



QUANTEM

BULK LIQUID STORAGE & HANDLING

**Asset Management at West
Melbourne**



West Melbourne Asset Management

- Quatem's assets are managed by a dedicated Engineering & Maintenance team
- The focus is on improving the safety, compliance and reliability of Quantem's asset pool.
- A systematic and structured approach to Asset Management to deliver high plant availability - ensuring customers are reliably serviced, regulators are more amenable and operations are more predictable.
- Asset Management is funding is via two mechanisms
 - a) Annual Repairs & Maintenance budget through a bottom up maintenance schedule contained in a CMMS
 - b) Minor Capital budget to fund
 - **Regulatory Compliance Program** - To meet the license and operating conditions of our facilities.
 - **Risk Reduction** – Business improvement initiatives aimed at reducing risk and are prioritised across the business.
 - **Tank 10 Yearly Inspection** – Off-stream Inspection of tanks to assure integrity.
 - **I.T. and Systems** - Ongoing work required to develop and maintain a stable operating network, includes upgrades to existing applications such as Integrum, FuelFacs and MEX.
 - **Better Ways/5S** – Employee nominated business improvement opportunities and workplace improvement initiatives.
 - **Revenue Raising**– Facilitate new business development opportunities and/or cost reduction initiatives.
 - **Amenities - Office Buildings/Control Rooms** and amenities at the sites that require attention to provide a more pleasant working environment.
 - **Operational Asset Procurement** - Routine replacement of Wharf, Gantry and Utility hoses and other minor equipment replacements including Pumps, Motors, Seals and Dry Break Couplings.

Maintenance at Quantem - West Melbourne



Maintenance Policy

Provide effective Asset Management to achieve:

- HSEQ that exceeds industry standard, underpinned by a robust HSEQ Management System, safety culture & effective Risk Management.
- Meeting all applicable legislation, regulations, standards, industry codes and practices.
- Terminal availability greater than industry average.
- To integrate with customers in a seamless way that exceeds customer expectations.
- To be below average cost of Terminal Operators in Australia.

Maintenance Management System - MEX

- MEX is used as the Computerised Maintenance Management System (CMMS) for Quantem.
- All maintenance tasks are controlled and scheduled using MEX - this includes routine Preventative Maintenance (PM) and Reactive Maintenance.
- To schedule work on any asset in the plant, a Work Order (WO) is created. WO's can be created manually or can be routinely programmed (as for PM's), and are given a priority.
- Each PM is allocated a frequency, which may be weekly, monthly, quarterly, six-monthly, annually or 2/3/4/5/10 yearly depending on the task. The intervals are derived from either legislation, regulation, local or international standards, industry codes and practices, original equipment manufacturers recommendation, risk assessment or accepted company historical practice.
- Each individual that has access to MEX is assigned a level of authority, which controls and limits functionality and access. This is further controlled by segregating Quantem into Regions and Sites.
- Assets are listed in a parent/child hierarchal structure consistent with ISO standards and are uniquely identified using a standardised naming convention.
- PM tasks which are identified as Safety Critical (SC) are closely managed. No SC PM's may exceed their "Due Finish" date in MEX unless approval is gained using a "Safety Critical Work Order Derogation Process", approved only by the CEO or delegate. This process allows identification of any risks from delaying completion and allow mitigation strategies to be put in place should approval for a time extension be given.

MEX Asset Structure

Assets are listed in a parent/child hierarchal structure consistent with ISO standards and are uniquely identified using a standardised naming convention. By drilling down each “Parent” Asset, individual “Child” Assets can be found.

