



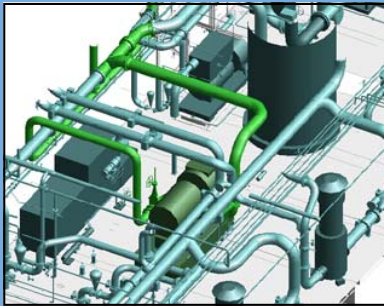
ERSG/Project/FS/003/14

PROJECT:

PHA/HAZOP Leadership Study Training Courses

OUR SERVICES COVER THE FOLLOWING AREAS:

- Process Hazard Analysis
- Enterprise Risk Management
- Project Management
- eRisk360-Software
- Business Continuity Systems
- Process Safety Management
- Risk Training Solutions
- Environmental Management



SAUDI ARAMCO PHA/HAZOP STUDY LEADERSHIP TRAINING



Project Introduction

INDUSTRY: OIL & GAS
SECTOR: PETROCHEMICAL

Saudi Aramco-Abqaiq Plant required training for all **PHA/HAZOP Study Leaders as well as participants** to be implemented in order to ensure all internal PHA/HAZOP studies could be conducted at a professional level

All PHA and HAZOP studies require a fully certified PHA/HAZOP Leader, approved by Aramco LPD. The PHA/HAZOP Study Training will allow departments to have fully **qualified / certified PHA/HAZOP Leaders** taking charge of the process and as such delivering a quality study.

Project Scope

The training project scope included the following:

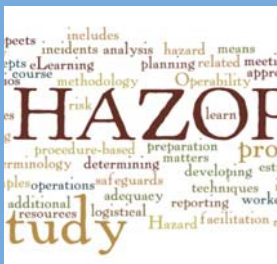
- Prepare and deliver PHA/HAZOP Leadership Courses
- Conduct mini HAZOP studies
- Certify Process Engineers as PHA/HAZOP Leaders

Training course locations:

- Riyadh Refinery
- Tanajib Plants
- Jeddah Refinery
- R&DC and many more ...



DELIVER PHA/HAZOP LEADERSHIP TRAINING TO ALL PLANTS



Project Results

The PHA/HAZOP Studies training project resulted in the following outcomes for the company and participants:

- ⇒ **Involvement by a large number of participants** in understanding the requirements of IEC 61882-2003 Hazard and Operability Studies (HAZOP studies) - Application guide.
- ⇒ **Conducting mini HAZOP Studies as Leaders** for a Reactor and Oil Vaporizer. The mini case studies allowed participants to create a live HAZOP study environment and to complete a detailed study.
- ⇒ **Leadership certification.** A number of participants in each course were selected as PHA/HAZOP Leaders and were given the opportunity to lead a full HAZOP study team through the HAZOP study process using a P&ID that they were familiar with. All guidewords were applied and each team submitted a report and presented their findings by way of PPT.

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SOFTWARE APPLICATION



ERSG provided participants with various **risk assessment software** as well as XL spreadsheet tools to allow participants to experience the use of these tools during PHA/HAZOP studies. This included the use of **HAZOP Manager software and eRisk360** as well as a standard XL based PHA/HAZOP tool.