

BOOLEAN 2020



SATODEV

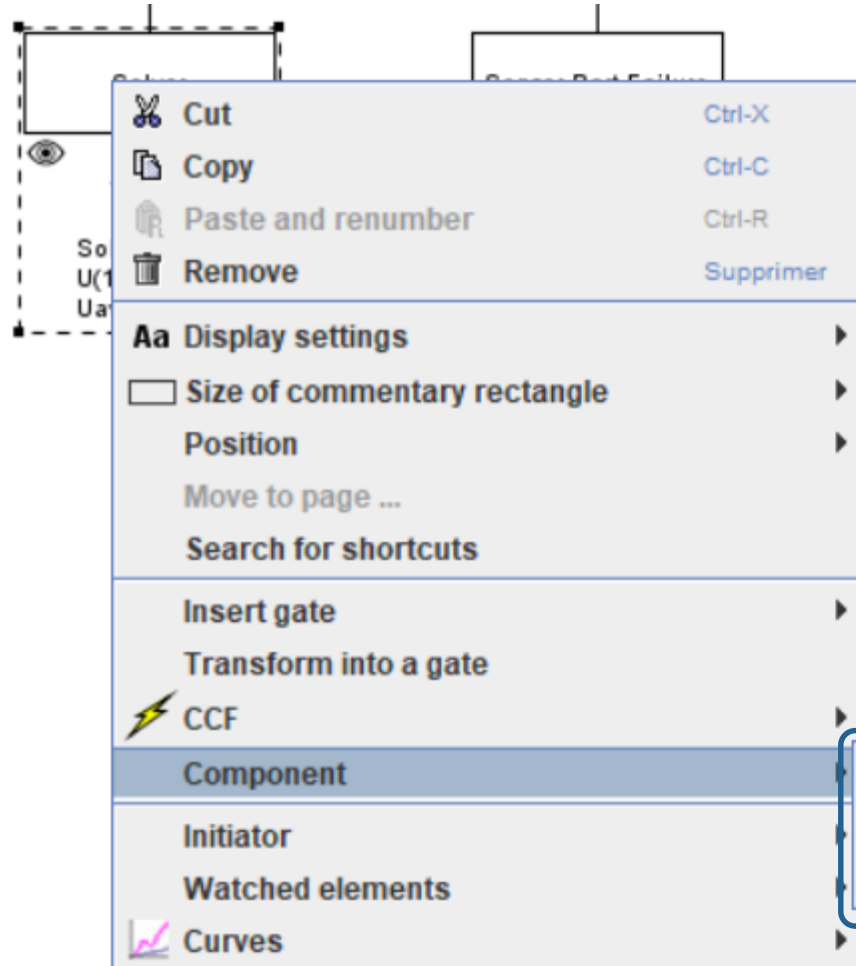
SAFETY TOOLS DEVELOPMENT

CONTENTS

- Link events to components using contextual menu
- Choice of unit for results
- Calibrated Risk Graph
- Safety Requirements Specification



LINK EVENTS TO COMPONENTS USING CONTEXTUAL MENU



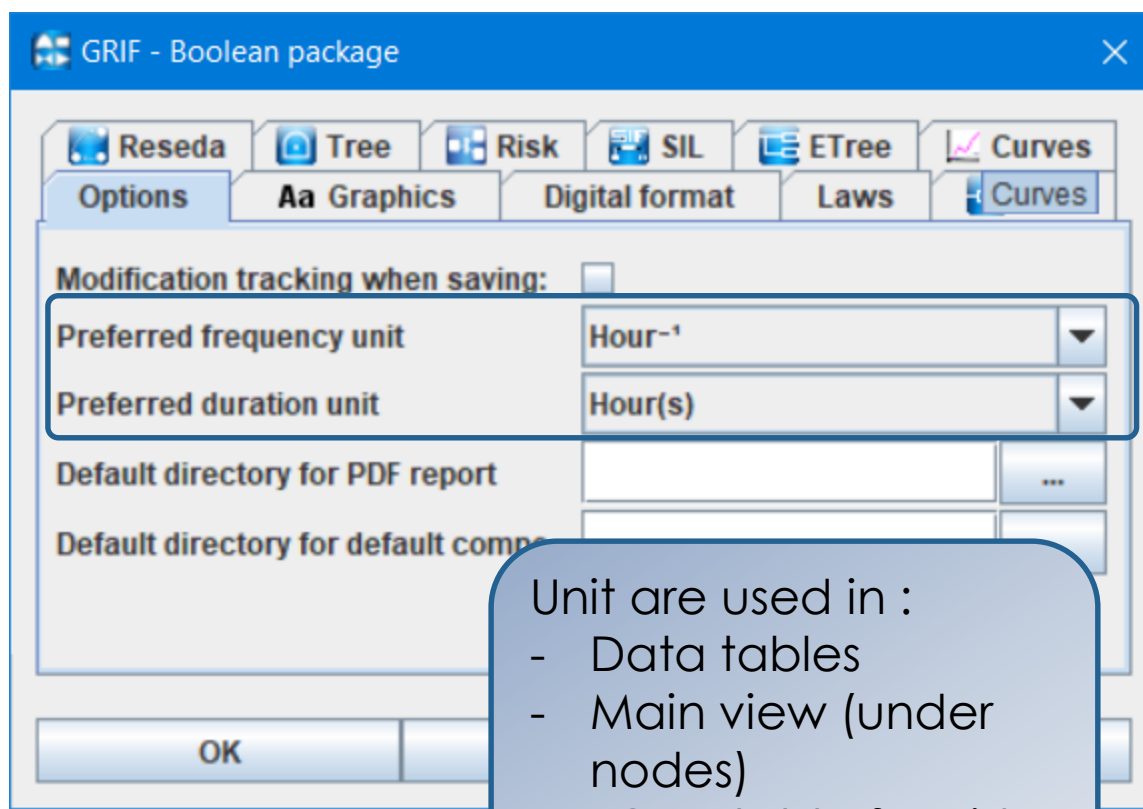
An event can be linked directly in the input area to a component.

