

Improving the Capital Facilities Information HandOver Process (CFIHOP) at Frontera Energy: Commissioning Process Review

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Program	Improving the Capital Facilities Information HandOver Process (CFIHOP) at Frontera Energy
Program Objective	Addressing the specific challenges related to the multidirectional information exchange process among different stages of the project lifecycle, known as the Capital Facilities Information HandOver Process at Frontera Energy. This process has been identified as a source of rework and loss of confidence in the quality, integrity, relevance, and timeliness of information, hindering assertive decision-making during and after capital projects implementation.
Project	Improving the Capital Facilities Information HandOver Process (CFIHOP) at Frontera Energy: Commissioning Process Review
Project Objective	Review Frontera Energy's current commissioning process to ensure compliance and alignment with the company's business reality, strategic objectives, industry best practices, internal processes related to capital facilities information handover, high-level management processes, current organizational structure, types and complexity of capital projects being implemented, competency and availability of resources, maturity of stakeholders, and other relevant factors.

<p>Project Specific Objectives</p>	<ol style="list-style-type: none"> 1. Conduct a thorough review of the existing commissioning process to identify any discrepancies with the company's business reality and strategic objectives. <ul style="list-style-type: none"> - Aligned with EPIC 1: Review of Frontera Energy's Capital Facilities Commissioning Process 2. Evaluate industry best practices in commissioning processes and compare them with Frontera Energy's current approach to identify areas for improvement. <ul style="list-style-type: none"> - Aligned with EPIC 1: Review of Frontera Energy's Capital Facilities Commissioning Process 3. Assess internal processes related to capital facilities information handover and determine their integration with the commissioning process. <ul style="list-style-type: none"> - Aligned with EPIC 3: Integration with Other Capital Facilities Projects Processes - Aligned with EPIC 4: Traceability to Other Internal Processes, Industry Standards, and Best Practices 4. Review high-level management processes to ensure coherence with the commissioning process and overall organizational strategy. <ul style="list-style-type: none"> - Aligned with EPIC 4: Traceability to Other Internal Processes, Industry Standards, and Best Practices 5. Identify areas of non-compliance and misalignment within the commissioning process and recommend adjustments to address them. <ul style="list-style-type: none"> - Aligned with EPIC 1: Review of Frontera Energy's Capital Facilities Commissioning Process - Aligned with EPIC 2: Conclusions and Recommendations 6. Provide a comprehensive report outlining findings and recommendations for optimizing the commissioning process while ensuring alignment with company strategy and industry standards. <ul style="list-style-type: none"> - Aligned with EPIC 2: Conclusions and Recommendations - Aligned with EPIC 4: Traceability to Other Internal Processes, Industry Standards, and Best Practices
<p>Due date</p>	<p>20 May 2024</p>

Key outcomes	<ol style="list-style-type: none"> 1. Comprehensive Assessment of the Existing Commissioning Process (Aligned with Specific Objective 1 and EPIC 1) <ul style="list-style-type: none"> - Detailed evaluation of the current commissioning process - Identification of strengths, weaknesses, and areas for improvement - Analysis of alignment with business reality, strategic objectives, organizational factors, and project realities 2. Benchmarking and Gap Analysis against Industry Best Practices (Aligned with Specific Objectives 1 and 2, and EPICS 1 and 2) <ul style="list-style-type: none"> - Research and evaluation of industry best practices in commissioning processes - Comparison of Frontera Energy's approach with industry standards and best practices - Identification of gaps and opportunities for process improvement 3. Integration with Capital Facilities Information Handover and Other Processes (Aligned with Specific Objective 3 and EPICS 3 and 4) <ul style="list-style-type: none"> - Assessment of integration between the commissioning process and capital facilities information handover processes - Identification of opportunities for integration with other relevant internal processes - Development of strategies for cross-functional collaboration and information exchange 4. Conclusions and Recommendations Report (Aligned with Specific Objectives 5 and 6, and EPICS 1 and 2) <ul style="list-style-type: none"> - Clear and actionable conclusions based on the assessment findings - Prioritized recommendations for improving the commissioning process - Alignment of recommendations with company strategy, industry standards, and organizational factors - Comprehensive report outlining findings, conclusions, and recommendations 5. Traceability Matrix and Integration Plan (Aligned with Specific Objectives 2, 3, and 4, and EPIC 4) <ul style="list-style-type: none"> - Traceability matrix linking the commissioning process to internal processes, industry standards, and best practices - Plan for integrating applicable internal processes, standards, and best practices into the commissioning process
Status	NOT STARTED / IN PROGRESS / COMPLETE



Problem Statement

The Capital Facilities Information Handover Process (CFIHOP) at Frontera Energy has been recognized as a major contributor to rework and diminished confidence in the quality, integrity, relevance, and timeliness of information. This multi-directional exchange of information across various stages of the project lifecycle is impeding decisive decision-making both during and after the implementation of capital projects.

