start. Because of the defined timeframes that bound the two master schedules only one will be actively managed at any given time. The MPS will be the actively managed schedule until the MIPS is ready for transition of remaining schedules. The MPS and the MIPS are linked to various subproject schedules and to a global resource pool. The specific subproject schedules for each master schedule are defined in the WBS dictionary provided in Appendix A.

When consistency is achieved throughout all project schedules, the many interrelated project schedules can be managed as a unified body of work. This will be accomplished by adhering to the PMI Standards for Program Management, the PMI Practice Standard for Scheduling and the FTB PMO Scheduling and Governance Guidelines. The relevant guidelines have been outlined in the EDR Schedule Management Plan.

15.0 Schedule Development

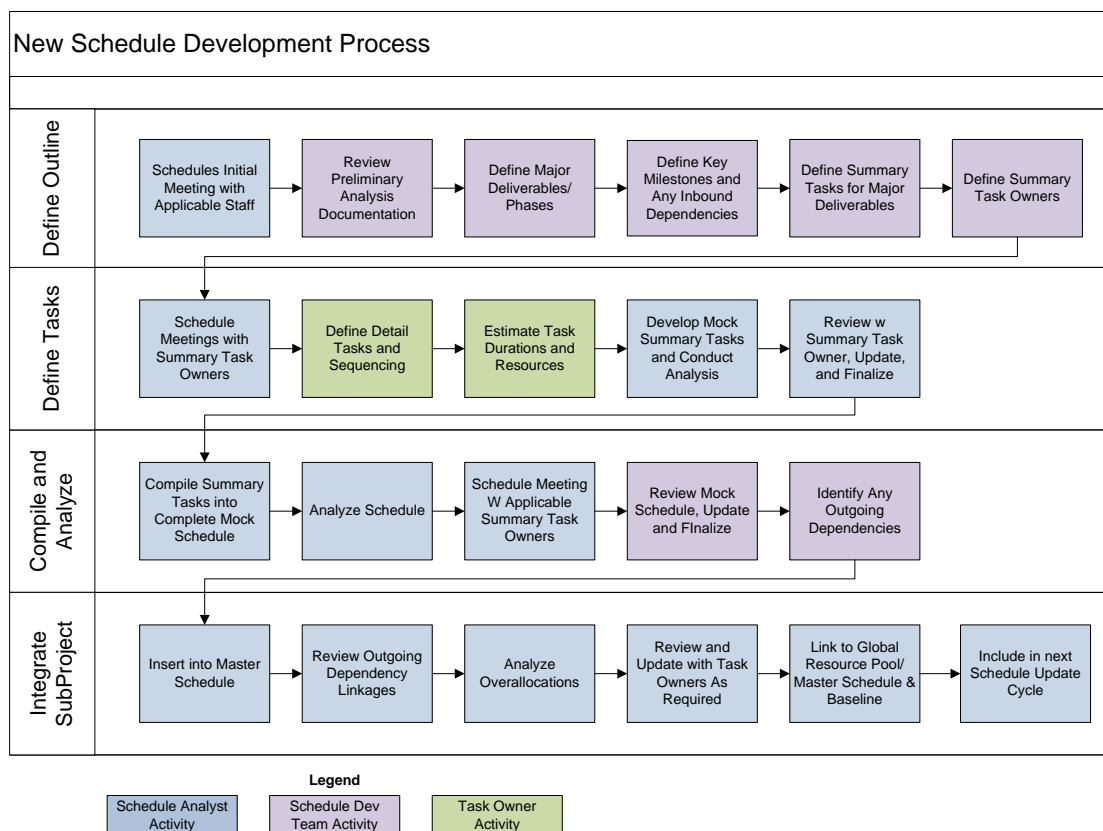
15.1 Approval for New Schedule

Prior to development of new subproject schedules, the data sheet for the effort must be approved by the EDR Project Director. This data sheet provides high level information related to the schedule, team members working on the effort, scope of the effort and high level milestones. A sample of the data sheet is provided in Appendix B. If approved, then the schedule development process would begin.

15.2 Subproject Schedule Development Process

After approval of the data sheet, the EDR PMO schedule analyst would coordinate a meeting with the applicable managers, PMSC, PSP, and other EDR staff or Subject Matter Experts (SMEs) to begin the development of the new subproject schedule. The process involves a series of meetings and activities to incrementally define the outline, tasks, sequencing, and resources for the new schedule. This group of people will form the Schedule Development Team and may be unique to the schedule being developed. This overall process is defined in Diagram 1 below:

Diagram 1 – Subproject Development Process



Normally, meetings are scheduled for two hours or less. Depending on the size and complexity of the schedule being developed, this process can take between two and six weeks to complete.

15.3 Schedule Development Tools

Several tools will be used to facilitate development of new schedules. Some of the tools and techniques that could be used include:

- Using stick notes to support initial WBS development and sequencing,
- Visio 2007 with WBS modeler add on to refine the WBS,
- MS Project 2007 for both mocking up the initial schedule and updating it throughout the process,
- Using the EDR Global Resource Pool for all assignments and to add in any EDR customized fields, views, filters, tables, or calendars
- Exporting and Importing Date between MS Project and Excel for workload estimates and resource identification,
- Use Schedule Risk, Assumptions, Issue and Scope spreadsheet to define individual schedule related risks, assumptions, issues or scope throughout the schedule development effort.
- Use of the CA-PMM Activity Duration Estimate Worksheet, PERT, or other estimating techniques (analogous or parametric) to more accurate model estimates.

Regardless of the tools used all schedule should conform to the overall WBS structure and schedule guidelines including linking to the global resource pool.

15.4 Schedule Guidelines

The following sections define the guidelines that will be used for any new or existing subproject schedule. These guidelines supplement the overall guidelines defined within the EDR Schedule Management Plan. This section also defines any custom schedule content that has been created for the EDR Project. It is expected that the Primary Solution Provider (PSP) will develop a schedule that supports these guidelines and allows for effective coordination of schedules. These guidelines will align the PSP throughout the project.

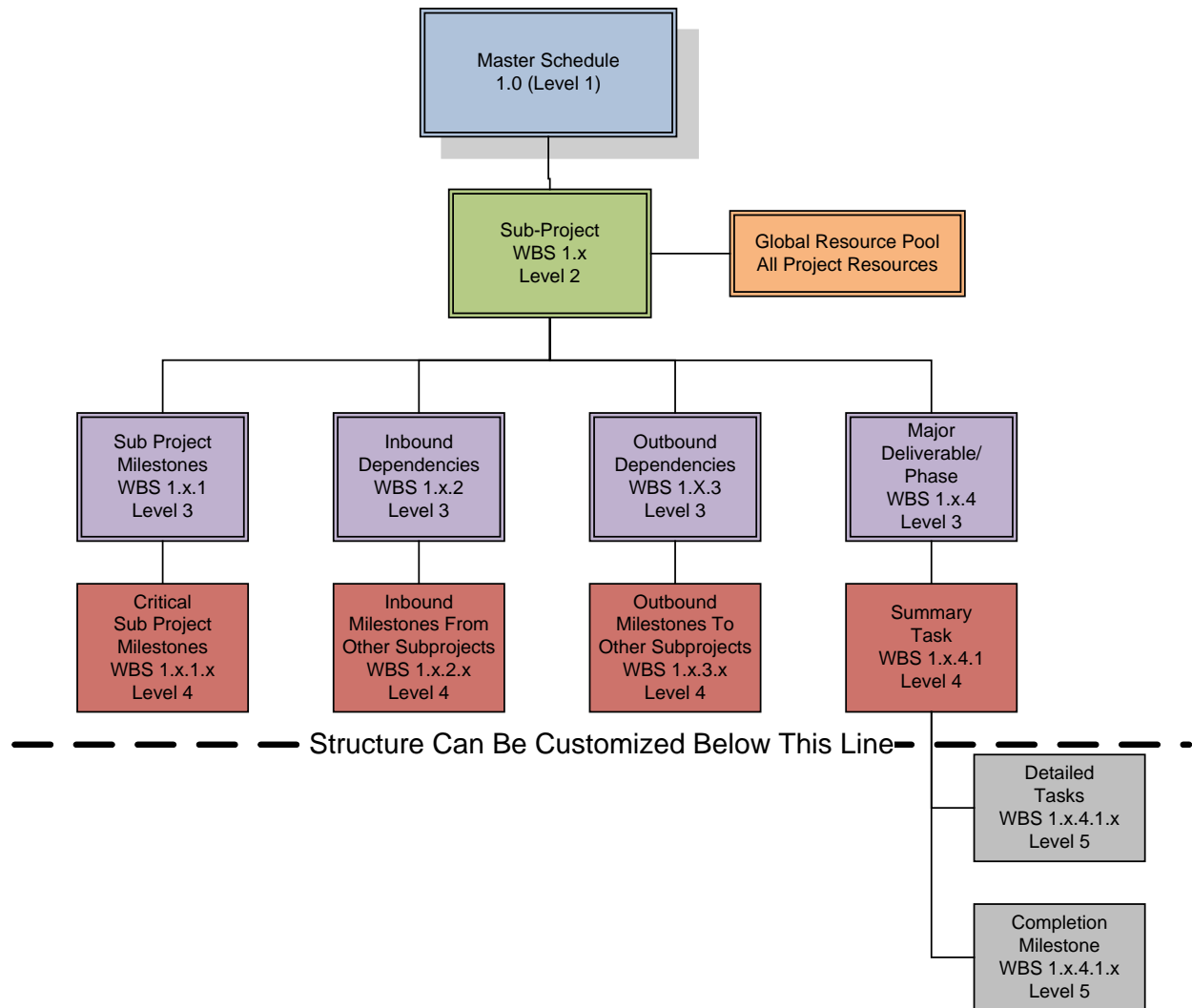
15.4.1 Define Schedule Related Risks, Issues and Assumptions

Part of developing a new schedule also includes documenting the assumptions that were used to create the schedule as well as any risks or issues that might be associated with the schedule. These could be documenting assumptions related to task estimating or duration, resource assignments, or dependencies that are outside of the control of the Project. EDR project as a standard template that is for documenting individual schedule related risks, issues, or assumptions. The template is located at: <\\Ff208\groups\EDR\ScheduleTeam\Schedule Related Docs\RiskIssueAssumpScope Logs\EDR Risk Issue Assump PSP CR Log Template.xlsx>. This template should be completed for each new schedule that is developed. Any significant risks or issues that have a broader implication for the project should be submitted to the risk or issue manager to determine if they are candidates for Project level risk or issue management.

