

■ **Course title:**

Pre-Start-up Safety Review in Fertilizer Plants

■ **Introduction:**

Pre-start-up safety review (PSSR), means a final check prior to initiating the use of process equipment. It implies a management system within that program for ensuring that new or modified processes are ready for startup.

This is done by verifying that equipment is installed in a manner consistent with the design intent and that process safety management systems are in place. As each change, the associated risk, and the process in question may be unique, applying PSSR in a systematic way to your work processes simply represents a good business practice.

This training course examine the application of the practice of PSSR to the fertilizer plants hardware, software, engineering, and management activities, and documentation associated with operating processes.

Duration 7 hours.

■ **Course outline:**

Module 1 – Introduction

1. Benefits of Performing Pre-start-up
2. What is the Scope of a PSSR

Module 2 – What is a PSSR

1. The Basics of Pre-start-up Safety Review
2. Some Common Steps for Performing PSSR
3. What is a Risk-based Approach to PSSR
4. Scheduling Considerations
5. Changes to Operating Facilities
6. Temporary Changes
7. Post-turnaround Start-up
8. Routine Maintenance
9. Start-up After Emergency Shutdown

Author(s) / Trainer(s):

Venkat Pattabathula

Ammonia Process Consultant



Venkat Pattabathula has more than 35 years of experience in nitrogen manufacturing industry in various parts of the world such as Asia, North America, and Australia.

Extensive experience in process design and engineering of world scale ammonia/urea projects valued at more than US\$ 600 million engineered by different process licensors and EPC companies.

A Technology Manager experienced in being responsible for economic evaluation and technology selection in plant upgrades and performance guarantees on all ammonia plant related projects.

Dan Cojocar

Ammonia Process Safety Consultant



Dan has over 20 years of operational, engineering and consultancy experience in ammonia plants and LNG projects.

He started his career as a field operator at ammonia plant and worked his way up being uniquely exposed to Operator, Licensor and EPC worlds on his professional path. His experience in all project phases starting from Concept and Front End Engineering (FEED) through Detailed Design, Commissioning and Operation is extensively enhanced by his Process Safety expertise. All of that brings Dan to founding Fertilizer Industrial Services – the UK based company providing Owner Engineer support to fertilizer companies developing greenfield and revamp projects. The team experience is also shared with operators and engineers worldwide via online training courses of Fertilizer Academy platform, and ammoniaknowhow.com industry forum.

Dan is a Chartered Chemical Engineer of The Institution of Chemical Engineers (IChemE), a Registered Professional Engineer of Queensland (RPEQ) and senior member of American Institute of Chemical Engineers (AIChE).

Module 3 – Pre-Start-up Review Work Process

1. Defining the PSSR System
2. PSSR Sub-elements
3. Designing and Implementing an Initial PSSR Program
4. Preparing to Perform a Pre-start-up Safety Review
5. Follow Pre-start-up Safety Review Action Items
6. Approve the Pre-start-up Safety Review Report

Module 4 – Methodologies For Compiling And Using a PSSR Checklist

1. Building Your Facility's Database of Questions
2. Considerations for Fertilizer Industry
3. Examples of PSSR checklists

Module 5 – Continuous Improvement

1. Diagnosing PSSR System Issues
2. Training and Communication
3. Excesses and Deficiencies
4. Example PSSR Performance and Efficiency Metrics
5. PSSR Performance Indicators
6. PSSR Efficiency Indicators

Learning outcomes:

By the end of this training course you will understand:

- What is the construction, maintenance, or programming work performed to build, install, or program the process change to meet the design specifications originally intended.
- What are the pre-start-up activities that have to be completed and post-start-up activities to be scheduled and tracked to help ensure that equipment is designed, fabricated, procured, installed, operated. and maintained in a manner appropriate for its intended application.
- What are the new chemicals or materials to be used in the process in regard to safety, health, environmental and material performance issues.
- Allocation of personnel assigned to inspect, test, maintain, procure, fabricate, install, or commission process equipment to be appropriately trained and have access to current and up-to-date procedures and process safety information.

Who will benefit:

Employees who are responsible or share responsibility with respect to the PSSR activities.
Anyone interested in developing a new PSSR program or upgrading an existing one.

- Managers of process safety management and PSM coordinators at a manufacturing facility
- Corporate process safety management staff
- Project managers and project team members whose projects initiate the need for a pre-start-up safety review
- Engineers or other staff members performing management of change activities
- Operations, maintenance and other manufacturing personnel who may be part of a PSSR team
- Any employee participating in the PSSR program

Course materials:

- Hand-out presentation slides in PDF format
- PSSR checklists

Price:

€ 750

Discounts:

- 2 places – 10% discount
- 3 places – 15% discount
- 4 or more places – 20% discount.

In-company training:

This course is also available as an in-company course (face-to-face or online) where content can be customised to meet your organisation's specific needs and delivered on a date/location that suits your requirements.

[Contact us](#) for more information.

Training code: PSM10