Aligning the CFIHOP with the company's business reality, strategic objectives, current organizational structure, types and complexity of capital projects being implemented, competency and availability of resources, maturity of stakeholders, and industry best practices is suggested to result in substantial enhancements in the flow of information, traceability, efficiency, pertinence, and overall quality of information for evidence-based decision-making. By addressing challenges and bolstering the integrity, relevance, and timeliness of transferred information between project lifecycle stages; rework can be minimized while data reliability is improved. Moreover, adherence to industry standards within the Oil & Gas sector ensures alignment with best practices for more effective project management processes within the organization.

In the initial phase, due to the fact that the Mechanical Completion & Commissioning (MCC) stages of capital facility projects frequently pose difficulties in transitioning from construction to operation, this initiative seeks to examine and improve the commissioning process within CFIHOP. By tackling the particular challenges associated with commissioning, Frontera Energy can elevate the overall efficiency of CFIHOP, streamline information exchange, and empower better-informed decision-making across the project's lifecycle.



Hypothesis

If Frontera Energy were to review its commissioning process within the Capital Facilities Information HandOver Process (CFIHOP) and align it with the company's business reality, strategic objectives, and industry best practices, substantial enhancements in the flow of information, traceability, efficiency, pertinence, and overall quality of information for evidence-based decision-making would be achieved.



Justification

By engaging in the project to review the commissioning process within CFIHOP, Frontera Energy can effectively address specific challenges and take advantage of opportunities to improve information flow, decision-making, and overall project performance.

1. **Minimized Rework:** Through optimization of the commissioning process, Frontera Energy can reduce errors and discrepancies in information handover, thereby minimizing the need for rework and associated costs.
2. **Enhanced Decision-Making:** A streamlined commissioning process will ensure that accurate and relevant information is accessible for decision-making, leading to more informed and confident decisions throughout project lifecycles.
3. **Improved Efficiency:** Aligning the commissioning process with industry best practices and organizational goals will enhance process efficiency, reducing delays and bottlenecks in project execution.
4. **Improved Data Integrity:** Ensuring alignment with industry standards and best practices will strengthen the integrity and reliability of data exchanged during the commissioning process, increasing confidence in decision-making.
5. **Optimized Resource Utilization:** Optimization of the commissioning process will enable better allocation and utilization of resources, ensuring effective use of personnel, equipment, and time.
6. **Adaptation to Organizational Changes:** Aligning the commissioning process with company's business reality and strategic objectives will enable Frontera Energy to adapt more effectively to changes in organizational structure, project complexity, as well as market dynamics.

7. **Compliance & Competitiveness:** Adherence to industry standards & best practices will enhance Frontera Energy's competitiveness by demonstrating compliance with regulatory requirements & industry norms.

Keywords

#Commissioning Is the functional verification of equipment and facilities that are grouped together in systems.
#Mechanical completion The checking and testing of equipment and construction to confirm that the installation is in accordance with drawings and specifications and ready for commissioning in a safe manner and in compliance with project requirements. **#Requirement** 1. A need perceived by a ↑stakeholder; 2. A capability or property that a ↑system shall have; 3. A documented representation of a need, capability or property. **#Review** An evaluation of a ↑work product by an individual or a group in order to find problems or suggest improvements. - Note: Evaluation may be performed with respect to both contents and conformance. **#System** 1. In general: A principle for ordering and structuring; 2. In engineering: A coherent, delimitable set of elements that – by coordinated action – achieve some purpose; 3. Systems containing both software and physical ↑components are called cyber-physical systems; 4. Systems spanning software, hardware, people and organizational aspects are called socio-technical systems.
#Traceability 1. In general: The ability to establish explicit relationships between related ↑work products or ↑items within work products; 2. In RE: The ability to trace a ↑requirement. a) back to its origins, b) forward to its implementation in design and code and its associated tests, c) to requirements it depends on (and vice-versa).
#Validation The ↑process of confirming that an ↑item (a ↑system, a ↑work product or a part thereof) matches its ↑stakeholders' needs. **#Verification** The process of confirming that an ↑item (a system, a work product, or a part thereof) fulfills its ↑specification.

