

Converter trip of RTQX2.L2

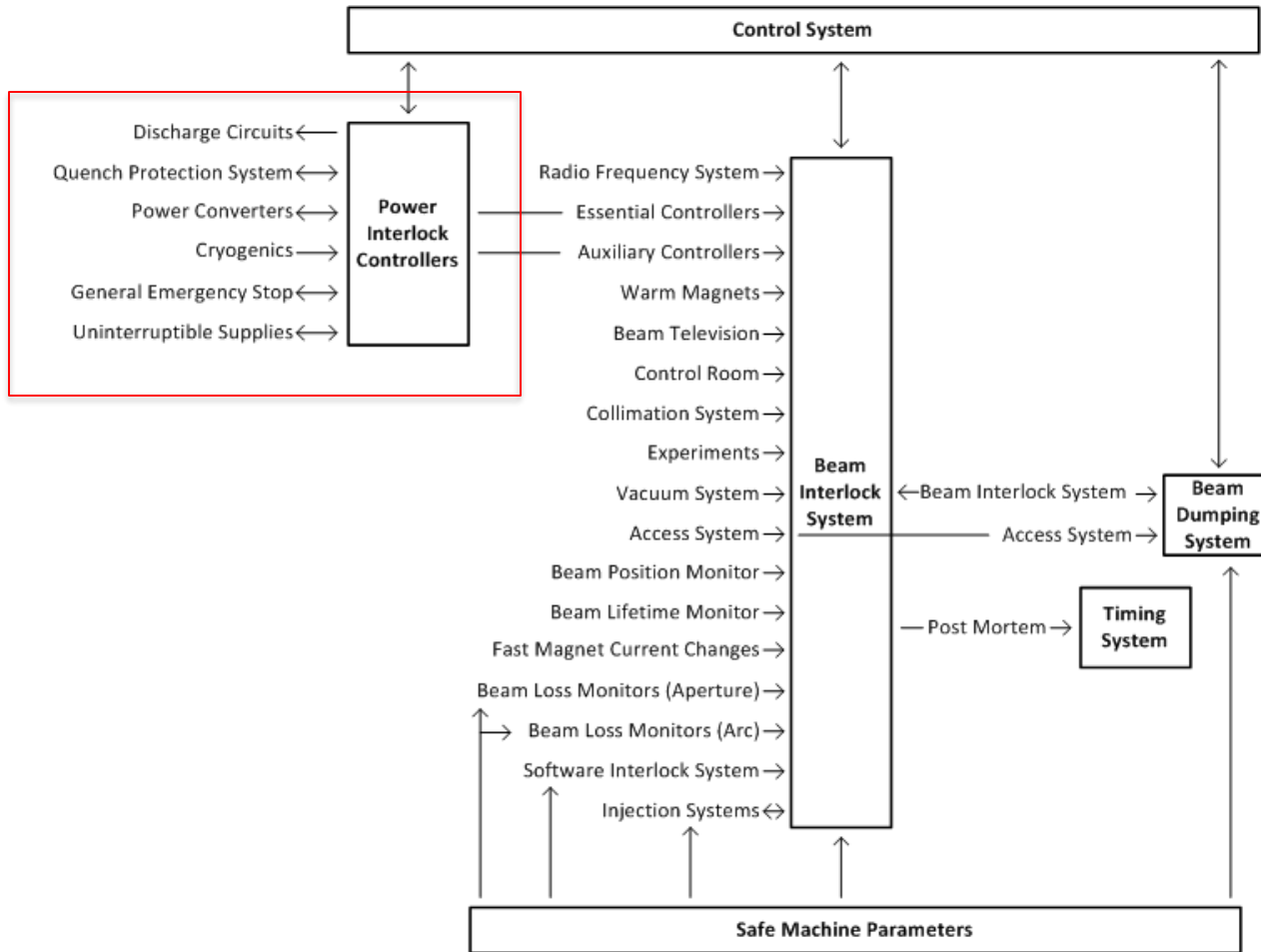
PM Event: 2012.06.15 15:54:55 CEST

Energy: 4TeV – Stable Beams

