

**sGmf**  
2018 sea change.

**BASiL**

**Bunkering Area Safety information LNG**

Safety Distances for LNG bunkering resolved!

# BASiL... an Introduction

**BASiL (Bunkering Area Safety information LNG) is SGMF's automated Bunkering Area Safety Information for LNG gas dispersion tool. It can be used to manage bunkering risks on a consistent basis through the definition of a safety zone that depends on the type of bunkering operation being undertaken.**

## Key Features:

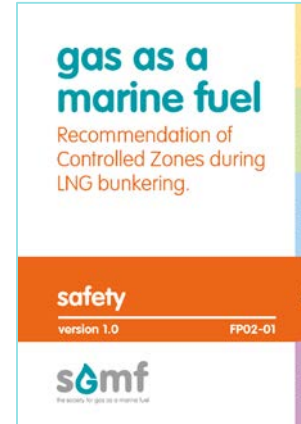
- **Easy to Use**, with a dedicated web input interface accessible via your SGMF portal website.
- **Quick Access**, available to SGMF members from May 2018 and non members from November 2018.
- **Quicker Response**, when compared to others dispersion modelling tools.  
(Typical response time between 2 to 5 working days)
- **Easy to Understand**, BASiL provides a clear set of safety distances based on various transfer scenarios and parameters.
- **Project Tailored**, BASiL calculation is taking in account up to 20 different transfer parameters allowing the user to tailoring the calculation around any project specific bunkering scenarios.
- **Tested and Proven**, BASiL calculation are based on a gas dispersion database developed over 18 months of physical testing and gas dispersion modelling simulations.
- **Affordable and Efficient**, with only a small administrative cost charged for its use, BASiL is the most efficient way to define LNG bunkering safety zone that can be used for risk assessments, HAZID, HAZOP or SIMOPs workshops.

# BASiL... Input Parameters

Before starting a new BASiL request remember to download and read both SGMF publication *Recommendation of Controlled Zones during LNG bunkering (FP02-01)* and the *BASiL User Guide*.

## Parameter required:

- Project General Information & Description
- Project Location Details
- Bunkering Scenario Overview and Layout
- Bunker/Transfer system Layout
- LNG Supply Specification
- LNG Fuelled Vessel / Bunker Barge / Road Tanker Dimensions



# BASiL... Output Report

BASiL produces a standard project safety zone report which provides the set of safety distances for the bunkering operation according to the input parameter provided by the user. A simplified graphical representation of the of the safety area is also provided as an aid for the user.

**BASiL** Bunkering Area Safety information for LNG (BASiL) sgmf  
Safety Distance estimation results from BASiL v1.1, May 2018

**Part A**

Project: Case2A  
 Organisation: SGMF STAFF  
 Request from: ADMIN/ADMIN  
 On: 25/05/2018

Run Description: Ship to Ship operation where same quantity of LNG (1000m3) has been transferred at higher or lower flow rate between the two vessels.

**Part B**

**Input Parameters**

Location details  
 Latitude nearest port: 51.2  
 Longitude: 4.4  
 Antwerp (51.2, 4.47)

Bunkering overview  
 Bunkering type: Bunker/Vessel  
 Volume transferred: 1000 m<sup>3</sup>  
 Over: 240 minutes  
 Transfer system: 4 inch hose  
 Transfer pressure: 6 barg  
 Leak Source: Hose failure

Transfer System layout  
 ESD type: fully automatic (30 s)  
 Minimum hose elevation: 5 m  
 Hose entry location: semi enclosed  
 Distance below deck: 4 m

LNG supply specification  
 LNG storage pressure: 1 barg  
 LNG storage temperature: <math>-155^{\circ}\text{C}</math>

**Part C**

Hole size: 6.0 mm  
 Bunker rate: 31.6 tps

Safety Distances  
 horizontal jet (R1): 19 m upwinds (H1): 9 m  
 pool on land (R2): 21 m by height (H2): 4 m  
 pool on water (R3): 26 m by height (H3): 3 m  
 across deck (R4): 19 m

Ref: AD0001 output file: SGMFA0001BASiL.pdf

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Safety Distance estimation results from BASiL v1.1, May 2018

Project: Case2A  
 Request from: ADMIN/ADMIN of SGMF STAFF  
 On: 25/05/2018

Description: Ship to Ship operation where same quantity of LNG (1000m3) has been transferred at higher or lower flow

Figures scaled to vessel details provided

Elevation Plan

Scale: 10 m

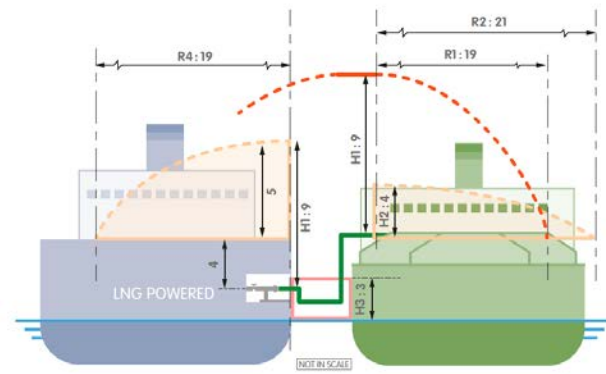
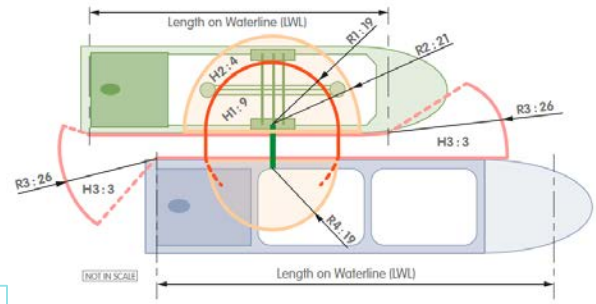
Vertical/horizontal jets (H1/R1) Spill onto water (R2/H2) Spill onto Land (R3/H3)

Vessel layout	Gas fuelled ship	Bunker vessel
Length	160 m	110 m
Beam/vdth	22 m	19 m
Main deck above water	7 m	5.5 m
Maindeck to bow	120 m	50 m
Distance between vessels/vessel & quayside	3.5 m	

Vessel details used to create layout drawings only

Ref: AD0001 output file: SGMFA0001BASiL.pdf Page 2 of 2

**SGMF Disclaimer:** The BASiL program has been developed using the best currently available information based on a number of industry tests concerning the behaviour and dispersal of gas under pressure. Whilst SGMF has endeavoured to ensure the program is based on the most up to date information and is correct, we make no representation or warranties of any kind, express or implied, about the completeness, accuracy or reliability of the information contained in the program or the suitability of the information to any individual bunkering. The program is for general information and guidance only and is to be used at the user's own risk as part of their assessment of the controlled zone during any LNG bunkering operation. Every effort is made to keep the BASiL program running smoothly. However, SGMF takes no responsibility for, and will not be liable for the program being temporarily unavailable due to technical issues beyond our control. In no event shall SGMF be liable for any loss or damage of whatsoever nature arising from the use of the program.



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