

# STO Best Practices and What's New with Prometheus STO

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**May 2023**

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Data, like puzzle pieces, scattered among disciplines, find their true meaning when shared, connecting the dots and revealing the bigger picture of project success



# Best Practices

- Embrace a centralized platform
- Define a common data structure
- Foster real-time collaboration
- Establish clear data ownership
- Enable role-based access
- Provide training and support
- Foster a culture of data sharing
- Continuously improve data sharing practices

# What's New

- STO Roadmap
- STO Budgeting
  - Level 1: Event
  - Level 2: Scope
  - Level 3: Work Packages
  - Reports
  - Dashboards

# STO Roadmap May 2023



## 2023 Q1-Q2

### STO Planner

- User Interface improvements (5.0)
- Receiving and Issuing Materials (5.0)
- SAP Task List integration (5.0)
- Inspection Module Improvements (5.0)
- Additional Material Improvements (5.1)
- Budgeting Module (5.1)
- MS Project Integration (5.1/5.2)

### STO Planner Platform Integration

- Search MDaaS material library (5.0)

### (STO) Welding

- MVP Weld-IT functionality (5.1)

### STO Mobile

- Fieldcheck MVP (5.1/5.2)
- Take Photo's and Annotate (5.1/5.2)

## 2023 Q3-Q4

### STO Planner

- Expand QA/QC and Handover functionality (5.2)
- Expand Scope Change Process (5.3)
- Add Lessons Learned process (5.3)
- Navigation Improvements (5.3)
- Import P6 activities into Workpackage Templates
- Expand Calculations for Custom Fields
- Improve Scoping/Planning tasks process
- Add Help function (in-tool link to manual)

### STO Isolation and Mobile

- Progress and view Isolation Lists
- Wallpaper/Wallchart

### STO Mobile Progress

- Improve User Experience
- Systems Handover/QAQC/Punchlist

### STO Execution

- Wallpaper/Wallchart
- Dashboards (5.3)

## 2024 ->

### STO Planner

- Plant Map with Planning Progress Overlay
- Contractor Headcount planning
- P&ID/Plotplan viewer
- In application proposals for planning activities
- Scope recommendations on previous STO Events

