Overall Risks with Controls

Overview

This page displays a similar grid as with the Overall Risk Results (without controls), with additional columns for results when Controls are in effect.

Risk with Controls Registers Risk of Events (with Controls) • • Overall • • From Sources • • To Objectives • • Likelihood of Events (with Controls) • • From Sources • • Impact of Events (with Controls) • • On Objectives • • Loss Exceedance Curve (with C • Overall	Selected controls:	verall Likelihoods, Impacts, an Cost Of Selected Controls: \$99,21 ader here to group by that column Event Name			jent Event	London Un 1,702,200 Hov	w Selected: Option	Monitoring mized with budg	Preference
 Risk of Events (with Controls) Overall From Sources To Objectives Likelihood of Events (with Contr From Sources Impact of Events (with Controls) On Objectives Loss Exceedance Curve (with C 	O Selected controls: Drag a column he Color	verall Likelihoods, Impacts, an Cost Of Selected Controls: \$99,21 ader here to group by that column Event Name	nd Risks (With Controls) 00 (unfunded: \$51,604,000) Tot	for <u>Intellig</u>	jent Event	London Un 1,702,200 Hov	w Selected: Option	Monitoring mized with budg	
Overall Orm Sources To Objectives Likelihood of Events (with Contr From Sources Impact of Events (with Controls) On Objectives Loss Exceedance Curve (with C	Selected controls:	13 Cost Of Selected Controls: \$98,21 ader here to group by that column Event Name \$98,21	00 (unfunded: \$51,604,000) Tot			1,702,200 Hov	w Selected: Option	mized with bud	
From Sources To Objectives Likelihood of Events (with Contr From Sources Impact of Events (with Controls) On Objectives Loss Exceedance Curve (with C	Selected controls:	13 Cost Of Selected Controls: \$98,21 ader here to group by that column Event Name \$98,21	00 (unfunded: \$51,604,000) Tot			1,702,200 Hov	w Selected: Option	mized with bud	
To Objectives Likelihood of Events (with Contr From Sources Impact of Events (with Controls) On Objectives Loss Exceedance Curve (with C	Drag a column he Color	Event Name		tal Cost Of All C	Controls: \$51		Searc		get of \$100,000
Likelihood of Events (with Contr From Sources Impact of Events (with Controls) On Objectives Coss Exceedance Curve (with C	Color	Event Name	Description					:h	
From Sources Impact of Events (with Controls) On Objectives Loss Exceedance Curve (with C	Color	Event Name	Description					dl	
 Impact of Events (with Controls) On Objectives Loss Exceedance Curve (with C 	•		Description			All Pa			
• On Objectives Loss Exceedance Curve (with C	•		Description				articipants		
Loss Exceedance Curve (with C				1 desides and	W.O. Contro		L Davids and	With Control	
· · · · · · · · · · · · · · · · · · ·			Death annua	Likelihood 17.69%	Impact 49.70%	Risk 8.79%	Likelihood	Impact 2.28%	Risk 0.03%
📥 Overall		Major Train Public Accident Major Train Work Accident	Death occurs Death occurs	17.64%	43.63%	7.69%	1.44%	6.55%	0.03%
		Line Closure	No train traffic allowed	27.22%	22.54%	6.13%	6.44%	5.20%	0.03%
o From Sources			Train is late when its time on						1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
• To Objectives			the track between the two						
Bow-Tie Diagrams (with Controls)	•	Late Train Running	points is different than the time	35.48%	15.87%	5.63%	8.81%	3.35%	0.29%
o Overall			scheduled in the operational						
• From Sources		Intelligent Event Monitoring Network	plan.						
O To Objectives	•	Shut Down		18.55%	26.9 <mark>4%</mark>	5.00%	4.05%	2.54%	0.10%
Risk Map (with Controls)		Degradation of Intelligent Monitoring	This is degradation of signals,	11.17%	32.43%	3.62%	6.20%	2.98%	0.19%
o Overall		System Physical Assets	cables, and sensors.		0.770		4.05%		0.000
From Sources	•	Minor Train Work Accident Failed Integration with Future	Injury occurs	14.67%	6.77%	0.99%	1.35%	0.09%	0.00%
• To Objectives	•	Monitoring System Network		15,55%	6.25%	0.97%	10.11%	6.25%	0.63%
Sensitivity Analysis									
Risk A Sources									
 Risk ∆ Objectives 									
Risk ∆ Objectives (Performan									
Others									
			I		1	1		-	
	Overall Li	kelihoods, Impacts, and I	Risks of each Event v	vithout a	and with	Controls.			

The combined results for "**All Participants**" are displayed by default. The W.O. (without) Controls and With Controls are displayed below the "All Participants" column heading.

