A Learning Community Approach to Process Safety Competency

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Agenda

- Introduction
- Process Safety - The need for a new programme
- Learning Community Approach
- Structure & Content
- Learning Management System & Outcomes

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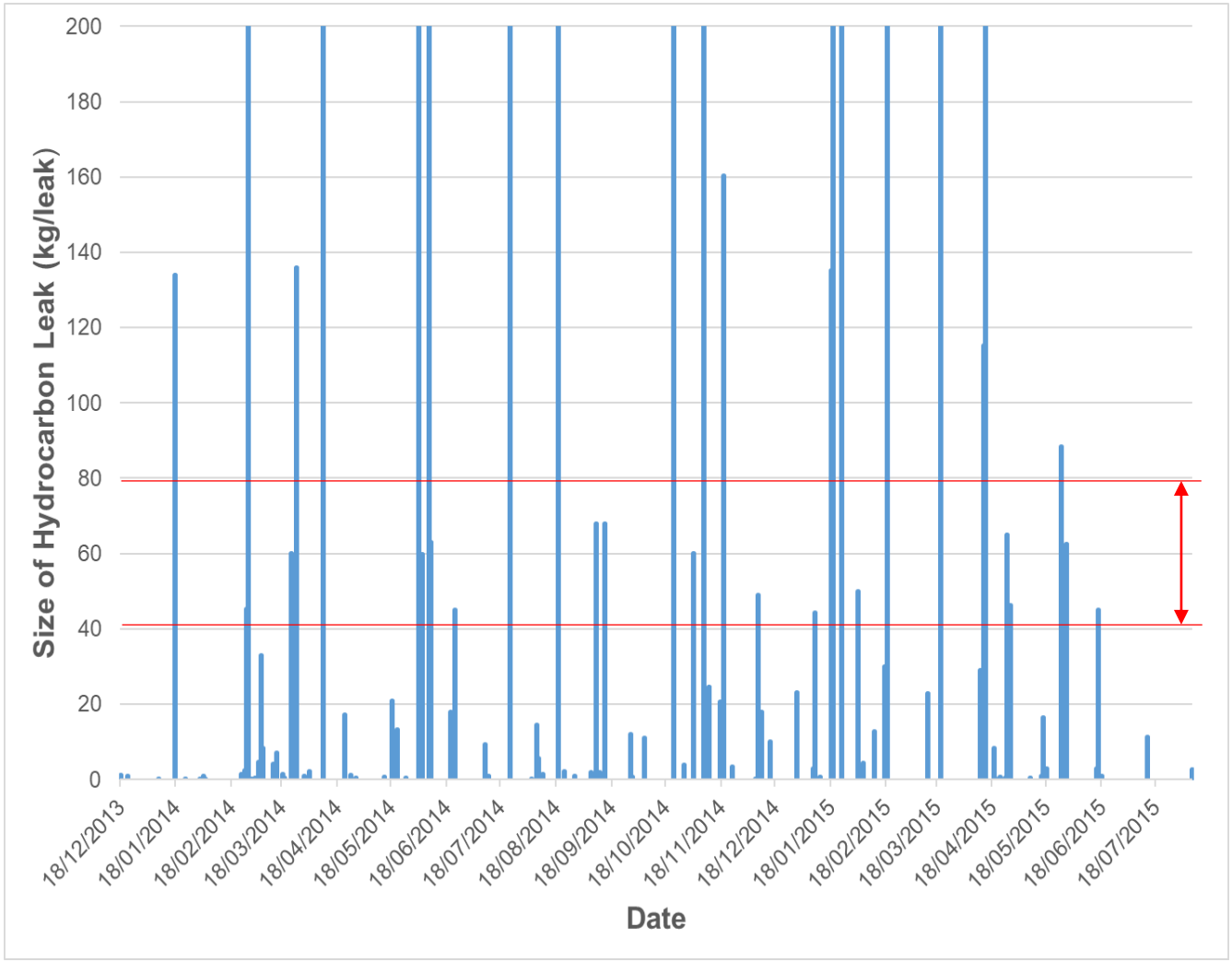
Programme Need: Loss of Containment Events