### STO Planner Platform Integration

- Permitting Integration

### (STO) Welding

- Flange Log and Management

### STO Isolation and Mobile

- Custom fields

### (STO) Completion and Mobile

- (Project) Completion/Handover/QAQC/Punchlist

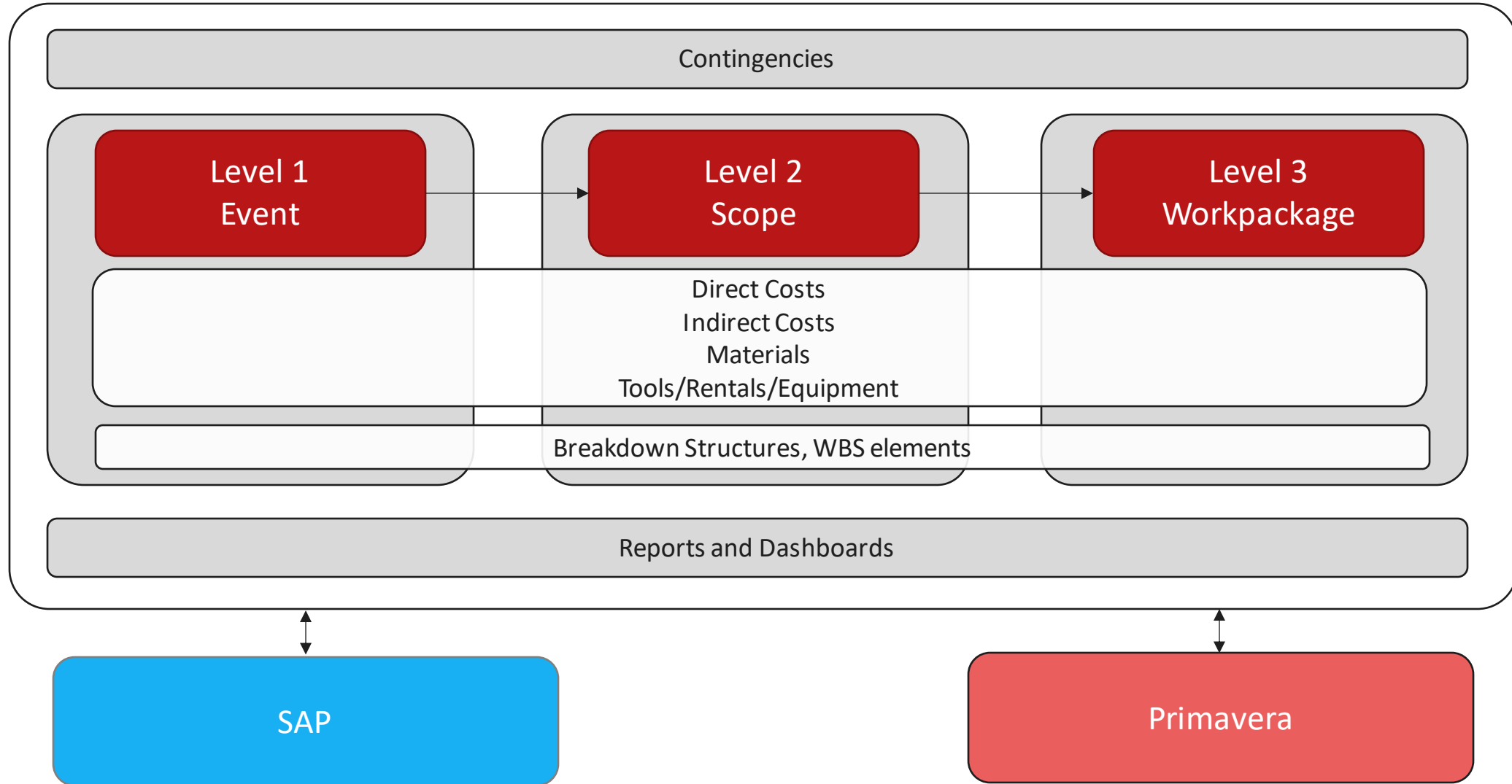
### STO Tendering (Bid-IT/Propack)

- MVP Functionality (Contractor Web Application)

