Fermilab

Running Condition
P3 - Switchyard 120

November 27, 2019

Area RSO Nino Chelidze

Mode of Operation Beam to Switchyard Absorber

Beam Limits	**Beam Energy**	**ASE Limit**	**Operating Limit**
	120 GeV	1.03 E16 protons/hr	6.00 E14 protons/hr

Critical Devices S:HP3US & S:HP3DS

Enclosures Protected Transfer Hall & Enclosures B, C, D, E, J, G1 Stub

Preferred Monitoring Devices* Intensity is monitored via I:BEAM sampled on the $39 or S:SYDINT
Intensity to the SY Absorber is monitored via S:SYDINT (see Operational Comments)

*Other methods of monitoring intensity may be used.

Requirements

Access Devices S:HP3US and S:HP3DS must be disabled to access the enclosures protected.

Cool Off Period none

Special Interlocks The CDC Inputs including failure mode devices may all be found on the Safety System Status pages.

Special Concerns Any work performed on critical devices or obtaining a critical device key requires prior RSO approval.

Gates, Fencing and Passive Shielding Requirements There is no access to radiologically fenced areas without prior RSO approval.

Shielding, fencing and posting are in accordance with the following shielding assessment documents:
2017 "P3 to Switchyard Absorber Incremental Shielding Assessment"
2019 "Addendum to P3 to Switchyard Absorber Incremental Shielding Assessment for IERC"

Assigned RSO approval also signifies that all necessary Interlock Tests have been completed and Removable Shielding is installed.

Ops. Dept. Head Approval Todd Lillie 11/27/2019 **Assigned RSO Approval** N. Chelidze

Sys. Dept. Head Approval Karen K Kubicki 11/27/19 **AD Head Approval** [signature] 11/27/2019

Operational Comments

MCR must be appropriately staffed according to the Accelerator Safety Envelope.

The sustained beam intensity to the Absorber should not exceed 6.00 E14 protons/hour due to thermal considerations of the Absorber. Protons per pulse may change depending on the rep rate.

It is also acceptable to transport beam to the Switchyard Absorber using single turn extraction.

Fermilab

Running Condition
P3 - Switchyard 120

November 27, 2019

Area RSO Nino Chelidze

Instrument Information

Interlocked detectors (i.e., Chipmunk, FOX, Scarecrow, TLM, etc.) in "Integrate" mode that trip will not allow a safety system reset until sufficient time has passed to keep the hourly dose rate equal to or below the trip point setting. Interlocked detectors in "Integrate" mode that trip may be reset as the safety system allows. If there are more than ten trips by an interlocked detector in "Integrate" mode in one hour, RSO approval is required before reset. For Swyd Enc B TLM (2-015) reset, RSO approval is required every time it trips. Interlocked detectors in "Rate" mode that trip require RSO approval before reset. All detector trips shall be documented in the MCR E-log.

MUX	Type	Location	QF	R/I Mode	Trip Level	CDC	Device(s) Tripped
2-009	Chipmunk	A0 Ramp	5	Rate	5 mrem/hr	S:CRDEV	S:HP3US & S:HP3DS
2-010	Chipmunk	XGallery Head House N Addition #2	5	Integrate	0.4 mrem/hr	S:CRDEV	S:HP3US & S:HP3DS
2-011	Chipmunk	XGallery Head House N Addition #1	5	Integrate	0.4 mrem/hr	S:CRDEV	S:HP3US & S:HP3DS
2-006	Chipmunk	A0 Kicker Room South	5	Integrate	0.4 mrem/hr	S:CRDEV	S:HP3US & S:HP3DS
2-007	Chipmunk	A0 Kicker Room Middle	5	Integrate	0.4 merm/hr	S:CRDEV	S:HP3US & S:HP3DS
2-008	Chipmunk	A0 Kicker Room North	5	Integrate	0.4 mrem/hr	S:CRDEV	S:HP3US & S:HP3DS
2-252	Chipmunk	F4 Refrigerator Building	5	Integrate	50 mrem/hr	S:CRDEV	S:HP3US & S:HP3DS
2-250	Chipmunk	F3 Refrigerator Building	5	Integrate	50 mrem/hr	S:CRDEV	S:HP3US & S:HP3DS
2-247	Chipmunk	F22 Kicker Building	5	Rate	50 mrem/hr	S:CRDEV	S:HP3US & S:HP3DS
2-246	Chipmunk	F2 Refrigerator Building	5	Integrate	50 mrem/hr	S:CRDEV	S:HP3US & S:HP3DS
2-015	TLM	Swyd Enc B TLM		Integrate	3400 nC	S:CRDEV	S:HP3US & S:HP3DS
3-002	TLM	Swyd Enc C TLM		Integrate	3400 nC	S:CRDEV	S:HP3US & S:HP3DS

Note: QF only included for chipmmunks

Fermilab

Running Condition
P3 - Switchyard 120

November 27, 2019

Area RSO Nino Chelidze

Operator Signatures

Crew Chiefs

Crew A

Crew B

Crew C

Crew D

Crew E

Other