Case Studies

EXPLOSION RESEARCH COOPERATIVE

The Cooperative has sponsored several case study investigations, which have compared prediction methods to damage observed in accidental industrial vapor cloud explosions.

These studies have provided invaluable information for validating blast prediction techniques, as well as structural and equipment damage models. To date, three accidental vapor cloud explosions have been examined (the accident sites are proprietary) and the results provided to Cooperative participants.

For more information about case study research, please contact:

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LIST OF STUDIES

Explosion Accident Case Study (2004) The accident case study under analysis this current year is a vapor cloud explosion (VCE) accident. The case study will be used primarily to test and validate the VCE prediction methodology developed for the Cooperative in Low to Medium congestion with variable confinement. In addition, the case study will develop documentation of damage to process units and surrounding buildings.

Explosion Accident Case Study (2002) This case study was a refinery vapor cloud explosion, with the explosion source similar in strength to those commonly postulated in siting studies. More than 100 damage indicators were used to validate wave shape, and other blast and structural response models.

Accidental Explosion Case Study (2001) This case study analysis examined a recent large vapor cloud explosion involving multiple process units as explosion sources. The study provided invaluable information for validating blast prediction techniques, as well as structural and equipment damage models.

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