### STO Execution

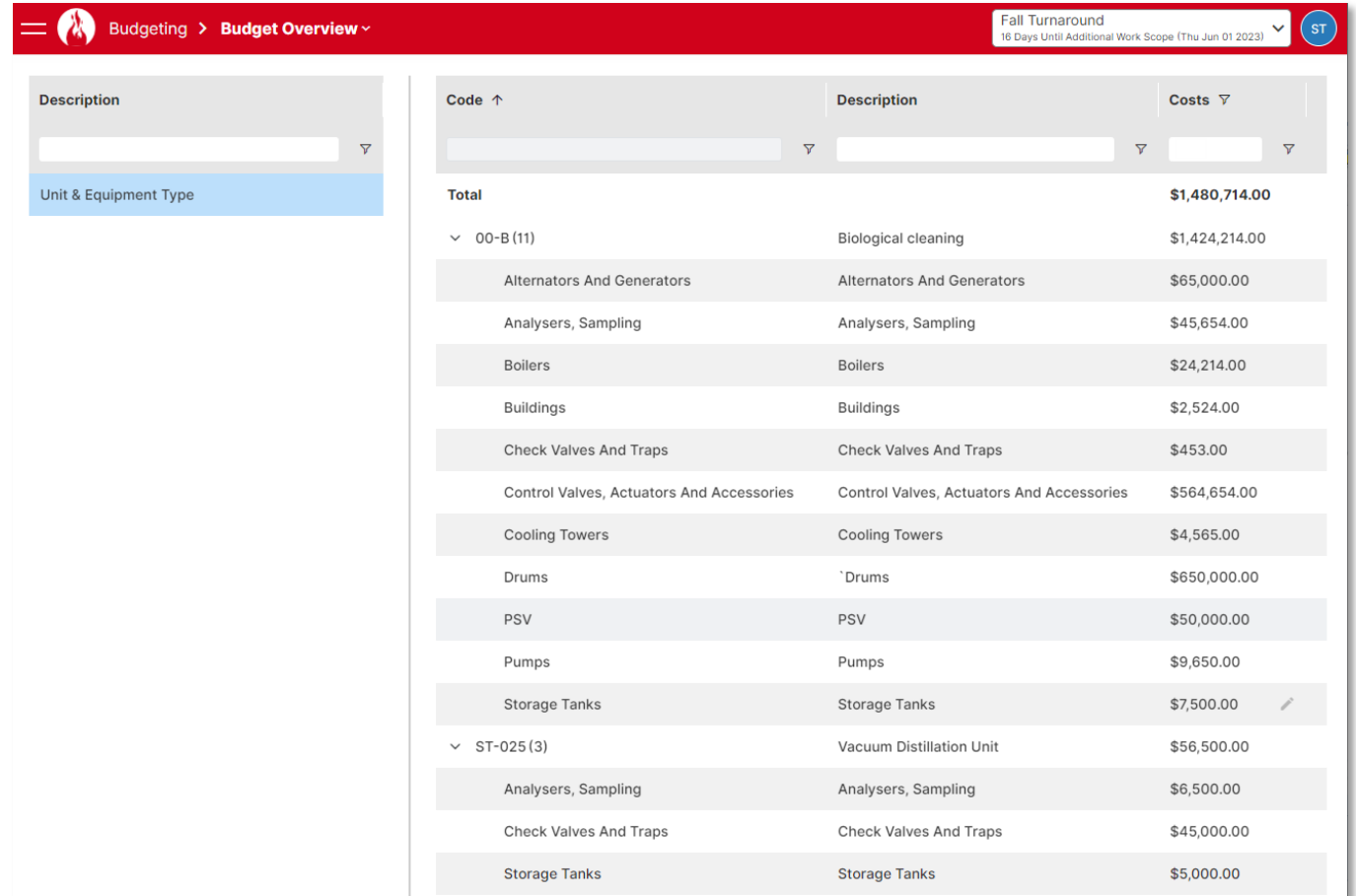
- What if and scenario analysis

# STO-Budgeting



# Level 1 – Event

- Used for the long-term plan
- Comparable to AACE “Class 5 Estimate”
- Budgeting by editing lowest level WBS
- +/- 50%



The screenshot displays a budgeting software interface with a red header bar. The header contains a menu icon, the text 'Budgeting > Budget Overview', a date indicator 'Fall Turnaround' with a sub-note '16 Days Until Additional Work Scope (Thu Jun 01 2023)', and a user profile icon labeled 'ST'. Below the header, there is a search bar for 'Description' and a filter for 'Unit & Equipment Type'. The main content is a table with three columns: 'Code', 'Description', and 'Costs'. The table is organized into a hierarchical structure with expandable sections.

Code	Description	Costs
<b>Total</b>		<b>\$1,480,714.00</b>
00-B (11)	Biological cleaning	\$1,424,214.00
Alternators And Generators	Alternators And Generators	\$65,000.00
Analysers, Sampling	Analysers, Sampling	\$45,654.00
Boilers	Boilers	\$24,214.00
Buildings	Buildings	\$2,524.00
Check Valves And Traps	Check Valves And Traps	\$453.00
Control Valves, Actuators And Accessories	Control Valves, Actuators And Accessories	\$564,654.00
Cooling Towers	Cooling Towers	\$4,565.00
Drums	Drums	\$650,000.00
PSV	PSV	\$50,000.00
Pumps	Pumps	\$9,650.00
Storage Tanks	Storage Tanks	\$7,500.00
ST-025 (3)	Vacuum Distillation Unit	\$56,500.00
Analysers, Sampling	Analysers, Sampling	\$6,500.00
Check Valves And Traps	Check Valves And Traps	\$45,000.00
Storage Tanks	Storage Tanks	\$5,000.00

