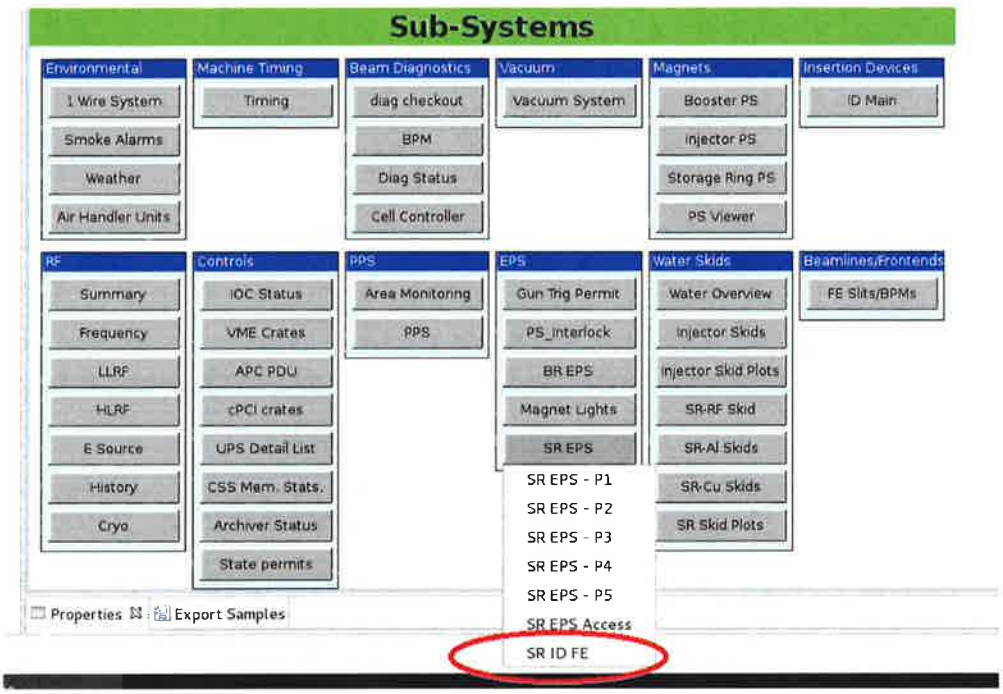
INSERTION DEVICE TEST REPORT

Cell under test: 21 ID

STEP	CHECK
1. With the help of a laptop computer, go to the Main CSS page and go to the SR EPS \SR ID FE tab. It will show the front end components including the ID GAP and the BEAM DUMP signals on the last two columns on the right. On the EPS's HMI screen look on the Insertion device other signals.	☑



LOCATION	BMPS	GV1	PS	FV	SSA	SSB	GV2	ID GAP	BEAM
CELL 23	Open	Open	Open	Open	Open	Open	Open	Closed	Normal
CELL 28	Open	Open	Open	Open	Open	Open	Open	Closed	Normal
CELL 03	Open	Open	Open	Open	Open	Open	Open	Closed	Normal
CELL 05	Open	Open	Open	Open	Open	Open	Open	Closed	Normal
CELL 10	Open	Open	Open	Open	Open	Open	Open	Closed	Normal
CELL 11	Open	Open	Open	Open	Open	Open	Open	Closed	Normal
CELL 08	Open	Open	Open	Open	Open	Open	Open	Closed	Normal
CELL 18	Open	Open	NA	NA	NA	NA	NA	Closed	Normal
CELL 16	Open	Open	Open	Open	Open	Open	Open	Closed	Normal
CELL 17	Open	Open	Open	Open	Open	Open	Open	Closed	Normal
CELL 04	Open	Open	Closed	Open	Closed	Closed	Closed	Open	Normal
CELL 12	Open	Open	NA	NA	NA	NA	NA	Open	Normal
CELL 21	Closed	Open	Closed	Open	Closed	Closed		Open	Normal