HCR Data 1992-2016 [Ref 1]

Estimate range of initial gas leak in C-Module of Piper Alpha. Section 5.103-5.109, pp68-69, [Ref. 2]

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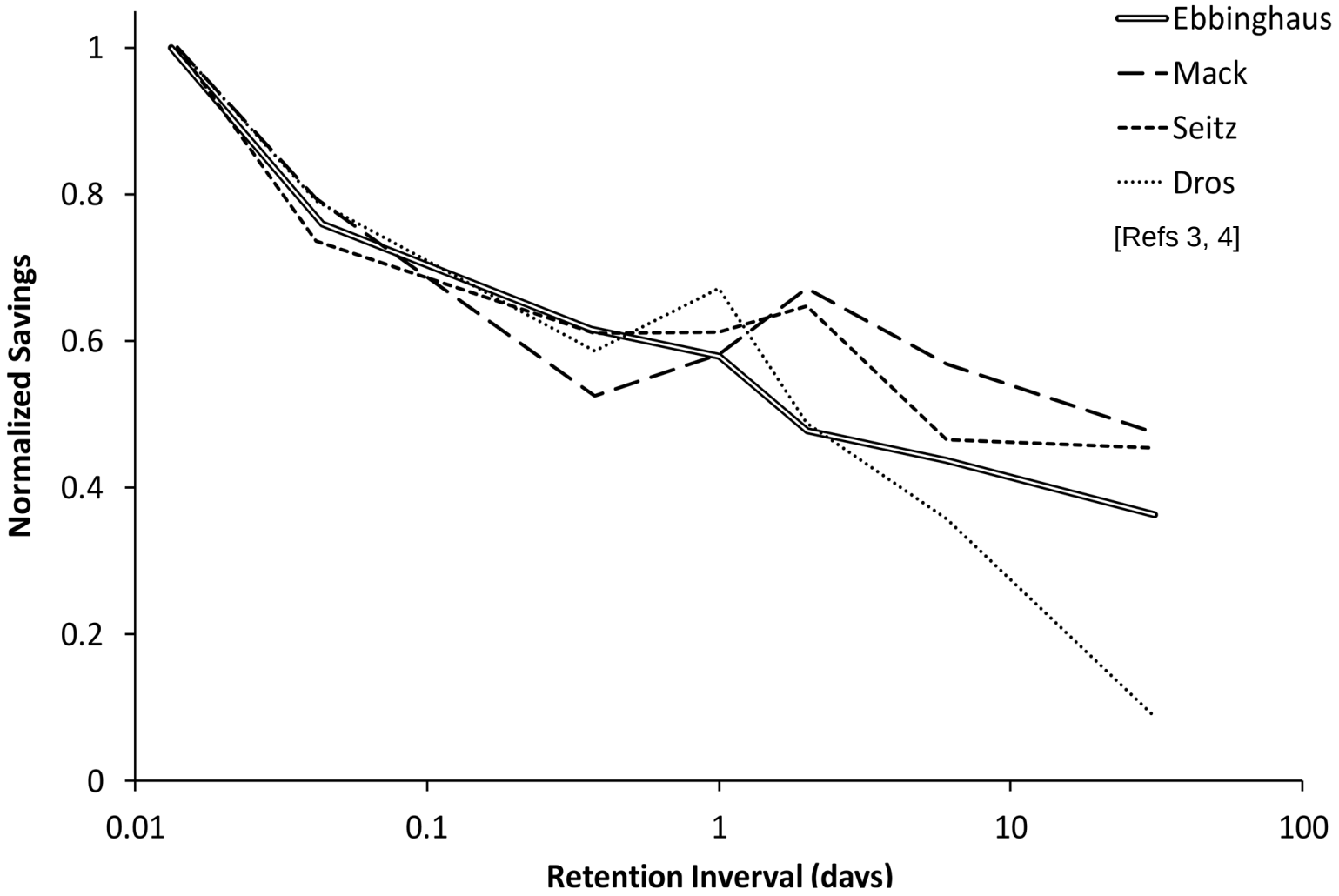
The need for a new approach - The 'Forgetting' Curve