# Level 2 - Scope

- Comparable to AACE “Class 4 Estimate”
- Event Level Parameters for scoping estimates:
  - Direct Labor Rate
  - Indirect Labor Rate
  - Indirect to Direct Labor Ration
  - Repair Allowance Percentage
  - PRE and POST TAR Factors
  - Operations Factors
  - Rental Equipment / Material Factor
  - Contingency Percentage

2024 ALKY EVENT  
16 Days Until Definitive Estimate (Thu Jun 01 2023)

Cancel → Work Package Reject Save Print PDF

### Estimates

Expense Type  
Turnaround

+ ADD DISCIPLINE

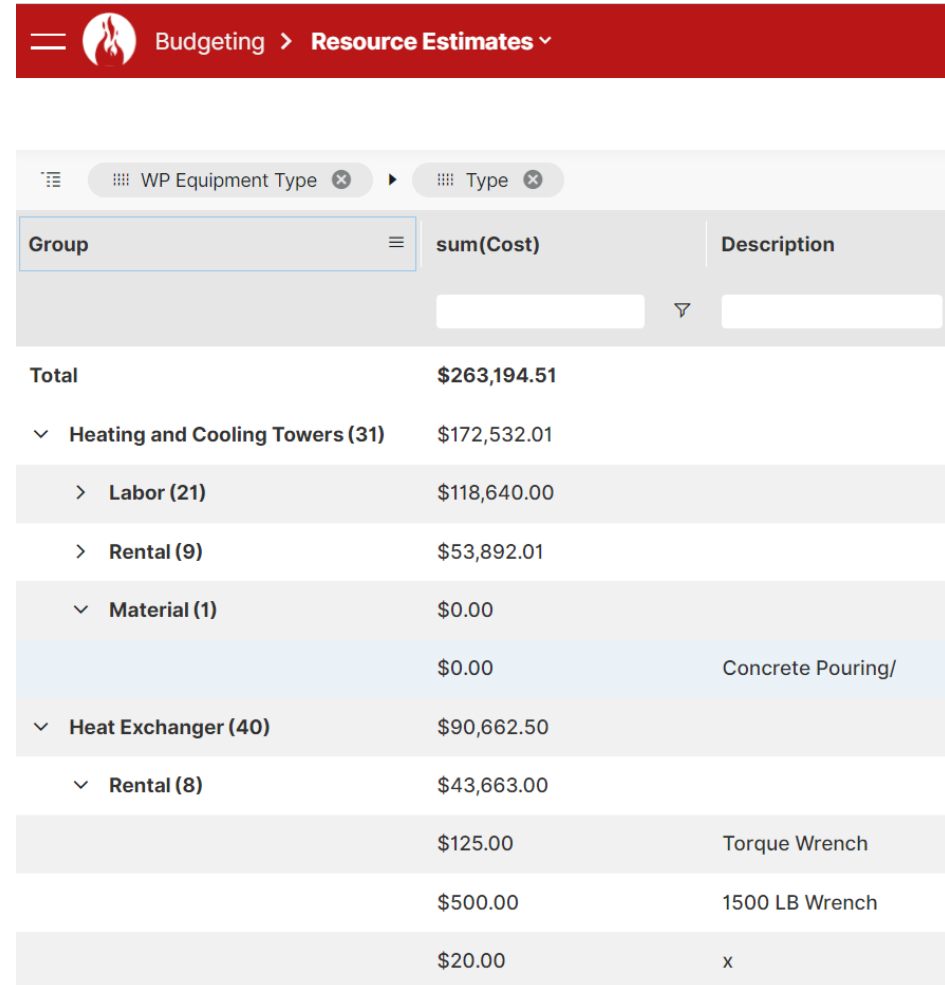
MECH - MECHANICAL		SCAF - SCAFFOLDING		ISO - INSULATION	
Field Name	Value	Field Name	Value	Field Name	Value
Direct Hours	60	Direct Hours	25	Direct Hours	5
Material	\$2,500.00	Material	\$0.00	Material	\$0.00
Extraordinary Material	\$500.00	Extraordinary Material	\$0.00	Extraordinary Material	\$0.00
Other	\$0.00	Other	\$0.00	Other	\$0.00
All-in Labor Estimate	\$10,659.00	All-in Labor Estimate	\$4,441.25	All-in Labor Estimate	\$609.58
Material Estimate	\$2,848.33	Material Estimate	\$145.14	Material Estimate	\$29.03
Equipment Estimate	\$848.33	Equipment Estimate	\$145.14	Equipment Estimate	\$29.03
Other Labor Estimate	\$0.00	Other Labor Estimate	\$0.00	Other Labor Estimate	\$0.00
Operations Factor Estimate	\$348.33	Operations Factor Estimate	\$145.14	Operations Factor Estimate	\$29.03
Pre / Post Factor Estimate	\$696.67	Pre / Post Factor Estimate	\$290.28	Pre / Post Factor Estimate	\$58.06
Contingency	\$770.03	Contingency	\$258.35	Contingency	\$37.74
All In Rate	\$101.32	All In Rate	\$81.58	All In Rate	\$65.00
Total Estimate	\$16,170.70	Total Estimate	\$5,425.29	Total Estimate	\$792.46