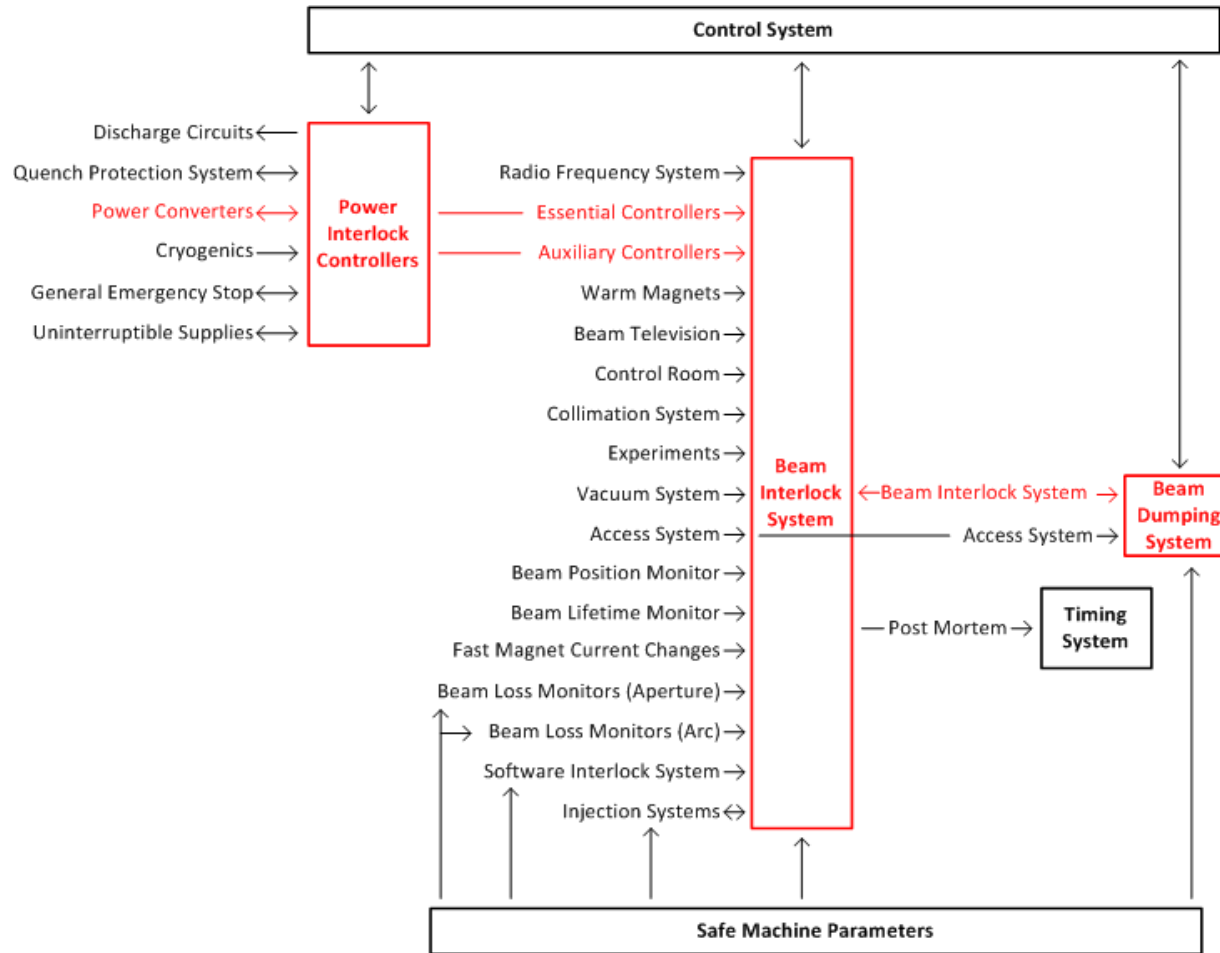
Fill Number: 2733

I. Romera - H. Thiesen

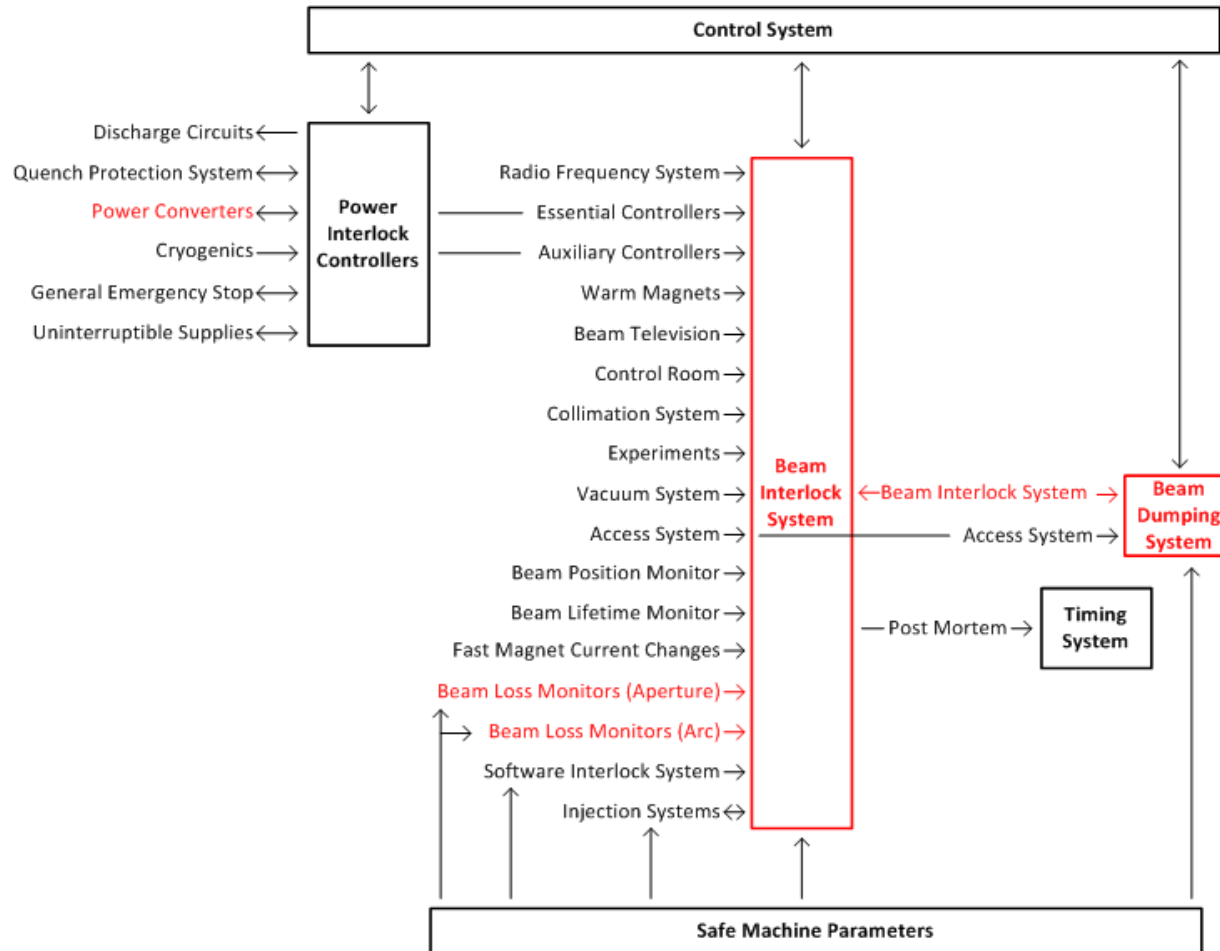
MPS in LHC