Linking to new component
Linking to an existing component
Unlinking component



CHOICE OF UNIT FOR RESULTS

In Document (or Application) option, user can select unit for results

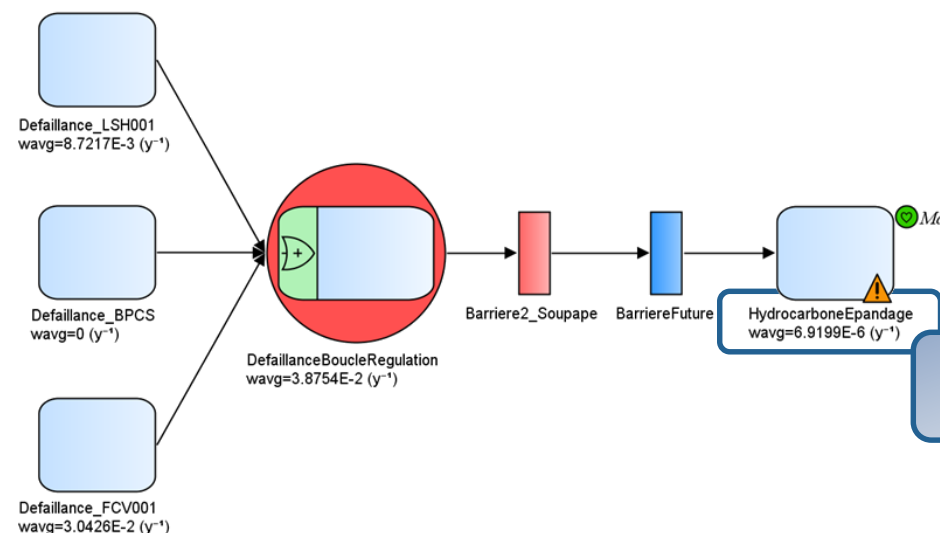


Unit are used in :

- Data tables
- Main view (under nodes)
- LOPA table for Risk
- Result synthesis

Number	Name	Results wavg (y ⁻¹)
1	DefaillanceBoucleRegulation	3.8754E-2
2	HydrocarbONEpandage	6.9199E-6
3	Defaillance_LSH001	8.7217E-3
4	Defaillance_BPCS	0
5	Defaillance_FCV001	3.0426E-2

