

SERVICE BRIEF:

Situational Awareness Workshop

The Situation:

Abnormal situations encompass a range of events outside the “normal” plant operating modes, e.g. trips, fires, explosions, toxic releases or just not reaching planned targets. The early work of the Abnormal Situation Management Consortium® included a survey of the US petrochemical industry. Based on their research the consortium estimates industry losses of around \$20 billion per year from abnormal situations, approximately equal to the total annual profits of that industry. A variety of evidence led to this estimate:

- Plant surveys show that incidents are frequent, with typical costs ranging from \$100,000 to well in excess of \$1 million per year. One plant surveyed had 240 shutdowns per year at a total cost of \$8 million. Many of these shutdowns were preventable.
- They found that refineries suffer, on average, a major incident once every three years costing on average \$80 million.
- One insurance company’s statistics shows that the industry is claiming, on average, over \$2.2 billion per year due to equipment damage. It is likely that actual total losses to the companies are significantly higher than what is claimable.

Further, these studies by the Abnormal Situation Management Consortium® indicate that companies achieving Best Practices in operations can improve productivity by 5-12%.

The Solution:

User Centered Design Services offers a full line of consulting services to evaluate your current plant condition, make realistic and achievable recommendations for improvement, and aid you in implementing our recommendations. As an introduction to the subject of Abnormal Situation Management and how we address the associated issues we have developed a two day workshop as described below.

Service Description:

Our two-day Situational Awareness Workshop provides an overview of the key elements that impact successful control room design. This workshop incorporates the findings from the research of the Abnormal Situation Management Consortium as it applies to operator situation awareness. The workshop will be tailored toward the decisions and challenges faced by the Client while approaching the new central control building project, and will be an excellent starting point for discussion within the organization. This will also facilitate the discussions that will occur during the Conceptual Design process.

The workshop covers the following topics:

- The International Ergonomic Standards for Control Rooms (ISO 11064)
- What is in an Operating Philosophy
- Common Control Room Issues including Distractions, Noise, Lighting, and Operator Vigilance
- Alarm Management and Human Computer Interface (HCI) design.
- How to design communications for a centralized control building
- Relationship between CCR and Field Shelter and the RP752 Recommended Practices for Occupancy (if appropriate)
- How to improve team work, communications and collaboration
- Console adjacency
- People – Primary & Secondary
- Functionality and room adjacency
- CRIOP – Crisis Intervention and Operability Analysis
- Documents involved in a Conceptual Design

Benefits:

This step helps educate the customer regarding options, successes and failures involved in addressing abnormal situations. This is a true front loaded activity and can produce significant project cost savings through the awareness of best and worst practices. This in turn can result in significant project savings.

Deliverable:

A two-day workshop at the client’s facility focused on the subject of abnormal situation management.