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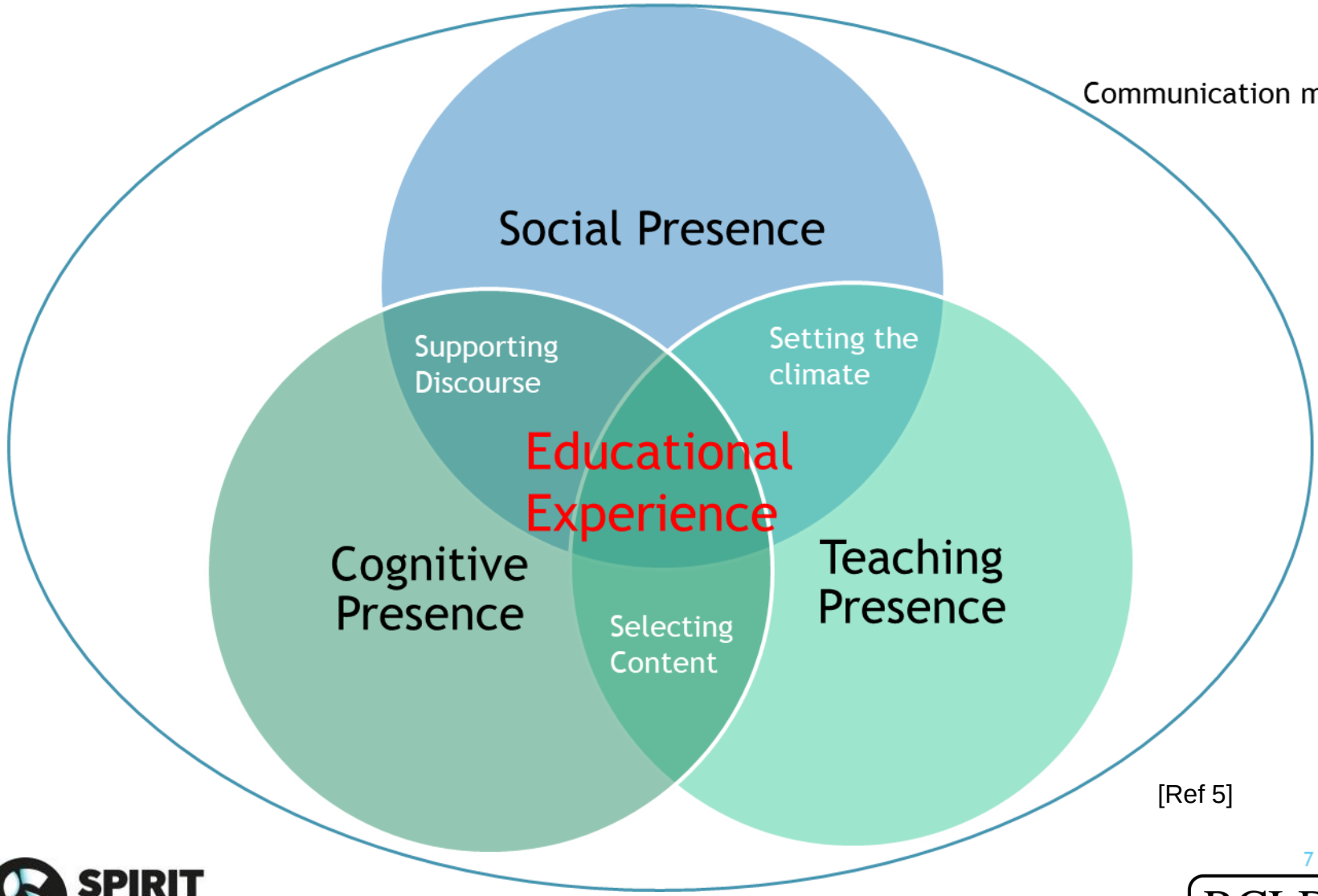
Learning Community Approach