15.4.2 Define the Subproject WBS

Diagram 2 provides the high level understanding of the WBS levels for any subproject schedule created for the EDR Project. The intent is to standardize the WBS levels across subprojects to aid in consistent reporting. This structure may be modified below level four of the WBS to provide additional summary task levels. The structure of the first four levels should be maintained for all subproject schedules. This WBS structure will be maintained throughout the project and will be used as the basis throughout the schedule development process.

Diagram 2 – Subproject



The table below provides a textual description of the contents of each WBS level.

Table 2 – WBS Description

WBS Level	Description	Responsibilities
1	Master Schedule – All Subprojects are inserted via hyperlinks into a Master Schedule	The EDR PMO is responsible for maintaining the master schedule and the inserting of new projects into the master schedule.
2	Subproject Schedule is the top level defined in the Master Schedule and is created via the linking of the schedule into the Master. Note: This level does not exist within the subproject schedule itself but is created via the linking process.	The EDR PMO along with the task owners for the subproject define the name of the schedule and the scope is defined via the scope mgmt or CR process.

WBS Level	Description	Responsibilities
3	Subproject Milestones – These are key milestones that should be tracked at the subproject level. These at a minimum should include any milestones in the SPR as applicable. These milestones are linked from other tasks or milestones within the schedule and are provided in this one section so that they are easily visible. They have no successors.	The task owners in conjunction with the PMO define the milestones that should be tracked.
3	Inbound Dependencies – These are outbound dependencies from other sub project schedules that link to tasks within the subproject schedule as predecessors.	The EDR PMO is responsible for coordinating and updating the inbound dependencies. Definition of these dependencies is in conjunction with tasks owners between the subproject schedules.
3	Outbound Dependencies – These are inbound dependencies from other sub project schedules that link to tasks within the subproject schedule as predecessors.	The EDR PMO is responsible for coordinating and updating the outbound dependencies. Definition of these dependencies is in conjunction with tasks owners between the subproject schedules.
3	Major Deliverable/Phase – This section is where the actual work for the subproject schedule is contained. It is product centric except for those processes/services that are predominantly Level of Effort (PMO, OCM, etc).	The task owners in conjunction with guidance from the EDR PMO and review of the SOW or state activities determine the name and effort that constitutes a major deliverable/phase.
4	Summary Tasks – Significant groups of activities associated with the Major Deliverable or Phase. Align with WBS when possible.	The task owners in conjunction with guidance from the EDR PMO and review of the SOW determine the name and effort that constitutes a summary task for each deliverable/phase.
5	Detailed Tasks – These are the detailed tasks associated with each summary task. This is where predecessor/successors are defined and where resources are loaded. Note: Additional summary tasks may be added based on the needs of the task owners.	The task owners with guidance from the EDR PMO define the detailed tasks, durations, sequencing and resources associated with detailed tasks.
5	Completion Milestone – These are completion milestones for each summary task and are normally used to link to either key milestones or to other detailed tasks under other summary tasks.	Task owner in conjunction with the EDR PMO define the name for these milestones and any links to other tasks or milestones.

A template that outlines this WBS structure related to new subproject schedules can be found at: <\\Ff208\groups\EDR\ScheduleTeam\Schedule Related Docs\New Schedule Template\New Schedule Template.mpt>. This template only provides a structure for inserting tasks that are unique to each subproject. It is also set up to use the appropriate default settings for task type, effort driven tasks, and use the EDR Project Calendar.

15.4.3 Estimating Tasks

The estimation process for the EDR Project will follow the CAPMM and PMBOK framework in estimating from “top down” and “bottom up”. The top down approach is derived from high level estimates and milestones taken from the FTB EDR Project SPR as well as other identified lower level milestones. These high level estimates are the guiding timelines for the detailed bottom up estimates that are completed by individual teams. The high level estimates are also used for rolling wave planning as described in the PMI PMBOK Chapter 6 (Project Time Management) and are planned to be updated in six month intervals in rolling wave fashion.

The bottom up estimates are derived using activity definition and sequencing methodology as specified in the PMI PMBOK Chapter 6. Different approaches can be used including stick notes, MSVisio or MS Excel. The goal is to finish with an activity list that is sequenced properly for transfer to MS Project as well as activity duration estimates with effort. The activity definition and sequencing is pretty straightforward and should include all work to be performed while keeping tasks between 8 and 80 hours duration (1 day to 2 weeks). Tasks may vary from this guideline, but in general this is the minimum duration level for tracking a task as well as the maximum duration for a task to run where concern is for tasks lasting too long and not delivering the required output (tasks that are too long can shield problems leaving management with limited visibility into task progress).

The estimating process per task for the EDR Project will follow the PMBOK using the following methodologies

- Expert Judgment
- Analogous Estimating (when available)
- Parametric estimating (when available)

In addition, the estimating techniques found in the CAPMM are also leveraged to build a blended approach to project task estimation. The following shows example estimates using the CAPMM methodology. From calculations the CAPMM methodology adds 70% to the initial estimates. In interviewing the various estimators it was determined that the estimators were in fact incorporating a lot of the CAPMM factors in their baseline estimates. While the project factors provided are excellent measures for increasing initial task estimates, this “double counting” of project factors yields an inordinately high Effort Estimate (EE).

ID	Task	BE (hrs)	Resources	*SF	*WIF	*MPF	*PPIF	=EVF	=EE(hrs)	/	Activity Hrs/Work Day	=	DE (days)
1	Open Box	40	Joe Smith	1.1	1.11	1.18	1.18	1.70	67.88	/	6	=	11

2	Remove Contents	80	Suzy Jones	1.1	1.11	1.18	1.70	135.75	6	23
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Thus the EDR Project has decided to use a blended approach for estimation. All State resources are set to 70% max units in MS Project which equates to 6 hours of schedule task related work per day. The additional 2 hours accounts for administrative meetings and other non-schedule related work (this max units approach is industry standard in allocating for unscheduled work for project resources).

After completion of activity definition and sequencing, managers and their teams estimate with the project schedulers the tasks in effort hours. This estimate is based upon Expert Judgment and Analogous and Parametric estimating when the latter two are available. The estimators on the State EDR Project team have been trained in incorporating the CAPMM project factors within their estimates so that their estimate is the final one provided for input into the project schedule.

The measure of estimation comes in regular intervals (ranging from 6 months to a year) to compare variance between initial baselines and the final actual values. Enhancements to this methodology will be made as required as the project progresses.

15.4.4 Synchronizing Custom Content

Prior to adding tasks into a new schedule, it is important to sync the custom calendars, views, filters, tables, flags and text fields of the schedule with those in the EDR Global Resource Pool. Table 3 below outlines how this is performed.

Table 3 – Synchronizing Custom Content

Step	Description
1	Open the current EDR Global Resource Pool and the new schedule file you are creating.
2	Within the new schedule file select Tools/Organizer
3	On the left hand side of the organizer window select the EDR Global Resource Pool for Views Available In pull down menu. Note: if the EDR Global Resource Pool is not open you will not have the option to select it.
4	Select all the views from the views tab that start with EDR and use the copy button to move them into the new schedule file.
5	Repeat Step 4 for the Filters, Tables, Fields, and Calendars.
6	Save the new schedule file
7	Close out the EDR Global Resource Pool but do not save

This will ensure that all the custom content that has been developed is available in the new schedule.

15.4.5 Define Task Types

The EDR Project uses Fixed-Duration, non-effort driven task types for all tasks in the subproject schedules. To set the default task type within the newly constructed schedule follow the steps outlined in Table 4.

Table 4 – Setting Task Types

Step	Description
1	On the Main Tool Bar select Tools/Options
2	On the Schedule Tab in the Default task type box select Fixed Duration
3	Clear the check box for All new tasks are effort driven
4	Select Set as Default/OK

15.4.6 Set Network Logic

Task dependencies are identified through estimating sessions with team members to identify the activity sequencing for the project tasks. Further refinement may be required post activity sequencing sessions once more detail is flushed out in individual tasks. This detail would be obtained by speaking with task owner as to the task dependencies required.

To create task dependencies, the tasks must be linked (predecessor/successor). Once task dependencies are established, the linked tasks can be rearranged in the outlined schedule. Tasks should always be moved and not “cut and pasted” else task information will be lost (task unique IDs, dependencies, etc.). Setting task dependencies is a critical component in setting the network logic that will define the project’s critical path.

15.4.7 Linking Tasks

When tasks are first entered into MS Project, by default they are all scheduled to start on the same day; the project start date. There are several different methods to create links between tasks. For example, you can create a finish-to-start dependency between two tasks by selecting **Link Tasks** on the **Edit** menu or on the Standard toolbar.

The default dependency is finish-to-start. Ideally, when developing a new schedule finish to start dependencies should be used as this will make tasks flow sequentially and allow for future potential schedule mitigation activities to perform tasks in parallel via Start to Start or Finish To Finish relationships. See Section 3.4.7.1 for more detail on task constraint usage.

Best practice states that only detailed tasks should be linked. Summary tasks should never have predecessors or successors (links).

NOTE: Summary tasks cannot be linked to one of its own subtasks. Doing so would create a circular scheduling problem, and therefore MS Project 2007 doesn’t allow it.

