



## Shutdown, Turnaround, and Outage Management Requirements

Shutdowns, turnarounds, and outages (STOs) serve a crucial function in ensuring an organization’s assets remain efficient and reliable. With this comes an increased need for STOs to be planned thoroughly, while maintaining flexibility for unforeseen changes. To help you find the right STO solution that provides this balance, here is an extensive checklist on what you should look for in a shutdown, turnaround, and outage management solution.

Yes	No	STO Planning Requirements
		Allows users to manage work orders, resources, progress tracking, scope and change management, work preparation, work scheduling, and permitting, all within one system.
		Role-based access to create views and update permissions for various roles to simplify employee and contractor interfaces and maximize efficiency.
		Clear and flexible way to handle 'discovered work' in the execution phase of an STO event.
		Ability to push planning changes to your enterprise asset management (EAM) software on demand.
		All turnaround historical data stored and accessible, able to be leveraged while planning the next turnaround.
		Users can generate sweeping checklists to perform quality assurance and quality control (QA/QC) to ensure teams have followed set processes.
		Library of QA/QC checklists that are automatically assigned to the activities from a selected library.
		Access end-to-end management for STO events to ensure schedule adherence, flexibility, and visibility.
		Planning progression tracking to evaluate project stage and ensure project is ready to move to the execution stage.
		Ability to check status and approvals quickly and easily through the platform.
		Dynamic updates that allow you to manage team progress and receive updates on other teams' progress throughout the planning and execution of the event.

Yes	No	STO Planning Requirements (cont.)
		Inventory tracking abilities for spare parts, consumables, and materials needed to perform STOs.
		Ability to stage and kit materials post goods-receipt and assign materials to project-specific storage locations.
		Ability to pull notifications and work orders from your enterprise resource planning (ERP) system to plan scope and work packages quickly.
		Complete project transparency and configurable permissions to manage and control project scope creep (including requests and approvals).
		Visibility into scope documents and schematics, with view of all stages of the scope approval and ability to review progress for each team.
		Participants can challenge scopes prior to execution.
		Customized risk matrices for clear insight into whether a scope should be included in the turnaround.
		Fast, reliable digital approvals and status updates.

Yes	No	STO Execution Requirements
		Scalable to accommodate large-scale projects, multiple users, and heavy loads during peak times.
		Supports complex scenarios, such as multi-site projects or concurrent shutdowns.
		Ability to efficiently create, track, and manage work orders for maintenance tasks during shutdowns and turnarounds.
		Ability to prioritize work based on criticality, resource availability, and safety requirements.
		Robust scheduling capabilities to allocate resources including labor, equipment, and materials effectively.
		Execute all stages of your project directly in the same system once planning is complete.
		Flag jobs you need updates on to automatically refresh when any change is made to jobs or tasks in the field.
		Automatic notification of any changes made to the status of a job or task from the field.
		View kit and material status in STO Execution schedule.
		Begin restoration work quickly with tools to handle unplanned outages.
		Utilize the system to execute your STO with accurate progress collection, schedule analysis, and resource coordination to complete the STO on time.

Yes	No	STO Isolation Requirements
		Centralized isolation planning to prevent conflicting isolations from resulting in lost time or injuries.
		Isolation and discipline plans are associated to effectively combine for similar work, reducing the number of blinds and isolation devices needed.
		Build a historical list of isolation plans to eliminate the need to rebuild plans from scratch.
		Digitally prepare isolation lists with blind points and isolation activities.
		Comprehensive isolation point management, including required blinds and isolation point status.
		Ability to manage and prepare blind lists to ensure seamless communication between turnaround planners and plant operations staff.
		Digitally track and progress blind points with piping and instrumentation diagram (P&ID) markups.
		Create, share, and view master isolation lists across multiple STO events.
		Add existing isolation lists directly to projects.
		Easily submit isolation lists for review and approval to ensure the next phase of STO is safe to begin.
		Track QA/QC progress from the field and prevent jobs from being marked finished until all quality checks are complete.
		Flag quality checks that did not pass inspection to be handled before, during, or after the shutdown.
		Access a centralized report that tracks outstanding items before the turnaround can be fully marked as complete.
		Configure dashboards to display KPIs and track completion of turnaround execution.

Yes	No	STO Budgeting & Cost Management Requirements
		Accurate prediction of spares to minimize expedited procurement.
		Budget planning and tracking features are available to manage costs throughout the shutdown process.
		Ability to monitor expenses, compare actual vs. planned costs, and adjust as needed.
		Access historical data on past STOs to perform comparisons of material, labor, and rental costs.
		Ability to reduce spreadsheets and PDF reports via budgeting snapshots.
		Compare trend estimates and identify changes between base and current estimates.

Yes	No	STO Budgeting & Cost Management Requirements (cont.)
		Standard breakdown structure templates to ensure standardization in the budgeting process across projects.
		Multi-year outlook projection for executive teams based on historical information.

Yes	No	Mobile Planning Requirements
		Users can access all scoping and work package information from the field, like scope origination, planning steps and walkdowns, master data, resource assignments, and QA/QC tasks.
		Perform planning walkdowns as part of planning a work package.
		Ability to take and attach pictures to the scope or work package from a mobile device camera.
		Work packages and scopes can be searched to find relevant documentation.

Yes	No	Mobile Execution Requirements
		Mobile applications and responsive web interfaces for field technicians and supervisors to interface with the execution software.
		Access critical information on site using mobile devices.
		Easily create and collect progress updates from the field throughout the lifecycle of an STO event from any device.
		Seamless and scalable connection via mobile devices to the routine maintenance scheduler.
		Mobile application to perform quality checks after work has been completed.
		Filter work to find relevant activities for the individual or group to perform.

Yes	No	STO Reporting Requirements
		Collaboration tools to streamline information sharing and decision-making.
		Generation of performance metrics, progress reports, and KPIs.
		Ability to analyze historical data to improve further STO planning.
		Robust reporting capabilities, and ability to generate customized reports and dashboards.

Yes	No	System Integration and Technical Architecture
		Seamless integration and bidirectional data exchange with your ERP software (such as SAP, IBM Maximo, or Oracle) to increase transparency, maintain one source of truth, and eliminate data silos.
		Seamless integration and bidirectional data exchange with your scheduling software (e.g., Primavera P6 or Microsoft Projects).
		Integrated STO management system so STO team can view all relevant work orders, schedules, clearances, and ERP data.
		Solution can be utilized independently AND with other systems to meet unique STO needs.
		Multi-system data integration with all major STO systems: Ventyx Asset Suite, SAP, Maximo, Primavera, and Ventyx eSOMS.
		Integration with risk assessment and permitting tools to enable identification of potential hazards and mitigate risks.

Yes	No	Real-Time Requirements
		Ability to monitor and provide real-time updates from the field.
		Real-time visibility into resource availability and conflicts.
		Ability to review progress in real-time to evaluate what is complete and what is still in progress.
		Real-time ability to update scheduling software to provide live schedules with stats on job completion, progress, delays, and problems.
		Real-time updates and tracking for material changes, requests, and approvals.
		Solution supports real-time data synchronization between major ERP systems, STO management solutions, and scheduling solutions.

*Want help identifying the features you need in an effective STO management solution? Reach out to us today to have one of our STO professionals walk you through what you should look for.*

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