

## QATARGAS II PROJECT FATALITY - DROPPED BLAST DOOR TRANSOM PANEL

### INCIDENT DESCRIPTION:

- On 14 September 2006 at Ras Laffan City, Qatar, a QGII Subcontractor Civil team was assigned to remove the upper door partition (transom panel) of a blast resistant door in preparation for switchgear installation. The transom panel (320 kg) was fastened to the door frame by 36 hex bolts and supported on a removable door frame beam.
- At 5:00 pm, the Charge Hand (acting as Foreman) instructed his crew to remove the transom panel manually by stationing two workers inside the doorway on a ladder (to push the panel out) and four workers outside on a 1 meter high wooden trestle to receive and lower the panel to the floor. The initial work crew of two on the ladder inside the doorway refused to push the panel out as they believed it was too heavy to be handled. The four workers on the wooden trestle also expressed concern as well as the Contractor Safety Officer who all believed the panel too heavy to be manually removed. The Charge Hand apparently did not recognize it as a blast resistant panel (much heavier than a standard panel) and was confident the panel could be easily managed by four workers.
- The Charge Hand overruled the workers & the Safety Officer. The two workers on the ladder were changed out by the Charge Hand and the new workers instructed to hammer/push out the panel. As the panel began moving, it rotated & fell towards the workers standing outside on the elevated wooden platform. Two workers were thrown partially clear & received minor injuries, while the other two workers were pinned beneath the dropped panel, resulting in a fatal head trauma injury and a severe chest injury (i.e. eight broken ribs).

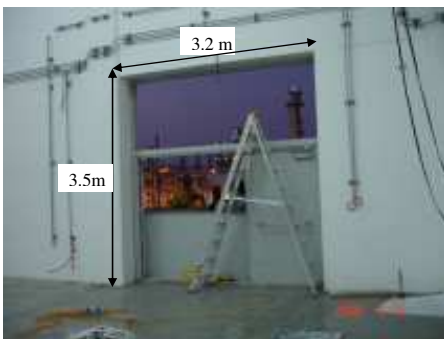


Fig. 1: Blast Door Partition Area, Interior View



Fig. 2: Blast Door Partition Area, Exterior View

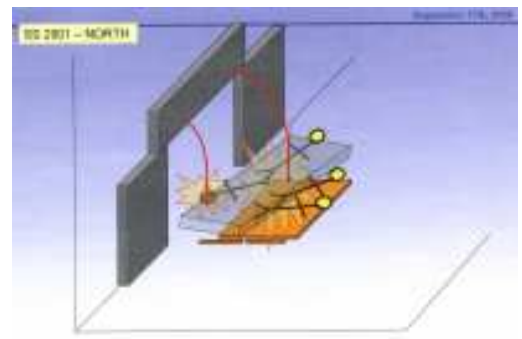


Fig. 3 – Worker Positions Following Incident

### ROOT CAUSE ANALYSIS:

A site incident investigation identified the following underlying root causes:

- **Work Direction / Preparation + Pre-Job Briefing:** No Toolbox Talk or JSA was performed to analyze this infrequent work task.
- **Work Direction / Selection of Worker / Not Qualified:** The Charge Hand (acting Foreman) may not have been qualified for this work task.
- **Procedures Not Used or Followed / No Procedure:** No Method Statement or procedure existed for this infrequently performed work task.
- **Workers Not Truly Empowered to Stop Work:** Message had been communicated but process/culture not in place to truly stop work
- **Dominant Behaviors:** Dominant behavior by the charge hand propagated unnecessary risk
- **Interface Management :** Project interface management/communication between design, engineering, and construction did not highlight transom weight/handling procedures in work task instructions.

### LESSONS LEARNED:

- **Pre-Task Planning / Job Safety Analysis (JSA) + Last Minute Risk Assessment (LMRA):** Ensure that effective JSA and LMRA processes exist and supervision/workers are adequately trained to address unplanned work activities &/or hazards/problems.
- **Supervision Qualifications:** Ensure appropriate controls exist (i.e. training, tools, etc.) to ensure adequate supervision competency.
- **Roles, Responsibilities and Accountabilities:** Ensure that safety-related roles, responsibilities & accountabilities are communicated and clear for each level of the project organization (i.e. Project Manager, Managers, Engineers, Supervisors, Safety Officers, Foremen, Workers)
- **Right/Obligation to Stop Work:** Ensure if ANY personnel observe an Unsafe Act &/or Condition, a systematic process exists that both empowers and obligates them to stop work & implement appropriate controls.
- **Interface Management:** Ensure interfaces are clear between design, engineering, and construction teams and that potential hazards are clearly identified and handed off.
- **Dominant Behavior:** Ensure procedures/training/controls are put in place to mitigate dominant behavior by supervisory personnel.

### !! FOLLOW UP ACTIONS !!

- Each sub project team to review this incident in a meeting, with reference to ongoing work & site improvements to prevent similar incidents:
  1. Identify conditions contributing to the incident and why they existed
  2. Identify activities contributing to the incident and why they occurred
  3. How did work direction influence the incident?