15.4.8 Set Lag or Lead Time

When task dependencies are set, there may be some successor tasks that can start before their predecessor tasks are finished (e.g. review of training materials starts before the final completion of said materials). Other successor tasks cannot be started until after a delay that follows the conclusion of their predecessor tasks (e.g. completion of EAW updates could not complete until the cost analysis is complete). To account for these time differences you will enter Lead or Lag time on the affected tasks. To enter lead or lag time follow the steps outlined in Table 5.

Table 5 – Setting Task Leads and Lags

Step	Description
1	On the View menu, select Gantt Chart .
2	In the Task Name field, select the task for which you want to set lead time or lag time, and then select Task Information/Predecessors tab.
3	In the Lag field, type the lead time or lag time that you want, either as a duration or as a percentage of the duration of the predecessor task: <ul style="list-style-type: none">To enter lead time, type either a negative number or a negative percentage (such as -2d for two days of lead time).To enter lag time, type either a positive number or a positive percentage (such as 50% for half of the predecessor task's duration in lag time).

15.4.9 Schedule Constraints

The default for constraint type should be As Soon As Possible. Use of other types of schedule constraints should be limited to the extent possible. Predecessor and successors linkages should be used in place of constraints to define tasks start and finish dates whenever possible. Types of constraints include: As Soon As Possible, As Late As Possible, Finish No Earlier Than, Finish No Later Than, Must Finish On, Must Start On, Start No Later Than, and Start No Earlier Than. **Note: Use of Must Start On, Must Finish On, Start No Later Than, and Finish No Later Than are not allowed within the project schedules as they prevent the schedule from accurately reflecting the effect of late tasks.**

15.4.9.1 Review For Task Constraints

Project offers two ways to examine date constraints: the constraint Indicators icons and the Constraint Type field. To review date constraints follow the steps outlined in Table 6.

Table 6 – Viewing Constraints

Step	Description
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1	Display the Task Details Form in the Task Entry view's bottom pane by selecting in the bottom pane and select View/More Views .
2	Select Task Details Form/Apply
3	In the Gantt Chart Table insert column Constraint Type/OK
4	Select Project/Filtered For/AutoFilter
5	Select Constraint Type AutoFilter/Custom
6	In the first Constraint Type criteria box, choose “ does not equal ”. In the value box, choose As Soon As Possible/OK . Project filters the task list showing only tasks that have a Constraint Type other than As Soon As Possible. Note: You can also visual inspect the indicator column to look for a little calendar symbol that shows when constraints have been applied.
7	Select a task with a date constraint so its information appears in the Task Details Form in the bottom pane.
8	If the constraint shouldn't be there select As Soon As Possible from the Constraint Type drop-down list, select OK

15.4.10 Schedule Deadlines

Deadlines may be used to allow additional visibility on key tasks that are not on the critical path or for tasks that must support dates that are outside of the control of the Project. Deadlines have the effect of creating a separate path for the tasks leading up to the deadline. If the schedule updates show that the deadline will not be met then it will be flagged and the slack will go negative. However, use of deadlines still allows the schedule to move based on updates. Thus deadlines are preferred over other types of constraints and are used in place of Must Finish On or Finish No Later Than. The process for setting deadlines is defined in Table 7 below.

Table 7 – Setting Deadlines

Step	Description
1	Double-select on the task to open the Task Information dialogue box or select the task then on the Standard Toolbar select Task Information .
2	Select the Advance Tab , in the Deadline box select the Deadline Date/OK .
3	In the Gantt Chart View MS Project displays an arrow with a green border.

15.4.11 Create Schedule Milestones

Milestones typically measure progress for things such as events, deliverables, or project achievements. To create a milestone within an MS project schedule file a new task is created and its duration is set to zero days. No resources should be assigned to a milestone task. Milestones should be used to note completion of significant activities, contractual deliverables, or other items management wishes to track.

15.4.12 Custom Fields, Tables, Flags, and Views

Custom fields have been developed within MS Project to allow the EDR Management Team to flag key events or quickly display project related information. MS Project also

provides tools to create custom views and tables that can be quickly applied without the need to recreate the views each time you want to display the same information. Custom fields have been developed to flag various types of task designations and some are formula driven. Tracking against these configurations is described in subsequent sections of this Manual. Reports can then be generated based upon this distinction, as needed. Additional custom flags may be added based on the needs of the Project.

Additionally, the use of custom flags will be coordinated with the PSP schedule so that they don't overlap. There are a total of 20 custom flag fields available in MS Project. Custom flags are stored in the EDR Global Resource Pool and are then copied to subprojects when required. All customized flags have EDR in the name to make them easily distinguishable for the generic fields in MS Project.

As with custom flags, all custom content created for the EDR project is contained within the EDR Global Resource Pool and then copied to subproject schedules. All customized fields have EDR in the name to make them easily distinguishable from the generic fields in MS Project.

Table 8 contains a list of all custom fields, tables and views currently used in the EDR subproject schedules.

Table 8 – Custom Fields, Tables, Flags, and Views

Custom View	Associated Filter	Associated Table	Associated Flag #	Associated Text #	Formula greater than (>) or less than (<)	Description
EDR 30 Day Look Ahead	EDR 30 Day Look Ahead	EDR Look Ahead	2 – EDR 30 Day	N/A	IIf([Start]<[Status Date]+30 And [% Complete]<100,Yes,No)	Provides a 30 day view from Project Status Date of tasks not yet completed.
EDR 60 Day Look Ahead	EDR 60 Day Look Ahead	EDR Look Ahead	3 – EDR 60 Day	N/A	IIf([Start]<[Status Date]+60 And [% Complete]<100,Yes,No)	Provides a 60 day view from Project Status Date of tasks not yet completed.
EDR 90 Day Look Ahead	EDR 90 Day Look Ahead	EDR Look Ahead	4 – EDR 90 Day	N/A	IIf([Start]<[Status Date]+90 And [% Complete]<100,Yes,No)	Provides a 90 day view from Project Status Date of tasks not yet completed,
EDR Bi-Weekly Update	EDR Weekly Status Update	EDR Standard View Weekly Update	7 – EDR Bi-Weekly Update	N/A	IIf([Start]<[Status Date]+14 And [% Complete]<100,Yes,No)	Provides a two week outlook from the Project Status Date of tasks not yet completed.
EDR Bi-Weekly Update Schedule Analyst	EDR Weekly Status Update	EDR Schedule Analyst Weekly Update	7 – EDR Bi-Weekly Update	N/A	IIf([Start]<[Status Date]+14 And [% Complete]<100,Yes,No)	Provides a two week outlook from the Project Status Date of tasks not yet completed. Used to solicit updates from Task Owners (copied & pasted into Excel

Custom View	Associated Filter	Associated Table	Associated Flag #	Associated Text #	Formula greater than (>) or less than (<)	Description
						for distribution).
EDR Date Range View	EDR Date Range	EDR Late Start or Finish	N/A	N/A	N/A	Shows task activity based on a user defined date range.
EDR Executive View	EDR Top Level Tasks	EDR Executive Gantt	6 – EDR Exec Milestone	N/A	N/A	Shows WBS level 3 tasks and the status of those tasks in a Gantt view.
EDR Individual View	EDR Individual Lookup	EDR Individual View	N/A	N/A	N/A	Shows all tasks associated with a specific individual (defined by user).
EDR Late Start or Finish	EDR Status	EDR Late Start or Finish	N/A	3 – EDR Status Field	If([% Complete]=100,4,If([Finish]<=[Status Date] And [% Complete]<100 And [Critical]=No),3,If([Start]<=[Status Date] And [% Complete]=0),2,If([Start]<=[Status Date] And [Finish]>[Status Date] And [% Complete]>0),1,If([Start]>[Status Date],0,0))))	Shows tasks that have a late start/finish and are not yet completed.
EDR Preliminary Update Variance	EDR Weekly Status Update	EDR New Weekly Schedule Analyst	N/A	4 – EDR Variance	If([Finish]>[Finish1] And [Flag6]=Yes,5,If([Finish]>[Finish1] And [Critical]=Yes),4,If([Finish Slack]<1920 And [Duration1]>1920 And [% Complete]<100),3,If([Finish]-[Baseline Finish]>20),2,If([Finish]-[Finish1]>10),1,0))))	Allows quick identification of variances; graphical indicators change as updates are entered.
EDR Remaining	EDR Tasks	EDR Late Start	N/A	3 – EDR	If([% Complete]<100)	Shows remaining

Custom View	Associated Filter	Associated Table	Associated Flag #	Associated Text #	Formula greater than (>) or less than (<)	Description
Tasks	Remaining	or Finish		Status Field	Complete]=100,4,IIf(((Finish]<=[Status Date] And [% Complete]<100 And [Critical]=No),3,IIf((Start]<=[Status Date] And [% Complete]=0),2,IIf((Start]<=[Status Date] And [Finish]>[Status Date] And [% Complete]>0),1,IIf([Start]>[Status Date],0,0))))))	tasks that are not yet completed.
EDR Standard View	All Tasks	EDR Standard View Table 1	N/A	N/A	N/A	Shows status of all tasks – completed and in progress.
EDR Task Owner	EDR Task Owner Lookup	EDR Task Owner View	N/A	1 – EDR Task Owner	N/A	Shows all tasks associated with a specific task owner (defined by user).
EDR Team View	EDR Team Lookup	EDR Team View	N/A	2 – EDR Team	N/A	Shows all tasks associated with a specific team (defined by user).
EDR Variance Analysis	EDR Variance View	EDR Variance Analysis	6 – EDR Exec Milestone	4 – EDR Variance	IIf([Finish]>[Finish1] And [Flag6]=Yes,5,IIf((Finish]>[Finish1] And [Critical]=Yes),4,IIf((Finish Slack]<1920 And [Duration1]>1920 And [% Complete]<100),3,IIf((Finish]-[Baseline Finish]>20),2,IIf((Finish]-[Finish1]>10),1,0))))))	Shows key variance indicators for remaining tasks.
N/A	N/A	N/A	5 – Level of Effort (LOE) Tasks	N/A	N/A	Shows all LOE Tasks

Custom View	Associated Filter	Associated Table	Associated Flag #	Associated Text #	Formula greater than (>) or less than (<)	Description
N/A	N/A	N/A	N/A	5 – MRD Tasks	N/A	Shows all MRD Tasks

15.5 Linking New SubProject Schedule Into Master Schedule

Once the new schedule has been finalized and approved, it may now be inserted into the Master Schedule. After it is inserted into the master schedule, it will be included in the normal update and maintenance processes.

