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Date: February 3, 2024

To: Alexander Valishev, Head – AD

From: Matthew Quinn, Senior Radiation Safety Officer *Matthew Quinn*

Re: Approval of Booster Maximum Credible Incident Document

Message:

I have reviewed the document *Total Loss Monitors (TLM) and other Radiation Detectors as Credited Controls for the Fermilab Booster*, version 1.0 dated February 2, 2024. This analysis details the maximum credible incident for Booster of 3.8E17 protons at 8 GeV in one hour and the required credited controls to ensure doses are kept below 5000 mrem inside of buildings and 500 mrem outside of buildings. A combination of passive shielding and active interlocked detectors are required to meet these dose limits. I concur that the analysis is satisfactory in terms of methodology, completeness, and compliance with the Fermilab Accelerator Safety Envelope dose requirements, and thus approve of this MCI analysis and planned operations within its scope. Future versions of this document should consider including calculated doses without interlocked detectors present, and calculated doses after a detector trip.

Cc:
S. Chaurize
M. Clay
M. Convery
J. Fulgham
J. Malo
L. Prost
W. Schmitt
M. Schoell