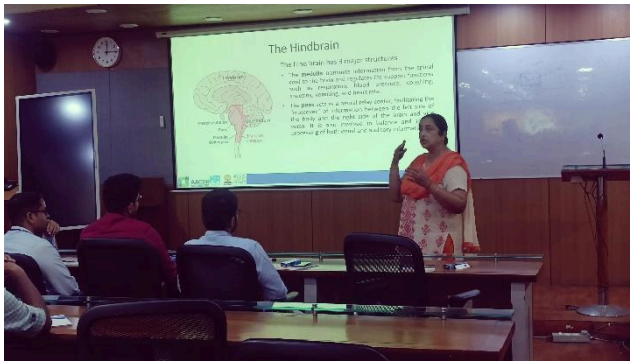


## Report on: Essence of Critical Thinking Skills



The two-day training programme titled *“Essence of Critical Thinking Skills for Oil & Gas Professionals in PSU Settings”* was conducted for officials from GAIL (India) Ltd. with the objective of enhancing their analytical capabilities, decision-making skills, and structured reasoning in high-risk, high-accountability environments. Designed specifically for the public sector context, the programme responded to the growing need within the oil and gas industry for professionals who can make sound judgements, evaluate complex situations objectively, and minimise risks through systematic thinking. Over the course of two intensive days, participants engaged in conceptual learning, hands-on exercises, case-based discussions, and simulation activities that connected critical thinking theory with real-world operational challenges encountered within a PSU.

The first day began with an exploration of the foundations of critical thinking, particularly in the context of public sector undertakings. Participants examined why critical thinking is no longer an optional skill but an operational necessity in organisations dealing with public resources, regulatory oversight, and safety-sensitive operations. The session clarified common myths around critical thinking and introduced participants to its core components—analysis, interpretation, inference, evaluation, and reflection. Emphasis was placed on how critical thinking directly influences PSU governance, compliance management, organisational integrity, and stakeholder trust. Through guided discussions, officials reflected on the complexities of their roles and recognised how adopting a critical thinking mindset can enhance accuracy, accountability, and transparency in decision-making.

Following this, the programme moved to the topic of thinking errors and biases, particularly in high-stake environments like oil and gas operations. Participants explored cognitive biases such as confirmation bias, sunk cost fallacy, anchoring, and overconfidence—factors that often influence decisions unconsciously and can have disproportionate consequences in PSU settings where safety, public resources, and environmental considerations intersect. Using examples from pipeline operations, exploration activities, and procurement decisions, the

facilitator demonstrated how these biases can distort judgement and lead to operational lapses. The officers engaged in reflective exercises that helped them identify biases in their own thought processes and develop strategies to counter them.

The next segment introduced formal frameworks and models that support structured thinking. Participants were exposed to widely used critical thinking tools such as the RED Model (Recognise assumptions, Evaluate arguments, Draw conclusions), the Six Thinking Hats framework, and the SCAMPER technique for idea generation and problem reframing. These models were contextualised to fit the technical decision-making requirements of PSU officials. By practising these frameworks through short case tasks and scenario-based activities, the participants learned how to apply structured approaches when confronting ambiguous situations, analysing data, or choosing among multiple operational options.

The day concluded with an extensive case study on pipeline failure and exploration risk assessment. Participants worked in groups to analyse the situation using stakeholder mapping, causal analysis, and alternative evaluation techniques. Through this exercise, they applied the concepts learned throughout the day and gained practice in identifying the root causes of failures, understanding the interplay of technical and managerial factors, and recommending feasible corrective strategies. The activity also helped them appreciate the importance of interdisciplinary thinking and collaborative analysis in PSU environments.

The second day of the programme shifted focus from conceptual foundations to applied critical thinking within PSU operations. The first session examined the role of critical thinking in navigating safety, environmental, and ethical dilemmas. Participants discussed real-world situations involving compliance pressure, environmental obligations, and ethical considerations, recognising how critical thinking can help in balancing organisational objectives with public welfare. Specific attention was given to the principles of ethical reasoning, the long-term implications of shortcuts, and the reputational risks associated with poor decision-making. Through structured debate exercises, officials analysed situations where decisions required not only technical judgement but moral clarity.

The next session introduced tools for problem-solving and root cause analysis. Participants practised using the Fishbone Diagram, the 5 Whys technique, and Fault Tree Analysis—each adapted for scenarios relevant to GAIL's operations such as equipment malfunction, supply disruptions, and safety incidents. The facilitator emphasised the difference between symptoms and root causes and demonstrated how systematic questioning and evidence-based reasoning can prevent repetitive operational failures. The hands-on nature of the session enabled participants to internalise these tools and understand their practical applicability in daily operations.

A key highlight of the training was the group simulation on crisis response to a refinery incident. Designed as an immersive exercise, the simulation required participants to analyse the evolving crisis, allocate responsibilities, interpret incomplete information, manage stakeholder communication, and make timely decisions under pressure. The dynamic nature of the activity allowed participants to experience the complexities and unpredictability of real-life crisis situations within the oil and gas sector. The debriefing session following the simulation helped them reflect on their decision patterns, teamwork, communication strategies, and use of analytical tools.

The concluding session focused on building a culture of inquiry and reflective thinking within PSUs. Participants discussed how critical thinking can be institutionalised through leadership behaviour, team communication, training initiatives, and organisational policies. They explored ways to encourage questioning, reduce hierarchical barriers to idea-sharing,

and create systems where analysis and reflection are valued. The session also highlighted the responsibility of PSU professionals to foster a mindset of learning, curiosity, and transparency among their teams.

Overall, the two-day training programme successfully strengthened the analytical competencies and reflective capabilities of GAIL officials. By blending theoretical grounding with practical application, the programme enabled participants to approach their operational responsibilities with greater clarity, objectivity, and confidence. The training reaffirmed the importance of systematic thinking in enhancing safety, reducing errors, improving decision quality, and supporting the organisational mandate of accountability and excellence. Participants departed with a refined understanding of how critical thinking influences not only individual performance but also organisational resilience and efficiency. The programme concluded with discussions on future capacity-building pathways and opportunities for continued collaboration to integrate critical thinking practices more deeply into PSU functioning.