

Outage Management With SAP and Prometheus

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April 2023

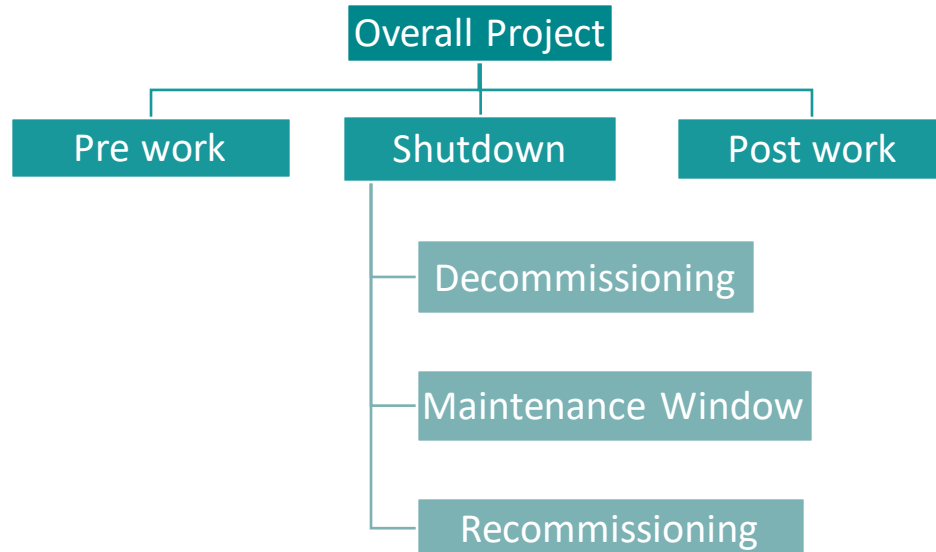
Agenda

This session will provide an overview of how the Prometheus ERP Advanced solution along with SAP can be leveraged to manage the preparation, planning, scheduling, execution, and reporting aspects of an outage. This approach demonstrates how many outage processes can be handled within the SAP and Prometheus environments. Topics discussed during this session includes:

- Establishing a Work Breakdown Structure in SAP PS
- Outage Based Functional Navigators
- Preparing SAP PM for an Outage Event (Work Centers, System Conditions, Revisions, Critical Activities)
- Schedule Development, Simulation, and Progression in Scheduler
- Manpower Forecasting
- Outage Key Dates and Events Milestones
- Execution Reporting and Analysis

Work Breakdown Structures

- SAP PS and PM integration to organize and structure the outage event
- Project Builder (t-code CJ20N)
- PS Outage Templates



Project Builder: Project Y.DS4

Project Structure: Description	Identification
Annual Shutdown	Y.DS4
Shutdown Scope	Y.DS4.1
Pre-Work	Y.DS4.11
Shutdown Execution	Y.DS4.12
Roughing Mill Shutdown	Y.DS4.12-1
Cooler Shutdown	Y.DS4.12-2
Furnace Shutdown	Y.DS4.12-3
Finishing Mill Shutdown	Y.DS4.12-4
Post-Work	Y.DS4.13

Outage Navigators

- Functional navigators used by members of the outage team to organize and quickly access work backlogs, execution schedules, reports and external reference documents.

The screenshot displays a dashboard with several functional navigators and link lists. The top section contains six navigators: PRE-WORK, EXECUTION WORK, POST-WORK, TOTAL TURNAROUND, BY PLANT SECTION, and BY UNIT. The bottom section contains three link lists: LINKS (left), LINKS (middle), and LINKS (right).

PRE-WORK

- LEVEL 1
- LEVEL 2
- LEVEL 3
- LEVEL 4

EXECUTION WORK

- LEVEL 1
- LEVEL 2
- LEVEL 3
- LEVEL 4
- CRITICAL WORK (LEVEL 3)
- CRITICAL WORK (LEVEL 4)

POST-WORK

- LEVEL 1
- LEVEL 2
- LEVEL 3
- LEVEL 4

TOTAL TURNAROUND

- LEVEL 1
- LEVEL 2
- LEVEL 3
- LEVEL 4

BY PLANT SECTION

- WORK BY PLANT SECTION

BY UNIT

- WORK BY UNIT

BY WORK CENTER/VENDOR

- WORK BY WC/VENDOR

LINKS (Left)

- TA SCHEDULE SHAREPOINT
- SCHEDULING REF DOCUMENTS
- TURNAROUND S: DRIVE
- ISOLATION GROUP REGISTRY
- SCHEDULER SHIFT TASKS
- SHIFT ROTATION SCHEDULE

LINKS (Middle)

