

Date: November 21, 2018
To: Bob Tschirhart, Chief Project Officer
From: Nigel Lockyer, Director
Re: Director's Progress Review of the Short Baseline Neutrino Program

Message:

Please organize and conduct a Director's Review on December 17th–19th, 2018 to assess the progress of the Short Baseline Neutrino (SBN) program. This review should focus on the complete integrated schedule and the DOE High Energy Physics cost of the following program elements:

Construction and installation of the ICARUS detector systems;

Construction and installation of the SBND detector systems and cryostat;

Construction and installation of the necessary support infrastructure such as cryogenic systems, common DAQ and overburden;

Commissioning plan and transition to experimental operations plan.

The focus of this review is the schedule forecast for completing installation, commissioning and transition to operations for ICARUS and SBND and the associated costs borne by the DOE office of High Energy Physics. Topics will include schedule, US costs, management, ES&H, and technical readiness to execute the SBN program. The review committee should respond to the following questions:

1. Construction, Installation and Commissioning

- a) Is the overall progress on ICARUS installation, cryogenics, construction and commissioning consistent with the planned milestones? Is the process for establishing milestones sound and tractable? Are appropriate program driven technical reviews being planned, conducted and responded to? Are interfaces being adequately addressed?
- b) Is the overall progress on SBND installation, cryogenics, construction and commissioning consistent with the planned milestones? Is the process for establishing milestones sound and tractable? Are appropriate program driven technical reviews being planned, conducted and responded to? Are interfaces being adequately addressed?

2. Are the ICARUS and SBND plans and associated milestones complete, comprehensive and achievable with associated US DOE HEP resources for

- a) construction, installation and commissioning?
- b) transition to experiment operations?

3. Management

Is the program being properly managed for the successful execution of SBN? Is there a mechanism for incorporating experience from ProtoDUNE? Are the projected personnel resources sufficient to complete construction, installation, commissioning and transition to operations for the SBN program and are these resources likely to be available when needed? Are the remaining significant risks understood and adequately managed? Have appropriate de-scoping and staging strategies been identified to manage cost and schedule risk? Are the boundaries between construction/installation, commissioning and operations defined?

4. Environment, Safety, and Health

Is ES&H being appropriately addressed? Are the required safety approvals on track to meet the schedule?

The committee is asked to present a draft of their report at the review closeout and to issue the final report within three weeks of the review's conclusion.



Nigel S. Lockyer
Director of Fermilab