FoCul

A SOLUTION FOR

OPERATIONS MANAGEMENT

ENGINEERING MANAGEMENT

HEALTH & SAFETY MANAGEMENT

Management of Change

FoCul

Case Study: Management of Change (Process Safety) for PX Ltd

CLIENT TESTIMONIAL

"FoCul are very customer focused on requirements and delivered to expectations – no surprises – overall matched expectations particularly from a commercial perspective"

Colin Elliot, Engineering and Maintenance Manager, PX Limited

1. The Challenge

PX Ltd manage the operations and maintenance of the Fellside 188 MW CHP plant providing critical process steam and electricity to the adjacent Sellafield nuclear reprocessing facility.

PX Ltd approached FoCul for a browser based solution to manage engineering change at Fellside. The system needed to provide a controlled and auditable process for managing engineering change and needed to allow engineering changes to be managed efficiently within the organisation.

The solution needed to be flexible so that lower risk changes were handled differently from higher risk changes. They also wanted a configurable solution so that workflow and risk assessments could be modified in the future.

Functionality also needed to include managing temporary modifications requiring revalidation every 3 months.

2. The Solution

FoCul enhanced its existing 'Management of Change for Process Safety' (MOC) product to meet PX's requirements and worked with PX to deploy it into their organisation.

The MOC application manages the stage gate risk assessment and implementation processes associated with implementing changes in complex plants. It also allows these processes to be much more transparent and to be carried out more efficiently and robustly.

3. The 'Management of Change' Workflow

The MOC product uses the following stage gate process based on the Management of Change for Process Safety guidelines published by the Center for Chemical Process Safety of the AIChE (American Institute of Chemical Engineers):

3.1. Concept approval

The concept approval step allows key stake holders to approve or reject the change request after initial details have been submitted.

3.2. Risk Assessment

The risk assessment stage typically has 5 steps; risk classification, Hazop requirement check, hazards review, records review, risk assessment approval

- Risk Classification

Risk classification is the process whereby the overall risk of the change is assessed. This is particularly important because the outcome of the classification determines the risk assessment process that follows. For example lower risk changes will require less scrutiny than higher risk changes.

- Hazop Requirement Check

Part of the risk assessment process is to consider if a Hazop (Hazard and Operability study) is required. The application uses 10 configurable questions to guide the users. Each question has a weighted score and if a threshold is passed then the system will indicate that a Hazop is required.

- Hazards Review

The hazards review section has two parts. In the first part the topics that need to be considered are identified.

In the second part the users comment on each topic to set out the mitigation required or explain why no mitigation is needed.

- Records Review

This section captures records (such as drawings or operating instructions) that will