15.5.1 WBS Renumbering

The WBS code for each subproject has to be adjusted so that when it is linked with the master schedule the WBS structure remains accurate. The master schedule always starts with WBS 1.0 and the subproject schedule when linked to the master will be 1.x based on where it is inserted. Therefore, the WBS code for the subproject will be refined to be numbered and to have a prefix of 1.x. The EDR PMO WBS Manager is Tina Semon.

15.5.2 Naming the Subproject

When the subproject is inserted into the master schedule, the name that is inserted is based on what is defined in the properties folder of the subproject file. Therefore, prior to inserting the subproject, open the subproject schedule file and select **File/Properties**. Select the summary tab and then entire in the schedule name in the title box.

15.5.3 Inserting the Subproject Schedule

During the next cycle to update the master schedule (normally Friday), follow the process outlined below to insert the new subproject file.

Table 9 – Linking to the Global Resource Pool

Step	Description
1	After the Master Schedule has been updated, copy the most current version of the new schedule file into the consolidated schedule folder at: \\Ff208\groups\EDR\ScheduleTeam\EDR Master Project Schedule
2	Open the Master Schedule and go to where you will insert the new subproject and select Insert/Project .
3	Browse to link to the new schedule within the consolidated folder.
4	The schedule should now be linked within the Master. Visually inspect to make sure the WBS numbering matches that within the master schedule.
5	Link the Subproject schedule to the global resource pool by following the directions in Section 3.6.1.

15.6 Resource Pool

The EDR Project uses a global resource pool to manage the resources used in all schedules. A resource pool is a MS Project file dedicated to resource information, as well as associated calendars, custom views, and tables. The EDR_Global_Resource_Pool.mpp can be found using the following path:
[\\Ff208\groups\EDR\ScheduleTeam\EDR Global Resource Pool](#)

15.6.1 Resource Pool Linking

All MS Project files must be linked to the EDR_Global_Resource_Pool.mpp prior to assigning resources in the MS Project schedule file. To accomplish this task follow the steps outlined in Table 10.

Table 10 – Linking to the Global Resource Pool

Step	Description
1	In Project, open the EDR_Global_Resource_Pool.mpp file as a read only file (File/Open/Open Read-Only)
2	Open the Project (s) that you want to connect to the resource pool. Select Tools/Resource Sharing/Share Resources
3	Select the Use Resources option then from the drop down menu select EDR_Global_Resource_Pool.mpp .
4	Under the On conflict with calendar or resource information , select Pool takes precedence/OK

15.6.2 Update organizer

In addition to housing all of the resources used in schedules, the resource pool is also a global template for retaining custom views, tables, calendars, fields and the like. If a schedule is not displaying a customized look as it should, it can be captured again by following the steps below in Table 11.

Table 11 – Updating the Global Organizer

Step	Description
1	Open the EDR_Global_Resource_Pool.mpp as a read only file (File/Open/Open Read-Only)
2	In addition to opening the pool, open the .mpp schedule file that requires the updated View, Table, Calendar, etc. and minimize it on the screen
3	Within the EDR_Global_Resource_Pool.mpp, pull down the Tools menu and select Organizer and select the tab for the applicable Field, Calendar, or View that needs to be repopulated
4	On the left side of the Organizer window, pull down the Views available in menu and select the EDR_Global_Resource_Pool.mpp
5	On the right side of the Organizer window, pull down the Views available in menu and select the .mpp schedule file that is open and needs updating
6	Highlight all of the categories on the left side of the Organizer window and click on the Copy >> radio button
7	Close the Organizer window and save the .mpp schedule file with the template custom views.

15.6.3 Update and Refresh Sharer Files

Project schedules that are linked to a resource pool are called sharer files. When a sharer file is opened MS Project asks whether or not you want to open the resource

pool. If you select “Do not open other files” only the resources already assigned to tasks in the project appear on that schedules resource sheet. To update or refresh the resource information in the sharer files follow the steps outlined in Table 12 below.

Table 12 – Refreshing the Resource Pool

Step	Description
1	To make sure the schedule is up to date with the most recent changes in the resource pool select Tools/Share Resources/Refresh Resource pool .
2	Likewise, if you have made a lot of resource assignments, the resource pool can be updated by selecting Tools/Share Resources/Update Resource Pool .

15.6.4 Archiving resource pool

In each instance that the EDR_Global_Resource_Pool.mpp is updated with new information (resources, calendars, views, etc.), it must be archived with the date stamp of the day in which the changes took place. Archived resources pools are saved in the following location: <\\Ff208\groups\EDR\ScheduleTeam\EDR Global Resource Pool\Archive>

15.6.5 Assign Resources

The resource pool centralizes resource information, such as the resource name, calendar used, resource units, and cost rate tables. Each project that uses resources from the resource pool is called a sharer file. To link the schedule file to the EDR_Global_Resource Pool.mpp follow the steps outlined in Table 13.

Table 13 – Assign Resources

Step	Description
1	Open a copy of the EDR_Global_Resource_Pool.mpp file.
2	To verify the schedule is linked to the GLOBAL RESOURCE POOL select Tools/Resource Sharing/Share Resources . In the Share Resources dialogue box select Use resources/From: EDR_Global_Resource_Pool.mpp .
3	Once verified, use the schedule drop down functionality, to assign resource names to their applicable tasks.

15.6.5.1 Use of Generic Resources

Assign the Generic Resources from the resource pool the name of the resource is not available to be assigned to the task.

- Assign a generic resource as you would any other project resource;
- Use generic resources sparingly and temporarily; and
- Always replace the generic resource with the actual resource before any work commences on the task assignment.

Do not type a generic resource name, or any name, into the schedule file. This creates two different entries in the consolidated resource pool.

15.6.6 Adding Resources to the Pool

The EDR Global Resource Pool is managed by one dedicated FTB EDR Scheduler. All additions and edits to this file must be filtered through the appropriate scheduler, as determined by the FTB EDR PMO manager. When a resource needs to be added to the resource pool, the FTB EDR Manager responsible for the resource must provide all of the information outlined in Table 14 to the designated FTB Scheduler responsible for maintaining the EDR Global Resource Pool. This must be done before a resource can be added to the EDR Global Resource Pool.

Table 14 – Adding Resources

Step	Description
1	Determine if the new resource name is available in Outlook; a resource cannot be added to the pool until they are available in Outlook.
2	Notify the designated EDR Scheduler that a resource needs to be added to the pool
3	Provide the following information: <ul style="list-style-type: none">• Resource Name: Last; First• Initials: First, Last (Middle only if duplicates)• Group: Applicable Team
4	The FTB EDR Scheduler will populate the Resource Sheet with the following standard information: <ul style="list-style-type: none">• Type: Work• Max Units: 75%• Std. Rate: \$1.00/hr• Ovt. Rate: \$1.00/hr• Cost/Use: \$0.00• Accrue At: Prorated• Base Calendar: EDR Project Calendar

15.6.7 Assign a Project Calendar

The working times within the EDR Project schedules are predetermined by the FTB. The most current version of the EDR Project Calendar that is applied to all schedules is applied via the EDR Global Resource Pool. All State Calendar options will include such things as state holidays, and any applicable furlough days. To verify the correct project calendar has been applied follow the steps outlined in Table 15 and further defined in the Schedule Management Plan.

Table 15 – Assign A Project Calendar

Step	Description
1	On the Main Tool Bar select Tools/Resource Sharing/Share Resources
2	In the Share Resources Dialogue Box select Use Resources/From: EDR_Global_Resource_Pool.mpp . In the On conflict with the calendar select Pool takes precedence/OK .
3	On the Main Tool Bar select Project/Project Information .

Step	Description
4	In the Project Information Dialogue Box from the Calendar drop down menu select the most current EDR Project Calendar as defined in the Schedule Management Plan.

15.7 Schedule Baselines

Baselines are established within the MS Project tool to track variance data for monitoring and controlling project performance. For information relative to the baseline fields currently used for the EDR Project refer to the EDR Project's Schedule Management Plan.

15.7.1 Initial Baseline

All newly developed subproject schedules must have a complete baseline established once the schedule has been approved by the FTB EDR PMO Manager for baselining. To set the initial schedule baseline follow the steps outlined in Table 16.

Table 16 – Initial Baseline Setting

Step	Description
1	Highlight the Task Name column and select on "Show" on the tool bar - Show all Tasks .
2	On the main tool bar select Insert/Column on the drop down menu select Baseline Start select OK .
3	On the main tool bar select Insert/Column on the drop down menu select Baseline Finish select OK .
4	On the main tool bar – select Tools/Tracking/Set Baseline .
5	Select For Entire Project/OK .
6	Document the changes in the EDR Schedule baseline log.

15.7.2 Update Existing Baseline

If significant new scope is added to a schedule, the change must go through the scope and change control process prior to being added and subsequently baselined. If new tasks are being added based on schedule decomposition activities then these can be added and baselined in the schedule without prior approval provided the start and finish dates for the summary and milestone task don't change. New tasks can be added to an existing schedule by following the steps outlined in Table 17.

Table 17 – Update Baseline

Step	Description
1	On the View menu, select Gantt Chart .
2	Highlight the Task Name column and select on "Show" on the tool bar - Show all Tasks .
3	In the Task Name field, select the tasks, including subtasks and summary tasks that

Step	Description
	you want to add to or update in a baseline.
4	On the main tool bar select Insert/Column on the drop down menu select Baseline Start select OK
5	On the main tool bar select Insert/Column on the drop down menu select Baseline Finish select OK .
6	Highlight the tasks to be updated.
7	Choose Tools/Tracking/Set Baseline .
8	Select the option for Selected Tasks .
9	Under Roll up Baselines check if you want to update based on the existing schedule data: <ul style="list-style-type: none"> • From subtasks into selected summary tasks
10	Select OK (If applicable, when prompted to overwrite the existing saved data, select Yes)
11	Repeat steps 3 through 10 for all remaining tasks that need to be added to the subproject baseline. (Tip: to select adjacent tasks, hold down SHIFT, and then select the first and last tasks that you want. To select nonadjacent tasks, hold down CTRL, and then select each task that you want. You can select up to 10 tasks at one time).