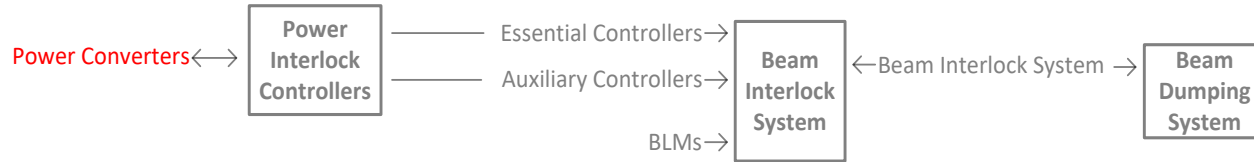
PC fault propagation to LBDS



PC trip “unseen” by the PIC

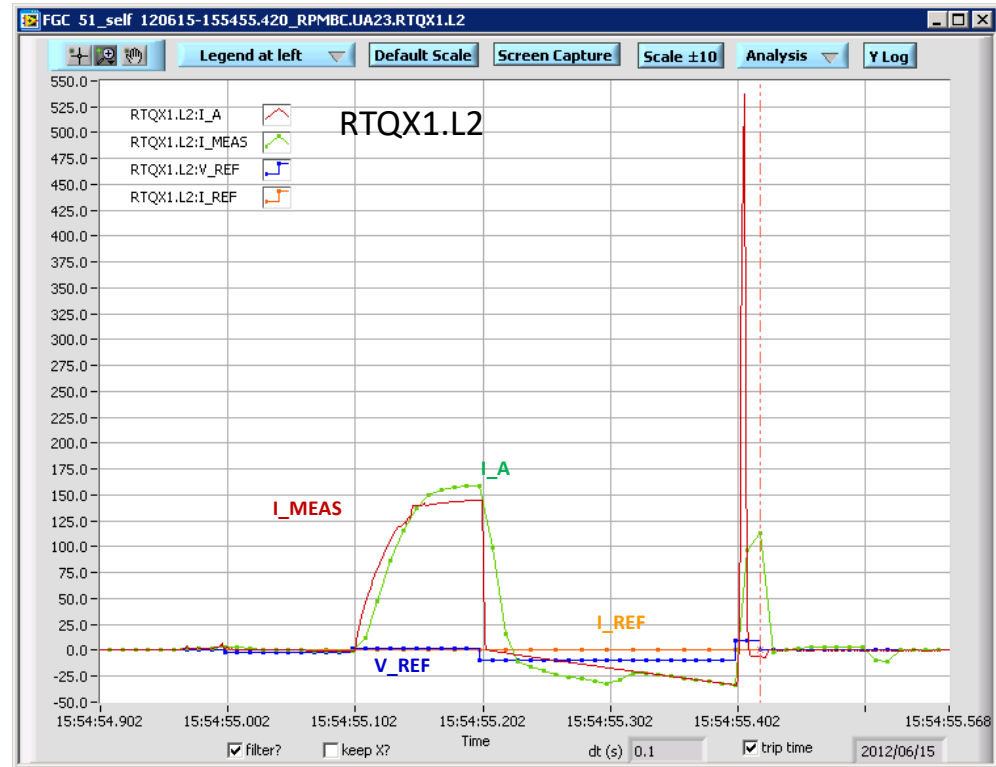


Event sequence - PC

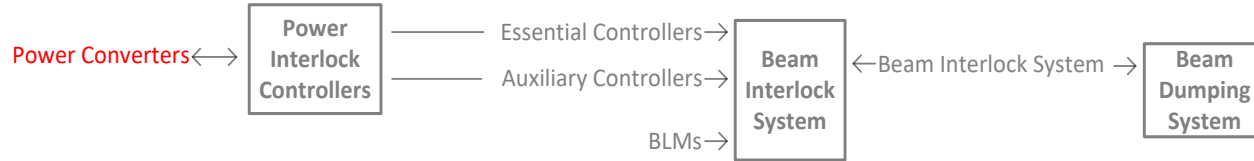


timestamp	delta [ms]	event description
15:54:55.100	-243	sudden current jump in Power Converter