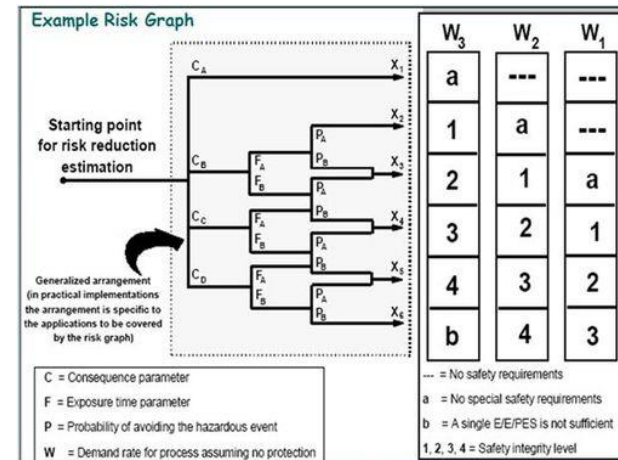
In results column



In additional information

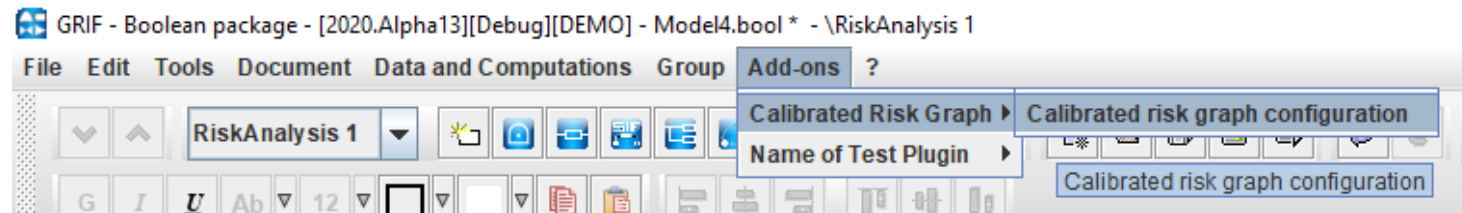
CALIBRATED RISK GRAPH

- Calibrated Risk Graph (CRG) is very (too) simple but sometime the only method known/used/understood
- GRIF 2020 provide a CRG plugin that can be used to define
 - a parameter
 - the required SIL of a SRS



CALIBRATED RISK GRAPH

- CRG configuration available in “Add-ons” menu



CALIBRATED RISK GRAPH

- CRG configuration for each matrix

Calibrated risk graph configuration

SAFETY

☒ Display the occupancy rate

	W4	W3	W2	W1	W0
CA	1	a	-	-	-
	2	1	a	-	-
CB	3	a	1	a	-
	4	3	2	1	a
CC	b	4	3	2	1
	b	b	4	3	2
CD	b	b	b	4	3
	b	b	b	4	3

OK Cancel Help



CALIBRATED RISK GRAPH

● Simple use

SRS Calibrated Risk Graph

SAFETY **ENV**

Hazard description
Definition of my hazard

Consequence severity
Why CC

Occupancy
Why FA

Possibility of avoidance
Why PB

Demand rate
Why W2

SIL 2

CC

FA

PB

W2

CA

CB

CC

CD

CE

PA

PB

PA

PB

PA

PB

PA

PB

	W4	W3	W2	W1	W0
CA	1	a	-	-	-
CB	2	1	a	-	-
CC	3	2	1	a	-
CD	4	3	2	1	a
CE	b	4	3	2	1
	b	b	4	3	2
	b	b	b	4	3

SAFETY REQUIREMENTS SPECIFICATION

In Bool module

Data

☐ Reference SIF

Identification

Revision: 3.4

Date: 12/12/2012

Produced by: X

Checked by: Y

Validated by: Z

PID: 987654321

Description

Location: PARIS

Units: MICHELET

SIF Function: Prevent from fire in meeting room

Description: dfdsfdisqfh

Data source: OREDA2009

Comment: dsklndksfjdkmsf

OK Cancel Help

Properties of 'Safety Requirements Specification' - Specif1

Number: 1

Name (☒ Automatic): Specif1

Informations/Specifications Definition Requirements Computations

☐ Reference SIF

Identification

Revision: 1.0

Date: 10/01/2020

Produced by: Cyrille Folleau

Checked by: Cyrille Folleau

Validated by: Cyrille Folleau

PID: 123456678

Description

Location: PARIS

Units: COUPOLE

SIF Function: glfkjghlfdg

Description: gfdslkgfdsgfds, gf dgsg fdsg fd, gfdg gfsd gfd fds gfdg

Data source: SATODEV DB

Comment: fdjglfkds, fdgdfskjghdlsfjkghsdf

SAFETY REQUIREMENTS SPECIFICATION

● Definition/requirements

Properties of 'Safety Requirements Specification' - Specif2

Number: 2

Name (☒ Automatic): Specif2

Information/Specifications | Definition | Requirements | Computations

Definition of the safe state

Definition of any individually safe process states which can create a danger

Source of demand on SIF and demand rate

OK Cancel Help

Properties of 'Safety Requirements Specification' - Specif2

Number: 2

Name (☒ Automatic): Specif2

Information/Specifications | Definition | Requirements | Computations

Targets

☐ Other data source

☐ PFD Avg Max value: ☐ PFH Avg (h⁻¹) Max value:

☒ RRF Min value: 1E4 ☐ SIL % of time spent:

Requirement for manual shutdown

Requirements relating to energize or de-energize to trip for the SIF.

Requirements for resetting of the trip after a shutdown

Required procedures for starting-up and resetting

Requirements for bypass, overrides and inhibits.

Requirements for the SIF to survive a major accident event

Application programming requirements

OK Cancel Help



SAFETY REQUIREMENTS SPECIFICATION

- Computations
 - Linkable with all model

Properties of 'Safety Requirements Specification' - Specif2

Number: 2
 Name (☒ Automatic): Specif2

Informations/Specifications Definition Requirements **Computations**

☒ Computation model SIF 1

Achieved SIL: 1
 Achieved RRF: 74.64
 PFD: 1.34E-2
 PFH: 5.3E-7
 MRT: 1

Proof tests
 {SIF1_S1.1, SIF1_A1.1} : Time between tests :52560.0

Components and/or systems
 SIF1_S1.1, SIF1_SOLVER, SIF1_A1.1

CCF

OK Cancel Help



THE END 😊



SATODEV

SAFETY TOOLS DEVELOPMENT