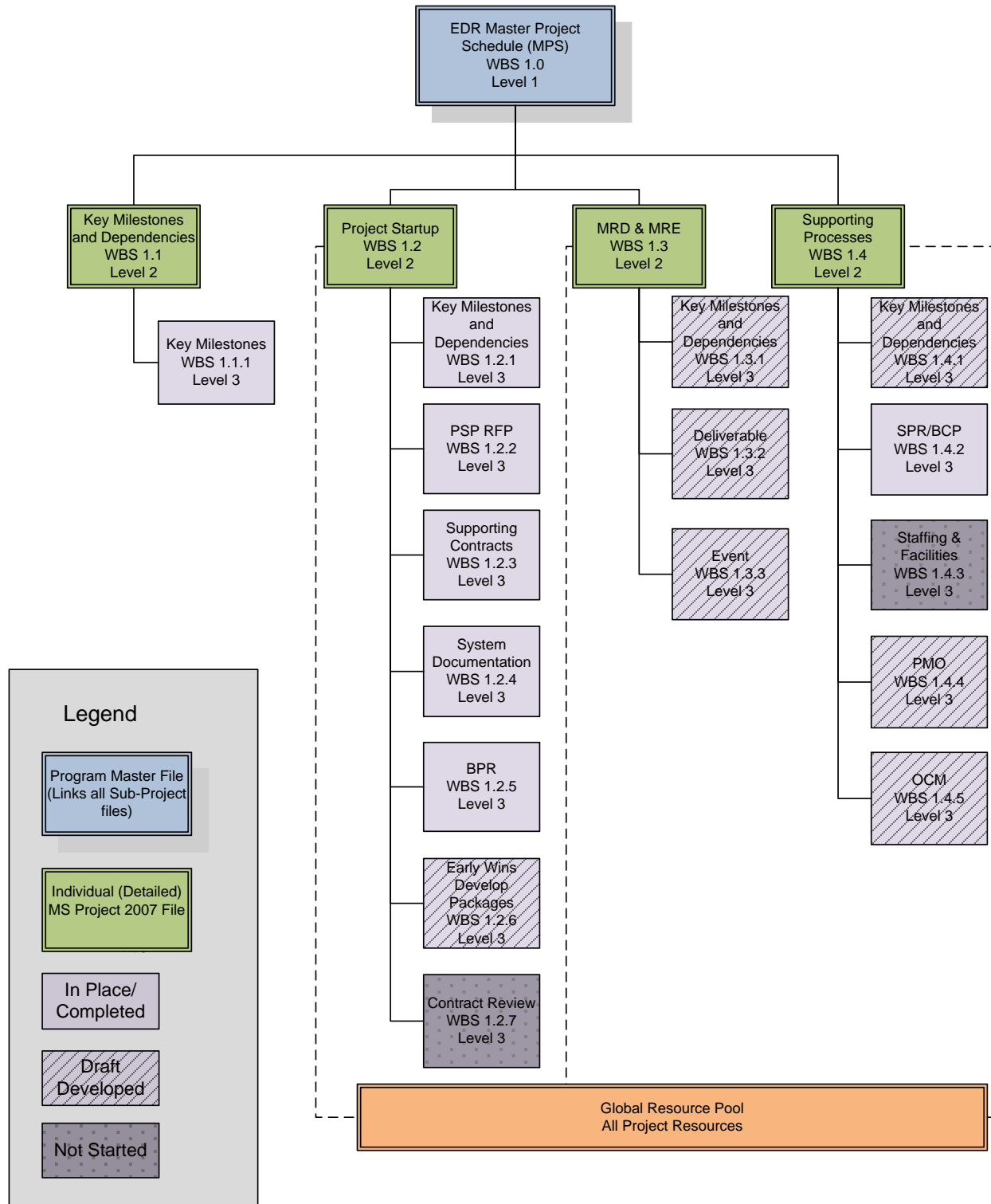
15.8 Create Master Schedule Structure

The EDR Project will be using master schedules that are linked to various subproject schedules which are in turn linked to the EDR Global Resource Pool. One will be used to track and manage activities prior to PSP start and one will be used to track activities after PSP start. Any activities in the MPS schedule that carry on past the PSP start will be moved into the MIPS.

15.8.1 Master Project Schedule (MPS)

This MPS is being used to track and update activities that occur prior to the PSP start date. It includes all the procurement tasks, the overall support processes, and the activities to prepare for the PSP. This schedule will be replaced by the Master Integrated Schedule (MIPS). The MPS includes 3 separate subproject schedules, a set of key milestones, and a global resource pool. Specific descriptions of the WBS level 3 tasks for the MPS can be found in the WBS dictionary that is in Appendix A. The current high level structure for the MPS schedule is defined in Diagram 3.

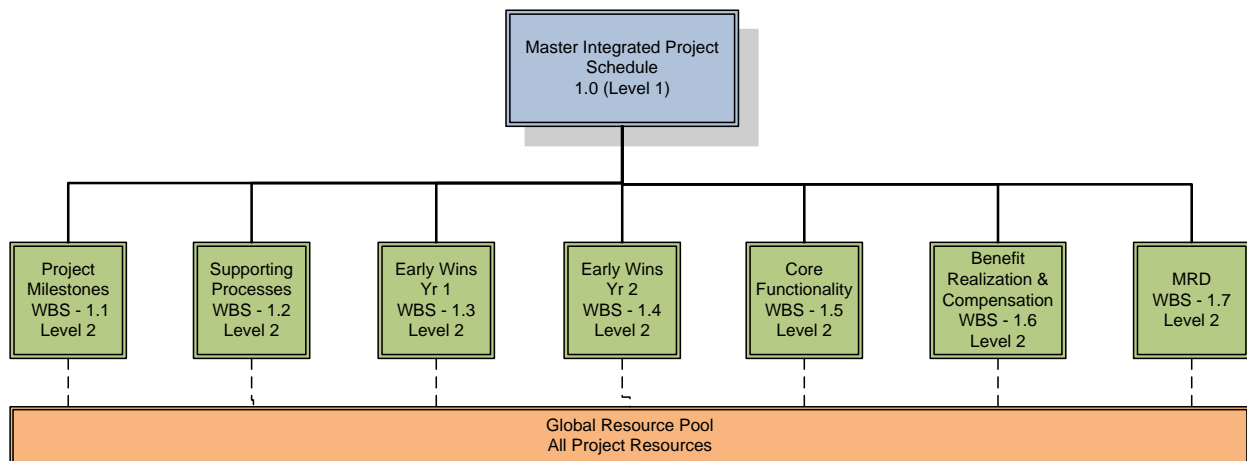
Diagram 3 – MPS Structure



15.8.2 Master Integration Project Schedule (MIPS)

The MIPS schedule will be used after PSP start and will replace the MPS. Any activities that remain from the MPS will be moved and become part of the MIPS. This schedule will integrate with the PSP schedule to provide a global perspective of vendor and FTB activities. The preliminary structure for the MIPS includes 8 separate subproject schedules, key project milestones, and the global resource pool. A WBS dictionary for the WBS level 3 tasks and above will be created during the schedule development process. Once the schedule is approved, the WBS dictionary in Appendix A will be updated. The preliminary structure for the MIPS is defined in Diagram 4.

Diagram 4 – MIPS Structure (Preliminary Draft)



15.8.3 Characteristics of a Master Schedule

The master schedules are created by linking in the subproject schedules into the master via the insert project functionality. This creates a hyperlink to the subproject schedule thus allowing visibility of all details of the schedule without having the performance degradation associated with keeping everything in one large schedule. The master file itself only includes the top level tasks and the project milestones with all the rest of the tasks coming from the subproject schedules.

15.8.4 Maintaining the Master Schedule File

Once the master schedule file has been created there would be no need to recreate it as the links will accommodate the schedule updates regardless of whether they are made in the master file or in the subproject files.

16.0 Schedule Tracking

16.1 Overview

The EDR Project uses MS Excel spreadsheets and a custom view within the EDR schedules to provide bi-weekly schedule updates. The workflow for this update process is defined below and starts on the Monday before updates are due,

Diagram 5 – Bi-Weekly Schedule Update Workflow

Week	Monday	Tuesday	Wednesday	Thursday	Friday
1	<i>-Weekly Managers Meeting (present Roadmap & MPS Mgrs Rpt) 8:30am</i> <i>-Populate Excel Update Templates from sub schedules</i> <i>-Email Template to Task Owners for updates</i>		<i>-Receive completed Excel status from Task Owners by COB</i> <i>*Note this is Project Status Date</i>	<i>-Update sub schedules</i> <i>-Analyze variances & publish variance reports (pdf) to Task Owners</i> <i>- Bi-Weekly Variance/Mitigation Meeting with Task Owners (as required) 1:00pm</i>	<i>-Final schedule update</i> <i>-Insert SP EW Spec sched into Proj Startup sub sched</i> <i>-Create new MPS/archive previous</i> <i>-Prepare Roadmap & create MPS Mgrs View/Report</i>
2	<i>-Weekly Managers Meeting (present Roadmap & MPS Mgrs Rpt) 8:30am</i>	<i>-Publish MPS to EDR Team</i>		<i>- Bi-Weekly EDR Project Team Meeting (present MPS) 9:30am</i>	
3	<i>-Weekly Managers Meeting (present Roadmap & MPS Mgrs Rpt) 8:30am-9:30am</i> <i>-Populate Excel Update Templates from sub schedules</i> <i>-Email Template to Task Owners for updates</i>		<i>-Receive completed Excel status from Task Owners by COB</i> <i>*Note this is Project Status Date</i>	<i>-Update sub schedules</i> <i>-Analyze variances & publish variance reports (pdf) to Task Owners</i> <i>- Bi-Weekly Variance/Mitigation Meeting with Task Owners (as required) 1:00pm</i>	<i>-Final schedule update</i> <i>-Insert SP EW Spec sched into Proj Startup sub sched</i> <i>-Create new MPS/archive previous</i> <i>-Prepare Roadmap & create MPS Mgrs View/Report</i>
4	<i>-Weekly Managers Meeting (present Roadmap & MPS Mgrs Rpt) 8:30am</i>	<i>-Publish MPS to EDR Team</i>		<i>- Bi-Weekly EDR Project Team Meeting (present MPS) 9:30am</i>	

Overall the bi-weekly update process requires close coordination between the schedule analyst and the task owners to ensure schedule effectiveness and accuracy.

