
Plant Readiness for First Start: Pre-Start-Up Safety Review and Handover Training Course

6 – 10 September 2027
Tokyo





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Programme Summary

Plant readiness for first start is the subject of this one-week training course for project directors, commissioning managers, plant managers and operations leaders, ending in a start-up readiness dossier for one new or modified plant. Many projects reach mechanical completion with open items, untrained crews and unreviewed changes, so the start decision rests on pressure. The programme moves from the principles of readiness, through diagnosis of gaps, to design of review gates and handover, and then to application. Mars Training Centre UK delivers this plant readiness for first start programme for leaders from mixed organisations.

The Business Case

The first start of a plant carries more risk than steady operation. Late handover and unfinished safety actions turn commissioning into improvised decisions. Leaders who set readiness criteria early, hold a pre-start-up safety review against them and control the handover from construction to operations find problems while they are cheap to fix and can explain to executives why a start was held.

- Start-Up Safety Performance: Improves as open safety actions are closed before hazardous material is introduced.
- Schedule Predictability: Strengthens as readiness gates replace last-minute negotiation over the start date.
- Handover Quality: Rises as documents, training and spares are checked against agreed criteria.

Principles and Evidence Base

- Pre-Start-Up Safety Review PSSR: It frames the readiness gate designed in Session 3 and rehearsed in Session 5.
- API RP 1FSC for commissioning and start-up: It guides the structure of commissioning stages and handover steps in Sessions 1 and 3.
- Operational readiness review: It structures the readiness gap assessment in Session 2.
- Management of change review: It supports the control of late changes before start in Session 4.

Intended Participants

- Project directors who deliver a plant to operations.
- Commissioning managers who sequence pre-commissioning, commissioning and start-up.
- Plant managers who receive the plant and own its safe operation.
- Operations leaders who prepare crews, procedures and spares.

Typical functions include refining, chemicals and power projects.



Learning Outcomes

1. Participants will be able to distinguish mechanical completion, commissioning, start-up and handover as separate decisions.
2. Participants will be able to diagnose readiness gaps in documents, people, equipment and safety actions.
3. Participants will be able to construct readiness criteria and a pre-start-up safety review plan for a plant.
4. Participants will be able to evaluate late changes and open items for their effect on start-up risk.
5. Participants will be able to prioritise close-out actions by consequence and time.
6. Participants will be able to justify a start or hold recommendation to executive colleagues.

Programme Structure

Day 1: Plant Readiness for First Start and the Commissioning Sequence

What must be true before a plant is started for the first time?

- Project to Operations Stage Map
- Mechanical Completion Definition Sheet
- Commissioning Stage Sequence Chart
- Readiness Criteria Long List
- Role and Decision Rights Chart

Day 2: Diagnosing Readiness Gaps

Where is the plant not yet ready, and how serious is each gap?

- Operational Readiness Gap Scorecard
- Punch List Category Review
- Procedure and Training Gap Check
- Documentation Completeness Audit
- Spares and Utilities Availability Table

Day 3: Designing Review Gates and Handover

How are readiness decisions structured and recorded?

- Pre-Start-Up Safety Review Checklist
- Readiness Gate Criteria Matrix
- Handover Package Contents List
- Hold and Release Decision Form
- Commissioning Schedule Control Plan



Day 4: Controlling Changes, Risks and First Operation

How are late changes and first-operation risks controlled?

- Late Change Screening Form
- Management of Change Review Log
- First Operation Risk Register
- Start-Up Procedure Walk-Through
- Early Operation Monitoring Plan

Day 5: Applying Plant Readiness for First Start to One Plant

Does the dossier support a clear start or hold decision?

- Applying the Session 1 Criteria List to the Plant
- Testing the Session 2 Gap Scorecard on Live Data
- Rehearsing the Session 3 Gate Review
- Challenging the Session 4 Risk Register
- Completing the Start-Up Readiness Dossier

Methodology

The programme uses a case analysis method built on anonymised punch lists, readiness checklists, handover packages and written cases from refining, chemicals and power projects. Participants work in small groups on one plant and defend a start or hold position to peers who act as safety and operations colleagues. Facilitator feedback is given on every work product before it enters the dossier.

- Suggested activity: Sorting a punch list into items that must close before start and items that can follow.
- Suggested activity: Running a pre-start-up review on a sample plant section.
- Suggested activity: Presenting a hold recommendation to a mock panel.

Capstone Output

Each participant completes a start-up readiness dossier for one plant. It holds readiness criteria, a gap scorecard, a gate review plan, a handover package outline, a risk register and a start or hold recommendation. The dossier is used at work to brief executive colleagues and to agree the conditions for starting.



Frequently Asked Questions

Is plant readiness for first start suitable for managers who have not led a commissioning before?

Yes. Plant readiness for first start is taught from first principles and assumes responsibility for a project, plant or operating team, not earlier commissioning experience.

Which standards does plant readiness for first start rest on in this programme?

Plant readiness for first start here rests on the pre-start-up safety review, API RP 1FSC for commissioning and start-up, operational readiness review and management of change review.

How is the dossier from plant readiness for first start used at work?

You use the dossier to brief executives, agree the conditions for starting and record why a start was held or released.

How does plant readiness for first start differ from a programme on plant troubleshooting?

Plant readiness for first start centres on deciding whether a plant is ready before it starts, while troubleshooting centres on finding causes of problems in a running plant.