[Ref 5]

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Process Safety Programme - Structure

- Blended Learning Approach
- Development of a ‘Learning Community’
- 3 Workshops spaced 1 month apart
- Workshops support by learning management system material
- Extra videos, reading, case studies.
- Learning Outcomes tested through Quiz
- Leadership Support
- Compulsory attendence

[Ref 6] https://www.csb.gov/williams-olefins-plant-explosion-and-fire-/

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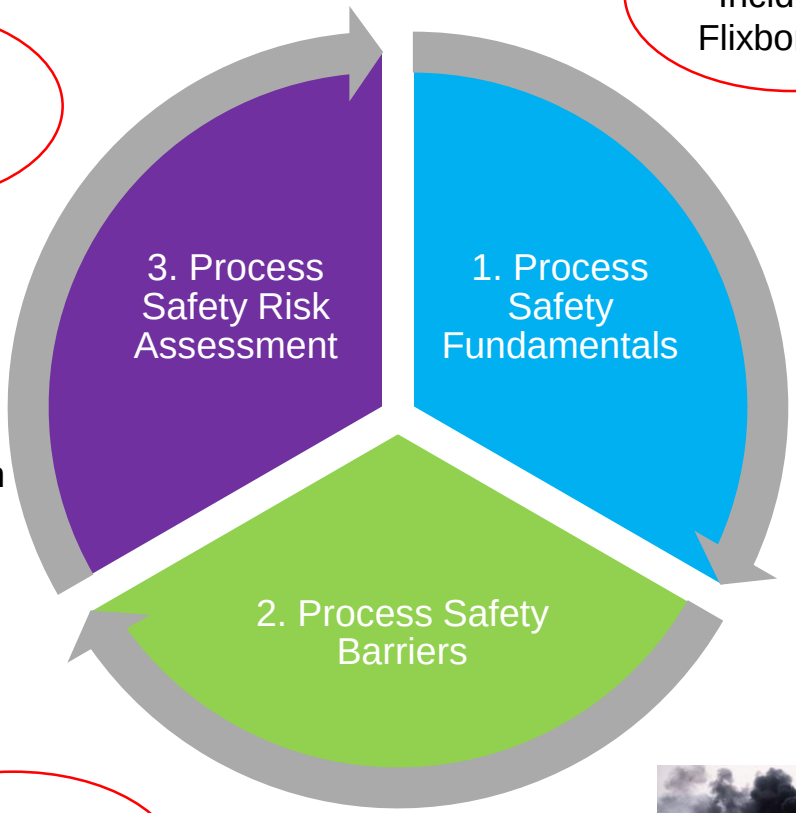
Process Safety Programme Structure

Major Incident - Buncefield

Major Incident - Flixborough



- SIS / ESD / F&G
- Layout
- Risk Assessment
- Case Study Exercises
  - ESDV Performance
  - New Fluids / Composition
- [Ref 12]

- Accident Sequence
- Hazards, Failure, Consequences
- Loss of Containment
- Legislative Framework
- ALARP Case Studies
- [Refs 7-10]

Major Incident – Piper Alpha

- Fire & Explosions
- Barriers
- HP/LP Interfaces
- Relief & Blowdown
- Practical ALARP
- [Refs 2, 3, 11]

