LNG DistJet

Objectives

This experimental and numerical project, led by Engie, aims to better assess the consequences of an accidental LNG release and mitigate hazards close to public small-scale LNG applications. New applications for LNG such as refuelling, bunkering and power generation bring installations closer to areas of higher population density. Project results will lead to improved safety distance calculations for pressurized LNG releases, and the identification of the most relevant barriers to hazard reduction for LNG installations. The project aims to improve the accuracy of risk assessments for both authorities and the public. This improved accuracy on small-scale facilities is required because of the smaller proximity distances compared to a classic LNG import or export terminal.

The project will receive reliable measurements of gas concentration and temperatures for a large range of applications, and link these to the calculations by the model. In this way, a better understanding of release conditions, scale effects and height release should be obtained.

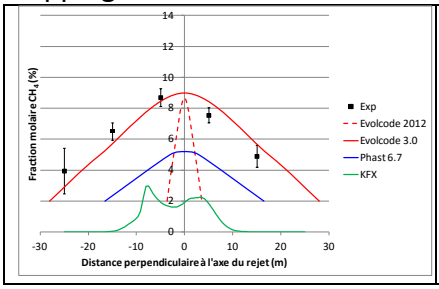
Programme

This project consists of two phases:

- Phase 1: small-scale experiments to validate the source terms
- Phase 2: medium to large-scale for flammable gas dispersion measurements

Phase 1 will be carried out in 2017 and will allow development of a detailed experimental database of the release properties. The range of nozzle orifices that will be investigated during this first program will be limited because of safety considerations (indoor releases) and/or because of physical interaction between the generated cloud and the boundary of the infrastructure, making the measurements less representative of a real situation.

Phase 2 will be carried out in 2018 and will allow a larger scale for the release and in open-air, extrapolation of the Phase 1 results and validation of the results for larger scale. It will obtain a full mapping of the lower flammability limit distance versus the storage conditions for a 10 mm release.



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