16.2 Generating Bi Weekly Update Spreadsheets

The first step in the bi weekly update process is for the schedule analyst to populate the excel update template for each of the task owners. This is accomplished based on the following step by step process.

Table 18 – Populating the Excel Bi Weekly Update Template

Step	Description
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1	On Monday of an update week, open current version of the Master Schedule, select Project Information from the Project tab and make sure the Project Status Date is accurate (Should be Friday of the previous update week). For example, if the update week starts on March 21 st then the status date should be not the last Friday but the Friday before that (March 11 th). If status date is not right then adjust accordingly. Note: if status date is not right then the subsequent view will not be accurate.
2	Select the EDR Weekly Update Schedule Analyst View. Note: Visually inspect the view to make sure it only contains the following columns: Unique Id, WBS, Task Name, Summary, EDR Task Owner, Duration, % Complete, Start, Finish, and Resource Initials. If columns don't match these then add or subtract columns accordingly.
3	Select Autofilter button and filter on one of the EDR Task Owner names (i.e. Bryan, Kim, Kitty, etc).
4	Open up Excel Update Template for the Task Owner you filtered on (i.e. Bryan, Kim, Kitty, etc) and select the Unprotect Sheet option under the Review Tab. Note: Password should be pmsc.
5	Go Back to MS Project and select all the information in the view, right click and select copy task.
6	Go back to Excel Update Template, right click and paste information in the appropriate area. Note: the start and finish dates may be cut off, if so change the format for these columns to date and select a shorter date format (Mar 3 2011).
7	Select all the cells from the lowest row with data up to the heading columns, right click and add borders to all the cells, then select the filter button under data. Note: column headings should all have arrow boxes in the lower right corner.
8	Filter the summary column for yes, highlight the remaining cells in yellow, select on the filter arrow and select the "Clear Filter from Summary Option" then update the date with the new Status Date.
9	Select Protect Worksheet option from the Review tab, password protect the worksheet and save as Update Worksheet for the select task owner for that week using the following format: <Schedule Name i.e. MPS or MRD> Schedule Update <Task Owner> <New Status Date>.xls).
10	Repeat steps 3 to 9 for each of the remaining task owners.
11	Place all update spreadsheets to each of the task owners, their designees or backups in the shared folder Y:\EDR\ScheduleTeam\Weekly Update Spreadsheets and e-mail them to the task owners.

16.3 Updating the Bi Weekly Update Spreadsheets

Every two weeks the task owners, their designee or backup are responsible for responding with schedule updates by noon on Wednesday of an update week. The process for updating the spreadsheets is described in the table below:

Table 19 – Updating Weekly Spreadsheets

Step	Description
1	For each non highlighted task, define and update the start and finish columns based on either the actual start/finish dates or based on projected start/ finish dates. Note: Schedule analyst will assume if the dates are in the past they are actual start or finish dates and if they are in the future they are projected start or finish dates.
2	For each non highlighted task, provide a % complete based on the drop down of: 0, 25, 50, 75, or 100%. Note: these are the only values allowed in this column.

Step	Description
3	If tasks are projected to be substantially behind schedule, then please provide a reason for the delay in the Notes column.
4	E-mail the updated spreadsheet back to the schedule analyst prior to noon on Wednesday of the update week.

16.4 Make Preliminary Schedule Updates

As the schedule analyst, makes updates to the schedule based on the spreadsheets provided by the task owner, the schedule analysis reviews each change to see the overall impact on successor tasks and key milestones. This process is performed on Wednesday of an update week. The process for entering and analyzing these preliminary updates is described in the table below:

Table 20 – Preliminary Weekly Updates

Step	Description
1	On Wednesday of an update week, open current version of the sub project schedule (MRD, Supporting Processes, Project Startup), select Project Information from the Project tab and make sure the Project Status Date is the same as when the update spreadsheet was generated. Note: if the status date is not the same as it was when the update spreadsheet was first generated then the view may be different and it may be harder to find the tasks to update.
2	Under the view tab, make sure the highlight changes option is selected. Note: if this option is not on then MS Project won't highlight the changes as a result of the updates.
3	Select the EDR Weekly Update Schedule Analyst View . Note: Visually inspect the view to make sure it only contains the following columns: Unique Id, WBS, Task Name, Summary, EDR Task Owner, Duration, % Complete, Start, Finish, and Resource Initials. If columns don't match these then add or subtract columns accordingly.
4	Open one of the update spreadsheets that have been received from the task owner.
5	In the schedule, select Autofilter button and filter on the EDR Task Owner name from the spreadsheet.
6	Type in the start, finish, and % complete updates one at a time. After each update look to see if other tasks are highlighted as a result of the change.
7	As you are making updates, look at the EDR variance column to see if any graphical indicators appear. If red indicators appear proceed to step 7a and if any yellow indicators appear proceed to step 7b. If no indicators appear proceed to Step 8.
7a	If red graphical indicators appear then these indicate either a slip to the critical path or a slip to executive milestones. These task updates need to be discussed with the Task owner once all updates are complete and if possible prior to the next variance meeting to determine if they can be mitigated. If they cannot be mitigated by the task owner or require coordination with other task owners then review them during the next variance meeting.
7b	If yellow indicators appear then there represent substantial changes from the previous weeks finish, the baseline finish or the slack available. These tasks should be reviewed with the tasks owners during the variance meeting to make sure everyone is ok with the changes.
8	Continue this process for all updates from all task owners and in all sub-project schedules.
9	Save the updated schedule as a new file with an updated date at the end. Note: Format for naming schedules is <Schedule Name> YYYY MMDD.

16.5 Variance Analysis and Mitigation

For any of the task updates that meet the criteria for variance analysis and mitigation then a variance analysis and mitigation session needs to be held between the schedule analyst and the applicable task owner. The criteria for variance analysis are:

1. Update causes a slip to a key milestone within the schedule;
2. Update causes a slip to critical path task;
3. Update causes a subsequent task to have less than 3 days of slack;
4. Finish date of subsequent tasks has changed by GT 10 calendar days; or.
5. Finish Variance of GT 20 calendar days

Additionally, a bi weekly variance meeting is held with all the task owners to go through any variances that cannot be resolved individually with the task owner. This meeting is scheduled for Thursday and is held as required. Steps for conducting and documenting the analysis are described in the table below:

Table 21 – Variance Analysis

Step	Description
1	Open EDR Variance Analysis View in Schedule and review any red or yellow graphical indicators in the EDR Variance Column .
2	The schedule analyst should first analyze what is causing the update to meet the criteria. It could be predecessor or successor relationships, deadlines that have been established, constraints on subsequent tasks, or unique calendars associated with subsequent activities.
3	If there are red variance indicators, we may need to meet with the task owner prior to the Variance meeting to determine if any mitigation can be implemented.
4	PDF the EDR Variance Analysis View and e-mail to the affected task owners for the Thursday Variance Meeting.
4	During the Variance Meeting, the schedule analyst will review information in the following order to determine what if anything needs to be done to mitigate the variance.
5a	Are the constraints or deadlines associated with the task accurate? Update task as required.
5b	Are the predecessor and successor relationships accurate? Are finish to start relationships required or can Start to Start or Finish to Finish be used to make the subsequent tasks in parallel? Update task as required
5c	Can additional resources be added to subsequent tasks to reduce the durations of those tasks? Update task and resources as required.
5d	Can be realistically shortened (the duration of subsequent tasks)? Update subsequent tasks as required. Note: This may require coordination other teams as required.
6a	If any or all of these actions mitigate any red level variance then document within the schedule variance log and note the closure date. Yellow level variances do not need to be recorded in the variance log.
6b	If any red level variances still exist then notify responsible manager and annotate the variance in the EDR Schedule Change log Variance Worksheet along with steps taken to mitigate the variance and add as a task to discuss during the next Manager's meeting. Annotate decision reached during the Manager's meeting in the closeout comments for the variance. The schedule change log is located at: \\Ff208\groups\EDR\ScheduleTeam\Schedule Related Docs\EDR Schedule Log.xlsx

16.6 Archiving Summary Tasks within Schedules

Maintaining a manageable size for all EDR Master Schedules and EDR Sub Projects must be a number one priority for the EDR Project. Once Level 3 or above activities have been completed in any given subproject schedule for more than one month, those activities can be archived. This process is performed concurrently with the bi weekly update process and the bi weekly archiving of the Master Schedule. The process for archiving the schedule is defined in Table 22. <\\Ff208\groups\EDR\ScheduleTeam\EDR Master Project Schedule\Archive Weekly>

Table 22 – Custom Archive Table

Step	Description
1	After all the bi weekly updates have been made in the subproject schedules and you have saved the updated file, you can now archive any WBS Level 3 or above summary tasks that have been completed for more than one month.
2	Add in a summary task that mirrors the WBS Level 3 tasks being archived. The name of the summary task should include (Archive) after the task name and should mirror the actual start and finish dates for the previous group of tasks.
3	Review the successor relationships for the tasks you are archiving to make sure no other tasks will be impacted when these tasks are deleted. Note: if successor tasks will be affected then either move those linkages to the summary task or create a new milestone to replace the linkage.
4	Select and delete the completed tasks and inspect to make sure no other dates changed when the tasks were deleted. Note: if other dates did change then you may have to undo and make sure this is not caused by successor relationships from the deleted tasks.
5	Save the file as a new name.
6	Open the EDR Schedule Change Log and annotate the path and name of the last schedule version containing the full task list that was archived as well as corresponding schedule information in the schedule change log. The schedule change log is located at: \\Ff208\groups\EDR\ScheduleTeam\Schedule Related Docs\EDR Schedule Log.xlsx

16.7 Archiving the Current Master Schedule

The following table defines the steps for archiving the current schedule prior to generating the new master schedule.