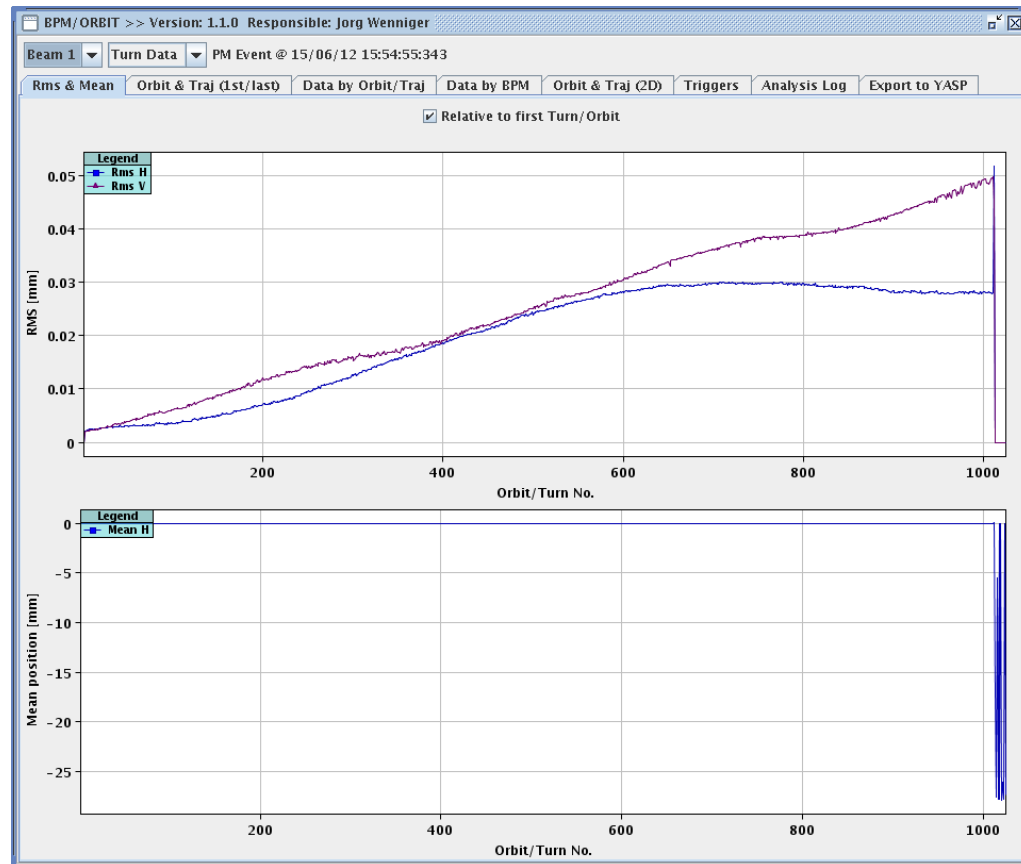
- Internal problems of RTQX2.L2
- Affecting the 3 nested converters