- TAR HEAT MAP
- ISOLATION GROUP LISTING
- TA ORG CHART
- TA TEAM ONENOTE
- ACTION LOG LESSON LEARN
- S1 SITE MAP

LINKS (Right)

- FIELD COORDINATOR AREAS
- WC CONTRACTOR REF
- TA MGMT MILESTONE TRACKE
- WORK PACKAGE REPOSITORY
- MEETING CADENCE DETAILED
- MEETING CADENCE OVERVIEW

LINKS (Bottom Left)

- SPOTFIRE S-CURVES
- CONTRACTOR CHEAT SHEET
- EMERGENT WORK PROCEDURE
- TA KEY DATES
- CONFIRMATION GUIDE
- SCHEDULER REF GUIDE

LINKS (Bottom Middle)

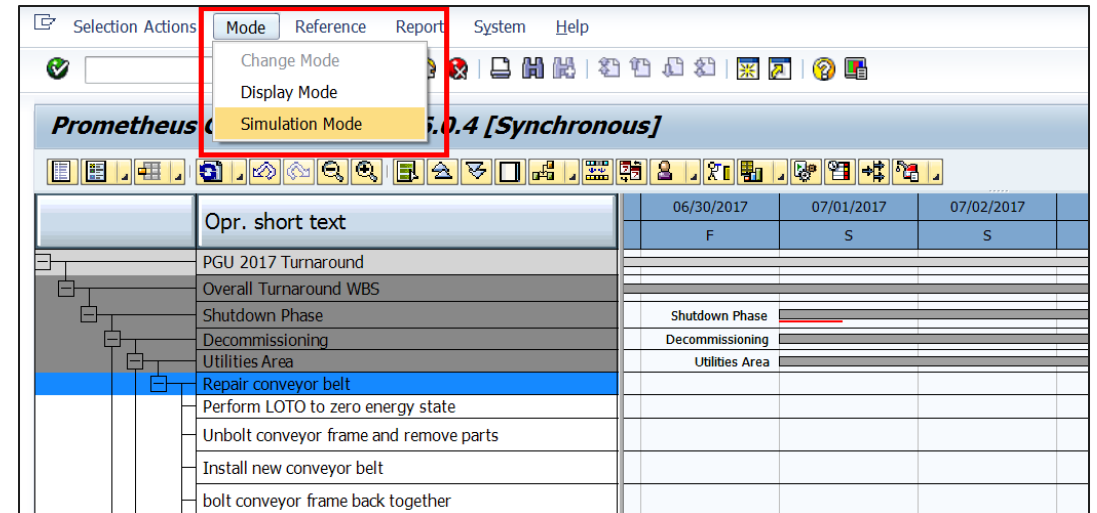
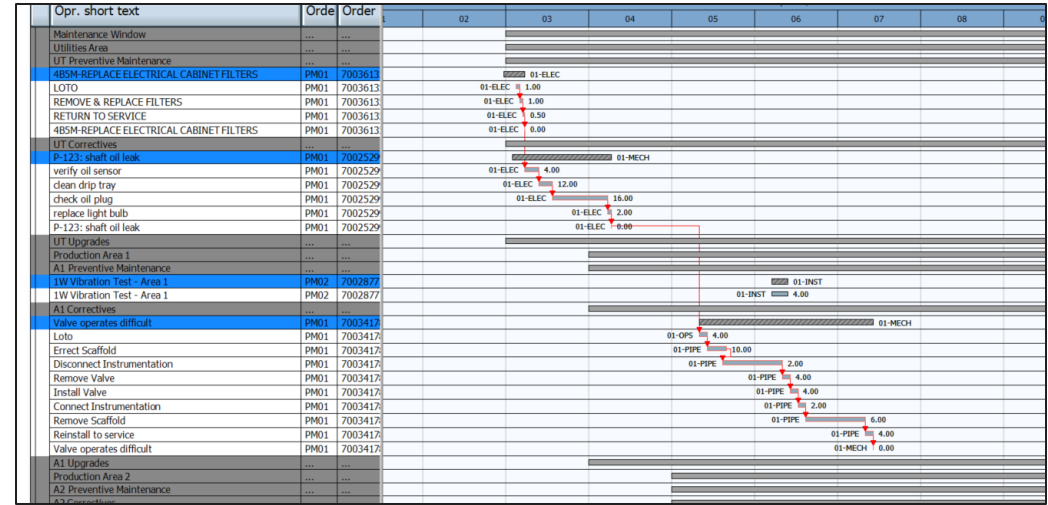
- LOOK AHEAD MEETING TOR
- EMERGENT WORK LOG