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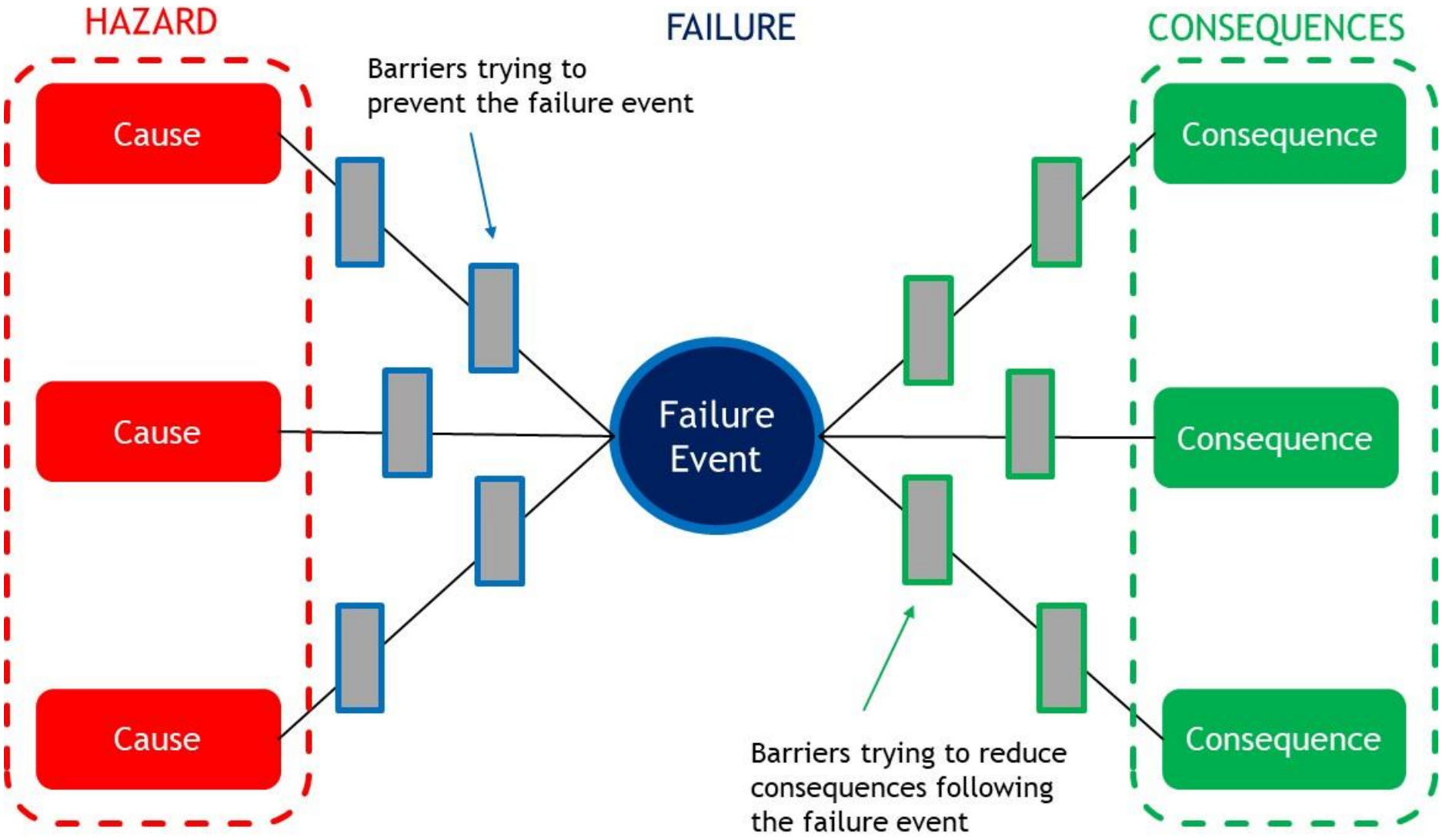
Process Safety Programme - Content