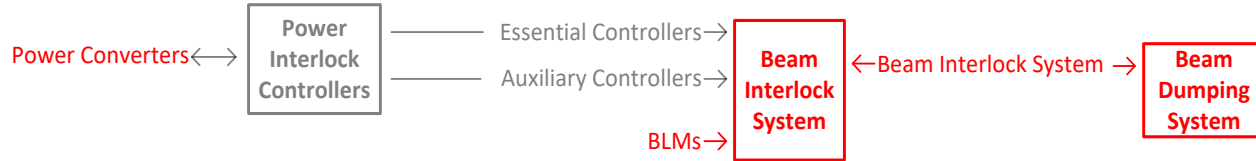
Event sequence - BPM



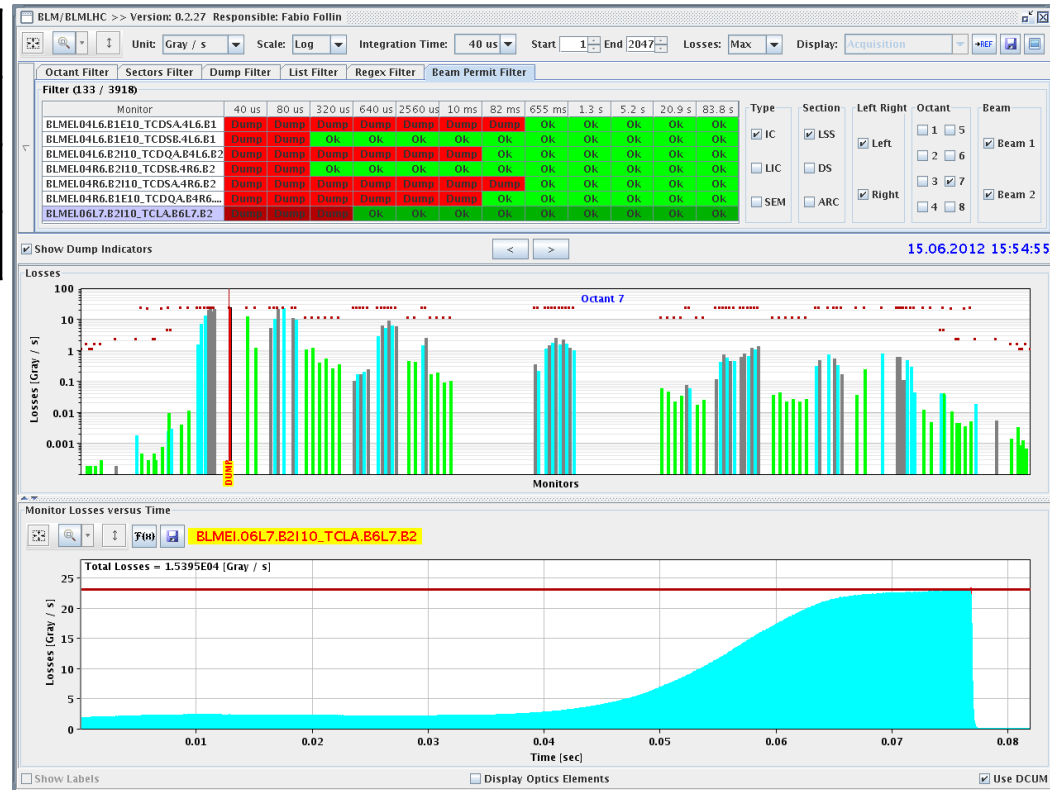
timestamp	delta [ms]	event description
15:54:55.100	-243	sudden current jump in Power Converter
15:54:55.243	-100	first orbit changes



Event sequence - BLM



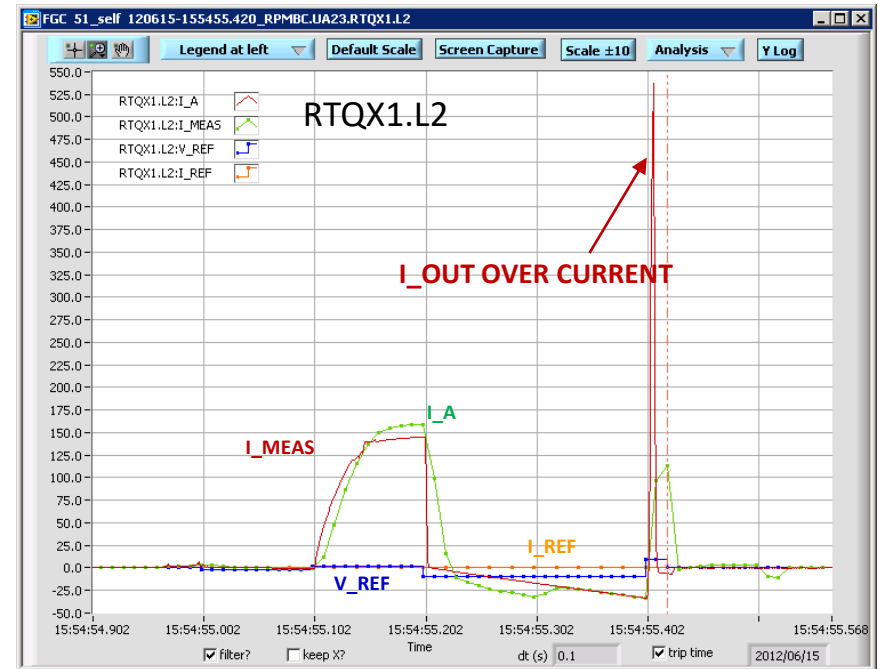
timestamp	delta [ms]	event description
15:54:55.100	-243	sudden current jump in Power Converter
15:54:55.243	-100	start of increasing orbit (5 orbits)
15:54:55.343	0	beam dump by BLM



Event sequence - PIC



timestamp	delta [ms]	event description
15:54:55.100	-243	sudden current jump in Power Converter
15:54:55.243	-100	start of increasing orbit (5 orbits)
15:54:55.343	0	beam dump by BLM
15:54:55.411	+68	beam dump request by PIC