Scope Total: \$22,388.45



# Level 3 – Work Package Details

- Comparable to AACE “Class 2-3 Estimates”
- Labor (Norm base rates optional)
  - Direct
  - Indirect
- Materials
  - SAP or Free text
- Rental Equipment and Other Fixed Cost



Group	sum(Cost)	Description
<b>Total</b>	<b>\$263,194.51</b>	
▼ Heating and Cooling Towers (31)	\$172,532.01	
> Labor (21)	\$118,640.00	
> Rental (9)	\$53,892.01	
▼ Material (1)	\$0.00	
	\$0.00	Concrete Pouring/
▼ Heat Exchanger (40)	\$90,662.50	
▼ Rental (8)	\$43,663.00	
	\$125.00	Torque Wrench
	\$500.00	1500 LB Wrench
	\$20.00	x

Sequence Number	Activity	Activity ID	Op /												
001	Build Scaffold														
<table border="1"> <thead> <tr> <th>Sequence Number</th> <th>Code</th> <th>Resource</th> <th>SAP Sub-Activity</th> <th>Resource Memo</th> <th>Circu</th> </tr> </thead> <tbody> <tr> <td>001</td> <td>SCAF</td> <td>Scaffolder</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>				Sequence Number	Code	Resource	SAP Sub-Activity	Resource Memo	Circu	001	SCAF	Scaffolder			
Sequence Number	Code	Resource	SAP Sub-Activity	Resource Memo	Circu										
001	SCAF	Scaffolder													
> 002	Locate and Tag Work														
> 003	Strip Insulation														
> 004	Process Isolation & Equipment Prep														
> 005	Tagging LOTO Valves & OPE Locations														
> 006	Perform JJSV (Process & Mechanical)														
> 007	Install Blinds														
> 008	Install All Mechanical Isolation Tags (EID-M)														
> 009	Set up Rigging														
> 010	Open Manways														
> 011	Disconnect Instrumentation														
> 012	INSPECTION HOLD POINT - XOM Technical Document As-found														
> 013	Install Ventilation Facilities														

