Hot Cutover Capabilities

Digital plant technology and expertise working together

EMERSON™
Process Management

Why EMERSON?

The challenges

With global competition driving process unit modernization, critical operation goals include higher throughput, improved reliability, and consistent product quality. Extended production downtime to implement these improvements is not economically feasible. In addition, a total upgrade implemented offline can result in additional operational risk during startup because numerous control loops require tuning before being placed in automatic control. Construction errors can also surface during the startup, creating delays.

Maintaining precise control over your process at a time of major change in your plant makes more than just good business sense. Safety, environmental and regulatory concerns are also important during a plant modernization project.

The solutions

Emerson Process Management experts deliver the digital technologies and expertise to safely cut over plant control loops, instruments and systems, while continuing plant operation. Our hot cutover expertise, which spans many industries, complements the proven PlantWeb® digital plant architecture to mitigate risk, reduce downtime, enhance performance, and improve your business returns. The result is continuous production throughout the hot cutover commissioning phase in many industries.

Minimize production loss

Planning for a hot cutover begins with a detailed audit of the existing instrumentation. Emerson specialists help you select the right hardware for the application; safely and properly install the equipment; and commission the instruments for optimal performance, without sacrificing reliability or safety.

With technologies like AMS™ Suite: Intelligent Device Manager, the project team can efficiently commission the instrumentation during the hot cutover process. AMS Device Manager digitally communicates and builds a database of equipment and information, including configuration and calibration test definitions with remote device status checking.

Beginning the cutover process with "easy" loops such as indication-only measurements is a strategy that enables the team to adapt to and navigate within the new digital automation system in a low-risk environment. The proven "one-loop-at-a-time" strategic approach makes online cutovers more manageable than commissioning an entire unit after a shutdown or turnaround. Cost is also reduced due to minimized shutdown/turnaround periods for critical instruments and safety system changeovers.

Proven digital technology

The expertise to deliver success

Reduce project risk

Emerson's project management work process is built upon the recommended best practices of authorities such as Construction Industry Institute (CII), Project Management Institute (PMI), and Independent Project Analysis (IPA) methodologies. Our project managers have the training and experience to deliver consistent results.

Each piece of instrumentation has a special cutover procedure, which is based on years of experience in implementing hot cutovers. AMS Device Manager is used by the team to help coordinate these programs and thus reduce project risk by:

- readily checking that device configurations match the specifications
- configuring instruments quickly
- reducing implementation time
- verifying correct device connection and ranging
- verifying appropriate device construction materials
- ensuring that devices function as a system, whether checking interlocks, stroking valves, or verifying alarm points on field devices

Reduce safety risk

Emerson's proven communication plan helps you ensure safe coordination during this hot cutover work. Our personnel follow daily communication procedures with your team so that all plant personnel and project team members are aware of the work being performed. Procedures are established to ensure that all equipment is properly isolated and purged prior to being cut over, thus reducing risk of safety, health and environmental incidents.

Our experts use these procedures and distinctive strategies that take advantage of the PlantWeb digital plant technologies to safely perform a hot cutover. One example uses three key PlantWeb technologies in the process to cutover from pneumatic control to FOUNDATION™ fieldbus. The FIELDVUE® DVC6000f with its unique pressure control functionality allows a fieldbus connection to the DeltaV™ digital automation system while also sending a pressure signal to the existing actuator or pneumatic positioner. Once pressures are balanced within the system, control is transferred to the digital valve controller. During this phase, AMS Device Manager helps reduce the risk in finalizing the hot cutover by helping the team to communicate locally with the valve to monitor exactly what is happening during the process of mounting, adjusting, stroking, and calibrating the valve.

Technology expertise adds functionality

As a leading provider of digital plant technologies with our PlantWeb digital plant architecture and support of smart field instrumentation, from HART® to FOUNDATION fieldbus, we combine these technologies with experience across all automation and information technologies, including:

- process automation and safety systems
- enterprise information and communications systems
- fiscal measurement systems
- SmartProcess® optimization of plant processes, equipment assets, and business processes
- SureService℠ support services

"Emerson's experience really made a difference in the planning and implementation of the hot cutover to our new control system. Their digital technology was also critical as they worked with us to install and commission 1100 new instruments. This project was under budget with no OSHA or environment incidents.

You cannot get much better than that!"

- Bob Sherven
Project Manager
Shell Deer Park

PlantWeb.com

The same technologies that helped with the hot cutover continue to sustain your process and business objectives. For example, AMS Suite provides reporting, analysis and decision support to improve the availability and performance of production assets. It is a powerful tool for optimizing mechanical equipment, electrical systems, process equipment, instruments, and valves.

The embedded tuning functionality within every DeltaV system provides an easy tool to re-establish automatic control after the cutover, while reducing the time needed to tune a loop. DeltaV Tune also enhances post-cutover loop performance, which often results in more consistent quality products, increased production, and increased efficiency.

DCS transition solutions and services are available to help minimize switching costs, speed startup, and minimize risk. For example, a dedicated team of platform-specific system transition specialists is available to help plan and support a platform migration. Emerson's FlexConnect® is a tool that enables easy automation platform migration. It enables the re-use of existing field wiring terminations for the DeltaV system without lifting or removing wires. DeltaV Simulate is also used to enable verification of engineering configurations offline before migrating control.

Emerson Process Management offers system and instrument hot cutover services that consistently provide our clients with tangible operational benefits. Our solutions mitigate risk, reduce downtime, enhance performance, and improve your process and business results.

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