Fermilab

ADAP-11-0001 Rev. 8

BEAM PERMIT
11/26/2019

8 GeV (MI-8) Beamline Accelerator Safety Envelope (ASE) Limit

The maximum beam intensity transmitted through the 8 Gev Beamline from Cell 803 to Cell 850 is limited to:

2.35×10^{19} protons/hr up to 8 GeV

No accelerator or beam line will transmit beam without an operational beam interlock safety system.

8 Gev(MI-8) Beamline Operating Limits

The maximum beam intensity transmitted through the 8 GeV Beamline from Cell 803 to Cell 850 is limited to:

2.84×10^{17} protons/hr up to 8 GeV

Examples:

#1 1.58×10^{13} protons/pulse x 18,000 pulses/hour = 2.84×10^{17} protons/hour

#2 3.16×10^{13} protons/pulse x 9,000 pulses/hour = 2.84×10^{17} protons/hour

Special conditions and comments:

Reviewed by [signature] 11/26/19
Operations Department Head

Reviewed by [signature] 11/26/19
Systems Department Head

Reviewed by [signature] 11/26/19
Assigned RSO

Reviewed by Madison Schoell NS 11/26/2019
ES&H&Q Radiation Physics Operations Department Head

Approved by [signature] 11/26/2019
Accelerator Division Head

Operator Signatures

Crew Chiefs

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Crew A

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Crew B

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Crew C

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Crew D

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Crew E

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Other

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Running Condition
8 GeV (MI-8) Beamline

November 26, 2019

Area RSO Sue McGimpsey

Mode of Operation Beam transport from Cell 803 to Cell 850

Beam Limits

Beam Energy	ASE Limit	Operating Limit
8 GeV	2.35 E19 protons/hr	2.84 E17 protons/hr

Critical Devices B:MH1 & B:LAM

Enclosures Protected MI-8, MI-10 Enclosure, Muon Campus Transport Mid, MI-12A

Preferred Monitoring Devices* Intensity is monitored via B:BBM800

*Other methods of monitoring intensity may be used.

Requirements

Access Devices B:MH1 and B:LAM must be disabled during MI-10 Mode in order to access the MI-8 beamline, MI-10 enclosures, Muon Campus Transport Mid, MI-12A.
MI-10 Enclosure, Muon Campus Transport Mid & MI-12A maybe accessed if Booster is in Dump Mode.

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 is in accordance with 2002 "Shielding Assessment Document for the 8 GeV fixed target facility.

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

Ops. Dept. Head Approval Todd Sullivan 11/26/19 **Assigned RSO Approval** [signature]

Sys. Dept. Head Approval David Capista 11/26/19 **AD Head Approval** [signature] 11/26/2019

Operational Comments

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

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Running Condition
8 GeV (MI-8) Beamline

November 26, 2019

Area RSO — Sue McGimpsey

Instrument Information

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
2-126	Chipmunk	Transport Mid/DS Gate	5	Rate	2.5 mrem/hr	B:CRDEV	B:MH1 & B:LAM
2-127	Chipmunk	Transport Mid/US Gate	5	Rate	2.5 mrem/hr	B:CRDEV	B:MH1 & B:LAM
1-128	Chipmunk	MI-8 Service Building Labyrinth Gate	5	Rate	5 mrem/hr	B:CRDEV	B:MH1 & B:LAM

Note: QF only included for chipmmunks

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8 GeV (MI-8) Beamline

November 26, 2019

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Operator Signatures

Crew Chiefs

Crew A

Crew B

Crew C

Crew D

Crew E

Other

ADAP-11-0001