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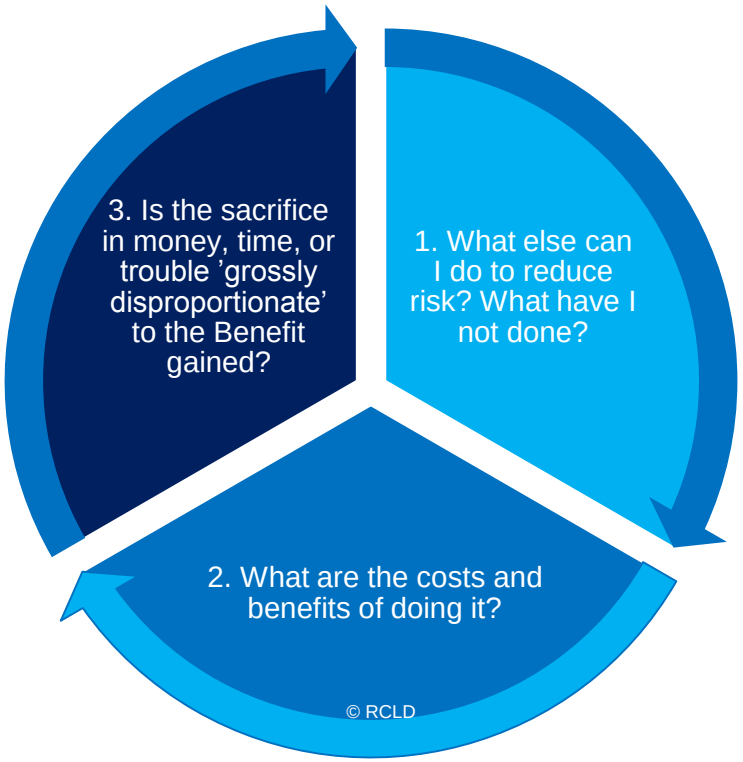
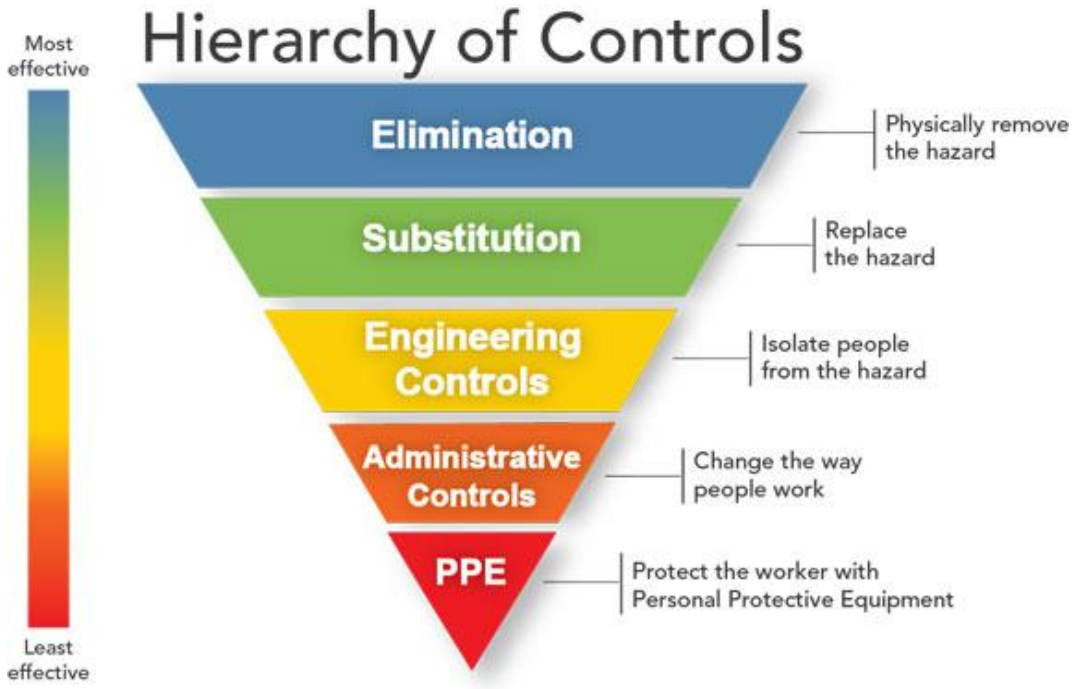
Process Safety Programme - Content