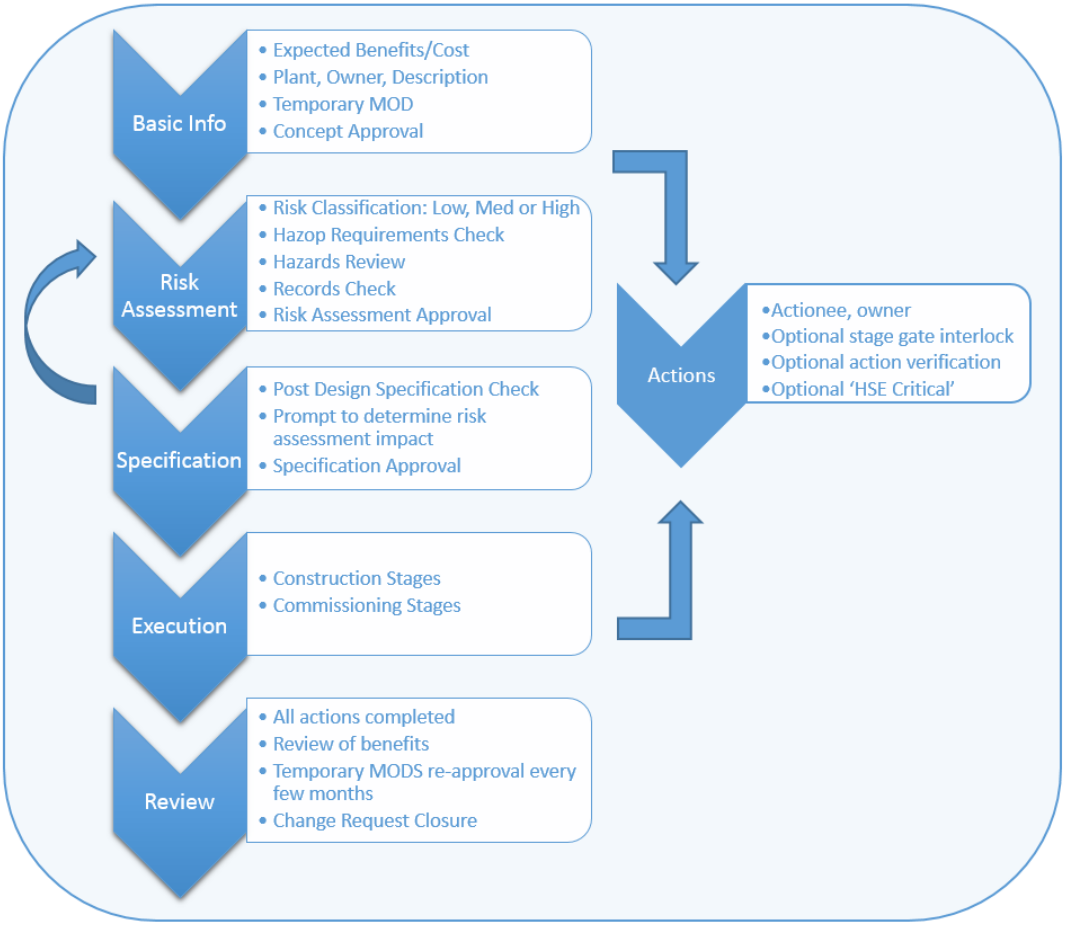

Fig 1. The Management of Change Workflow

need to be created or updated as part of the change.

Users are presented with a standard list that is configured to reflect best practice.

A trackable action is automatically created for each relevant record. These actions remain at draft status until the risk assessment approval stage gate is completed.

- Risk Assessment Approval

The personnel required for the risk assessment approval will depend on the risk classification. The approvals are defined by role. Each has a named holder and the option of one or more deputies.

3.3. Specification Check

The Specification Check comes after the risk assessment approval. It provides an opportunity to check if the final design has altered in such a way that the risk assessment (including the risk classification) should be re-approved. The specification check consists of up to ten configurable questions, each with a weighting. If the responses to these questions exceeds a threshold then the system will insist that the risk assessment is re-approved.

3.4. Execution

Once the change request has been approved it enters the execution phase. There can be one or more construction stages and commissioning stages.

The commissioning stages include configurable pre-commissioning check lists.

3.5. Review & Closure

The review stage can only be started after all of the actions have been completed and a period of time, typically 3 months, has passed.

Temporary changes need to be re-approved every 3 months. This starts from when commissioning begins.

3.6. Actions

Actions are a core part of the MOC process. Actions can be created automatically from the records review phase or manually at any time within the MOC process. Actions have an owner, an actionee, an optional interlock and a HSE criticality flag. Examples of an interlock would be that an action must be completed before construction can start.

4. Reporting

Change requests and actions can be viewed and interrogated via graphical dashboards.

Actions are trackable by change request, actionee and owner. Change requests are trackable by status, plant, owner and who the request is currently with.

Both can be exported to Excel for further analysis or management reporting.

Email reminders can be configured to alert users of outstanding actions and stage gate approvals.

5. Deployment & Security

The application was deployed as a managed on-premises virtual appliance.

User credentials are managed within the application with users having Administration, User or Read Access.

6. How we delivered the solution

We used an agile methodology to deliver the solution. For more information on our project processes please see our website; www.focul.net/process

7. Demonstrated Benefits

The MOC solution for PX has provided a **controlled and auditable process** for managing engineering change.

Changes are now **managed more efficiently** by allowing users to access the information much more quickly and by allowing users to approve the stage gates electronically.

The risk assessment processes are applied **more consistently** and the workflow configuration of the application ensures that the **appropriate level of rigour** is applied to high, medium and low risk changes.

The action tracking with interlocks has improved the approval process by allowing mitigating actions to be raised and **robustly managed**.

The effectiveness of the application has been praised by the external auditors.

8. About FoCul

FoCul is a specialist consultancy helping organisations to find better ways to manage processes and knowledge to improve efficiency and profitability.

Our team is unusual in that it includes both software developers and Professional Engineers with in-depth experience of the manufacturing and process sectors.

We help our clients by helping them to understand their requirements and then helping them to deploy a solution. These solutions can be FoCul Products (http://www.focul.net/products) , Bespoke Solutions (http://www.focul.net/bespoke) or 3rd party solutions.

We always put our clients first and understand how to help you deliver successful projects whilst you continue to deal with your operational plants.

9. Further Information

Please see http://www.focul.net/moc for more information or contact Sean Cull :

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