Table 23 – Archiving the Weekly Master Schedule

Step	Description
1	Create a new folder with the status date noted as the status date within the schedule in the MPS Archive Weekly folder located as follows: Y:\EDR\ScheduleTeam\EDR Master Project Schedule\Archive Weekly
2	Copy the MPS, all subproject schedules, and the Global Resource Pool to the new archive folder.

This process is performed after all of the bi weekly updates have been incorporated and prior to creating the update spreadsheets for next reporting cycle.

16.8 Creating the Master Schedule

Every two weeks the schedule analyst will create the Master Project Schedule by linking the various subproject schedules to the Master and to the Global Resource Pool. This process should be performed after all schedules are updated and the MPS will be used to generate the Excel Bi Weekly Update Spreadsheets. This process is defined in Table 24.

Table 24 – Creating the Weekly Master Schedule

Step	Description
1	Once all updates have been completed and the variance meeting has been held, open each of the subproject schedules and perform steps 2 to 5.
2	Update the Project Status Date in Project/Project Information . Note: This is normally the Friday when the updates are completed during the update week.
3	Copy the current start and finish dates into the Start1/Finish1 columns by going to Tools/Tracking/Set Baseline and select the Select Interim Plan button and hit OK. Note: this step will most likely wipe out any variances for the week so if outstanding variances need to be escalated for mitigation then don't perform this step.
4	Copy the Finish Slack column into the EDR Last Week Slack column. Note: this step will most likely wipe out any variances for the week so if outstanding variances need to be escalated for mitigation then do not perform this step.
5	Update the link to the current Global Resource Pool as described in Section 3.6.1.
6	Repeat processes 2 – 5 for all subproject schedules and save the schedules.
7	Pull the latest version of the subproject schedules from the following location Y:\EDR\ScheduleTeam (Subproject folders are entitled EDR Project Startup, EDR Supporting Processes, and EDR MRD/MREMRE) and copy to the MPS folder located as follows: Y:\EDR\ScheduleTeam\EDR Master Project Schedule
8	Rename the files to correspond to the generic file names for the master schedule i.e. Project Startup.mpp, Supporting Processes.mpp, MRD-MRE Project Plan.mpp and be sure to remove any referenced date stamp
9	Ensure that the Global Resource Pool located in Y:\EDR\ScheduleTeam\EDR Global Resource Pool is linked to the current subproject schedules in Y:\EDR\ScheduleTeam . Be sure to de-link from any previous versions of the subproject schedules (Tools/Resource Sharing)
10	Pull the latest version of the Global Resource Pool from Y:\EDR\ScheduleTeam\EDR Global Resource Pool and copy to the MPS folder Y:\EDR\ScheduleTeam\EDR Master Project Schedule
11	Go into this copy of the Global Resource Pool, break the current links and re-link to the schedules in the MPS folder and the Master Schedule.
12	Save the MPS and corresponding subproject files and close. .

16.9 Critical Path

The critical path represents the longest path through the schedule and any delays in the critical path will either delay the completion of the project or cause key deadlines to be missed.

- **Regularly view the critical path:** Be aware that the critical path can change from one series of tasks to another as you progress through the schedule. The critical path can change as critical tasks are completed or as other series of tasks are delayed.
- **Closely monitor critical tasks:** Any task on the critical path is a critical task. These tasks should be monitored regularly to see if any of them slip. If a critical task slips, so does your project finish date or it results in a missed deadline. Save a baseline and use the Tracking Gantt view to see slipped tasks or filter on critical path and finish variance.
- **Review a series of tasks that may become the critical path:** If a non-critical series of linked tasks slips its dates enough, that series of tasks will become the critical path. You can view other potentially risky tasks by showing multiple critical paths in a project.
- **Viewing tasks that can slip without affecting the critical path:** By default, the critical path shows the tasks that cannot slip at all or the project date will slip or that cannot slip without delaying a deadline. You may want to view tasks that currently can slip by a day without affecting the critical path, because if they slip by more than a day, they will become critical tasks. Viewing these tasks with slack helps alert you to tasks that are becoming critical while you still have some buffer.

16.9.1 View the Critical Path

There are several ways to quickly display the project critical path on screen:

- In the Detail Gantt view:
 - On the **View** menu, select **More Views**.
 - Select **Detail Gantt**, and then select **Apply**.
- Using the Gantt Chart Wizard.
 - On the **View** menu, select **Gantt Chart**.
 - Select **Gantt Chart Wizard**.
 - Follow the Gantt Chart Wizard instructions to format the critical path. By default, the critical task Gantt bars and link lines are red.
- Using a Filter
 - On the **View** menu, select **Gantt Chart**.
 - In the **Filter** list, select **Critical**. To display all tasks again, in the **Filter** list, select **All Tasks**.
- Using the Group By Feature
 - To quickly see the list of tasks on the critical path, in the current view, on the **Project** menu, point to **Group by**, and then select **Critical**. The critical path tasks are listed together under the heading **Critical**.

16.9.2 View a Single Critical Path for Multiple Projects

When you have multiple projects inserted into a master project you can see which of the inserted projects make up the critical path for the master project. To do this, you must configure the master project to calculate the inserted projects in the same way that summary tasks are calculated. **Note:** This procedure only works in a master project.

- In the master project:
 - On the **Tools** menu, select **Options**, and then select the **Calculation** tab.
 - Select the **Inserted projects are calculated like summary tasks** check box/**OK**.

16.9.3 View Multiple Critical Paths in a Single Project

You can choose to calculate and display a critical path for each independent network of tasks within the project. By default, Project sets the late finish date for tasks without successors or constraints to be the project finish date. If you choose to calculate multiple critical paths, MS Project sets the late finish date for these tasks to be their early finish date, making the task critical.

- On the **Tools** menu, select **Options**, and select the **Calculation** tab.
- Select the **Calculate multiple critical paths** check box/**OK**.

17.0 Schedule Reporting

17.1 Introduction

Reports are generated on a weekly or monthly basis depending on the nature of the report. If risks, problems, or anomalies are encountered from a scheduling perspective, meetings will be scheduled in accordance with the EDR Project Communication Management Plan, EDR Project Risk Management Plan, and the EDR Project Issue Management Plan. When necessary, EDR Project risk, escalation and change control processes will be used. The procedures and process for these EDR components are defined in their respective plans. No reports/outputs will be produced that are not designed with clear objectives, measurements, and thresholds for the purpose of controlling, gauging, and measuring project progress.

17.2 Schedule Status Reports

The following reports are generated for the EDR PMO manager and EDR Project Management Team. They are used to conduct an analysis of the project's performance based on the duration and work variances. Negative trends can trigger issues or risks to the project and initiate risk response procedures as outlined in the EDR Project Risk Management and Issue Management Plans. An overview of all the reports generated is provided in the table below:

Table 25 – Schedule Status Reports

Report	Description	Frequency	Audience
Executive Summary Report	Gantt chart of the level 3 WBS with task owner, % complete, and start and finish dates.	Monthly	Director, Business Director, POG, OCIO
Task Owner Reports	Gantt chart that provides all the tasks associated with a given task owner by typing in the task owner name.	Bi-Weekly	Managers, Task Leads, and Staff
Full Schedule Report	Table view of all the schedule tasks with start and finish dates.	Bi-Weekly	Managers, Task Leads, and Staff
Late Start/Finish Report	Provides any tasks that either should have started by the status date but haven't or that should have finished but haven't.	Bi-Weekly	Managers, Task Leads, and Staff
30, 60, and 90 Day Look Ahead Report	Shows all the tasks that are to start within the next 30, 60 or 90 days from the project status date.	Bi-Weekly	Managers, Task Leads, and Staff
Baseline Report	Overall report showing any schedule variances of key milestones to the baseline.	Bi-Weekly	Director, Business Director, Managers
Critical Path Report	Report of the number of tasks on the critical path and any new tasks that were added to the critical path.	Bi-Weekly	Director, Business Director, Managers
Resource Usage Report	Report of the resource projections by staff for the next 3 months.	Monthly	Director, Business Director, Managers

Earned Value Report and Chart	Report of earned value variances for the entire project.	Monthly	Director, Business Director, Managers
Schedule Quality Reports	Internal reports used to identify missing schedule relationships, tasks w/o resources assigned, tasks to update, or task GT 20 days in duration.	Monthly	PMO Schedule Analysts

In addition to these reports, the PMO also places copies of the schedule in a shared folder that any team member can access. This includes both a PDF version of the reports as well as an MS Project File that has been copied from the master. These reports are located at: XXXXX. This allows anyone on the team to view schedule information and customize their own views provided they have to proper version of MS Project.

Weekly reports are generated every Friday with a status date of Wednesday based on the weekly updates and reviewed during the management meetings on Monday. Semi Monthly reports are generated every other Friday and monthly reports are generated on the 1st working day of the month. The reports are based on either the customized views within the project files that are PDF and placed in a shared location for anyone on the Project to view.

17.3 Schedule Quality Assurance Metrics

PMSC runs various reports to determine if the schedule meets industry standards and best practices. These reports are normally run on a monthly basis. The reports are based on filters applied by the PMSC on the master schedule and then copied into MS Excel for analysis. A summary and description of the reports in found in Table 26.

