

# Managing Shutdowns, Turnarounds and Outages

## Why Attend

- Shutdowns and turnarounds are the highest risk activities that we routinely perform in industry, but they are also an area of massive variability in approach and outcome.
- Many companies do not have written methodologies and have not trained their staff in best practice for shutdown and turnaround management; despite the fact that many shutdowns and turnarounds typically lead to the highest peaks in safety incidents, downtime and fixed cost spend each year. There has also been a historic gap in meaningful guidance - there are very few books on shutdown and turnaround management. Unfortunately, too often companies see shutdowns and turnarounds as something to be survived.
- If shutdowns and turnarounds are not properly planned, managed and controlled, companies run the risks of serious safety and budget penalties, costly scheduled delays and negative impact on customers. The industry is full of examples of poor shutdowns and turnarounds, which have injured people and damaged businesses. As a consequence, operators are starting to explore turnaround best practice and establish a more robust methodology.
- Managing Shutdowns, Turnarounds and Outages is based on the Carcharodon “best of the best” Model of Excellence for shutdown management. This model has been created and refined by some of the world’s most experienced shutdown specialists, with all this experience condensed into a core methodology - our blueprint for success. It converts shutdowns from a high risk nuisance to a strategic opportunity and has been used on multiple sites around the world, and has been the basis of two books and is supplemented by a chronological guide to building a successful turnaround.

## Course Methodology

- This is an interactive course. There will be open question and answer sessions, regular group exercises and activities, videos, case studies and presentations on best practice and the fundamentals of shutdown and turnaround management. Participants will have the opportunity to share with the facilitator and other participants on what works well and not so well for them, as well as work on issues from their own organizations.

## Course Objectives

By the end of the course, participants will be able to:

- Position shutdowns and turnarounds as part of an overall strategy of improving business performance
- Build the best shutdown and turnaround team possible from the resources available
- Reduce the cost and downtime associated with shutdowns and turnarounds whilst simultaneously improving safety performance
- Understand the critical processes, skills and tools required to establish outstanding shutdown performance
- Use our best-in-class Model of Excellence to analyze their own performance, explain key principles to others and build a detailed methodology tailored to their own needs
- Maximize the benefits of planning and preparation through our proactive challenge planning process
- Build a turnaround from the ground up: From concept to execution and review

## Target Audience

- Turnaround managers, planners, schedulers, reliability engineers, maintenance managers, maintenance supervisors, project managers, project engineers, operations managers, shift managers, operations supervisors and people who are in training for these positions. This course is also designed for contractors who want to contribute to the shutdown performance of clients.

## Target Competencies

- Shutdown strategy development
- Shutdown and turnaround planning
- Shutdown management and cradle to grave control
- Shutdown and turnaround execution

### Setting shutdowns in context

- The impact of shutdown performance on a business
- Where people tend to go wrong
- How shutdowns fit with asset and maintenance strategies
- The impact of shutdowns on safety, availability and costs
- Where does best practice come from

### The unique complexity and risks of shutdowns

- How turnarounds differ from construction and maintenance work
- The conflict of an inherent bottom up process for scope development
- Complexity
- The interconnectivity of multiple tasks
- Uncertainty

- Unknown tasks
- Unpredicted elements
- Unplanned work
- Unfamiliarity
- Novel tasks
- New personnel
- First time operations
- The resource challenge and assembling the right skills to succeed

## A structured Model of Excellence for shutdown management

- Origins of the model of excellence and why it was developed
- A graphic model and the critical elements required for success
- An outline model and exploring the sub elements
- A detailed model, the blueprint for success
- The importance of strategy and the principle of front end loading
- How pace setters have moved to structured work processes
- Processes for safety and quality control
- Defining the right shutdown organization
- Planning and logistics
- Execution and review
- Shutdown economics from forecasting to closure

## Developing and controlling a shutdown strategy

- Strategic focus has evolved
- The ultimate business goal
- Reducing the annualized penalty of shutdowns
- The key strategic focus for the modern engineer
- The role of the steering team
- Where steering teams go wrong and how to avoid this
- Human factors
- Communication and creating buy in
- How to develop effective teamwork
- Competency development and how we learn
- Assurance processes for cradle to grave control

## Managing risk

- Understanding hazard and risk
- A methodology for predicting strategic risks
- safety, schedule, and cost
- How to reduce and control risk
- Transforming safety performance
- How to avoid conflict between safety, quality, schedule and cost

## The art of planning

- The importance of controlling scope
- How to optimize scope of work
- Developing the worklist and controlling late work
- The basic components of competent planning
- Planning facts and fallacies
- Advanced planning techniques
- Moving to a pit-stop mentality and a breakthrough process in planning
- Pacesetter habits for mobilizing towards the execution phase

## Execution and review

- The basic structure
- Exposing the skeleton of a shutdown
- Achieving the best possible start to an event
- Tracking and driving progress
- Managing logistics
- Control meetings and management systems
- Achieving effective plant hand back
- Alternative methods for the turnaround review