



KEY BENEFITS:

- Out-of-the-box, user-friendly processes that can be rapidly adjusted and deployed at low risk.
- Capture, retrieval, and analysis across the project life cycle for key project management processes.
- Tight integration with affected plant objects of the plant design basis in the SPO Core Solution that enables the potential impact of these processes to be analyzed.
- Common environment for undertaking these associated work processes.
- Powerful management reporting for overall visibility, enabling proactive intervention and better decision-making.
- Automated and flexible workflows ensuring consistent adherence to project procedures, demonstrable compliance, and complete auditable traceability.
- Reduced risk of project cost or schedule impact from inadequate management of project interfaces, change, non-conformity, or queries.
- The ability to link project execution processes to each other. For example, a technical query arising from a site can result in a temporary or permanent non-conformity or a project change that could impact an interface item. The ability to link these project execution work processes provides complete control and traceability.

SMARTPLANT® ENTERPRISE FOR OWNER OPERATORS PROJECT EXECUTION SOLUTION

Managing projects to ensure delivery on schedule, to specification, and within budget is a major challenge for owner operators and project management contractors (PMCs). The increasing size, complexity, and globalization of projects mean that traditional ways of managing projects are no longer sufficient. The Intergraph® SmartPlant® Enterprise for Owner Operators (SPO) Project Execution Solution builds upon the SPO Core Solution and provides pre-configured processes supporting key work processes for successfully managing the execution of greenfield and brownfield projects. These processes include:

- Management of change
- Management of technical/site queries (Requests for Information)
- Management of nonconformities
- Interface management

Traditional methods of managing these processes through spreadsheets or electronic archive solutions do not give sufficient visibility or control of these critical project management processes. The SPO Project Execution Solution offers management reports to focus attention and help avoid impact on project schedule and cost. The solution uniquely provides close links between these processes and the underlying engineering design basis to facilitate fast impact analysis across these processes.

MANAGEMENT OF CHANGE IN PROJECTS

Changes to the approved project design basis are the single greatest factor to influence project cost and schedule. Any major CAPEX project will be subject to thousands of changes and hundreds may be under consideration at any one time. The process of evaluating changes is complex, involving many technical and administrative stakeholders in the project, and the complexity is compounded by overlapping scopes between changes.

The SPO management of change process provides a unique level of change control within projects, and provides management with increased visibility through management reporting. This includes the critical distinction between development within existing project scope (commercial and design development) and changes to existing project scope (commercial and design changes). Changes are referenced to the underlying engineering design basis items affected: tags, documents, and parts of the Plant Breakdown Structure. This enables analysis of what other changes either already approved for implementation or

under review may be impacted by the change under consideration and which interface items would potentially be affected if the change should be implemented. The SPO management of change process ensures auditable traceability through the review, approval, and implementation cycle for changes using automated workflows to demonstrate compliance and adherence with project authorization matrices and procedures.

MANAGEMENT OF NON-CONFORMITIES

Non-conformities to applicable laws, regulations, corporate governing documents, and project specifications all need to be closely managed on projects. Traditional electronic archive or paper-based systems suffer from poor process management and reporting. The associated history of review and approvals can be difficult to find, especially during operations. When an incident does occur on a plant with such a system, it can take a long time to gather the necessary information for the investigatory team and receive permission from the regulatory authorities to resume production.

The SPO non-conformity process is closely linked and integrated with other SPO project execution processes, such as technical queries or management of change, and demonstrates compliance with regulatory requirements for managing non-conformities. SPO offers a process to manage non-conformity requests from all parties and the granting of temporary and permanent waivers or deviations. The SPO non-conformity process provides an automated workflow to track the process of receiving, reviewing, and approving non-conformities.

The SPO non-conformity process includes the linking of non-conformities to affected plant areas, systems, tags, documents, etc. which are affected. This helps make non-conformities highly visible for the operations readiness team so corrective steps can be taken, such as increasing the frequency of planned inspection or maintenance. Where incidents do occur, SPO reduces downtime impact on the plant and facilitates a quicker restart of production by enabling all documentation and information related to the waiver process to be presented without delay, including a complete, auditable traceability.

MANAGEMENT OF TECHNICAL AND SITE QUERIES

On any major project, thousands of technical and site queries (also known as Requests for Information) need to be addressed and answered within a tight schedule to avoid impacting project schedule and potential variation orders. Traditional paper-based or electronic archive-based solutions demand a high level of administration and manual effort between all of the parties involved in resolving queries.

The technical/site query process in SPO greatly simplifies the administration and processing of queries. Flexible, templated workflows and management reports ensure consistent handling. Bottlenecks can be identified early to enable management to implement remedial action before claims arise.

INTERFACE MANAGEMENT

Interface management provides technical interface control between project stakeholders such as the owner operator project team, the owner operator corporate organization, any PMC, EPC, contractors, package suppliers, authorities, and many others. A typical CAPEX project will have 20 to 100 separate interfaces that need to be managed, each with hundreds of interface issues that need to be resolved. The traditional use of spreadsheets is insufficient for managing the complexity of interfaces and reporting. SPO's templated process offers hierarchical structuring of interface needs and manages the identification, responsibility, planning, and status of both physical and soft interface items. Interface issues and information needs can be linked to the affected parts of the plant. Tags, areas, systems, and more provide multiple access routes to interface information. Management reporting highlights where interface issues are not being addressed as planned. This enables management to take remedial measures before consequences become serious and reduce the risk of claims and disputes.

ABOUT INTERGRAPH

Intergraph is the leading global provider of engineering and geospatial software that enables customers to visualize complex data. Businesses and governments in more than 60 countries rely on Intergraph's industry-specific software to organize vast amounts of data to make processes and infrastructure better, safer, and smarter. The company's software and services empower customers to build and operate more efficient plants and ships, create intelligent maps, and protect critical infrastructure and millions of people around the world.

Intergraph operates through two divisions: Process, Power & Marine (PP&M) and Security, Government & Infrastructure (SG&I). Intergraph PP&M provides enterprise engineering software for the design, construction, operation, and data management of plants, ships, and offshore facilities. Intergraph SG&I pro-

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