Rows: 67

### Estimation: Scaffolder

#### 001 - Build Scaffold

Estimated Hours	Calculated Hours	Correction Factor	Total Hours
( 2.00 )	+ 200.00 )	* 1.00	= 202.00

Total Hours	Rate:	Correction Factor	Total Cost
202.00	* 40.32	* 1.00	= \$8,145

Number of Workers:  Contractor:  Contract:

Resource Duration:

#### Estimate

Hours per Worker:  Estimate Memo:

#### Calculations

Norm Set Type:

Calculated Hours	Qua...	Calculation Main Group	Calculation Sub Group	Norm	Memo	Corre Facto
200.00	5000	Conventional	General - Install	Install Indepen...		

# Snapshot Comparison

- Compare Point in Time or current estimates using snapshots

Budgeting > Estimate Snapshots
2024 ALKY EVENT  
16 Days Until Definitive Estimate

**Estimate 1**

Estimate  or Snapshot

**Estimate 2**

Estimate  or Snapshot

**Description**

Unit & Equipment Type

Code ↑	Description	May 1, 2023 1:30 PM	Current Scope Estimate	Difference (May 1, 2023 1:30 PM - Current Scope Estimate)
▼	▼	▼	1 ▼	▼
Total		\$542,484.19	\$669,490.70	(\$127,006.51)
▼	00-B (4) Biological cleaning	\$542,484.19	\$669,490.70	(\$127,006.51)
	Boilers Boilers	\$18,043.26	\$18,043.26	\$0.00
	Columns/Towers Columns/Towers	\$136,255.00	\$136,255.00	\$0.00
	Heat Exchangers Heat Exchangers	\$145,607.47	\$145,607.47	\$0.00
	Pumps Pumps	\$242,578.47	\$369,584.97	(\$127,006.51)

# Cost Breakdown Dashboards

2024 ALKY EVENT  
16 Days Until Definitive Estimate (Thu Jun 01 2023) ST

**DASHBOARDS**

- Lead Planner Dashboard
- Scope Cost Estimates from Snapshot
- Work Package Cost Estimates from Snapshot
- Work Package Estimate Trend by Snapshot
- Scope Cost Estimate Trend by Snapshot

Cost Estimates from Work Packages

📄 🗑️

Snapshot

5/1/2023 12:54 PM, MAY 1, 2023

\$401K

Total Estimated Snapshot Cost

Top 5 Contractors by Estimated Cost

\$182,402.80 <small>Repcon</small>	\$139,433.30 <small>Prometheus Group</small>	\$43,410.00 <small>Ohmstede Industrial Services</small>
\$35,302.80 <small>Brock Industrial Services</small>	\$0.00	Others

Cost by Resource

Estimate by Cost Category

Labor Hours by Contractor

Contractor	Total Hours
Repcon	2,014
Prometheus Group	852
Brock Industrial Services	302
Ohmstede Industrial Services	290
	12

Equipment Type

Estimates

Work Package	Expense Type	Total (\$)
<a href="#">00-B-0001</a>	Major Project	\$0.00
<a href="#">HE-1215</a>	Turnaround	\$11,972.38
<a href="#">HE-12151</a>	Turnaround	\$11,972.38
<a href="#">HE-12153</a>	Turnaround	\$15,571.18
<a href="#">HE-165</a>	Turnaround	\$11,972.38
<a href="#">HE-2361</a>	Turnaround	\$11,972.38
<a href="#">HE-23612</a>	Turnaround	\$11,972.38
<a href="#">HE-6123</a>	Turnaround	\$121,872.38
<a href="#">HE-956</a>	Turnaround	\$11,972.38
<a href="#">P11256</a>	Turnaround	\$7,718.20
<a href="#">P118-B</a>	Turnaround	\$7,718.20