Scope

Must-Haves:	Epic 1. Review of Frontera Energy's capital facilities commissioning process Epic 2. Conclusions and recommendations
Nice-to-Haves (not in current release):	Epic 3. Integrating analysis with other capital facilities projects process Epic 4. Traceability to other internal process, industries standards and best practices
Not-in-Scope:	<ul style="list-style-type: none"> - Improvements or changes to processes unrelated to the Capital Facilities Information HandOver Process. - Implementation of solutions. - Development of systems or tools not directly related to commissioning process at Frontera Energy.

Milestones and Deadlines

Milestone	Owner	Deadline	Status
Review of Frontera Energy's capital facilities commissioning process	@Pedro_Sabino	06 May 2024	TO DO
Conclusions and recommendations	@Pedro_Sabino	20 May 2024	TO DO

How?

Fig. 1. Conceptual Approach: Data-Driven Decision Support

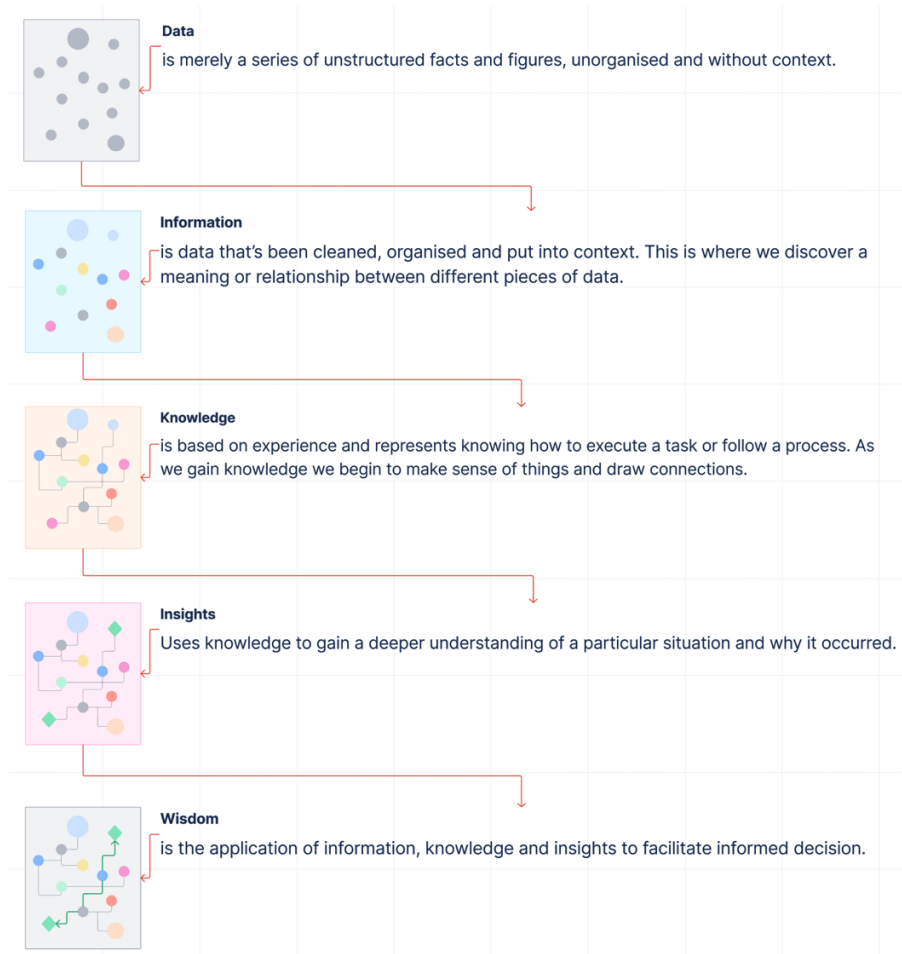


Fig. 2. Current Scope · Must-Have: Commisioning Process (8 weeks)

