User Centered Design Services, Inc.
Achieving Excellence in Operations

User Centered Management of Organizational Change Services

The Situation:

In response to significant incidents across the oil and chemical industries a number of different regulations and recommendations have appeared requiring extensive study and documentation of any changes that are made to staffing levels, staffing arrangements and job duties in a production facility. Industry standards, such as OSHA 1910, the Chemical Manufacturers Association *Management of Safety during Organizational Changes*, ordinances in Contra Costa County, California, UK Health and Safety Executive regulations, as well as overall Best Practices in Management of Organizational Change, all place extensive requirements on production Companies. It can be difficult to manage these requirements and ensure changes are well conceived, well executed and safe.

The Solution:

User Centered Design Services has developed services around our methodology that are fully compliant with all these Best Practices. Our methodology provides an objective framework to study proposed changes, and ensures that changes are well conceived, well executed and safe. Our process engages all stakeholders, including hourly personnel, facilitating acceptance of the final outcome and ensuring all reasonable concerns are addressed.

The services we offer are detailed in the Process section below.

THE METHOD:

Our Management of Organization Change (MOOC) process consists of three major parts: an Operator Performance Systems Assessment, a scenario-based Physical Assessment Tree Analysis, and a Procedure Review and Time Lining.

A team of the Client's personnel are required to perform a MOOC Assessment which is very similar to the team required for a HazOp analysis. Typically, the assessment is attended by one or two unit supervisors, the unit engineer, a process safety representative, one or more senior operators from the area, and a Union representative, where appropriate.

The process starts with the Operator Performance Systems Assessment. The Operator Performance Systems Assessment is an 11-part ladder assessment of 10 key management systems. These key management systems include: Situational awareness, team working, alertness and fatigue, training and development, roles and responsibilities, willingness to act, management of operating procedures, management of change, continuous improvement of safety, and management of safety. Each part benchmarks the site versus Best Practice and also includes a pass/fail line, providing a clear focus on strengths and areas of opportunity in Operator Performance Systems.

Next, we conduct the Physical Assessment Tree Analysis. Through the scenario-based Physical Assessment Tree Analysis we take each "worst case" scenario and subject it to seven logic trees. In this context, "worst case" refers to the most operator intensive response situations, which may not be the most catastrophic scenarios. Using these logic trees, we assess the capability of the operator to detect, diagnose and respond to an abnormal situation by examining: console staffing practices, additional work requirements during upsets and the availability of resources to aid in an upset.

To complete the process, we engage in the Procedure Review and Time Lining. Typically, 4-6 "worst case" scenarios are examined for each unit or area. Our goal is to determine the maximum level of effort required to safely detect, diagnose and respond to an upset. We then carefully review the response procedures for these scenarios and construct a time line indicating the levels of continuous effort and significant attention required by all operators involved. This yields a clear picture of the

manpower required to safely respond to a situation.

All three of these analyses are performed for the current staffing situation and then reviewed in context of the proposed staffing modifications.

The Process:

Introductory Workshops

We will come to your site and put on a two day workshop to review Management of Organization Change Best Practices with key personnel on your site. This is an excellent tool to create awareness within your organization, since many sites do not fully understand the potential impacts that changes in staffing levels, staffing arrangements and job duties can have on an Organization. Nor do they understand that current Best Practices, and in some regions regulations, require a formal Management of Organizational Change process.

Licenses

We offer single site, multi-site, and corporate-wide licenses that allow the Client to use the MOOC methodology to the best advantage of their organization.

Services

To best assist the Client in implementing the methodology within their particular organization, we customize the amount of time we spend on site. At a minimum, we will come on site for two days to train the Client's personnel to employ the MOOC Assessment Methodology. If desired, we can spend more time on site working with the Client's team to perform an actual Assessment with a real plant case. We can also spend additional time on site to act as facilitators to ensure the method is properly implemented. These services are quoted on a daily rate basis.

Manuals

We can provide detailed manuals documenting the MOOC Assessment process, including a detailed review of the pertinent guidelines and regulations. These manuals are an excellent resource to refresh those familiar with the method, or to train employees new to the process.

Benefits:

Our process ensures proposed changes are consistent with all current regulations and best practices. In addition, we have found that our process is an excellent way of engaging the hourly work force and ensuring legitimate issues are resolved before the change is implemented. Further, our process can uncover deficiencies in the current staffing scheme and prevent future upsets from escalating into costly incidents.

For example, we were asked to perform a MOOC assessment around proposed consolidations in a large oil refinery. During the assessment we were able to determine that the current staffing arrangement was not capable of responding to a realistic emergency situation in an adequate amount of time. The client was able to adjust staffing immediately to prevent future unit shutdowns and extensive catalyst damage should this event ever occur. In addition, we were able to make recommendations to enable the client to reduce the current five-man operating team to a four-man team in the future. Through this study, UCDS was instrumental in saving the client the cost of one duty station, ~$500,000/yr., as well as avoiding possible expensive down time and catalyst replacement.

Related Services:

We strongly recommend that our Clients authorize a *Management System Gap Analysis* before we perform the Risk Assessment. This will ensure the Client receives the maximum benefit by ensuring UCDS has the greatest knowledge of the sites policies, practices, and procedures as we conduct the Risk Assessment.

User Centered Design Services is uniquely qualified to help clients identify potential operator rationalization and consolidation cases for both console and field operators by performing a *Console Staffing Assessment* and a *Field Operator Staffing Assessment*. We also can assist in helping determine the optimum make-up of the operations work team through a *Work Team Design Assessment.* Please see the Service Briefs for more information on any of the services.