Local Time	Source	Type	Item	Description	Message	Status
2012.06.15 15:54:55.411	Monitoring INPUT	PLC	CIP.UA23.XL2	Output of the CPLD Matrix	ST_MATRIX	BAD
2012.06.15 15:54:55.411	Input	A	RQX.L2	Inner Triplet (Q1Q2Q3 in series) - FNAL + KEK	ST_FAILURE_PIC	BAD
2012.06.15 15:54:55.412	Global	PLC	CIP.UA23.XL2	Status of beam dump beam dump request from PI	CMD_UPERM_B1B2_UNM	BAD
2012.06.15 15:54:55.412	Global	PLC	CIP.UA23.XL2	Status of maskable beam dump request from PIC	CMD_UPERM_B1B2_MSK	BAD
2012.06.15 15:54:55.412	Output	A	RQX.L2	Inner Triplet (Q1Q2Q3 in series) - FNAL + KEK	CMD_PWR_PERM_PIC	BAD

Thank you

HEADER	
System	BIC
Class	EVENT_SEQ
Source	ISA
Event stamp	15:54:55.343 15/06/12
Version	0.4.10
Encoding	BIC/EVENT_SEQ
Qualifier	
Analysis flags	[NORMAL]

SUMMARY	
pmAnalysisModuleVersion	0.4.10
Analysis result description	First USER_PERMIT change: Ch 11-BLM_MSK: A T -> F on CIB.SR7.S7.B1
Triggered BIC inputs	Ch 11-BLM_MSK(\$7.B1), Ch 11-BLM_MSK(\$7.B2), Ch 2-LBDS-b2 (TSU)(R6.B2), Ch 2-LBDS-b1 (TSU)...
Beam 1 propagation delay to LBDS	25000 ns
Beam 2 propagation delay to LBDS	28000 ns
OVERALL	38 BICs triggered valid PM data

EVENT OVERVIEW					
Index	Loc_Permit A/B	Time	Delta(uSec)	Description	BIC name
297	GG	15:54:55+343003	0	USER_PERMIT: Ch 11-BLM_MSK: A T -> F	CIB.SR7.S7.B1
298	GG	15:54:55+343003	0	USER_PERMIT: Ch 11-BLM_MSK: B T -> F	CIB.SR7.S7.B1
299	GG	15:54:55+343004	1	USER_PERMIT: Ch 11-BLM_MSK: A T -> F	CIB.SR7.S7.B2
300	GG	15:54:55+343004	1	USER_PERMIT: Ch 11-BLM_MSK: B T -> F	CIB.SR7.S7.B2
419	GG	15:54:55+343093	90	USER_PERMIT: Ch 2-LBDS-b2 (TSU): A T -> F	CIB.UA67.R6.B2
420	GG	15:54:55+343093	90	USER_PERMIT: Ch 2-LBDS-b2 (TSU): B T -> F	CIB.UA67.R6.B2
456	GG	15:54:55+343115	112	USER_PERMIT: Ch 2-LBDS-b1 (TSU): B T -> F	CIB.UA63.L6.B1
457	GG	15:54:55+343115	112	USER_PERMIT: Ch 2-LBDS-b1 (TSU): A T -> F	CIB.UA63.L6.B1
490	GG	15:54:55+343128	125	USER_PERMIT: Ch 11-BLM_MSK: A T -> F	CIB.UA63.L6.B2
491	GG	15:54:55+343128	125	USER_PERMIT: Ch 11-BLM_MSK: B T -> F	CIB.UA63.L6.B2
492	GG	15:54:55+343128	125	USER_PERMIT: Ch 11-BLM_MSK: A T -> F	CIB.UA63.L6.B1
493	GG	15:54:55+343128	125	USER_PERMIT: Ch 11-BLM_MSK: B T -> F	CIB.UA63.L6.B1
890	GG	15:54:55+343457	454	USER_PERMIT: Ch 10-BPMs L&R syst.'B': B T -> F	CIB.UA63.L6.B1
891	GG	15:54:55+343461	458	USER_PERMIT: Ch 10-BPMs L&R syst.'B': A T -> F	CIB.UA63.L6.B1
968	GG	15:54:55+343603	600	USER_PERMIT: Ch 8-BPMs L&R syst.'A': A T -> F	CIB.UA67.R6.B1
982	GG	15:54:55+343608	605	USER_PERMIT: Ch 8-BPMs L&R syst.'A': B T -> F	CIB.UA67.R6.B1
1080	GG	15:54:55+343776	773	USER_PERMIT: Ch 10-BPMs L&R syst.'B': A T -> F	CIB.UA63.L6.B2
1100	GG	15:54:55+343813	810	USER_PERMIT: Ch 10-BPMs L&R syst.'B': B T -> F	CIB.UA63.L6.B2
1140	GG	15:54:55+343889	886	USER_PERMIT: Ch 8-BPMs L&R syst.'A': A T -> F	CIB.UA67.R6.B2
1141	GG	15:54:55+343893	890	USER_PERMIT: Ch 8-BPMs L&R syst.'A': B T -> F	CIB.UA67.R6.B2
1576	GG	15:54:55+395591	52588	USER_PERMIT: Ch 11-BLM_MSK: A F -> T	CIB.SR7.S7.B1
1577	GG	15:54:55+395591	52588	USER_PERMIT: Ch 11-BLM_MSK: B F -> T	CIB.SR7.S7.B1
1578	GG	15:54:55+395592	52589	USER_PERMIT: Ch 11-BLM_MSK: A F -> T	CIB.SR7.S7.B2
1579	GG	15:54:55+395592	52589	USER_PERMIT: Ch 11-BLM_MSK: B F -> T	CIB.SR7.S7.B2
1580	GG	15:54:55+408441	65438	USER_PERMIT: Ch 12-PIC_MSK: A T -> F	CIB.UA23.L2.B1
1581	GG	15:54:55+408441	65438	USER_PERMIT: Ch 12-PIC_MSK: B T -> F	CIB.UA23.L2.B1
1582	GG	15:54:55+408442	65439	USER_PERMIT: Ch 12-PIC_MSK: A T -> F	CIB.UA23.L2.B2
1583	GG	15:54:55+408442	65439	USER_PERMIT: Ch 12-PIC_MSK: B T -> F	CIB.UA23.L2.B2

