

## Nuclear Integrated Services (NIS)

### EPC Project Execution

#### Background

In today's market environment, many nuclear plant operators no longer have the breadth and depth of resources to self-perform or manage multiple contractors to perform all necessary project work scopes in the available time frame. Work scopes have become increasingly detailed and require special expertise to succeed. Contracting with a single provider like Westinghouse means that project risk is transferred to an organization that is best equipped to effectively manage it. This approach provides customers with predictable performance and project costs.

For customer projects requiring significant inputs from original equipment manufacturer, specialty contractors, or close integration with suppliers, Nuclear Integrated Services (NIS) can also function as the customer's overall project integrator and construction manager.

#### Description

NIS original equipment manufacturer capabilities encompass the entire project scope:

- Engineering
  - Conceptual design
  - Engineering change packages, including identification and revision or development of affected calculations, drawings and specifications
  - Licensing support, including 10CFR50.59 reviews
  - Project management and performance metrics
- Procurement
  - Construction
  - Scoping, scheduling and estimating

- Implementation risk assessment and reduction
- Outage planning
- Field implementation, including oversight of subcontracted construction
- Startup and test
- Project closeout
- Project management & performance metrics

#### Benefits

- EPC projects can be a complex mix of safety, security, quality, technical, scope, cost, financial, schedule, human resource, cultural, coordination and integration of interdependent activities. NIS project directors (PD's) and project managers (PM's) are carefully selected based on their experience and the scope of the project. Project directors and project managers ensure that:
  - Project scope is well defined and integrated with station/project funding process
  - Interfaces are well defined and effectively managed
  - Risks are identified and mitigated early
  - All health, safety, security and environmental objectives of the project are met
  - Compliance with all ethical, regulatory and legal responsibilities are met in accordance with the Westinghouse Business Code of Conduct, safety conscious work environment and the law
  - Projects are executed such as to achieve superior customer results, including predictable costs, schedule and quality
  - Delivered projects exceed all client plant performance objectives
  - Delivered projects manage change and identify and mitigate project risks

## Deliverables

### Personnel

NIS has the talent and resources to execute the most complex EPC projects at operating nuclear facilities. Successful delivery of EPC projects starts with the strong NIS leadership team, who are responsible for the performance through all phases of the project. Experienced NIS project managers, each with over 30 years of experience, are specifically chosen for each project and are supported by executive leadership. They are accessible to each client's executive leadership for regularly scheduled project updates and adjudication of any issues that are not being handled at the project level. Because Westinghouse is a large corporation, NIS has an extensive reach-back capability to access numerous specialists.

### Project Execution

Every project utilizes a project execution plan (PEP) that outlines the overall program for administration and control of the project. The project work breakdown structure is one of the first documents developed on a project. It is implemented by the project controls manager in conjunction with the project manager, project engineering manager, construction manager and discipline leads. The work breakdown structure forms the basis for reporting and control of engineering, design, procurement and construction activities on the project.

The analysis, identification and mitigation of risk are critical ingredients to the success of any project. The NIS project team will develop a detailed project risk analysis through coordinated efforts and interfaces among all stakeholders. The analysis considers the key risk elements of the project, including safety, scope, schedule, material and equipment, interfaces and radiation protection. A risk register will be developed to systematically identify and address risks. The risk register also provides a framework for communication and understanding of the importance and priority of every credible risk item. Risk owners are identified and risk mitigation is discussed regularly throughout the project.

## Experience

The NIS team has a track record of successfully delivering across the entire lifecycle of a major project: engineering procurement, and construction (EPC). NIS has over 60 years of experience designing, constructing modifying, refurbishing and servicing operating nuclear facilities. NIS has the experience and resources to successfully self-perform (where appropriate) and deliver a broad range of projects, up to the most complex EPC projects at operating nuclear facilities.



EPC projects