2. If there is already an existing and operating ID and this is an addition of a second device make sure that the PLC code was modified so there is a logic AND between the switches for the open signal of both devices.	☑
3. Contact the control room to ask them operate the ID Gap while you are testing or use the CSS page if active to operate the device. Leave the existing (old) device in open position. Open the ID GAP under test.	☑
4. Close the ID GAP under test (using the CSS page or calling control room) and check the signals in the HMI screen , it should go to Low. Also the epics page will show that the GAP is closed.	☑
5. With the ID gap controls working, make sure to open and close the ID gap from the control room and verify the correct readings on the EPS HMI (MAIN/INSERTION DEVICE/OTHER SIGNALS) as well as in the epics interface. Controls available. Y/N Y Date: 5-11-2017	☑

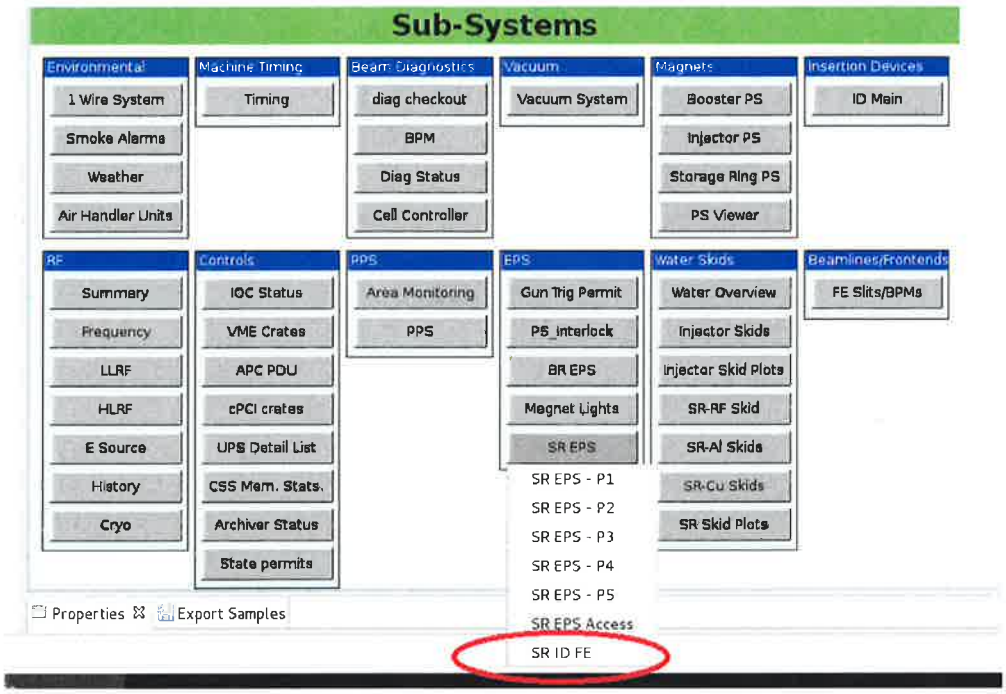
Tested by: Andres Castiblanco Date: 5-11-2017

Signature: [illegible]

EPS LOGIC TEST REPORT

Cell under test: 21 ID

STEP	CHECK
1. With the help of a laptop computer, go to the Main CSS page and go to the SR EPS \SR ID FE tab. It will show the front end components including the ID GAP and the BEAM DUMP signals on the last two columns on the right. On the EPS's HMI screen look on the Insertion device other signals.	✓



