

FACILITIES MAINTENANCE AND ENGINEERING PROCEDURE		
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1.0 PURPOSE

To define and standardize the requirements for preparation, approval and control of Work Order (WO) schedules.

2.0 GENERAL

This procedure is a general guideline and is written for Project Controls & Reports to standardize the scheduling process between the various Facilities Maintenance and Engineering (FME) Directorate Support Project Teams.

2.1 Schedules

Schedules are generated for Work Orders issued to FME for the purpose of:

- Providing a basis for communicating planned and actual timeframes for completion of the work scope
- Forecasting future resource requirements
- Providing a basis for performance measurement (earned value)

2.2 Definitions

Planned Work Order (WO) does not require immediate action. This WO is greater than \$5,000 and requires an estimate, schedule and must go through the approval process prior to execution.

Scope of Work (SOW) – Issued in accordance with FME Procedure FMEP-P-210. This document identifies the scope of the project in sufficient detail that a cost estimate can be performed.

Unplanned Work Order requires immediate action and typically, requires only shop action. Examples of this type are:

- Trouble calls
- Special assists

2.3 Responsibilities

FME Director is responsible to review Work Order schedules that have estimated costs at or above \$100,000.

FME Deputy Director is responsible to review Work Order schedules that have estimated costs between \$25,000 and \$100,000.

Project Controls Manager is responsible to:

- Oversee the scheduling process and proper execution of this procedure.

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- Review all Work Order schedules that have estimated costs greater than \$50,000.

Project Manager (PM) has the responsibility and authority for all schedules within their directorate.

- Provide the scope of work (SOW) in accordance with FME procedure FMEP-P-0210.
- Review and accept Work Order schedules submitted by subcontractors
- The Project Manager, Lead Engineer, Manager of Project Controls, provides final concurrence of all schedules and Manager of Engineering before schedule is presented to Director of FME.
- Review, recommend and present the schedule to the Director of FME and to the customer

Manager of Engineering is responsible to:

- Provide design and engineering assistance.
- Assist in the development of the Work Order Scope.
- Review and confirm the technical accuracy of the scope for the schedule
- Review and present the scope and schedule for Engineering.

Scheduler is responsible to:

- Review the SOW (and the cost estimate, if available) and prepare the schedule.
- Review the schedule with the PM, Manager of Engineering, and Project Controls Manager for concurrence.
- Maintain the schedule through the life of the work order.

Construction Contracts provides schedules and/or scheduling data provided by the Architect Engineer, Construction, or other outside vendors to the Scheduler for inclusion or support of schedules.

Operations and Maintenance Manager is responsible for the preparation, review and presentation of Shop Schedules.

3.0 PROCEDURE

3.1 Scheduling Process

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3.1.1 Schedule Requirements

All schedules shall be logic based using the Precedence Diagramming Method (PDM) format. The schedule shall be developed in Primavera Project Planner (P3).

The schedule will include engineering and project management resources such as job hours in order to support resource-planning efforts. Cost and quantity resources may be used as the basis for determining the percent complete.

Schedule activities will be based on specific deliverables. The durations of the schedule activities shall reflect the estimated time required in completing the work scope based on the availability of resources and schedule interfaces.

Where possible, percent complete for each schedule activity shall be based on quantities completed or an assigned value for completing specific work scope and not activity duration. Where the activity is level of effort, the schedule percent complete shall be equal to the planned percent complete in the Baseline schedule.

3.1.2 Initial Schedule Setup

During the Work Order Review Meeting (WORM), work orders are categorized as either “planned” or “unplanned” (reference procedure FMEP-G-0160 “Work Order Processing”). Due to the low dollars value and the absence of engineering scope associated with unplanned work orders, only planned work orders are included in the FME master schedule. Planned work orders are added to the schedule using pre-established templates based on the anticipated scope of the work order. Currently, these templates consist of the following: a) no design, shop work only, b) FME design, shop construction, c) FME design, construction outsourced, d) design and construction outsourced and e) study, analysis or estimate preparation only.

The specific template used to establish the initial schedule for each planned work order is decided at the WORM. The template schedule is tailored to schedule specifics and reviewed with the project manager to adjust the activities description, durations, logic, estimated start dates, etc. This schedule is then used as the current schedule.

3.2 Statusing

On a monthly basis, the following events occur that update the baseline and current schedules:

A. Baseline Schedules

- New planned work orders are entered in the Baseline schedule based on the original durations, logic, etc. established by the project management. The scheduled and budgeted costs are entered in the target (baseline) schedule following the receipt of the approved conceptual estimate.
- Approved scope change trends are added to the target (baseline) schedule. Care must be taken to ensure that any budgets that are entered are constrained to occur after the current “time-now” date in the Current schedule so as not to adversely impact the time-phased cost baseline prior to “time-now”.

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- Exports are generated that provide updated time-phased cost baselines information to the NCI Reporting System (refer to procedure FMEP-G-0170 “Performance Measurement and Reporting”).

B. Current Schedules

- New planned work orders are entered in the Current schedule based on the original durations, logic, etc. established by the project management.
- Status updates are received from the project manager including updated percent complete, actual start dates, actual finish dates, remaining duration, etc. This status data is then entered to the Current schedule database and then calculated with a new “time-now” date.
- The following data elements are imported from the PME database:
 - a. Estimated/ forecast to-go jobhours
 - b. Estimated/forecast to-go costs
 - c. Actual costs incurred to date
- Current schedule dates are exported to the PME database.
- Time-phased forecast jobhours and costs as well as actual costs incurred to date are exported to the NCI Reporting System.
- Reports are generated for management use including bar charts and resource loading reports/graphics.