



SOFTWARE

SAFETI OFFSHORE

New standard for offshore Quantitative Risk Assessment modelling

Safeti™ Offshore offers a formal, structured and systematic approach for conducting an offshore QRA. It provides robust, accurate, flexible and extensive capabilities for conducting QRA of diverse offshore facilities.

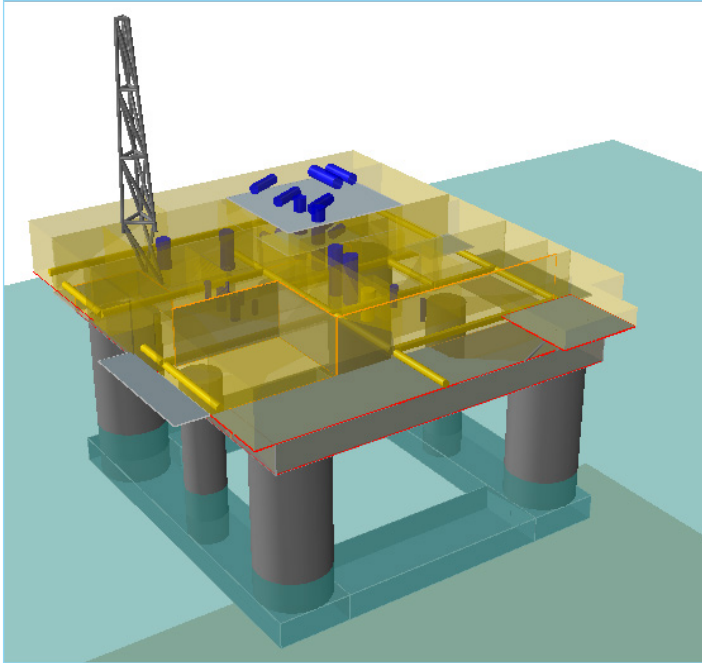
Background and Current Challenges

Quantitative Risk Assessment (QRA) is a risk assessment methodology that allows for numerical estimates of the level of risk associated with activities to be estimated and then assessed. QRA enhances systematic identification and evaluation of possible accidental events, including their causes and consequences. It provides estimates to allow decision makers to understand risk exposure to people, the environment, business markets or other areas of interest.

QRA has over the years established itself as a standard component of the risk management program for offshore facilities. While formal software tools exist to perform such studies (e.g.

NEPTUNE, OHRAT), the bulk of these studies tend to be executed using spreadsheet (Excel) based tools.

Although spreadsheets offer a great degree of flexibility and are readily deployed, they often suffer from quality issues, poor traceability and control, significant structure and model variability and lack any degree of standardisation. They are also limited in that the models employed do not typically (and explicitly) take into account the specifics that apply offshore e.g. densely packed layout, ventilation issues and the presence of barriers e.g. decks and walls. Another key limitation is the lack of visualisation capability – an important element for ease of use and clear communication of results.



The Safeti Offshore solution

Safeti Offshore is designed to address all these limitations and offers a formal, structured and systematic approach to conducting an offshore QRA. It leverages DNV GL's expertise and competence in delivering Offshore QRA services over the last 30 years as well as a strong heritage in producing world leading software tools. The result is an Offshore QRA software tool that represents the state of the art with regards to offshore risk modelling and offers a range of features carefully crafted to robustly meet the challenges involved.

DNV GL has long had a reputation for leading edge tools for Quantitative Risk Assessment, with a range of tools in the Safeti suite developed by DNV GL as well as other tools. Safeti Offshore builds on that heritage and we are proud to offer this new tool to our customers. We are confident that it will meet and exceed your expectations.

Availability

Safeti Offshore will soon be available as commercial software. It is currently being used for customer consulting projects. Please register your interest with software@dnvgl.com.

The good reasons for choosing Safeti Offshore

- A flexible platform to conduct a QRA of a vast range of offshore facility types (e.g. fixed, floating, ship shaped etc.)
- Detailed modelling of all possible impacts (fire, toxic, explosion, smoke etc.) associated with an accidental release offshore
- The ability to account for the influence of a vast array of safety systems and barriers (e.g. isolation, blowdown, blast walls) as part of the modelling work and thus quantify their impact on the risk profile
- Detailed escalation analysis. A key element as escalation is of prime concern on offshore installations. Safeti Offshore can be used to inform protection basis (e.g. define protection requirements e.g. amount of Passive Fire Protection, Design Accident Load requirements) and optimise escape and evacuation means
- The 3D graphics show both the geometry and the consequence envelopes allowing hazard event size to be visualized and aiding understanding of escalation predictions
- Modelling of sub-sea releases (as these can have significant consequences above water)
- An integrated frequency analysis tool meaning Safeti Offshore is a "one-stop shop"
- Tools to increase the efficiency of work flow e.g. automatic, rule based release case generation
- Ability to include CFD results via conversion to a continuous response surface using the built-in Express explosion tool - needed for design accidental load calculations
- Modeling includes the complete Phast consequence tools but extended in several areas - including time varying releases due to ESD actuation and blowdown/depressuring, and detailed escalation calculations.

Safeti Offshore includes an extensive array of features and associated benefits. In addition to the above, Safeti Offshore includes all features available in Safeti Onshore, the industry standard onshore QRA tool (formerly known as Phast Risk) and many other capabilities.