LOCATION	BMPS	GV1	PS	FV	SSA	SSB	GV2	ID GAP	BEAM
CELL 23	Open	Open	Open	Open	Open	Open	Open	Closed	Normal
CELL 28	Open	Open	Open	Open	Open	Open	Open	Closed	Normal
CELL 03	Open	Open	Open	Open	Open	Open	Open	Closed	Normal
CELL 05	Open	Open	Open	Open	Open	Open	Open	Closed	Normal
CELL 10	Open	Open	Open	Open	Open	Open	Open	Closed	Normal
CELL 11	Open	Open	Open	Open	Open	Open	Open	Closed	Normal
CELL 08	Open	Open	Open	Open	Open	Open	Open	Closed	Normal
CELL 18	Open	Open	NA	NA	NA	NA	NA	Closed	Normal
CELL 16	Open	Open	Open	Open	Open	Open	Open	Closed	Normal
CELL 17	Open	Open	Open	Open	Open	Open	Open	Closed	Normal
CELL 04	Open	Open	Closed	Open	Closed	Closed	Closed	Open	Normal
CELL 12	Open	Open	NA	NA	NA	NA	NA	Open	Normal
CELL 21	Closed	Open	Closed	Open	Closed	Closed		Open	Normal

2. Contact the control room to ask them operate the ID Gap while you are testing. Ask them to open the ID GAP.	☑
3. Manually close the BMPS, this should enable the GV1 to open or close. Leave the valve in open position.	☑
4. Manually open the BMPS. This condition will prevent the GV1 to close.	☑
5. Force a fault in the vacuum GV1 to force it to close while the BMPS is opened. This will dump the beam. Check this out come in the epics page as well as in the EPS chassis HMI screen.	☑
6. From the vacuum page in epics clear the fault and open the GV1, then in the SR ID FE page press the reset. It will restore the dump signal to its normal condition. Check this out come in the epics page as well as in the EPS chassis HMI screen.	☑
7. Close the BMPS, then close the GV1	☑
8. Manually open the BMPS. This will dump the beam. Check this out come in the epics page as well as in the EPS chassis HMI screen.	☑
9. Close the BMPS and then press the reset this will restore the dump signal to its normal condition.	☑
10. Ask the control room to close the ID GAP and check the DUMP signals in the HMI screen, both should go to Low. Also the epics page will show that the GAP is closed and the beam is dumped.	☑
11. Ask the control room to open the ID GAP and then press the reset. The DUMP signals should go back to HI and the epics page should show ID GAP "Open" and BEAM "Normal"	☑
12. With the ID gap controls working, make sure to open and close the ID gap from the control room and verify the correct readings on the EPS HMI (MAIN/INSERTION DEVICE/OTHER SIGNALS) as well as in the epics interface. Controls available. Y/N Yes Date: 05-25-2016	☑

13. Component switch and Logic verification: ☑

Component	OPEN POSITION		CLOSE POSITION	
	EPS system	CSS page	EPS system	CSS page
BMPS	✓	✓	✓	✓
GV1	✓	✓	✓	✓
PS	✓	✓	✓	✓
FV	✓	✓	✓	✓
SSA	✓	✓	✓	✓
SSB	✓	✓	✓	✓
GV2	✓	✓	✓	✓
GV3	NA	NA	NA	NA
GV4	NA	NA	NA	NA

- Note: NA stands for "Not Available"

14. GV1 enable signal to the vacuum PLC ☑

15. GV2 enable signal to the vacuum PLC ☑

16. GV2 bypass for PPS test ☑

17. Flow meters test: ☑
The flow meters highlighted in the following graph part of the CSS page were manually tested on their warning and trip levels.

C21

Flow Meter Trip Signal | SR VA GV IL Signal | SR VA RTD IL Signal | VA Trip General Signal

Flow Meter Reset | VA Reset

CH	Site Wide Name	Location Number	Nominal Value (GPM)	Warning Level (GPM)	Alarm Level (GPM)
FM01	C21-ALR-DPS-5660	OC-D-1	0.79	0.50	0.40
FM02	C21-ALR-DPS-5661	OC-D-2	1.25	0.50	0.40
FM03	C21-ABR-DPS-5662	OC-D-3	2.69	1.00	0.75
FM04	C21-ABR-DPS-5663	OC-D-4	2.23	1.00	0.75
FM05	C21-HFER-FM-5666	OC-D-5	7.43	4.00	3.00
FM06	C21-LFER-FM-5667	OC-D-6	1.61	1.20	0.90

C22

Tested by: Andres Castiblanco Date: 06-26-2016

Signature: [signature]