



ERSG/Project/FS/002/14

PROJECT:
EMERGENCY RESPONSE &
DISASTER MANAGEMENT
(Incorporating Business Continuity)

**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: ABQAIQ PLANTS

EMERGENCY RESPONSE & DISASTER MANAGEMENT (Incorporating Business Continuity Management)



Project Introduction

INDUSTRY: OIL & GAS
SECTOR: PETROCHEMICAL

Saudi Aramco-Abqaiq Plant required consequence modelling and a GAP analysis covering the following;

- Incidents - Worst Case Scenarios: Plane Crash in the plants, etc.
- Results of Incident: Heat, Gas Release, Explosion Overpressure, Smoke.
- What is Impacted: Buildings and employees in industrial areas and community in plant vicinity (in addition to inside the plants).
- Where is the Effect Most Felt Required Mitigation/Control Measures. Available Mitigation/Control Measures including Business Continuity.
- Conclusions - Are we ready to handle a worst case scenario incident?
- Emergency Response Preparedness Exercise.

Project Scope



The project scope included the following:

- Identify all Credible Emergency Scenarios and conduct quantitative risk assessment modelling for all consequences
- Conduct a GAP Analysis using the following international standards:
 - BS 25999-1:2006 Business Continuity Management / ISO 22301:2012
 - Societal security -- Business continuity management systems --- Requirements / ISO 22320:2011
 - Societal security -- Emergency management -- Requirements for incident response / Federal Emergency Management Agency (FEMA)
- Develop ER&DM training material and deliver ER&DM training

Location of project:

- Kingdom of Saudi-Abqaiq Plants

IDENTIFY & MODEL WORST CASE SCENARIOS: ABQAIQ PLANTS



CONTACT DETAIL

Enterprise Risk Solutions
Group Limited
P O Box 751
Albany Creek
QLD 4037
AUSTRALIA

Phone: +61 7 3325-0034
Fax: +61 7 3325-2946
E-mail: admin@ersgltd.com

WEBSITE: www.ersgltd.com

Project Results

The Emergency Response & Disaster Management project resulted in the following outcomes for the company and participants:

- ⇒ Identification of credible scenarios as well as cumulative and or major event scenarios.
- ⇒ Quantitative consequence modelling outcomes for all scenarios using Phast modelling software.
- ⇒ Identification of GAPS between the current Abqaiq systems and various international standards resulting a formal recommendations report. (Included: BS 25999-1:2006 Business Continuity Management / ISO 22301:2012-Societal security -- Business continuity management systems --- Requirements / ISO 22320:2011F --Federal Emergency Management Agency (FEMA)
- ⇒ Development and delivery of Emergency Response and Disaster Management training to key role players.



SOFTWARE APPLICATION

ERSG used the Phast software to model all selected credible scenarios consequences. The advanced Software for Consequence Analysis estimates the consequences of a release of a toxic or flammable material. It models releases from; catastrophic ruptures, leaks, line ruptures, relief valves and rupture disks. Models include; Multi-component mixtures, aerosol and pool formation, Jet & pool fires, BLEVE & vapour cloud explosion, toxic effects.