🛠️ Edit in Designer

# Cost Breakdown Dashboards

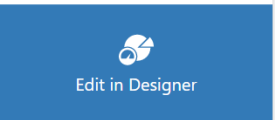
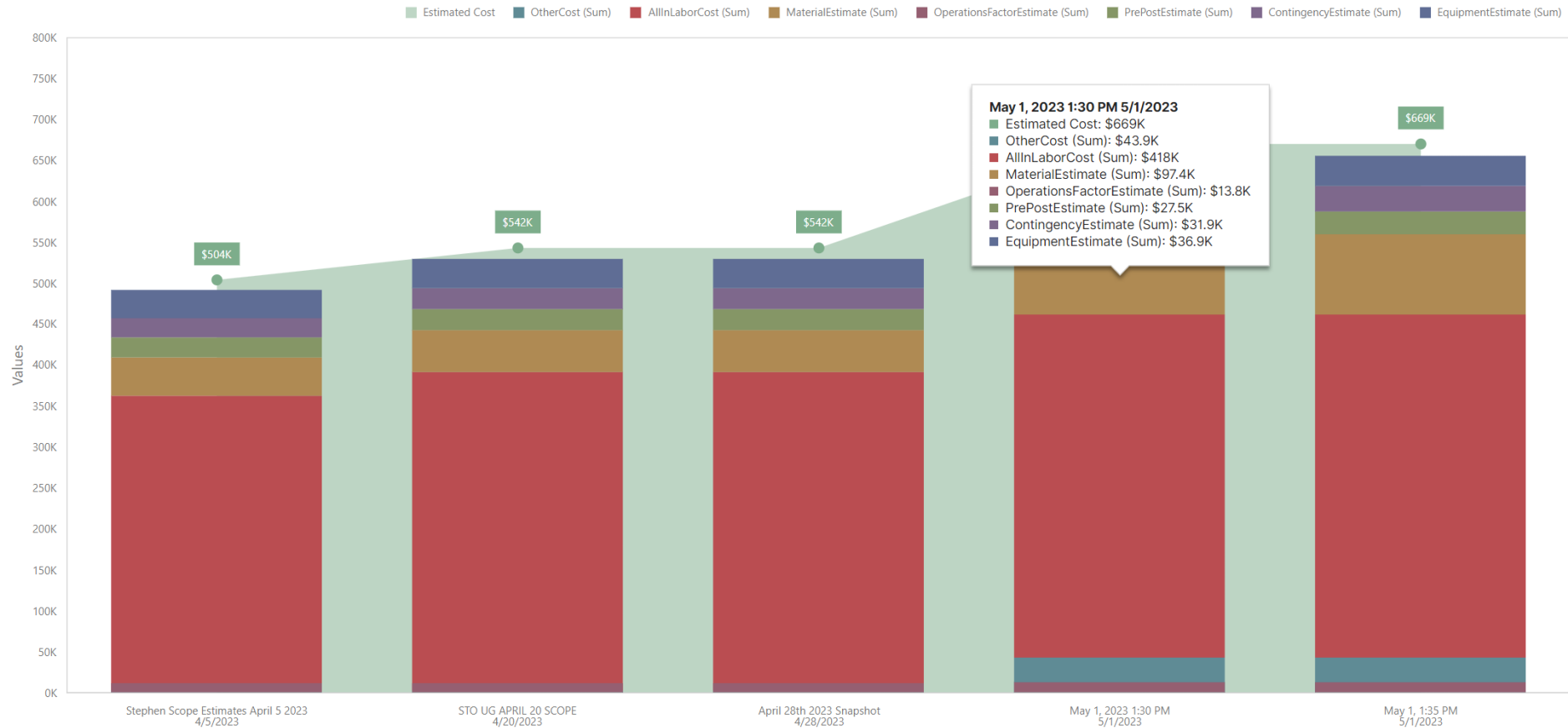


DASHBOARDS

- Lead Planner Dashboard
- Scope Cost Estimates from Snapshot
- Work Package Cost Estimates from Snapshot
- Work Package Estimate Trend by Snapshot
- Scope Cost Estimate Trend by Snapshot

