

■ **Course title:**

# Primary Reformer Firebox Explosion Case Study A Process Safety Management Approach

■ **Introduction:**

Case Studies training courses will present various incidents in fertilizer industry detailing the incident causes, consequences, and lessons learned. This training series introduce a process safety analysis of each incident and the impact in Operational Excellence program.

This incident is related to a top fired primary reformer exploded in an ammonia plant. Incident investigation concluded that the direct cause of the accident was the introduction, by error, of a large amount of fuel gas through unlighted arch burners.

This case study is an excellent lessons learned for operators and engineers involved in both operation and design of new ammonia plants.

*Duration 1 hour.*

■ **Course outline:**

## Lessons

1. Introduction
2. General plant description
3. Process Unit Description
4. Incident Description
5. Cause of the Incident
6. Consequences of the Incident
7. Lessons Learned
8. Process Safety Analysis
9. Impact on Operational Excellence
10. Conclusions

Author(s) / Trainer(s):



## Dan Cojocar

Ammonia Process Safety Consultant,  
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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](http://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).

#### ■ Learning outcomes:

By the end of this training course you will understand:

- The causes and consequences of the firebox explosion due to human error during the start-up of the primary reformer
- How to prevent such incident by incorporating the lessons learned in your process safety management system

#### ■ Who will benefit:

Operators, process engineers and maintenance specialists involved in operation, maintenance and inspection of ammonia plants

#### ■ Course materials:

- Hand-out presentation slides in PDF format

#### ■ Price:

**€ 120**

#### ■ 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: CAST02