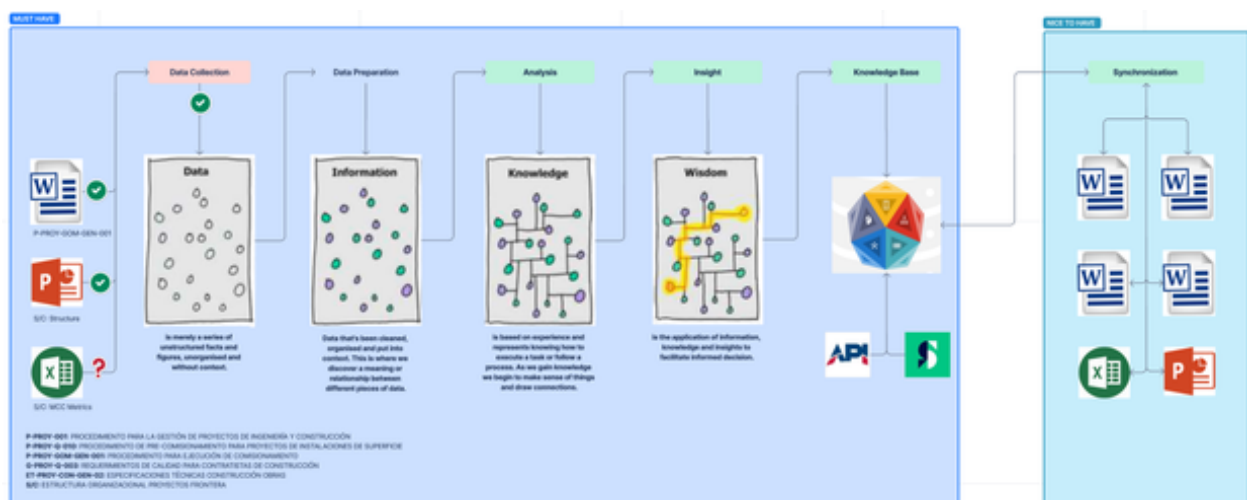
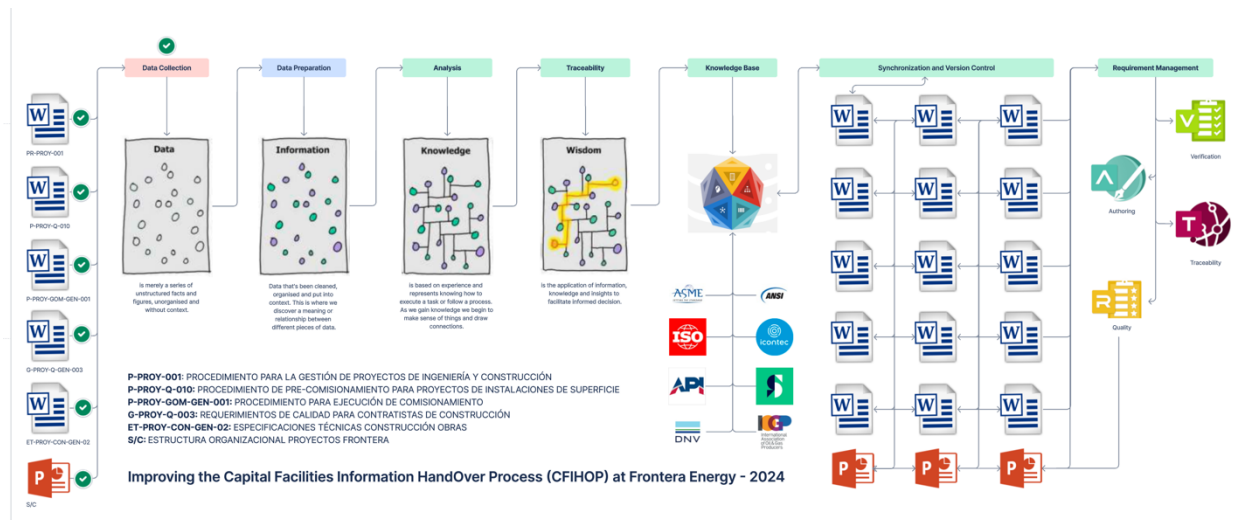


Fig. 3. Enhanced Scope · Nice-To-Have: Capital Facilities Information HandOver Process (CFIHOP) (10 weeks)



🌱 Scope Must-Haves Work Breakdown Structure (WBS)

EPIC 1: Review of Frontera Energy's Capital Facilities Commissioning Process

Description:

This epic involves conducting a thorough evaluation of Frontera Energy's current capital facilities commissioning process to assess its effectiveness, efficiency, and alignment with the company's business reality, strategic objectives, industry standards, best practices, internal processes related to capital facilities information handover, high-level management processes, organizational structure, project types/complexity, resource competency/availability, stakeholder maturity, and other relevant factors.