SOURCE OVERVIEW		
Index	Source Name	Data Valid
1	CIB.UJ56.R5.B1	true
2	CIB.UA83.L8.B2	true
3	CIB.UJ56.R5.B2	true
4	CIB.UA83.L8.B1	true
5	CIB.US15.L1.B1	true
6	CIB.US15.L1.B2	true
7	CIB.SR7.S7.B1	true
8	CIB.SR7.S7.B2	true
9	CIB.USC55.L5....	true
10	CIB.UA87.R8....	true
11	CIB.UA87.R8....	true
12	CIB.USC55.L5....	true
13	CIB.US15.R1.B1	true
14	CIB.US15.R1.B2	true
15	CIB.UJ33.U3.B2	true
16	CIB.UJ33.U3.B1	true
17	CIB.UA63.L6.B2	true
18	CIB.UA63.L6.B1	true
19	CIB.SR3.S3.B2	true
20	CIB.SR8.INJ2.1	true
21	CIB.SR3.S3.B1	true
22	CIB.SR2.INJ1.1	true
23	CIB.UA67.R6....	true
24	CIB.SR2.INJ1.2	true
25	CIB.UA67.R6....	true
26	CIB.UA23.L2.B2	true
27	CIB.UA47.R4....	true
28	CIB.CCR.LHC.B1	true
29	CIB.UA47.R4....	true
30	CIB.CCR.LHC.B2	true
31	CIB.UA23.L2.B1	true
32	CIB.UA43.L4.B2	true
33	CIB.UA43.L4.B1	true
34	CIB.T276.U7.B2	true
35	CIB.T276.U7.B1	true
36	CIB.SR8.INJ2.2	true

FILTER

Beam_Permit_Loop
 Beam_Permit
 Local_Permit
 User_Permit
 User_Permit_Glitch
 Software
 Mask
 Masked_Permit

Disabled_Permit
 Channel_Enable
 Test
 Power
 Self_Test
 Time
 Safe_Beam_Flag
 Marker
 Injection BICs

Channel A
 Channel B
 Beam 1
 Beam 2
 Generator