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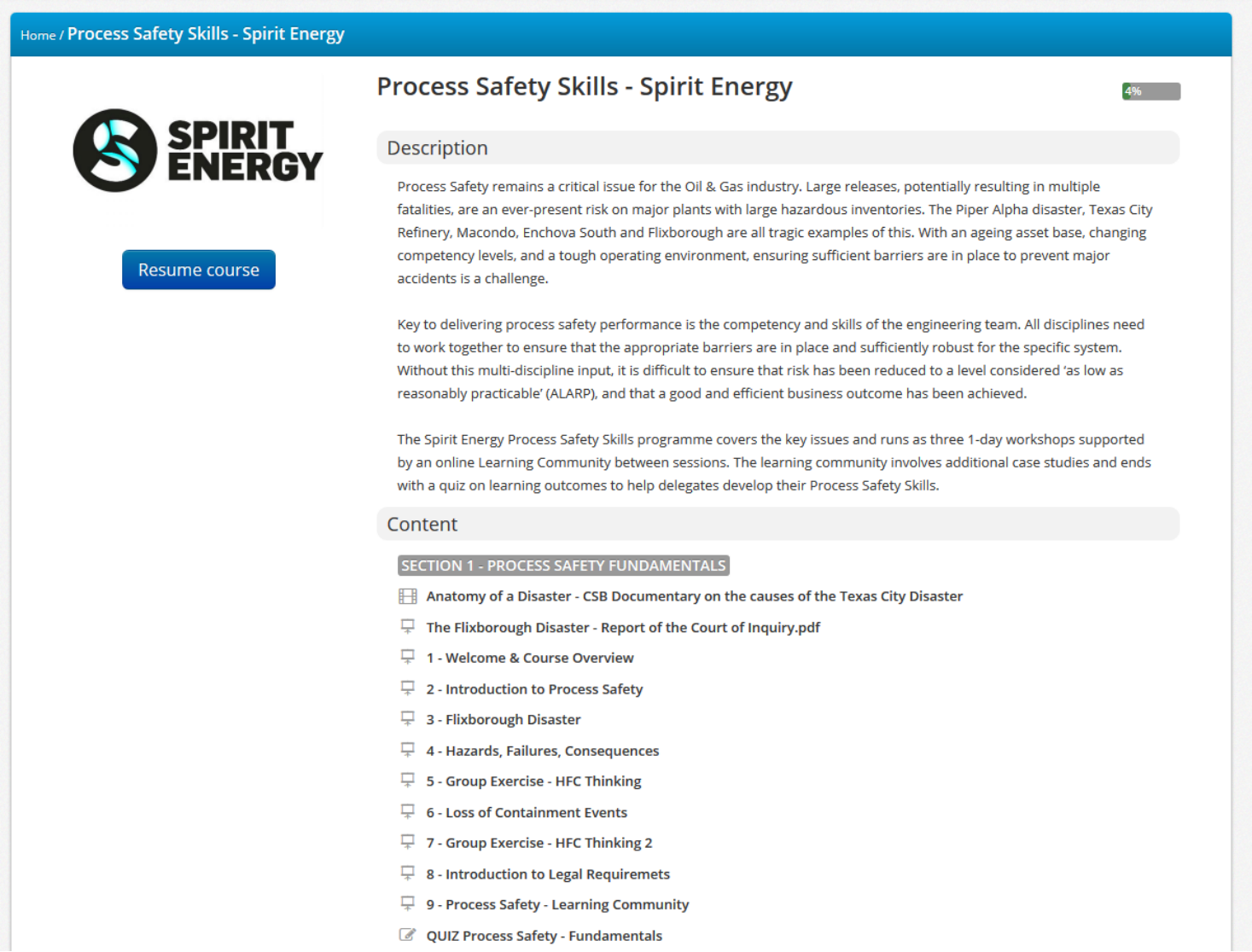
Learning Management System