Scope:

- Evaluate the entire capital facilities commissioning process, including its initiation, execution, and completion phases.
- Analyze existing documentation, procedures, and workflows associated with the commissioning process.
- Identify strengths, weaknesses, and potential areas for improvement within the current process.
- Ensure compliance with relevant industry standards, regulations, and best practices.
- Assess alignment with company's business reality, strategic objectives, internal processes, management processes, organizational structure, project types/complexity, resource competency/availability, and stakeholder maturity.

Successful Criteria:

- Comprehensive assessment of the commissioning process, including strengths, weaknesses, and alignment with organizational factors.
- Identification of actionable insights for process improvement.
- Alignment of recommendations with organizational goals, industry standards, and internal factors.
- Clarity and accessibility of the assessment report. regulations, and best practices.

Issues:

- Limited availability of documentation and data related to the commissioning process.

- Resistance to change from stakeholders accustomed to existing practices.
- Balancing the need for comprehensive improvements with resource constraints.

Tasks:

1. Review existing documentation and procedures associated with the commissioning process.
2. Conduct interviews with key stakeholders to gather insights and perspectives.
3. Analyze performance data and metrics from past commissioning projects.
4. Evaluate compliance with industry standards and regulatory requirements.
5. Identify strengths, weaknesses, and areas for improvement in the commissioning process.
6. Document findings and observations in a comprehensive assessment report.
7. Present findings to stakeholders for validation and feedback.
8. Incorporate feedback and make adjustments to the assessment report as necessary.
9. Finalize the assessment report and communicate findings to the project team.

Deliverable:

- Comprehensive Assessment Report. This report will consolidate the findings from the review of existing documentation, stakeholder interviews, performance data analysis, compliance evaluation, and SWOT analysis. It will provide a detailed assessment of the current commissioning process, identifying its strengths, weaknesses, areas for improvement, and alignment with organizational factors, industry standards, and best practices.

EPIC 2: Conclusions and Recommendations

Description:

This epic involves synthesizing the findings from the assessment of Frontera Energy's capital facilities commissioning process to draw conclusions and develop actionable recommendations for improvement aligned with the company's strategic objectives, internal processes, organizational structure, project realities, and industry standards.

Scope:

- Synthesize assessment findings to draw clear conclusions regarding the strengths, weaknesses, and areas for improvement in the commissioning process.
- Generate actionable recommendations based on the conclusions drawn.
- Prioritize recommendations based on their potential impact, feasibility of implementation, and alignment with organizational factors.
- Document conclusions and recommendations in a comprehensive report for stakeholder validation and feedback.

Successful Criteria:

- Clear and actionable conclusions drawn from the assessment findings.
- Well-documented recommendations for improving the commissioning process.
- Prioritization of recommendations based on their potential impact, feasibility, and organizational alignment.
- Alignment of conclusions and recommendations with company strategy, goals, processes, and industry standards.

Issues:

- Ensuring alignment of recommendations with organizational goals and priorities.
- Addressing resistance to change from stakeholders reluctant to adopt new practices.
- Balancing comprehensive improvements with resource constraints.

Tasks:

1. Synthesize assessment findings to draw conclusions regarding the current commissioning process.
2. Generate actionable recommendations for improving the commissioning process.
3. Prioritize recommendations based on their potential impact and feasibility.
4. Document conclusions and recommendations in a comprehensive report.
5. Present conclusions and recommendations to stakeholders for validation and feedback.
6. Incorporate feedback and make adjustments to conclusions and recommendations as necessary.
7. Finalize the report and communicate conclusions and recommendations to the project team.

Deliverable:

- Conclusions and Recommendations Report. This report will synthesize the key conclusions drawn from the comprehensive assessment of the commissioning process. It will outline actionable recommendations for improving the process, prioritized based on their potential impact, feasibility of implementation, and alignment with the company's strategic objectives, internal processes, and organizational structure.

