Written by Ken Bannister, Contributing Editor
Wednesday, 01 September 2010 12:13

With full or partial downtime being the costliest type of event for a plant, shutdowns, turnarounds and planned outages must be conducted with precision at an accelerated pace by specialist teams working around the clock.

In the popular 1980s TV series *The A-Team*, an unlikely band of fictional characters was charged with a seemingly impossible task on a weekly basis. Luckily, they pulled off each assignment — *and John "Hannibal" Smith would light a cigar and declare "I love it when a plan comes together!"*
The key to the team's success? A high level of preparedness going into its assignments.

Shutdowns/turnarounds/planned outages also are seemingly impossible events that must be completed in a set time frame, within budget. They require careful planning and teamwork. Adequate preparedness is to anticipate the worst and have contingency plans ready to roll at any time. While this approach might seem fatalistic, redundant and over-compensatory, it doesn't need to be onerous.

A successful shutdown and turnaround starts with the maintenance planner, who must now think and behave as a shutdown planner—*i.e., as a multi-tasking event coordinator managing at a macro level.* This "big picture" thinking must be tempered with a cognizance for detail and the ability to empower and work with respective team members to achieve a successful outcome

The following 10 steps will lead to a higher level of preparedness and confidence and help ensure that the event plan comes together.

#1: Post a work-request submission cut-off date...
Most people are natural procrastinators (and don't recognize the amount of preparation required to plan and execute a work request). Posting a work-request submission cut-off date will drive awareness of an upcoming event date and assure that a high percentage of requests will be received in good time. Let requestors know they are partners in this event and that their

cooperation is greatly appreciated.

#2: Establish a shutdown team and assign roles...

A shutdown is an action-packed one- to three-week event requiring multiple management decisions before it begins. Building and empowering a shutdown team by assigning roles will ease the management and decision-making process. Typical areas of responsibility are:

- **Purchasing...**Work with Purchasing to ensure specialized purchase agreements and purchase orders are provided to vendors in good time.
- **Receiving...**Work with vendors to ensure that full shipments are received prior to the event or staged through it in a timely manner. Assign accessible "lay-down" areas for large items and construction materials.
- **Security...**With so many outside contract personnel on site, security clearances and access passes to sensitive areas must be managed before the event.
- **Supervision...**Once the event begins, someone must be assigned responsibility for managing the logistics of parts movement to contractors, equipment readiness, tool management, work sign-off, etc.
- **Permits...**Depending on the nature of work, certain jobs will require permits for confined-space, lockout, hot work, insurance, etc. These permits must be readied prior to the event.

With roles and responsibilities established, a regular pre-event meeting schedule is developed so the team can perform strategic planning for the event.

#3: Establish your back-up plan...

Contingency planning is crucial if your event is to be successful, as contractors/vendors might turn up late—*or not at all*. Once contractors are on site, make sure they can access materials, parts and tools. (Your back-up plan must be innovative and directed at keeping the workflow moving at all times.) Some tactics used by best-practice companies include:

- Set up a reward/penalty clause in purchase agreements whereby contractors receive a bonus for arriving at the site, on time and completing the job on time per the scope of work. If a contractor is late or doesn't show, a payment penalty can be imposed.
- To counteract contractor no-shows, set up "on-call" agreements with secondary contractors where "standby" fees are paid. Bonus rates can be negotiated if a secondary contractor is brought in to perform work.
- Place on hold, or bring on-site, extra inventory parts that may or may not need replacement. Negotiate a 1-2% restock agreement for this convenience if the parts are not

required.

- If rented equipment is expected to be used on more than one job, and for over 50% of the shutdown period, rent two pieces.
- Never schedule back-to-back jobs requiring the same crew or rental equipment.
- Prioritize jobs so if work does not get started, at least the most important work is completed first.
- Include your contractors and vendor partners as part of your strategic planning team and solicit their contingency ideas.

#4: Improve workflow efficiency...

In the typical high-stress environment of an outage, time is precious. Reducing wasted time can be accomplished in a number of ways:

- Strategically place portable toilets and wash-up facilities throughout the plant.
- Make free bottled water and coffee available throughout the plant.
- Organize makeshift lunch or rest areas throughout the plant and engage a caterer or lunch truck offering hot meals. Provide refrigerators at rest areas for packed lunches.
- If a lunch-area option isn't available, rent a golf cart to transport workers to/from the cafeteria at scheduled times.

#5: Bring in runners...

Assign radio-equipped runners or "go-for" staff to work in conjunction with supervisors to quickly pick up/deliver parts or tools.

#6: Facilitate the startup process...

When equipment is ready to be started and tested, utilize your regular equipment operators to assist in the process and be part of the sign-off process.

#7: Assign clean-up crews...

Assign dedicated clean-up crews to clean equipment before and after the event. This will reduce contractor costs—and allow the contractors to concentrate only on the work requirement.

#8: Prepare your contractors/vendors...

Prior to shutdown, send out a work-management flow sheet to all contractors/vendors detailing

internal procedures on how paperwork is to be completed; how to take parts out of stock; how to borrow internal tools; etc. Prior to contractors/vendors coming on-site, prepare and send out kits to them detailing security and safety procedures and requirements; permit procedures; insurance requirements; etc.

#9: Insure your event...

Verify all workers' comp, operating and other liability certifications prior to the event.

#10: Review lessons learned...

Review previous shutdown event history with your team and analyze why things went wrong in the past. At the event conclusion, schedule a debriefing to review "what went right," in preparation for the next event.

When a plan comes together

The hallmarks of an adequately prepared shutdown/turnaround/planned outage usually are not seen or acknowledged by the participants—*success is typically measured by how smooth the event seemed.* Then again, that's what preparedness is all about. With better preparedness, you can make sure your future planned downtime events are real-life *A-Team* successes! MT

kbannister@engtechindustries.com