Preparing SAP PM for an Outage Event

- Outage Work Centers
- Revisions
- System Conditions used at the work order to identify Pre-Work, Ramp-Down Work, Execution Work, Ramp-Up Work and Post Work activities.
- Critical Activities identified using revision, priorities, WBS or free-text fields

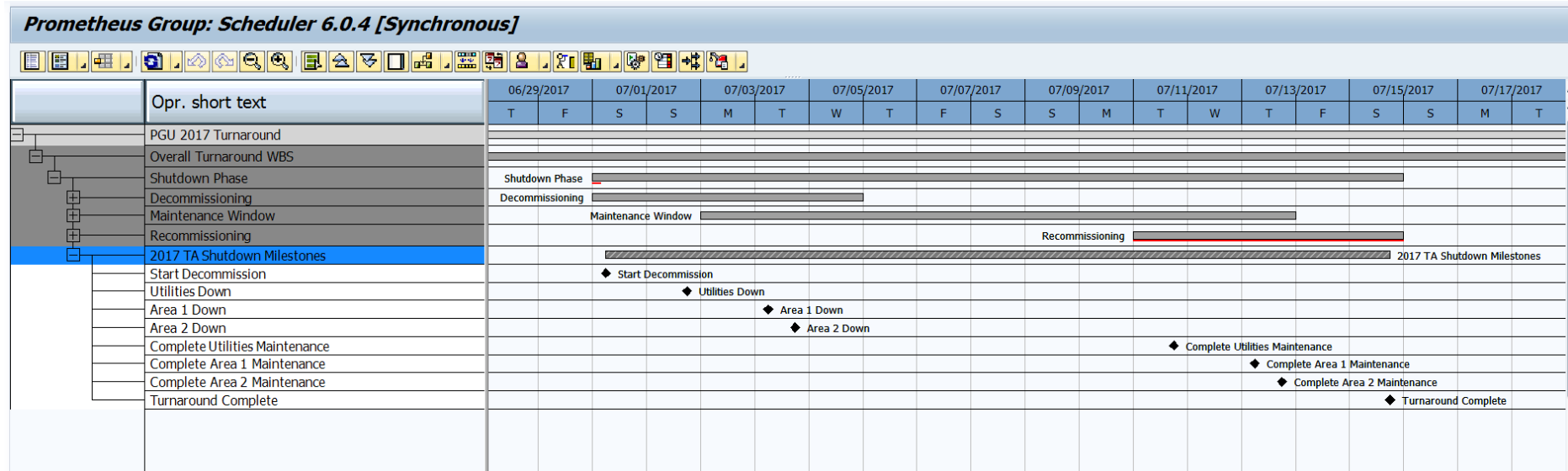
Schedule Development, Simulation and Progression in Scheduler

- Schedule Levels (1, 2, 3)
- Networks and Relationships
- Schedule Simulations & Baselines
- Schedule Progression via transaction IW70



Outage Key Dates & Events Milestones

- Milestones are created via Work Orders to mark major checkpoints throughout the outage
- Milestones are linked to work package operations/activities
- Floating VS Constrained Milestones
- Used to measure overall even float



