



Engineering Design Packages

Anyone who has been responsible for retrofit projects know that they can be significantly more complicated than greenfield projects. The existing plant infrastructure presents real challenges: equipment, piping, cable trays, and electrical conduit must remain in place; prints are often missing or not updated, equipment specifications and onsite activities need to be coordinated, in order to avoid impacting other critical workstreams; and there is a limited time window to accomplish all the outage goals.

Nexus Controls is very familiar with these constraints, having executed literally hundreds of controls retrofit projects, large and small, on the following major systems:

- Excitation systems
- Turbine control systems
- Static starting systems
- Balance of plant and DCS systems

Although every project is different, our decades of retrofit experience has found that the following deliverables are common across all these projects:

New Electrical Drawings

- Cabinet and termination drawings
- Cable schedule
- Conduit and tray schedule
- Cable drawings
- Conduit and tray drawings

Equipment layout updates

- Equipment location (on layout drawings)
- Operator panel modification designs

Structural design and mounting

- Mounting and anchoring
- Structural analysis
- Structural modification designs

Existing electrical drawing updates

- Plant system drawings
- MCC and power distribution
- Loop diagrams

Contractor specification

- Electrical takeoffs

HVAC upgrade design

Plan for success

These deliverables constitute an Engineering Design Package (EDP). While an EDP does not guarantee that a project will proceed without any surprises, it does allow the team to anticipate problems before they occur.

Consider a typical case. A utility power generation customer was upgrading multiple units; the scope of work on each unit was a new hydraulic skid (for BFPT's), and a new local operator panel. There was no EDP requested on the first unit. The project was completed satisfactorily, but because the project teams had to deal with events as they occurred, the schedule inevitably shifted. On the second unit, the customer chose to include an EDP up front, and the project proceeded smoothly.

The Nexus Controls team can provide a single source of design responsibility to manage and optimize mission critical controls and related plant projects.

The Nexus Controls advantage

As experts in the modernization of controls and protective systems for turbo-machinery and critical industrial equipment, we bring broad design experience to every project. Our project design support offerings can be scaled from wire transition lists and red-lines to comprehensive construction and installation packages.

Benefits

- Puts 100+ years of global experience across a wide variety of industries and OEMs to work for you
- Single point of responsibility
- As part of Baker Hughes, the Nexus Controls commitment to safety is among the strongest in the industry
- Projects are executed under a comprehensive Quality Management System focused on safety, compliance and sound design principals
- Extensive pool of trained service engineers available
- Improved project planning and risk reduction
- Consise workscope for material and contractor management
- High quality record documetation for system maintenance and troubleshooting



We've been here all along

For decades, Nexus Controls has successfully delivered turbine, generator and plant control system solutions for power generation, oil & gas customers around the globe. Our team of experienced domain experts leverage a comprehensive portfolio of reliable control platforms to tailor the outcomes to best meet your needs.

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