

FMECA Summary

The Failure modes, effects, and criticality analysis (FMECA) App is an online technique used by engineers & technologists to identify potential failures in systems and equipment. Once you have identified the failure modes, you can determine their effects and prioritise them based on how criticality.

Here are some screenshots from the software:

FMECA INPUT SUMMARY TAB



No	Component Id	Function Name	MPD Type	Calcfile Id	Calcfile	Standards	Comments	
1	50	RQ- FMECA Test	Failure Mode Criticality	43	s1.1	MIL-STD-1629A		View Details
2	51	RQ10c-Validation	Failure Mode Criticality	49	s1	MIL-STD-1629A		View Details
3	60	RK3	Failure Mode Criticality	67	FMECA Test Case1	MIL-STD-1629A		View Details
4	91	Test	RAM	79	RK- Group	MIL-STD-1629A		View Details
5	92	Test 2	RAM	79	RK- Group	MIL-STD-1629A		View Details
6	107	RM2c	Safety	90	RM2c	MIL-STD-1629A		View Details
7	119	Bypass (Bottom-Up)	Safety	101	Bypass (Bottom-Up)	MIL-STD-1629A		View Details

STEMS - Safety Transport Engineering Management 1.5.3

File User Management Project Management Help

Ben (Southwark Platform (VSO))

Hazards FaultTree Risk Matrix Heat Map Systems Functions Failure DB Assumptions References

FMECA Summary FMECA Calculator

Add FMECA Edit FMECA Remove FMECA Refresh

No	Component Id	Function Name	MPG Type	Calcfile Id	Calcfile	Standards	Comments	
1	50	RG- FMECA Test	Failure Mode Criticality	43	s1.1	MIL-STD1629A		View Details
2	51	RG10c-Validation	Failure Mode Criticality	49	s1	MIL-STD1629A		View Details
3	50	RG3	Failure Mode Criticality	57	FMECA Test Case1	MIL-STD1629A		View Details
4	91	Test	RAM	79	RK- Group	MIL-STD1629A		View Details
5	92	Test 2	RAM	79	RK- Group	MIL-STD1629A		View Details
6	107	RM2c	Safety	90	RM2c	MIL-STD1629A		View Details
7	119	Bypass (Bottom-Up)	Safety	101	Bypass (Bottom-Up)	MIL-STD1629A		View Details

FMECA CALCULATOR (extract):

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File

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Terry (TEST Project1)

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FMECA Calculator

FAILURE MODE EFFECTS AND CRITICALITY ANALYSIS (MIL-STD1629A) - Lighting - 1

Failure Identification						Failure Effects			Detection and Recovery Measures			Improvement Results			
ID	Subsystem Breakdown	Subsystem/Component	Function	Phase	Failure mode	Failure Cause	Severity Class	Failure Rate Data	Failure Effect Prob	Failure Mode Rank	Failure Rate (p)	Operating Time	Failure Mode Class	Failure Item Class	Remarks
151 RK		TEST1													

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FAILURE MODE EFFECTS AND CRITICALITY ANALYSIS (MIL-STD1629A) - Control apparatus for train operations - 1

Detection and Recovery Measures					Improvement Results	
Failure Mode Ratio (a)		Failure Rate (p)		Operating Time (t)	Failure Mode Criticality(Cm)	Failure Item Criticality(Ci)
0.3		1.0E-7		1.0	3.00E-9	3.00E-9
0.3		1.0E-7		1.0	3.00E-9	3.00E-9
0.3		1.0E-7		1.0	3.00E-9	3.00E-9

EXAMPLE OUTPUT FILE

AutoSave On Test-FMECA Export.xlsx Benjamin Bako 88

File Home Insert Draw Page Layout Formulas Data Review View Developer Add-ins Help Team

Clipboard Font Alignment Number Styles Cells Editing Analysis

A1

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1		Failure Identification							Failure Effects			Detection and Recovery Measures							
2	Line no	Id	Subsystem	Subsystem/Function	Phase	Failure mode	Failure Cause	Severity Class	Failure Rate	Failure Effect	Failure Mode	Failure Rate	Operating	Failure Mode	Failure Rate	Failure Item	Remarks		
3	1	101	RG	Bypass (Bottom Up)															
4	2	51	RJ30a	Bypass ATC															
5	3	328	JD-A01	ATC Rack	To reset a	UTO Mod	no switch	Electrical	Category II	0.1	0.3	1.0E-7	1.0	3.00E-9	3.00E-9				
6	4	329	(JD-S14) 1	ATC EB Ac	To reset a	UTO Mod	Electrical	Spurious	Category II	0.1	0.3	1.0E-7	1.0	3.00E-9	3.00E-9				
7	5	330	(JD-S14) 3	ATC EB Ac	To reset a	UTO Mod	Electrical	Spurious	Category II	0.1	0.3	1.0E-7	1.0	3.00E-9	3.00E-9				
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FMECA

Ready

10:30 17/09/2021

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Hazards FaultTree Risk Matrix Heat Map Systems Functions Failure DB Assumptions References

FMECA Summary FMECA Calculator

FAILURE MODE EFFECTS AND CRITICALITY ANALYSIS (MIL-STD1629A) - Control apparatus for train operations - 1

Failure mode		Failure Cause	Severity Class	Failure Rate Data Source	Failure Effect
no switching		Electrical defect, ageing	Category II (Critical)		0.1
Electrical failure		Spurious trip	Category II (Critical)		0.1
Electrical failure		Spurious trip	Category III (Marginal)		0.1

