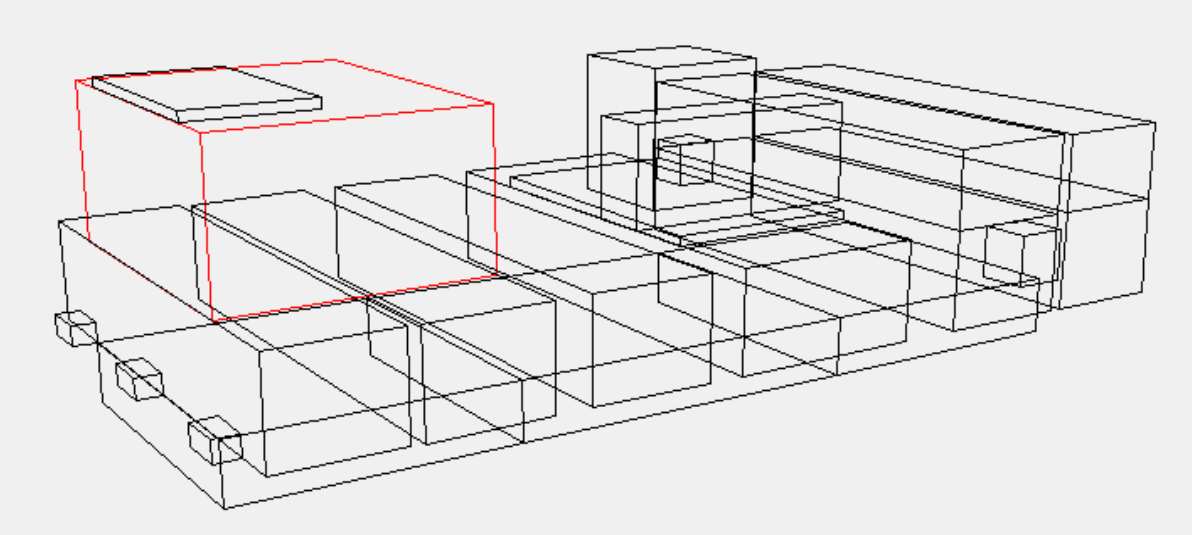
AROS 3D – Quantitative Risk Assessment (QRA) Tool

AROS 3D is a 3 dimensional QRA modelling tool. The licenced QRA software package provides the user full ownership and access to their QRA model. Once a model is created the user is free to update / modify and run the model. AROS 3D introduces a flexible and cost efficient approach to QRA development and management.

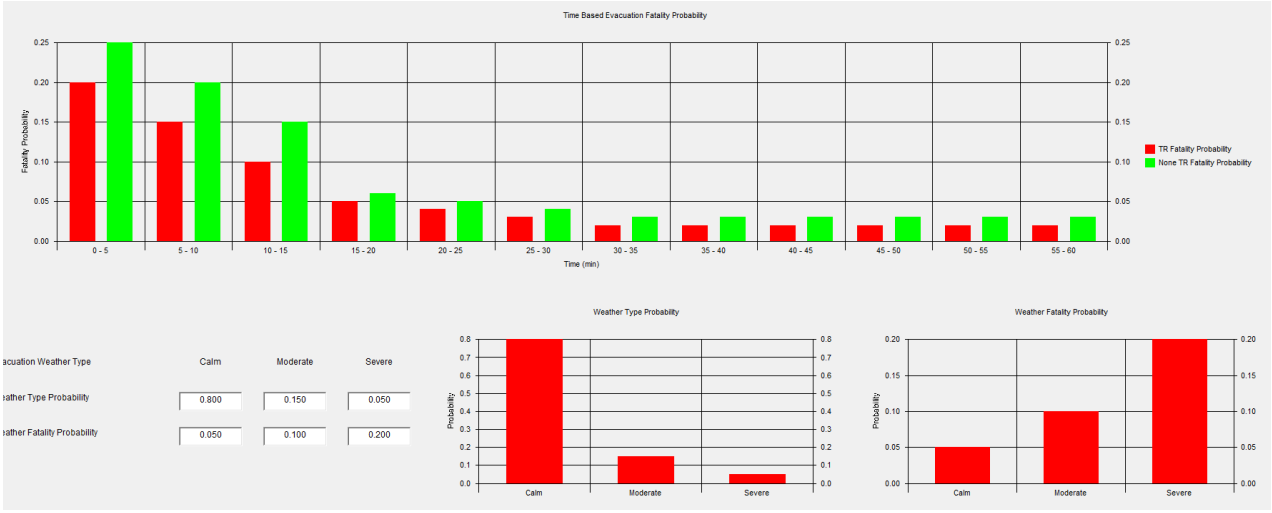


AROS 3D Software Features

AROS 3D provides users with a QRA tool that can be used to quickly assess the risk impact of not only minor but also major modifications to an installation and not just be limited to performing sensitivity analysis on existing systems / data.

Key features of AROS include:

- Flexibility - optimising new module location, impact of new inventories, impact of the platform areas on new facilities, bridge length optimisation etc..
- 3D spatial awareness – area locations and orientation modelled.
- Transparency – no black box and allows reporting of all calculated values.
- Logical interface – engineering parameters e.g. 3D layout, barrier definition, rule-sets etc..
- Production systems can be switched off / on.
- Barriers and safety systems incorporation and impact of their degradation.
- Engineering based rulesets for TR impairment and evacuation.



AROS3D

AROS Key Features

Data Input

- 3D installation layout visualisation tool with x, y, z rotation and zoom control.
- Rapid and logical updating of input data. Bulk data loading ability.
- Dynamically link areas, hole sizes, release frequency, inventory process parameters, release consequences, escalation rules and personnel distribution.
- Input data checking to ensure consistency and within specified limits.
- Rule-sets globally applied ensuring full platform wide implications of change (prevents QRA model becoming area-centric, weighted towards new projects or ignoring new/alternative escalations).
- Systems can be switched off / on/ partially operating as required.
- Non-hydrocarbon risks quantification (transport, occupational, ship collision etc.).

Model Output

- Model run-time is the order of 5 minutes for typical large integrated platform (dependent upon number of areas, inventories, personnel groups etc.).
- F-N curves can be generated for different calculated output data.
- Single events can be traced throughout the entire model and calculations can be reported for manual verification of software calculation.
- Immediate fatality, muster fatality, TR impairment, evacuation output data can be charted against an impacted area (for fatality frequency, potential loss of life, event frequency) by inventory, source area, hole size or fire type.
- All calculated data can be charted in accordance with user requirements and aims.
- Copy AROS data into other spreadsheets or software for external checking and user manipulation.