

## OUTAGE PLANNING PRELIMINARY CHECKSHEET

- The assign Technical Manager reviews the request and timing of the work to approve the work and capacity interruption and assure all backlog work for the equipment is being reviewed.
- Technical Manager assigns the project to Outage Planner, Maintenance Engineer or designated person to act as project lead along with the other members of the project team.
- The project lead reviews the project scope with the assigned planner and operation lead to verify operating conditions and information as well as the scope of work.
  - Review all work performed on the equipment, outstanding PM's, and current open work orders.
  - Hold meetings with key shareholders to identify and list all identified work.
  - Determine the scope of work for the outage prioritizing work based on risk and that it can only be performed during the outage.
  - Things to consider when developing the detail plans and timelines. Permits, Access to the site, Lighting, Set Down space, Material Handling equipment, Personnel lifts and equipment, Operational activities during the rebuild, Closest Utility services (electric, gas, water, steam, air, sewer), Handling scrap product, handling removed parts, interaction or interferences between jobs, Technical Review of replaced parts, modifications being made and the associated improvements (spare parts, operating standards, maintenance PM, training and control modifications), checkout, commissioning and start-up resourcing, updating completed job plans, and
  - Identify rental equipment, contractor, engineering, purchasing, stores and operational personnel requirements.
- All modifications will be properly designed and researched (all drawings, control documentation, parts list, etc.)
- Job plans are developed for associated work as well as the maintenance work. A complete project plan is developed showing activities from set-up to restoration of operation and the required resourcing, access, equipment and sequencing.
- Job plans are reviewed by Maintenance, Engineering, Operation and Purchasing for any issues. A critical path schedule is developed and a baseline is established.
- Identify and develop a list of optional jobs to optimize and level resourcing.
- Each crew reviews the assigned individual job plans. Contractors participating in the outage are responsible for reviewing and/or providing their assigned job plans. Any issues are identified, discussed, with the resolution documented and communicated to appropriate team members.
- Formal project communication meetings are established early in the process and have developed into effective communication meetings as set-up and staging begins to occur.
- An operation liaison is available during the project development and working full time the first full day of work to resolve any potential safety issues, interferences with on – going production in the area and answer questions about existing operational procedures. This is an important position as the outage work is executed to minimize delays.
- Crews execute the work and provide feedback on the job and resource plans.
- As jobs are completed, crew leaders, project lead and operation liaison signs off the completion.
- Commissioning and Validation plans are performed by assigned technical and operation resources. All issues are documented by work order.
- Additional technical start-up support with assigned operational shift completes the start-up and returns the equipment into normal operation.