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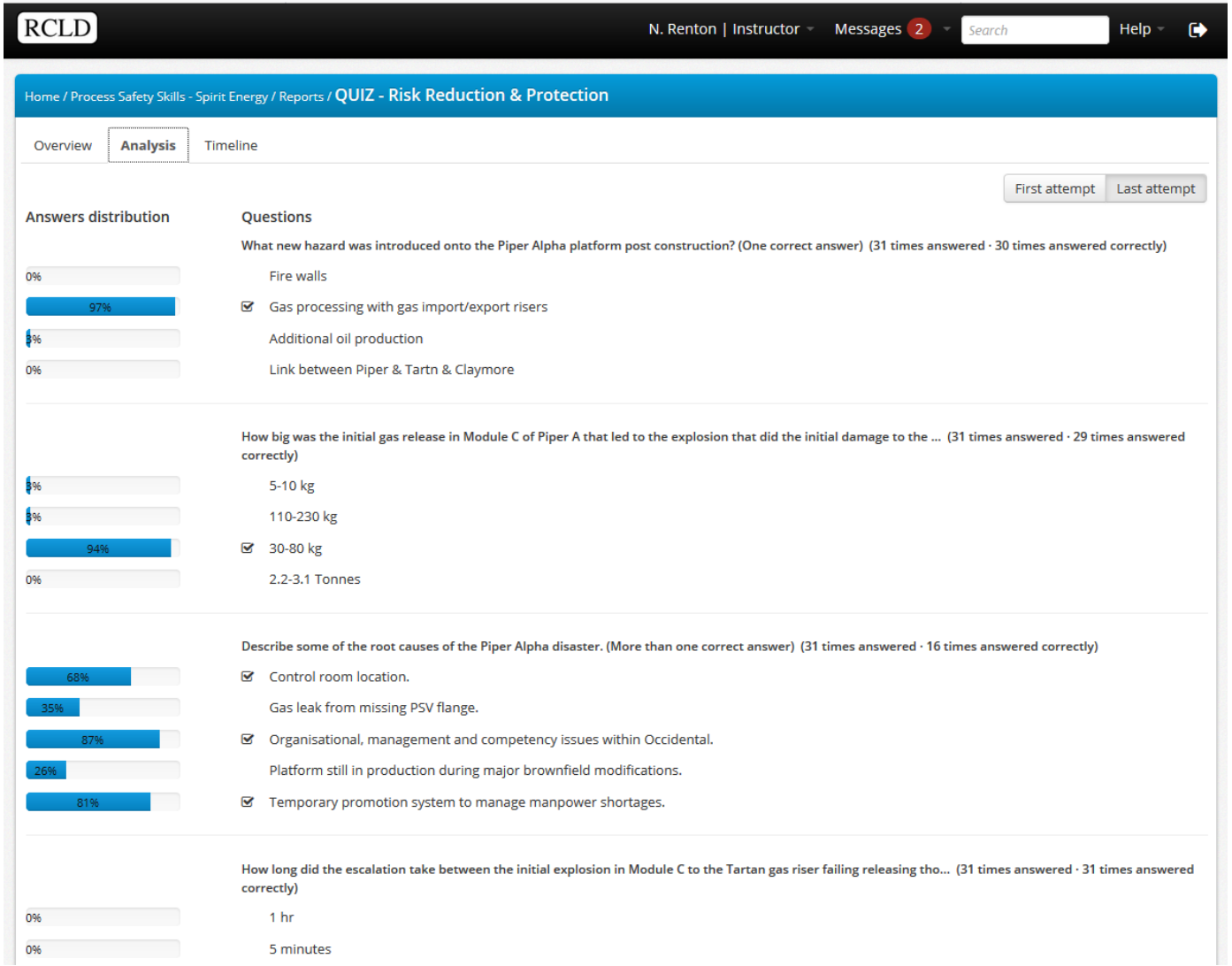
Learning Outcomes



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Programme Outcomes

Outcomes

- Initial silo-thinking within the TA Group – basis for a common understanding by the end;
- Pressures of production and limited resources influences perceptions of the TA Community;
- Multi-site differences highlighted and begin to align (Barrow, Aberdeen, Hoofddorp);
- Understanding of Legal Requirements improved with a focus on identifying options and use f the Hierarchy of Controls;
- Comparison between company events and major accidents was powerful;
- Behaviour post workshop different – new interventions and decision making e.g. relief-valve lifting.

Going Forward in 2018

- Expanding the programme to the Asset Leadership team;
- Technical and Asset leadership team reinforcing the key concepts of the Process Safety Framework + Hierarchy of Controls + ALARP.

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Thank-you

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