Manpower Forecasting

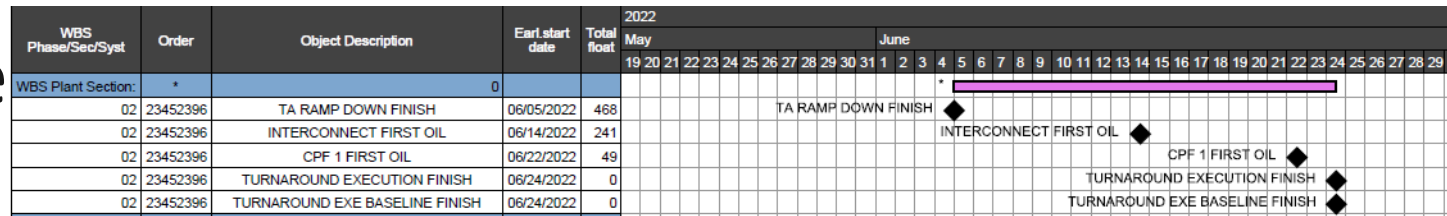
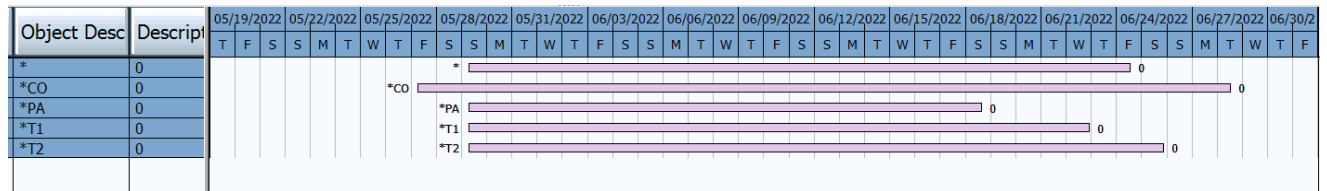
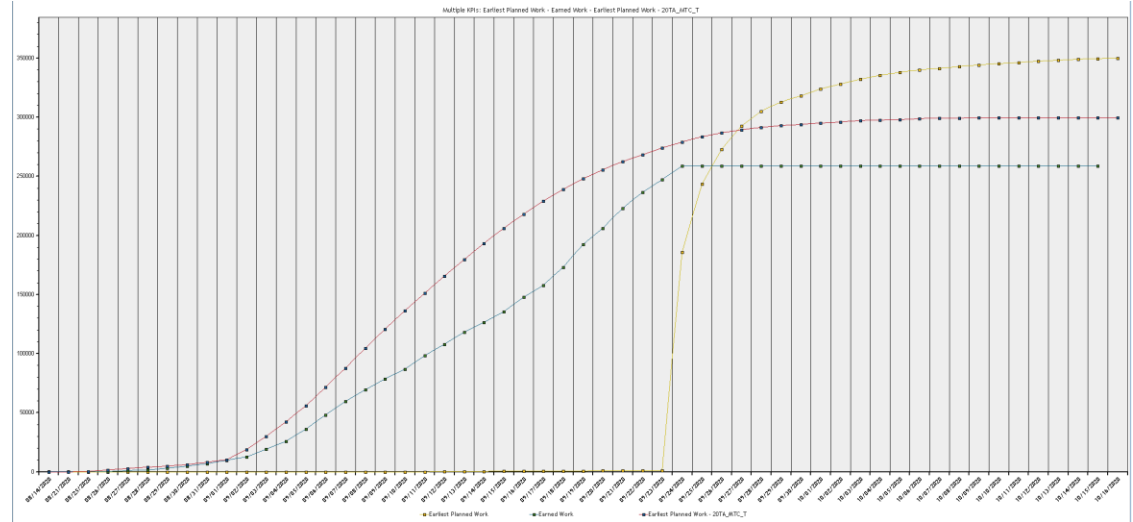
- Available via Scheduler's List Edit
- Quickly identify the quantity of contractor and technicians needed on any given day sorted by work center
- Adjustable Wrench Time estimates

Forecast

Plant	Work ctr	Op.Wrk.Ctr	Order	Order Desc	06/30/2017	07/01/2017	07/02/2017	07/03/2017	07/04/2017	07/05/2017	07/06/2017	07/07/2017	07/08/2017	07/09/2017	07/10/2017	07/11/2017	07/12/2017	07/13/2017
1000	01-CIVIL				0.0	0.0	0.0	0.0	0.0	7.0	10.6	3.5	0.0	0.0	0.0	0.0	0.0	0.0
	01-CONT				0.0	0.0	0.0	1.3	37.7	60.0	60.0	25.1	0.0	0.0	0.0	0.0	0.0	0.0
	01-ELEC				0.0	1.0	1.5	42.0	3.6	30.7	19.7	2.4	14.8	1.2	0.0	0.0	2.0	2.0
	01-INST				0.0	0.0	0.0	7.6	0.4	2.0	7.3	10.8	5.2	0.0	0.0	0.0	6.0	0.0
	01-MECH				0.0	30.8	10.3	29.1	10.9	7.0	12.0	8.0	0.0	0.0	0.0	3.0	11.0	0.0
	01-OPS				0.0	0.0	0.0	11.1	8.0	4.1	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
	01-PIPE				0.0	0.0	0.0	48.0	0.0	18.7	41.2	45.6	17.9	0.0	0.0	0.0	54.6	25.5
	01-SCAFF				0.0	0.0	0.0	37.9	26.1	0.0	0.0	12.0	0.0	0.0	0.0	0.0	24.0	16.0
1000					0.0	31.8	11.8	177.0	86.7	129.5	150.8	107.4	39.9	1.2	0.0	3.0	97.6	43.5
					0.0	31.8	11.8	177.0	86.7	129.5	150.8	107.4	39.9	1.2	0.0	3.0	97.6	43.5

Execution Reporting & Analysis

- Many reports can be created directly in Scheduler using layouts and variants
- Percent Complete Progress Report
- Man-Hour Forecast Report
- Execution S-Curve Report
- Critical Path Analysis
- 3-Day Look Ahead Schedule



Thank you

Questions?

PROMETHEUS
GROUP | USER
CONFERENCE

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