

# KEK

High Energy Accelerator Research Organization  
Project Office for High Intensity Proton Accelerators

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August 22, 2003

Professor K. McDonald,  
Joseph Henry Laboratories,  
Princeton University,  
Princeton,  
NJ 08544,  
USA.

Dear Professor McDonald:

Thank you for the submission of Letter of Intent to J-PARC for an experiment at the 50 GeV. The project office formed the committee to discuss a) scientific merit, b) suggested schedule, c) comments and suggestions to each experimental proposal. In addition, the project office asked the committee to recommend necessary arrangements to be made at this stage of the project for all the proposals.

Enclosed please find the committee's opinions and comments on your Letter of Intent. The evaluation and comments are carefully written and I fully endorse the enclosed description by the committee. In addition, I would like to inform you that, although it is not 100% clear, it is very likely that the project office will arrange to call for full proposals on Day-1 experiments within a year. Of course, if the system to call for full proposals is established, the call for proposals will be arranged every year in the subsequent years.

I thank you for your enthusiasm toward J-PARC. Please write me any comments, questions, requests, etc., if you have.

Thank you again for your submission of the Letter of Intent at this early stage of the project.

Sincerely yours,



Shoji Nagamiya  
Director of the J-PARC Project

L30

Study of a Target System for a 4-MW, 50-GeV Proton Beam

Contact Persons: K. McDonald, H. Kirk, K. Yoshimura, Y. Kuno.

Schedule: Phase 2+

Comments:

The authors of this LOI propose to perform a “proof-of-principle” experiment of a target system that can tolerate a 4-MW, 50-GeV beam.

A multi-MW beam is required in most of future high-sensitivity experiments, such as a “superbeam” long baseline neutrino experiment and the neutrino factory. For example, the second phase of the JHF neutrino experiment requires that the J-PARC 50-GeV machine be upgraded to 4 MW. However, the technology for a target system which can tolerate such high power has not been established yet. Therefore, the target R&D described in this LOI is a critical path to realize a multi-MW target system. Since J-PARC 50-GeV PS will be the high-power frontier machine, it is the most suitable and a unique place to do the R&D.

The committee strongly encourages the proponents to continue their R&D studies and to proceed with a detailed design and proposal. The experiment is suited for the “near facility” at the second fast-extraction beam line of the J-PARC 50 GeV PS.