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Director's Office

April 15, 2004

Dr. Gary Feldman
Department of Physics
Lyman Laboratory
Harvard University
Cambridge MA 02138

Dr. John Cooper
MS 208
Fermilab

Dear Gary and John,

Thank you for the submission of P-929 "Proposal to Build an Off-Axis Detector to Study $\nu_{\mu} \rightarrow \nu_e$ Oscillations in the NuMI Beamline (NOvA)" and Gary's presentations at the recent meeting of the Fermilab Physics Advisory Committee (PAC). The PAC's extensive comments are attached.

As you see, the PAC recognized the quality of your optimization of the experiment for θ_{13} , especially in an era of limited resources. However, the Committee is concerned about the more global role of an off-axis experiment and its focus - including what may be known at the time it could run and the beams available then. The Committee is also sensitive to the uncertainties that are necessarily involved in determining the physics impact of long-baseline off-axis measurements when one does not know the value of θ_{13} even approximately.

I am also impressed by the quality of your work so far, and look forward to your comments on the issues raised by the Committee. While decisions will have to be made with incomplete knowledge, we have to address these issues as completely as possible before undertaking such a large effort. Please submit an update as requested by the PAC to the Program Planning Office by June 3.

Sincerely,

Michael Witherell

Attachment

cc: K. Stanfield
H. Montgomery
S. Holmes
J. Appel