Scope Cost Estimate Trend by Snapshot

Estimate Trend



# Reports

## Work Package TW-1250

Work Package Description: Tower TW-1250 Open, Clean, and Inspect

Planner: Stephen Taylor (staylor)

Functional Location: 00-B01

Work Order:

### Labor

Activity Description	Phase	Labor Description	Contractor	Qty	Cost
Build Scaffold	P1 - Pre-TA - P2 - Staging	Scaffolder	Prometheus Group	1.00	≈48.85
Locate and Tag Work	P1 - Pre-TA - P2 - Staging	Mechanical Technician	Repcon	4.00	≈239.80
Strip Insulation	P1 - Pre-TA - P2 - Staging	Crane	Ohmstede Industrial Services	2.00	≈700.00
Process Isolation & Equipment Prep	P2 - Decommissioning - P2 - Decommissioning	Operator	Prometheus Group	8.00	≈432.00
Tagging LOTO Valves & OPE Locations	P2 - Decommissioning - P2 - Decommissioning	Operator	Prometheus Group	4.00	≈216.00
Perform JJSV (Process & Mechanical)	P2 - Decommissioning - P2 - Decommissioning	Mechanical Technician	Repcon	4.00	≈239.80
Install All Mechanical Isolation Tags (EID-M)	P2 - Decommissioning - P2 - Decommissioning	Mechanical Technician	Repcon	1.00	≈59.95
Disconnect Instrumentation	P3 - TA - P9 - Open	Electrical Technician	Brock Industrial Services	2.00	≈228.72
Reconnect Instrumentation	P3 - TA - P9 - Open	Electrical Technician	Brock Industrial Services	2.00	≈228.72
Loop Check	P3 - TA - P9 - Open	Electrical Technician	Brock Industrial Services	2.00	≈228.72
Turnover Jobpack	P3 - TA - P9 - Open	Mechanical Technician	Repcon	4.00	≈239.80
Walkdown & Signoff	P3 - TA - P9 - Open	Mechanical Technician	Repcon	4.00	≈239.80
Perform Mini Dryout	P3 - TA - P9 - Open	Operator	Prometheus Group	2.00	≈108.00
Install Blinds	P3 - TA - P9 - Open	Mechanical Technician	Repcon	2.00	≈119.90
INSPECTION HOLD POINT - Final/Closure Inspection	P3 - TA - P9 - Open	Inspection QA/QC	Ohmstede Industrial Services	8.00	≈680.00
Allowance - Make Repairs	P3 - TA - P9 - Open	Mechanical Technician	Repcon	8.00	≈479.60
Pull Blinds	P3 - TA - P9 - Open	Mechanical Technician	Repcon	4.00	≈239.80

Generated at 05/16/2023 20:21:40 for Event: DO NOT USE - ST USER CONFERENCE

Page 7 of 44

The screenshot displays a software interface for generating reports. The main content area is divided into several sections:

- Table of Contents:** Lists 'Level 1' and 'Level (Default)' with corresponding page numbers.
- Unit and Equipment Type:** A table with columns for Unit, Equipment Type, Qty, and Total Cost. It includes a 'Grand Total' row.
- Work Package Description:** A text box containing the description: 'Work Package Description: Tower TW-1250 Open, Clean, and Inspect'.
- Planner and Location:** Fields for 'Planner: Stephen Taylor (staylor)' and 'Functional Location: 00-B01'.
- Work Order:** A field for the work order number.
- Cost Type Table:** A table with columns for Activity Description, Phase, [CostType] Description, Contractor, Qty, and Cost. It includes a 'Total' row for the work package.
- Footer:** A note at the bottom right: 'Generated at ' + LocalDateTimeNow() + ' - Event Estimate Report for ' + EventName + ' - WorkPackageResourceEstimationSnapshotReport - TurnaroundEventHeader: TurnaroundEventDescription'.

# Questions?

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Thank you