		All Part	icipants		
	W.O. Controls	S		With Controls	
Likelihood	Impact	Risk ↓	Likelihood	Impact	Risk
17.69%	49.70%	8.79%	1.44%	2.28%	0.03%
17.64%	43.63%	7.69%	1.41%	6.55%	0.09%
27.22%	22.54%	6.13%	6.44%	5.20%	0.34%
35.48%	15.87%	5.63%	8.81%	3.35%	0.29%
18.55%	26.9 <mark>4%</mark>	5.00 %	4.05%	2.54%	0.10%
11.17%	32.43%	3.62%	6.20%	2.98%	0.19%
14.67%	6.77%	0.99%	1.35%	0.09%	0.00%
15.55%	6.25%	0.97%	10.11%	6.25%	0.63%

Notice from the above results that the Likelihoods, Impacts, and Risks decreased when controls are in effect.

The details for the controls in effect are displayed at the top of the grid.

Selected controls: 13 Cost Of Selected Controls: \$98,200 (unfunded: \$51,604,000) Total Cost Of All Controls: \$51,702,200 How Selected: Optimized with budget of \$100,000

In our example, 13 controls are in effect and were selected by Optimizing with a budget of \$100.000.

Select Participants and Groups

By clicking the "Participants and Groups" icon, you can select to display the results for participants or other groups.

arch		_				•	Group name	¢	Has data?	Select all users with
-	Participant Name	Email Address	Has data?	÷		_		_		data
	Brian Quigley	quigleybf@gwu.edu	Yes				All Participants		Yes	
	Chief Engineering Officer	ceo@gwu.edu	Yes				C-Level Executives		Yes	
	Chief Executive Officer	che@gwu.edu	Yes		Ľ	_				_
	Chief Risk Officer	cro@gwu.edu	Yes		Ŀ		Engineering		Yes	
	Denis Risman	denisrisman@gwu.edu	Yes							
	Devin Nagy	devinnagy@gwu.edu	Yes							
	Grace	grace@eci.com								
	IT Supervisor	its@gwu.edu	Yes							
	James	james@eci.com								
	John Doe	j.doe@eci.com								
	Michael Mankowski	mmankowski@dwu edu	Yes		•					
		Se	lect all I Deselect	all						

After selecting participants and groups to display, click OK. New columns for the results will be displayed with the participant or group name as the column heading.

Sele	cted co	ntrols: 13 Cost Of Selected C	controls:	\$98,200	(unfunded: \$51,60	4,000)	Total Cos	t Of All Controls:	\$51,70)2,200 H	low Selected:	Optimized wit	h budget of \$10	0,000
Dra	g a colu	mn header here to group by that column									0	G Sear	ch	
					All Part	ticipants					Chief Engir	neering Officer		
) †	Co	Event Name		W.O. Contro	ols		With Control	s		W.O. Contro	ls		With Control	5
			Likelihood	Impact	Risk	Likelihood	Impact	Risk	Likelihood	Impact	Risk	Likelihood	Impact	Risk
1]	•	Late Train Running	35.5%	15.9%	5.6%	8.8%	3.3%	0.3%	12.4%	14.3%	1.8%	4.2%	3.9%	0.2%
2]	٠	Degradation of Intelligent Monitoring System Physical Assets	11.2%	32.4%	3.6%	6.2%	3.0%	0.2%	4.7%	33.3%	1.5%	3.7%	1.6%	0.1%
j]	۰	Line Closure	27.2%	22.5%	6.1%	6.4%	5.2%	0.3%	9.1%	21.6%	2.0%	3.2%	4.9%	0.29
6]	•	Failed Integration with Future Monitoring System Network	15.6%	6.2%	1.0%	10.1%	6.2%	0.6%	11.1%	6.4%	0.7%	8.8%	6.4%	0.69
7]	•	Intelligent Event Monitoring Network Shut Down	18.6%	26.9%	5.0%	4.0%	2.5%	0.1%	3.9%	12.8%	0.5%	2.8%	2.7%	0.19
8]	•	Major Train Work Accident	17,6%	43.6%	7.7%	1.4%	6.6%	0.1%	7.7%	31.1%	2.4%	0.8%	3.9%	0.09
9]	٠	Minor Train Work Accident	14.7%	6.8%	1.0%	1.3%	0.1%	0.0%	1.3%	8.5%	0.1%	0.3%	0.1%	0.09
0]	•	Major Train Public Accident	17.7%	49.7%	8.8%	1.4%	2.3%	0.0%	8.3%	32.9%	2.7%	1.4%	2.5%	0.0%

Open Bow-tie diagram from Grid

Clicking the Event Name will open a modal that displays the bow-tie diagram for the selected event.