Table 26 – Schedule Quality Metrics

Metric	Description
Tasks W/O Task Owners Assigned	List of any tasks that do not have task owners assigned. Tracked over time as a number and % of all tasks.
Tasks GT 20 days in duration	Detailed non LOE tasks that have a duration of GT 20 days. Tracked over time as a number and % of all tasks.
Tasks W/O Predecessors	Detailed Tasks or Milestones that do not have any predecessors defined. Tracked over time as a number and % of all tasks. Does not include project start.
Tasks W/O Successors	Detailed Tasks or Milestones that do not have successors defined. Tracked over time as a number and % of all tasks. Does not include project finish.
Tasks W/O Resources Assigned	List of all detailed tasks that do not have resources assigned. Tracked over time as a number and % of all tasks.
Project Level FTE to Resource Allocation	Analysis of the FTE's based on the schedule work versus the staff available to identify significant resource gaps.
	Detailed tasks or milestones that have or are projected to slip there

Metric	Description
Tasks Slipping	baseline finish by more than 10 days. Tracked as a number of tasks and a percentage of all tasks over time.
Tasks W/O Baselines	Tasks that do not have baselines established. Tracked as a % and number of tasks over time.
Tasks on the Critical Path	Number of detailed tasks and milestones that are within 5 or 10 days of the critical path. Tracked as a number of tasks over time.

These reports are used to provide trending and improve the accuracy and quality of the schedule and are provide to the internal PMO team for resolution and correction.

18.0 Schedule Quality Control

18.1 Introduction

During the life of the project, numerous changes will be made to the EDR schedules. There are a number of checks and balances built into the schedule tracking and reporting process to ensure that information gathered and entered into the EDR Project Management Tool is accurate and reliable. Having internal controls around how changes will be made to this schedule and all subproject schedules is critical. This section outlines the procedures, processes and templates that will be used when making updates.

18.1.1 Schedule Quality Check Points

The checklist in Appendix C refers to PMI's Scheduling Standard and outlines the required settings which conform to their schedule model. The bulleted checklist below is also used by the EDR Project Schedulers to perform Quality Checks before the MS Project schedule is published. This checklist should be applied to all Master and subproject schedule files.

- **Project Status Date:** The project status date should be set to the previous Friday's date.
- **Task Calendar:** Check that the all tasks have 'None' unless a blackout calendar needs to be applied (ARCS, BETS, INC, PASS, SBRD). To verify, double click on the specific task\Task Information box will pop up\Click on **Advanced** button\Pull down **Calendar** menu and select appropriate calendar.
- **Project Calendar:** Check in **Project/Project Information** to verify that 'EDR Project Calendar' is selected
- **Base Calendar:** Check in **View/Resource Sheet** to verify that 'EDR Project Calendar' is the Base Calendar.
- **Earned Value Calculation:** Verify in **Tools/Options/Calculation** tab that the Earned Value Calculation is set to Baseline and not Baseline 1, etc.
- **Formatting:**
 - **Font:** Check to see that all tasks and fields are set to font and text style of Arial size 8.
 - **Gridlines:** Go to **Format/Gridlines**, then choose sheet columns and sheet rows and ensure they both are set to **black**.
- **Task Types**
 - All tasks should be Fixed Duration with Effort Driven check box unchecked.
 - All tasks should have at least one resource per task.
 - **Percent Complete Columns:** Review the %Complete and %Work Complete columns to ensure the color of the status indicator is reflective of the actual task status.
- **Past Due Dates:** Tasks that are not complete should not have finish dates in the past. The tasks should be updated with the estimated planned finish date or the task should be noted as complete.

- **Resource Loading:** Ensure resources are loaded for the tasks upcoming in the next two weeks at a minimum. The schedule should be resource leveled for the duration of the project.
- **Graphical Status Indicator:** The EDR Status Field (Text 3 column) currently consists of a formula to automatically calculate the status of a task based on variables such as percent complete and start/finish dates against the project status date. Definitions for the graphical indicators are listed below:
 - Blue Checkmark = Task Complete
 - Red Flag = Late Finish
 - Yellow Plus = Late Start
 - Green Box = In progress/On target
 - Gray Bar = Future Tasks
- **Updating Master Schedules:** For schedules that are linked to a Master schedule, the Master schedule owner must open and save all sub-project files in the Master. The file must be reviewed to ensure there are no unexpected date or other changes upon insertion of sub-schedules.

18.2 Schedule Artifact Maintenance

This section outlines the procedures that will be followed by the EDR Schedule Manager when making updates to the EDR Master Project Schedule, Master Integrated Project Schedule and corresponding sub-project schedules:

- **Weekly Schedule Update Spreadsheets:** The spreadsheets will be generated for soliciting and receiving sub-project schedule updates on a weekly basis. The files will be archived each week and stored in the following folder:
<\\Ff208\groups\EDR\ScheduleTeam\Weekly Update Spreadsheets\Weekly Archive>
- **Weekly Schedule Consolidation:** The Master Project Schedule will incorporate updated sub-project schedules on a weekly basis. The files will be archived each week with the current date stamp and stored in the following folder:
<\\Ff208\groups\EDR\ScheduleTeam\EDR Master Project Schedule\Archive Weekly>
- **Sub-project Schedules:** As updates are made to the sub-project schedules, the .mpp files are re-versioned with the current day's date stamp and the Schedule Manager's initials. The current schedule will always remain at the root of the file and previous versions will be archived in the following locations:
 - EDR Project Startup Schedule:
 - EDR MRD & MRE Schedule:
 - EDR Supporting Processes Schedule:

19.0 Appendices

19.1 Appendix A – WBS Dictionary

Level	WBS	Name	Description
1	1.0	Master Project Schedule	This is the master schedule for pre-PSP start activities and includes three separate subproject schedules for Project Startup, Supporting Processes, and Material Review Deliverables. This master schedule will be replaced by the MIPS schedule when the PSP starts.
2	1.1	Key Milestones	This section contains any key milestones that project management wishes to track. These milestones are maintained to aid in effect management and agency reporting.
2	1.2	Project Startup Schedule	This is a subproject schedule that includes the activity to procure both the PSP and supporting contractors, to develop documentation of the as-is processes and systems, and other pre-PSP startup activities.
3	1.2.1	Key Milestones and Dependencies	Defines key milestones related to only the Project Startup schedule that management or task owners wish to track. Also, defines any inbound or outbound dependencies between subprojects.
3	1.2.2	Initiation (Moved to Archive)	Defines the tasks to develop and obtain approval of the FSR, the procurement plan and the project charter. It has since been moved to archive status and only contains summary tasks representing each of the various activities.
3	1.2.3	Prime Solution Provider Procurement	Defines the tasks to develop and update the PSP RFP as well as conduct the evaluation and formally award the contract.

Level	WBS	Name	Description
3	1.2.4	Supporting Procurements	Defines the tasks to procure and award the various supporting procurements including the System Documentation Tool and Consultant, the Cost Expert Consultant, the Project Oversight Support, the Project Management Support Consultants, and the IV&V Contractor.
3	1.2.5	System Documentation	Defines the tasks to develop documentation of the as-is legacy systems to support the PSP procurement as well as the tasks to complete this documentation prior to PSP start.
3	1.2.6	BPR	Defines the tasks related to Business Process Reengineering that need to occur prior to the PSP start.
3	1.2.7	Early Wins – Pre Award	Defines the tasks complete the early wins packages that will be used by the PSP to develop the early wins solution.
2	1.3	MRD Schedule	This is a subproject schedule that defines tasks related to review of the PSP deliverables and significant events and includes both activities that occur prior to PSP start as well as post PSP start activities. This schedule will be integrated with the MIPS schedule as it is being developed.
3	1.3.1	Key Milestones and Dependencies	Defines key milestones related to only the MRD Schedule that management or task owners wish to track. Also, defines any inbound or outbound dependencies between subprojects.
3	1.3.2	Material Review Documents (MRD)	Defines tasks to develop, review and approve the DRCs and Deliverable Expectation Documents (DEDs) for the PSP Deliverables as well as timeframes for developing the deliverables and review and approval of the PSP

Level	WBS	Name	Description
			deliverables.
3	1.3.3	Material Review Events (MRE)	Defines tasks to prepare for and conduct the MREs associated with the PSP and the SDLC phase transition points.
2	1.4	Supporting Processes	This is a subproject schedule that defines the tasks associated with development and approval of funding documents (SPR/BCP), hiring Project staff, define and coordinate facility changes, Project Management Office activities, and Organizational Change Management office activities. Schedule includes both pre and post PSP start activities and will be integrated with the MIPS schedule as it is being developed.
3	1.4.1	Key Milestones and Dependencies	Defines key milestones related to only the Supporting Processes schedule that management or task owners wish to track. Also, defines any inbound or outbound dependencies between subprojects.
3	1.4.2	SPR/BCP	Defines tasks to develop and obtain approval of Special Project Reviews (SPRs), and any Budget Change Proposals (BCPs).
3	1.4.3	Staffing and Facilities	Defines tasks for staff planning, hiring and onboard Project staff (FTB) as well as ongoing facility analysis and facility upgrades based on staffing and solution requirements. Facility activities include analysis of both Project and PSP needs.
3	1.4.4	PMO	Defines tasks and Level of Effort (LOE) activities for the PMO and PMSC this includes risk and issue management, schedule, scope, cost, and change request management, deliverable and document management, financial and contract management, quality management, HR planning, and

Level	WBS	Name	Description
			communication management.
3	1.4.5	OCM	Defines tasks and LOE activities associated with the Organizational Change Management Office (OCM) including communication and outreach, development and maintenance of the OCM plan and strategies, stakeholder analysis, guiding change, leading change, understanding change, and enabling change.

19.2 Appendix B – PMI Scheduling Standards Checklist



Scheduling
Standards Checklist -

19.3 Appendix C – MS Project 2007 Shortcuts



Keyboard shortcuts
for MS Proj 2007.pdf

19.4 Appendix D – Schedule Abbreviations/Acronyms

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