

May 17, 2004

To Colleagues in Underground Science:

Our group at the University of Washington, helped by a number of our colleagues in physics, earth science, and engineering, has spent the last nine months developing a new horizontal-access option for DUSEL. The **PRE-PROPOSAL FOR THE DEEP UNDERGROUND SCIENCE AND ENGINEERING LABORATORY – CASCADES (DUSEL-CASCADES)** is now available at <http://int.phys.washington.edu/NUSEL/icicle.html>.

In accordance with the recently announced National Science Foundation “Roadmap” for DUSEL, this pre-proposal will form the basis of our Solicitation-Two request to the NSF for funds to develop an official proposal. The announcement for Solicitation Two is expected in early June. If our request for funding is approved, we will have an opportunity to further develop DUSEL-Cascades plans. The NSF has indicated that official proposals will likely be due early in 2005.

We are very excited about this proposal, and would like to invite members of the underground science community to join our collaboration to further develop the ideas presented in the pre-proposal. The collaboration is open: those who are also involved in other proposals are very welcome.

A very good overview of the proposal can be obtained by reading the first two sections of the pre-proposal, and by reviewing the summary of construction and operations costs appearing at the start of Section 6, the Work Breakdown Structure. The pre-proposal describes a horizontal-access laboratory with a peak overburden of 7700 feet and a minimum overburden to any point on the surface of approximately 6000 m.w.e. The site is within national forest land suitably designated for this kind of development, well separated from known active crustal faults, with a tunnel path that can be fully cored. The site is in the Mt. Stuart batholith, a 600 km² granite mass with an extensive history of deep tunneling. The pre-proposal provides a full suite of rooms, outfitted; sophisticated mechanical, electrical, and transportation systems; a surface campus quite similar to that of Gran Sasso; a Visitor Experience Center; and strong scientific and support staffs. Engineering firms experienced in underground construction provided the costs and contingencies. Operations cost are exceedingly low because of the horizontal access, and because power costs in Chelan County are 20% of the national average. The University of Washington has offered to acquire the land and build the surface campus for the DUSEL operator. Access underground is quick: the boring of the two parallel 4.9-km access tunnels and the ring tunnel encircling the laboratory area will take 16 months.

We have a number of exciting ideas for further developing this proposal. We would appreciate any comments you have on the pre-proposal, and we would be delighted if you would like to join the collaboration. To join, please email Wick at haxton@phys.washington.edu.

Sincerely,

UNIVERSITY OF WASHINGTON FOR
DUSEL-CASCADES COLLABORATION

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