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COURSE BROCHURE

Refinery and Petrochemical Knowledge Management Course

15 – 19 March 2027
Dar es Salaam

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Registered in the United Kingdom and Saudi Arabia

Refinery and Petrochemical Knowledge Management Course

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Refinery and Petrochemical Knowledge Management is a 1-week training course for shift, console and area supervisors in refineries, petrochemical complexes and energy plants, and it produces a Unit Operating Knowledge Handbook for one process unit. Thin shift crews, fast operator turnover and tighter process safety expectations mean that what a board operator knows about a cracker or reformer must survive every shift change. Jupiter Prime Training runs this course for supervisors who keep units steady around the clock.

Why Refinery and Petrochemical Knowledge Management Matters Now

Three pressures meet in the control room. Experienced panel operators are moving on faster than new ones mature; distributed control systems generate more alarms and trend data than any single shift can interpret; and process safety reviews keep tracing upsets back to information lost at handover. Plants that keep operating envelopes, troubleshooting logic and handover notes current recover faster from trips and avoid repeating the same compressor surge or furnace upset. ISO 30401 Knowledge Management Systems Requirements gives the reference for treating this operating know-how as a managed system.

Who Gains Most from Refinery and Petrochemical Knowledge Management

- Supervisors who run shift handover between console and field crews
- Supervisors accountable for operator rounds, logbooks and readings on process units
- Supervisors who coordinate start-up, shutdown and turnaround readiness for their area
- Supervisors who own troubleshooting of rotating equipment such as compressors and pumps
- Supervisors who brief crews on process safety events and management of change

A unit's four shift crews gain most when their supervisors attend together and agree one shared way of recording and passing on operating knowledge.

Refinery and Petrochemical Knowledge Management Capabilities

The course turns scattered logbook entries, panel habits and senior operator instincts into knowledge the next shift can act on.

- Design a structured shift handover that flags abnormal conditions and open work — incoming console operators
- Build troubleshooting trees for recurring upsets on compressors, furnaces and columns — area engineers
- Specify operating envelope sheets with limits and the reasons behind them — process engineering
- Apply electronic logbook conventions so entries are searchable across shifts — operations managers
- Weigh which operator know-how belongs in procedures, training or the handbook — training coordinators
- Communicate process safety learnings at toolbox talks in plain operating language — field crews

Key Refinery and Petrochemical Knowledge Management Terms

- Shift handover — The structured exchange at crew change covering unit status, deviations, permits and pending tasks.
- Operating envelope — The safe and efficient range for pressures, temperatures and flows on a process unit.
- Electronic logbook — A searchable digital record of shift events, readings and actions that replaces paper logs.
- Troubleshooting tree — A branching guide linking symptoms of an upset to likely causes and checks.
- Management of change — The approval routine for altering equipment, chemicals or procedures so risks are reviewed first.
- Board operator know-how — Practical skill in reading control system trends and alarms to keep a unit stable.

Refinery and Petrochemical Knowledge Management Day by Day

Day 1: Control Room Knowledge Under Pressure

- Crew Turnover and Experience Mix Review — Spotting Thin Shifts on Critical Units
- Alarm Flood and Trend Overload Patterns — What Operators Miss at Night
- Handover-Linked Upset Case Studies — Refinery and Polymer Plant Examples
- ISO 30401 Elements for Operating Sites — Treating Know-How as a System
- Operating Knowledge Flow Diagram — From Panel to Field and Back

Day 2: Structured Shift Handover

- Handover Checklist Design — Abnormal Conditions, Bypasses and Open Permits
- Face-to-Face Handover at the Board — Questions Incoming Crews Must Ask
- Electronic Logbook Conventions — Tags, Categories and Searchable Entries
- Field Round Readings Capture — Linking Observations to Equipment Numbers
- Handover Quality Spot Checks — Supervisor Sampling of Crew Changes

Day 3: Troubleshooting and Rotating Equipment Know-How

- Compressor Surge and Trip Recovery Notes — Steps Senior Operators Follow
- Furnace and Column Upset Trees — Symptoms, Causes and Checks
- Pump Seal and Vibration Watch Lists — When to Call Maintenance
- Operating Envelope Sheets — Limits Plus the Reasons Behind Them
- Senior Operator Think-Aloud Sessions — Recording Reasoning at the Panel

Day 4: Turnarounds, Change and Safety Learning

- Start-Up and Shutdown Sequence Notes — Lessons From the Last Turnaround
- Management of Change Knowledge Updates — Keeping Handbooks Current After Modifications
- Process Safety Event Briefs — Turning Investigations Into Toolbox Talks
- Operator Training Simulator Scenarios — Rehearsing Rare Upsets
- Procedure Versus Handbook Split — Deciding Where Each Piece of Know-How Lives

Day 5: Practising the Unit Operating Handbook

- Applied Handover Checklist for a Chosen Unit — Testing It on a Scenario
- Applied Troubleshooting Tree Drafting — One Recurring Upset End to End
- Applied Logbook Clean-Up — Converting Past Entries Into Usable Notes
- Crew Review Routine — Assigning Owners for Each Handbook Section
- Unit Operating Knowledge Handbook — Completed Draft

Applying Refinery and Petrochemical Knowledge Management After the Course

- Pilot the new handover checklist on one unit for four weeks and sample ten crew changes for gaps.
- Run a think-aloud session with a senior board operator and turn it into one troubleshooting tree.

Refinery and Petrochemical Knowledge Management Questions FAQ

What is refinery and petrochemical knowledge management and why does it matter now?

It is the way plants record, hand over and reuse operating know-how across shifts. It matters now because crews turn over quickly, control systems produce more data than ever and many process upsets trace back to information lost at crew change.

Which roles gain most from refinery and petrochemical knowledge management?

Shift, console and area supervisors gain most. You benefit if you run crew changes, keep logbooks, troubleshoot compressors or furnaces, or prepare units for start-up, shutdown and turnaround.

How does refinery and petrochemical knowledge management differ from upstream knowledge management?

It focuses on the control room and the shift cycle rather than wells and drilling campaigns. The methods centre on handover, logbooks, operating envelopes and troubleshooting trees for continuous process units.

What do you bring back from refinery and petrochemical knowledge management training?

You bring back a handbook draft for one unit. It holds a handover checklist, troubleshooting trees, operating envelope sheets and named owners for keeping each section current.

Refinery and Petrochemical Knowledge Management: The Way Forward

The Unit Operating Knowledge Handbook first informs how the next crew change is run on the chosen unit. Supervisors, console operators and area engineers use it daily, and training coordinators draw on it for new starters. After its first month, revisit which troubleshooting trees crews actually opened during upsets and extend the handbook to the neighbouring unit.