From the Bow-tie diagram, you analyze the **likelihoods** (left) and **impacts** (right) of the selected **event** (center) with **controls**. Click "Overall Bow-tie Diagram" for more details.

MAN	AGE M	IDENTIFY/STRUCTU	RE LIKELIHOOD OF EVENTS IMPACT OF EVEN	ITS	RISKS		CONTROL	S	CONTROLLED RISK	
0	Risk v	rith Controls Registers						C Reload	I 💽 On-line 🖸 Snaps	
	📥 Lo	ss Exceedance T Filter Events	Simulated Results Timestamp Show Monetary Val	lues 差					Preferen	
			noods, Impacts, and Risks (With Controls) for							
	ed con a colur	trols: 13 Cost Of Selected Cont	rols: \$98,200 (unfunded: \$51,604,000) Total	Cost Of All Con	trols: \$5	1,702,200	How Selected:		n budget of \$100,000	
						All Par	ticipants			
) †	Co	Event Name	Description		W.O. Contro		With Controls			
				Likelihood	Impact	Risk	Likelihood	Impact	Risk	
1]	•	Late Train Running	Train is late when its time on the track between the two points is different than the time scheduled in the operational plan.	35.5%	15.9%	5.6%	8.8%	3.3%	0.3%	
2]	٠	Degradation of Intelligent Monitoring System Physical Assets	This is degradation of signals, cables, and sensors.	11.2%	32.4%	3.6%	6.2%	3.0%	0.2%	
5]	۲	Line Closure	No train traffic allowed	27.2%	22.5%	6.1%	6.4%	5.2%	0.3%	
6]	۲	Failed Integration with Future Monitoring System Network		15.6%	6.2%	1.0%	10.1%	6.2%	0.6%	
7]	•	Intelligent Event Monitoring Network Shut Down		18.6%	26.9%	<u>5.0</u> %	4.0%	2.5%	0.1%	
8]	٠	Major Train Work Accident	Death occurs	17.6%	43.6%	7.7%	1.4%	6.6%	0.1%	
9]	٠	Minor Train Work Accident	Injury occurs	1 4.7%	6.8%	1.0%	1.3%	0.1%	0.0%	
0]	•	Major Train Public Accident	Death occurs	17,7%	49.7%	8.8%	1.4%	2.3%	0.0%	
			L;							

Export Grid into excel or image format

Friere to group by that column	۵	G	G	Sear	ch	5
ent Name					All Particip	a
			Like	lihood	Impact	2
te Train Running				35.48%	15.87%	\leq
radation of Intelligent Monitoring System Physical Assets	5			11.17%	32.43%	

0

You can export the grid into a .xlsx file by clicking	d into a .xlsx file by clicking
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You can also export the results page into an image file (.png) by clicking

Show or Hide columns

You can select to show/hide columns using the column chooser:

		Searc	h
ticipants			f Enginee
ct	Risk L	ikelihood	Impact
5.9%	Column Cho	oser	×
2.4%	✓ ID		
	 Color 		
	 Event Name 	e	
	 Description 		
	Simulation (Group	
	Event Histor	ry	
	Risk Owner		
-	 All Participa 	nts	
	 Likelihood 		
	 Impact 		
	✓ Risk		
-	✓ Chief Engine	eering Officer	r
	 Likelihood 		
	 Impact 		
	 Risk 		

The events attributes can also be displayed on the grid, "Event History" and "Risk Owner" are events attributes above.

Clicking the column header can sort the grid in ascending or descending order by that header.

ID	Color	Event Name	Deparintion	All Participants				
ID.	COIOI	Event Marie	Description	Likelihood	Impact	Risk		
[01]	•	Late Train Running	Train is late when its time on the track between the two points is different than the time scheduled in the operational plan.	35.5%	15.9%	5.6%		
[02]	•	Degradation of Intelligent Monitoring System Physical Assets	This is degradation of signals, cables, and sensors.	11.2%	32.4%	3.6%		
[05]	0	Line Closure	No train traffic allowed	27.2%	22.5%	6.1%		
[06]	•	Failed Integration with Future Monitoring System Network		<mark>15</mark> .6%	6.2%	1.0%		
[07]	•	Intelligent Event Monitoring Network Shut Down		18.6%	26.9%	5.0%		
[08]	۲	Major Train Work Accident	Death occurs	17.6%	43.6%	7.7%		
[09]	٠	Minor Train Work Accident	Injury occurs	1 <mark>4.7%</mark>	6.8%	1.0%		
[10]	0	Major Train Public Accident	Death occurs	17.7%	49.7%	8.8%		

You can reset the sorting by pressing the Ctrl key + clicking again the column header where the sorting is currently active.

Show Monetary Values

Simulated vs Computed Event Likelihoods, Impacts, and Risks (Flaw of Averages)

Preferences