CASE STUDY 02

Nuclear & Major Accident Hazard Governance

Strengthening governance and accountability in regulated high-hazard environments

KEY RESULTS

- Clarified governance structures across nuclear and major accident hazard programmes
- Strengthened alignment between engineering authority, programme leadership and board accountability
- Improved visibility of technical risk exposure at executive and board level
- Reinforced regulatory credibility across regulated high-hazard environments
- Established governance arrangements capable of supporting programme growth and delivery confidence

Figure 1 – Hardium Governance Framework

Context

Engineering organisations operating in nuclear and major accident hazard environments face demanding governance expectations. Regulatory frameworks require that technical authority, operational responsibility and organisational accountability remain clearly defined and demonstrably effective.

In this engagement, an engineering organisation operating across regulated nuclear and chemical sectors was experiencing significant growth in programme activity and technical scope. New opportunities were expanding the organisation's involvement in high-hazard programmes while increasing regulatory exposure and scrutiny.

As programme scale and complexity increased, leadership recognised the need to ensure that governance arrangements remained aligned with engineering reality and regulatory expectations.

Structural Challenge

While the organisation possessed strong technical capability, the pace of growth introduced governance complexity.

Several structural risks began to emerge:

- expanding regulatory exposure across nuclear and major accident hazard environments
- increasing programme complexity and cross-disciplinary delivery interfaces
- limited visibility at senior leadership level of emerging technical risk exposure
- governance structures that had not yet fully evolved to reflect programme scale

Without clearer alignment between engineering authority, programme leadership and organisational governance, these conditions could create uncertainty around accountability and regulatory confidence.

Hardium Role

Hardium's advisors were engaged to provide independent insight into governance maturity and organisational alignment within the expanding programme environment.

The objective was not to redesign governance structures wholesale, but to strengthen clarity around responsibilities, escalation pathways and technical authority so that organisational growth could proceed with confidence.

This involved supporting leadership teams in understanding how engineering decisions, regulatory obligations and board-level accountability interact within regulated high-hazard programmes.

Approach

Focused on strengthening coherence between governance structures and technical reality.

1 Governance mapping

Existing governance arrangements were reviewed to understand how technical decisions flowed from engineering teams through programme leadership to organisational oversight. This helped identify areas where responsibilities and escalation pathways required greater clarity.

2 Regulatory alignment

Regulatory expectations associated with nuclear and major accident hazard environments were examined to ensure governance structures reflected the responsibilities associated with operating in highly regulated sectors.

3 Accountability clarity

Leadership teams were supported in clarifying the relationship between engineering authority, programme management and board oversight. This ensured that decision-making pathways remained clear and defensible as programme scale increased.

Outcome

The engagement strengthened organisational clarity around governance responsibilities and technical authority.

Leadership gained improved visibility of programme-level technical exposure, while engineering teams operated within clearer decision-making and escalation structures.

As the organisation continued to expand its involvement in regulated high-hazard programmes, governance arrangements were better aligned with both engineering delivery and regulatory expectations.

This strengthened delivery confidence and supported continued programme growth within a regulator-credible framework.

What This Demonstrates

- Governance literacy across nuclear and major accident hazard environments
- Alignment of engineering authority with organisational accountability
- Structured visibility of technical risk exposure at senior leadership level
- Governance frameworks capable of scaling with programme complexity
- Strengthening of regulatory confidence through organisational clarity