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Scope Nice-to-Haves (not in current release) Work Breakdown Structure (WBS)

EPIC 3: Integration with Other Capital Facilities Projects Processes

Description:

This epic entails integrating the commissioning process of Frontera Energy's capital facilities with other related projects processes to enhance coordination, streamline workflows, and ensure alignment with internal processes related to capital facilities information handover.

Scope:

- Assess the compatibility and alignment of the commissioning process with other capital facilities projects processes.
- Identify opportunities for integration to optimize workflows and improve coordination between project phases.
- Develop strategies for cross-functional collaboration and information exchange.
- Implement integration mechanisms to facilitate seamless communication and data sharing across projects.
- Ensure integration aligns with internal processes for capital facilities information handover.

Successful Criteria:

- Successful integration of the commissioning process with other capital facilities projects processes.
- Improved coordination, efficiency across project phases, aligned with handover processes.
- Enhanced cross-functional collaboration and information exchange.
- Seamless communication and data sharing between projects.

Issues:

- Potential resistance to change from stakeholders.
- Ensuring compatibility and alignment of processes.
- Balancing the need for integration with existing workflows.

Tasks:

1. Assess the compatibility and alignment of the commissioning process with other capital facilities projects processes.
2. Identify opportunities for integration to optimize workflows and improve coordination between project phases.
3. Develop strategies for cross-functional collaboration and information exchange.
4. Implement integration mechanisms to facilitate seamless communication and data sharing across projects.

Deliverable:

- Integration Strategy and Implementation Plan. This deliverable will consist of a detailed strategy and plan for integrating the commissioning process with other related capital facilities projects processes. It will include an assessment of compatibility and alignment, identification of integration opportunities, strategies for cross-functional collaboration and information exchange, and mechanisms for seamless communication and data sharing across projects.

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EPIC 4: Traceability to Other Internal Processes, Industry Standards, and Best Practices

Description:

This epic focuses on establishing traceability between Frontera Energy's commissioning process and internal processes related to capital facilities information handover, high-level management processes, industry standards, and best practices. The aim is to ensure the commissioning process aligns with internal requirements, company strategy, and industry norms, fostering efficiency and compliance.

Scope:

- Identify internal processes related to capital facilities information handover and high-level management processes relevant to the commissioning process.
- Research industry standards and best practices related to commissioning processes.
- Analyze alignment of Frontera Energy's commissioning process with identified internal processes, industry standards, and best practices.
- Establish traceability linking the commissioning process to internal processes, standards, and best practices.
- Develop a plan to integrate applicable internal processes, standards, and best practices.

Successful Criteria:

- Clear identification of relevant internal processes related to information handover and management.
- Comprehensive analysis of industry standards and best practices.
- Established traceability matrix linking commissioning process to internal processes, standards, and best practices.
- Development of an integration plan for applicable internal processes, standards, and best practices.

Issues:

- Identifying relevant internal processes within Frontera Energy.
- Ensuring compatibility and feasibility of integrating industry standards and best practices into Frontera Energy's process.
- Potential resistance to change from stakeholders accustomed to existing practices.

Tasks:

