

Session ID: TNM-8

Title

NATECH SEISMIC RISK ASSESSMENT, MANAGEMENT AND MITIGATION IN MAJOR HAZARD INDUSTRIAL FACILITIES

Convenors

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Description

Recent events outlined the relevance of the interactions between industrial and natural hazards (NaTech) particularly for seismic risk. The impact of a natural disaster on a facility storing or processing dangerous substances can result in the release of those hazardous substances with possible off-site consequences through toxic-release, fire or explosion scenarios. Accidents triggered by a natural hazard, involving release of dangerous substances are commonly referred to as NaTech events. One of the main issues of NaTech accidents is the simultaneous occurrence of a natural disaster and a technological accident; both require simultaneous efforts in dealing with a situation in which lifelines designed for a disaster mitigation are likely unavailable, as they may have been damaged by the natural disaster. In addition, hazardous substances releases may occur from single or multiple sources, resulting in multiple chains of accidents in the same or in different installations, requiring emergency-management resources that unfortunately could be engaged in responding to the natural disaster in other situations. The Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances recognized the relevance of NaTech events.

The proposed Session intends to offer a clear overview of the problems and the available solutions and tools. The main themes developed during the Session, related to major hazard industrial industry, are:

- Development of risk assessment methodologies for major hazard industrial plants in seismic-prone areas.
- Seismic Analysis and Design of Piping System
- Seismic Evaluation of Systems, Structures and Components
- Multi-Hazards evaluation
- Seismic design and innovative protection systems of major-hazard industrial plant components,
- Implementation of smart technologies for reduction and mitigation of major hazards and related consequences.
- Early warning systems
- UAV systems
- Preparedness and Emergency Management

Invited Speakers

M. De Angelis ², G. Scarascia Mugnozza ², G. Maschio ³, C. Butenweg ⁴

Affiliations

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