Fermilab

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September 28, 2015

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Gentlemen:

Thank you for agreeing to take part in the technical review of the Extinction sub-project of the Mu2e experiment at Fermilab. The Mu2e experiment relies on a beam consisting of ~250 ns proton bunches, separated by 1.7 μsec, with nothing in between them at a fractional level of 10^{-10} or lower. The elimination of this out-of-time beam is referred to as "extinction". The sub-project under consideration encompasses both the technique for generating the required level of extinction and the monitoring required to ensure that this level of extinction has been achieved.

You are welcome to comment on any aspect of the system, but are being specifically asked to answer the following questions:

1. Have the team established to a reasonable level of confidence that their technique will achieve the 10^{-10} level of extinction required by the experiment?
2. Does the technical design for the AC dipole system appear feasible and effective?
3. Will the proposed Target Monitor be able to measure extinction at least to the 10^{-10} level with the specified number of protons on target?
4. Although cost and schedule are not in the scope of this review, are there any issues in these areas that you feel warrant further attention?

We thank you for your time, and look forward to your feedback. In addition to a closeout, we would appreciate a brief written summary in a timely fashion.

Sincerely,

Eric Prebys