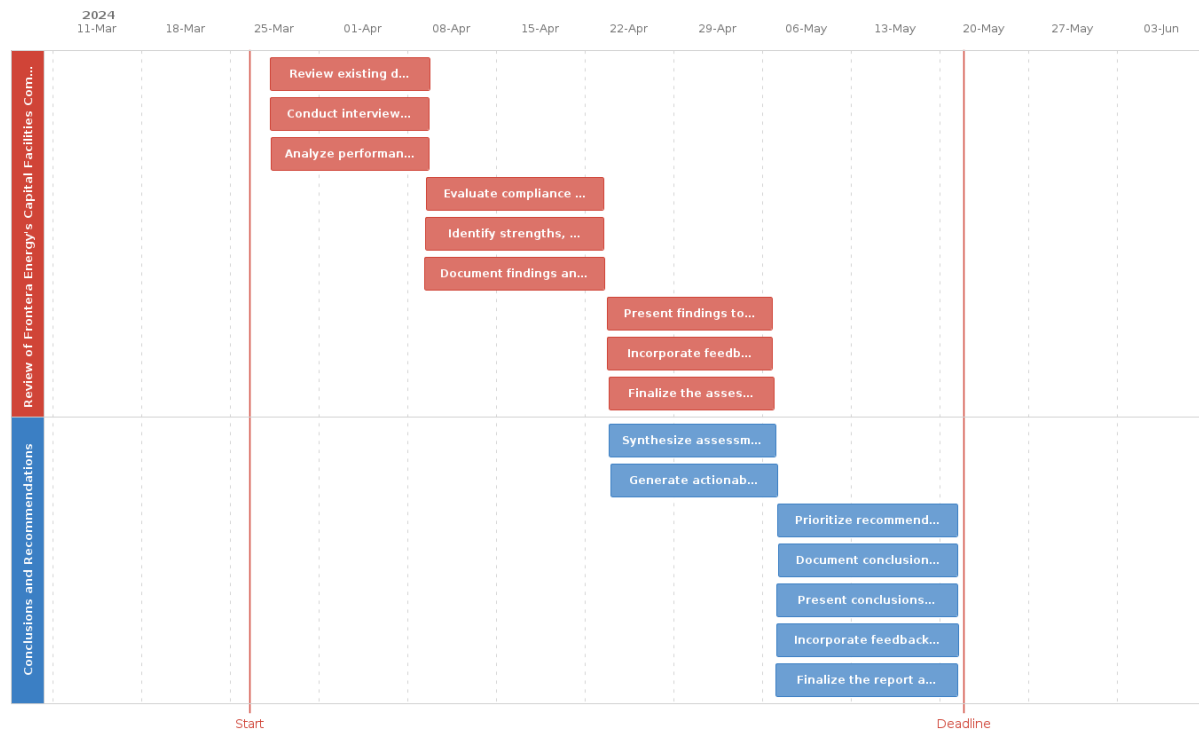
1. Identify internal processes within Frontera Energy relevant to the commissioning process.
2. Research industry standards and best practices related to commissioning processes in various sectors.
3. Analyze the alignment of Frontera Energy's commissioning process with internal processes and industry standards.
4. Establish traceability between Frontera Energy's process and identified internal processes, industry standards, and best practices.
5. Develop a plan for integrating applicable internal processes, industry standards, and best practices into Frontera Energy's commissioning process.

Deliverables:

- Traceability Matrix and Integration Plan. This deliverable will establish a traceability matrix linking Frontera Energy's commissioning process to relevant internal processes related to capital facilities information handover, high-level management processes, industry standards, and best practices. It will also include a plan for integrating applicable internal processes, standards, and best practices into the company's commissioning process.



Timeline



Glossary

1. Acceptance Criteria: Specified limits of acceptability applied to characteristics of a process or product. (API SPECIFICATION Q1)
2. Acceptance Inspection: Demonstration by monitoring or measurement that the product meets specified requirements. (API SPECIFICATION Q1)
3. Acceptance: The process of assessing whether a system satisfies all its requirements. (IREB 2024)
4. Activity: An action or a set of actions that a person or group performs to accomplish a task. (IREB 2024)
5. Actor: A person in some role, a system or a technical device in the context of a subject under consideration that interacts with that subject. (IREB 2024)
6. Adequacy (of a requirement): The degree to which a requirement expresses the stakeholders' true and agreed desires and needs. (IREB 2024)
7. Administration: Person or group of people, as defined by the organization, who directs and controls all or part of a facility, location, department or other function; has fiscal responsibility for the organization, and is responsible for ensuring compliance with legal and other applicable requirements. (API SPECIFICATION Q1)
8. Calibration: Comparison with a known precision standard and making any necessary adjustment. (API SPECIFICATION Q1)
9. Collection: The process of obtaining, assembling, and/or organizing the applicable information with the intent of fulfilling the requirement. (API SPECIFICATION Q1)
10. Commissioning: The functional verification and purpose of equipment and installations that are grouped into systems. (NORSOK Z-007)
11. Conformity: The act or process of fulfilling legal requirements and other applicable requirements of a regulated body. (API SPECIFICATION Q1)
12. Constraint (in RE): A requirement that limits the solution space beyond what is necessary for meeting the given functional requirements and quality requirements. (IREB 2024)
13. Critical Success Factor: An element of service that is essential for achieving established goals or objectives. (API SPECIFICATION Q2)
14. Critical: What the organization, product specification or customer considers mandatory, indispensable or essential, necessary for an established purpose or task, and that requires (API SPECIFICATION Q1)
15. Customer requirements specification: A coarse description of the required capabilities of a system from the customer's perspective. (IREB 2024)
16. Delivery: At the time and physical place where the transfer of ownership takes place. (API SPECIFICATION Q1)
17. Design Acceptance Criteria (DAC): Limits defined to the characteristics of materials, products, or services established by the organization, customer and/or applicable specifications to achieve conformance to the product design. (API SPECIFICATION Q1)
18. Design Verification: The process of examining the result of a design and development output to determine conformance to specified requirements. (API SPECIFICATION Q1)
19. Effectiveness: The degree to which an item produces the intended results. (IREB 2024)
20. Efficiency: The degree to which resources are expended in relation to results achieved. (IREB 2024)
21. Elaboration (of requirements): An umbrella term for requirements elicitation, negotiation and validation. (IREB 2024)
22. Factory Acceptance Test (FAT): Tests to be performed at the vendor's facilities to verify equipment performance and functionality. (NORSOK Z-007)
23. First Article: A representative sample of a product, component or process output used to verify that prescribed activities have satisfied requirements specified by the organization. (API SPECIFICATION Q1)
24. Functional requirement: A requirement concerning a result or behavior that shall be provided by a function of a system. (IREB 2024)
25. Inspection: A formal review of a work product by a group of experts according to given criteria, following a defined procedure. (IREB 2024)