Asset Register	
Asset No ↑	Description
▼ Melbourne Site 1	Melbourne Site 1 - Formerly W. Melb. B
▶ MEL-B_Compliance/Inspections	Hazardous Area Inspections
▶ MEL-B_Elec./Inst. Equipment	Elec./Inst. Equipment
▶ MEL-B_Environmental Systems	Combustor, Vapour Recovery, Water Treatment
▶ MEL-B_Grounds, Civil & Structural	Buildings, Roadways, Bunds, Drainage, Wharf, Grounds
▶ MEL-B_Mech. Rotating Equipment	Pumps
▶ MEL-B_Mech. Static Equipment	Pipelines & Storage Tanks
▶ MEL-B_Product Handling	Loading Gantries & Hoses
▶ MEL-B_Site Assets	Dip Tapes, Vehicles, Radios, Product Test Equipment
▶ MEL-B_Site Safety	Fire System, Gas Detectors, Safety Showers, Lifting Equip
▶ MEL-B_Utilities	Compressed Air, Nitrogen, Water, Hot Oil

Maintenance Activity, Budget & Spend

2020 Activity

- Safety Critical PM's = 262
- Standard PM's = 313
- Reactive W/O's = 123
- **Total = 698**

Maintenance Key Performance Indicators (KPI's)

KPI	Target	2020 Results
SCPM's completed by "Due Finish" date	100%	100% (262/262)*
Standard PM's completed by "Due Finish" date	90%	90.1% (282/313)
Portion of Total W/O's being Reactive W/O's	<35%	18% (123/698)

- * 2 Derogations approved for extension to schedule due to awaiting parts from overseas (delayed due to COVID) for:
- 5-Yearly Deluge Valve Seat replacements – Site 1 (completed)
 - 5-Yearly Deluge Valve Seat replacements – Site 3 (completed)



QUANTEM

Quantem West Melbourne Minor Capital

Minor Capital at Quantem - West Melbourne





Quantem West Melbourne Minor Capital Program

- Quantem employs a risk based approach to asset management
- Regular risk reviews are undertaken to rank & prioritise asset projects
- Any projects with a residual risk rating of extreme or high are flagged & included in the site risk register and capital program

Likelihood

Descriptor	Description	Frequency
Almost Certain	Is expected to occur in most circumstances	More than once per year
Likely	Will probably occur in most circumstances	1 in 1 - 3 years
Possible	Might occur at some time	1 in 3 - 5 years
Unlikely	Could occur at some time	1 in 5 - 10 years
Rare	May occur in exceptional circumstances	1 in 10 years

Consequences of Impact

Description	Qualitative Impact	Quantitative Impact
Insignificant	No injuries, low financial loss, no risk to reputation.	Nil - Negligible
Minor	Minor First aid treatment, on-site release immediately contained, medium financial loss, some customer dissatisfaction.	Under 500K
Moderate	Medical treatment required, on-site release contained with outside assistance, high financial loss and public visibility.	Between \$500k - \$5m
Major	Major Extensive injuries, loss of production capability, invocation of disaster recovery with no detrimental effects, major financial loss.	Between \$5m - \$20m
Catastrophic	Death, off-site with detrimental effect, huge financial loss.	Above \$20m

Risk Analysis Matrix

		Consequences				
		Insignificant	Minor	Moderate	Major	Catastrophic
Likelihood	Almost Certain	Moderate	High	Extreme	Extreme	Extreme
	Likely	Moderate	High	High	Extreme	Extreme
	Possible	Low	Moderate	High	Extreme	Extreme
	Unlikely	Low	Low	Moderate	High	Extreme
	Rare	Low	Low	Moderate	High	High
Action Plan		Extreme Risk: Immediate action required to mitigate the risk. High Risk: Action should be taken to compensate for the risk. Moderate Risk: Action should be taken to monitor the risk. Low Risk: Routine acceptance of the risk.				

West Melbourne Minor Capital (2021)

2021 Compliance Projects

Melbourne	Slops pipeline Site 3 to Site 1	50
Melbourne	Modify ESD buttons Sites 1 & 3	50

2021 Risk Reduction Projects

Melbourne	Slop tank at Plant C	50
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2021 Tank 10 Yearly Inspections

Site	Tank	Product
West Melbourne	1	EXC50 Base Oil
West Melbourne	13	Acetone
West Melbourne	15	Acetone
West Melbourne	26	Butyl Acetate
West Melbourne	44	Paraffin