

Memorandum

Michael Lindgren
Division Head

Accelerator Division
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Date: November 7, 2019
To: Todd Sullivan 
From: Mike Lindgren
Re: Approval for running of P1 - P2 beamline

Safety documentation and procedures for approval to run P1 - P2 beamline are now complete and in place. Therefore, you are hereby authorized to run beam through P1 -P2.

cc: Gerald Annala
Nino Chelidze
Mary Convery
Paul Czarapata
Tom Kobilarcik
Eric McHugh
Maddie Schoell
Diktys Stratakis

SYSTEM START-UP SIGN-OFF

The signatures below, unless noted in the comments section, indicate that the relevant systems are ready for the restart of beam operation. Indicate in the comments section any remaining work that would affect the restart of beam operations. Indicate N/A for departments that did not do any work on the system.

SYSTEM BEING SIGNED OFF: Linac NIF MTA Booster [8-GeV Line-MI-10 Region]
(Circle as Applicable) [MI-20-MI-62/Recycler] BNB NuMI (P1-P2) Muon P3-Switchyard
Meson Primary MT MC NM FAST PIP-II _____

<u>DEPARTMENT</u>	<u>DATE</u>	<u>SIGNATURE (Department Head/Designee)</u>
1. Controls	10/28/19	James Patrick
2. Cryogenics		
3. E/E Support	10/23/19	John ^{MOK}
4. RPO Manager	11/7/2019	Madelyn Schnell
5. LSO		
6. External Beamlines	11/7/2019	Richard
7. Instrumentation	10/23/2019	Eric
8. Interlocks	11/5/19	Eng M. Z. Ko
9. Main Injector	10/30/19	David Roberts
10. Mechanical Support	10/23/2019	M. Wong - Design
11. Muon	10/30/2019	Jerry Annala
12. Operations	11/07/19	Todd Miller
13. Proton Source		
14. RF		
15. ENG Support	10/24/19	Paul C. Garofalo
16. Target Systems		
17. Shutdown Coordinator	11/15/19	Chris

Comments and special conditions (please mark comment with department # to connect comment with appropriate department):

The P1 - P2 radiation shielding meets the requirements documented in the 2016 "P1 and P2 Beamline Incremental Shielding Assessment" shielding assessment.

FINAL APPROVALS

System Department Head Tommy Kitchell Severin Andrey Date 11/7/2019
Assigned RSO N. Chelidze Date 11/7/19
AD Division Head Mark Taylor Date 11/7/2019

Operator Signatures

Crew Chiefs

Crew A

Crew B

Crew C

Crew D

Crew E

Other

Running Condition P1-P2 Beamline

November 7, 2019

Area RSO

Nino Chelidze

Mode of Operation Beam to F17: 8 GeV for Muon Campus Operations, 120 GeV for Switchyard Operations

Beam Limits	Beam Energy	ASE Limit	Operating Limit
	8 GeV	1.35 E18 protons/hr	5.41 E16 protons/hr
	120 GeV	9.00 E16 protons/hr	1.25 E15 protons/hr

Critical Devices R:LAM52, R:V703, I:LAM52, I:V701

Enclosures Protected F-Sector, Muon Campus Pre-Target

Preferred 8 GeV intensity is monitored via R:TOR 703

Monitoring Devices* 120 GeV intensity is monitored via I:BEAM sampled on the \$39.

*Other methods of monitoring intensity may be used.

Requirements

Access Devices R:LAM52, R:V703, I:LAM52 and I:V701 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 There is no access to radiologically fenced areas without prior RSO approval.

Requirements Shielding, fencing and posting are in accordance with the following shielding assessment documents:
2016 "P1 and P2 Beamline Incremental Shielding Assessment"

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

Ops. Dept. Head Approval *Todd Miller 11/07/19* Assigned RSO Approval *N. Chelidze*
Sys. Dept. Head Approval *Nino Chelidze* AD Head Approval *[Signature]*

November 7, 2019

Area RSO

Nino Chelidze

Operational Comments

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

November 7, 2019

Area RSO

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Other