26. Key Performance Indicator (KPI): A quantifiable measure that an organization uses to gauge or compare performance. (API SPECIFICATION Q1)
27. Legal Requirement: An obligation imposed on an organization, including those that are statutory or regulatory. (API SPECIFICATION Q1)
28. Maintenance: Maintenance, adjustment, repair and/or overhaul of ITE products when installation is required by applicable product specifications. (API SPECIFICATION Q1)
29. Manufacturing Acceptance Criteria (MAC): Limits defined to the characteristics of materials, products and services established by the organization to achieve conformance to manufacturing or maintenance requirements. (API SPECIFICATION Q1)
30. Outsource (subcontracted activity): A function or process performed by an external provider on behalf of the organization. (API SPECIFICATION Q1)
31. Performance requirement: A requirement describing a performance characteristic (timing, speed, volume, capacity, throughput, etc.). (IREB 2024)
32. Preventive Maintenance: A planned action to minimize the probability of equipment failure and disruptions. (API SPECIFICATION Q1)
33. Procedure: A documented method of the organization to perform an activity under controlled conditions to achieve conformance with specified requirements. (API SPECIFICATION Q1)
34. Quality Plan: A document that establishes procedures, resources, processes and any required sequence of activities for identifying and controlling quality requirements. (API SPECIFICATION Q2)
35. Quality: 1. In general: The degree to which a set of inherent characteristics of an item fulfills requirements. 2. In systems and software engineering: The degree to which a system satisfies stated and implied needs of its stakeholders. (IREB 2024)
36. Requirement: 1. A need perceived by a stakeholder. 2. A capability or property that a system shall have. 3. A documented representation of a need, capability or property. (IREB 2024)
37. Requirements specification: A systematically represented collection of requirements, typically for a system, that satisfies given criteria. (IREB 2024)
38. Review: An evaluation of a work product by an individual or a group in order to find problems or suggest improvements. (IREB 2024)
39. Risk: A situation or circumstance that has both a likelihood of occurrence and a potentially adverse consequence. (API SPECIFICATION Q1)
40. Scope (of a system development): The range of things that can be shaped and designed when developing a system. (IREB 2024)
41. Service-related Products: Materials, equipment and software used in the performance of a service. (API SPECIFICATION Q2)
42. Service: The performance of an activity by a function or organization for another. (API SPECIFICATION Q1)
43. System: 1. In general: A principle for ordering and structuring. 2. In engineering: A coherent, delimitable set of elements that – by coordinated action – achieve some purpose. (IREB 2024)
44. Traceability: 1. In general: The ability to establish explicit relationships between related work products or items within work products. 2. In RE: The ability to trace a requirement back to origins, forward to implementation/tests, and to dependent requirements. (IREB 2024)
45. Validation: The process of confirming that an item (system, work product) matches stakeholders' needs. (IREB 2024)
46. Validation: The process of proving a design by test to demonstrate conformity of the product to design requirements. (API SPECIFICATION Q1)
47. Verification: The process of confirming that an item fulfills its specification. (IREB 2024)