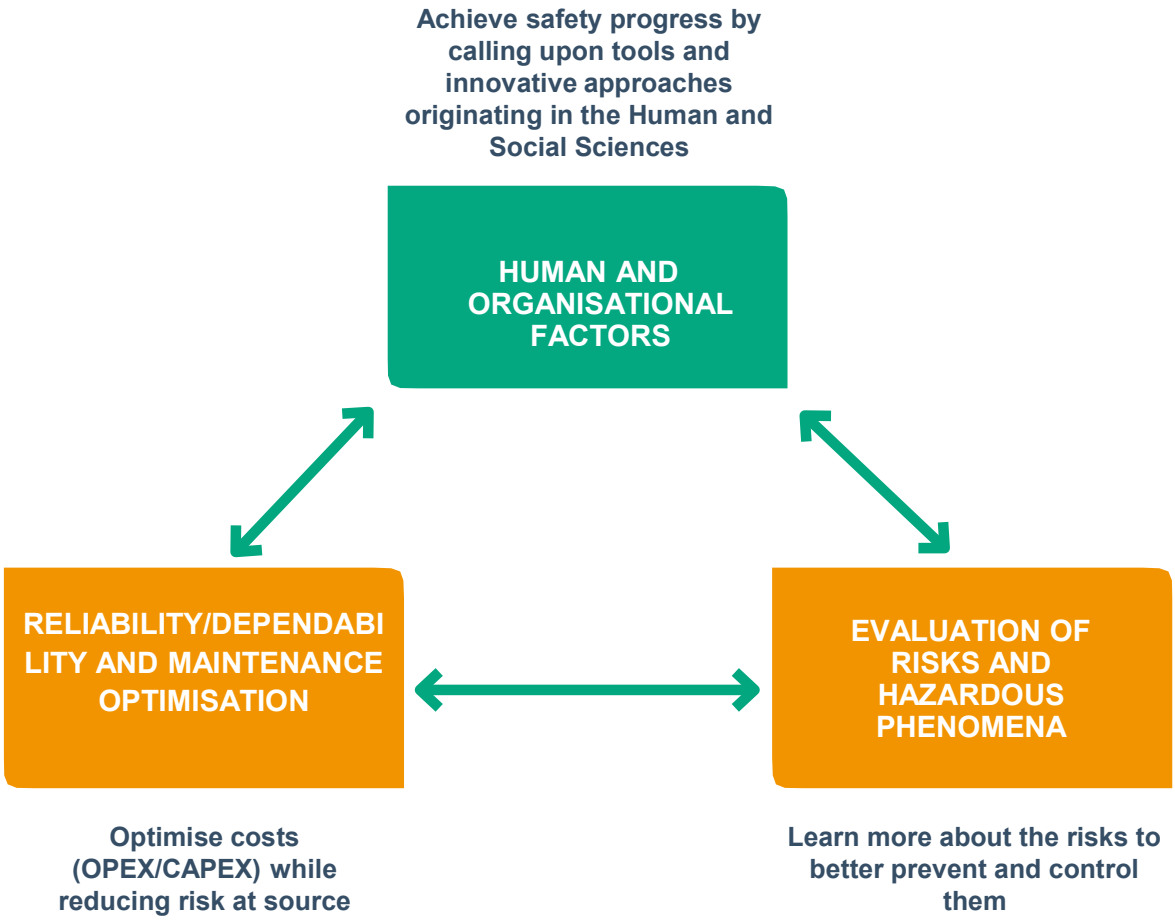
RICE GRTgaz
Research and Innovation Center for Energy
1 Rue du Commandant d'Estienne d'Orves
92390 Villeneuve-la-Garenne

INDUSTRIAL SAFETY

RISK CONTROL

CHALLENGES

As the priority of any operator, control of the risks arising from the operation of grids is a key factor in the societal acceptability of the industrial installations, compliance with the regulations and dialogue with the authorities. This control involves perfect knowledge of the hazardous phenomena liable to occur, not forgetting the human factor, which plays a key role in all critical situations. The aim is to meet all these requirements, particularly regulatory changes, by anticipating the risks while maintaining a good economic performance level.



INDUSTRIAL SAFETY

RISK CONTROL

COMPETENCIES

RICE has recognised expertise in industrial safety and risk control:

- Knowledge of gas-related hazardous phenomena (explosion, ignition, gas migration into the soil);
- Control of tools and methods for modelling and calculating the consequences of their occurrence;
- Control of Technical Human and Organisational Risks;
- Tracking of current or emerging personnel safety regulations;
- Functional and dysfunctional modelling of structures and installations.

DESIGN AND TESTING RESOURCES

Under development since 1990 by RICE, the PERSEE+ software program and its module GNL form a unique platform for calculating the consequences of an accidental discharge of natural gas, hydrogen and LNG into a free medium.

Fast, accurate and ergonomic, PERSEE+ is being continuously improved, in interaction with its users.

This software program contains several modules:

- leakage/discharge
- dispersion in free media, in interaction with the soil or inside a building
- jet and pool fires, radiation and dose calculation
- explosion, overpressure

PERSEE+ is founded upon RICE's expertise in gas-related hazardous phenomena, which led the research centre to provide inputs to the guides of the Oil and Chemical Safety Study Group (GESIP).PERSEE+ was validated by full-scale trials specific to natural gas and LNG. It was also third-party reviewed by INERIS and TNO and is recognised by the French authorities.

SERVICES

- Modelling of accident scenarios and evaluation of hazard distances;
- Third- party review and technical assistance in the conduct of hazard studies;
- Awareness training in the inclusion of Human and Organisational Factors (HOF) in risk prevention;
- Human and Organisational Factors (HOF) diagnostic;
- Analysis of accident events in connection with grid servicing;
- Analysis and implementation of experience feedback to evaluate the reliability and safety of the installations (incident data, computer-assisted maintenance management, GIS, etc.).

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