



Minutes of the Fermilab UEC Meeting on March 30, 2012

Attending:

Todd Adams (remote), Mike Cooke, Dick Gustafson, Sergo Jindariani, Daniel Kaplan, Jonathan Lewis, Brian Rebel, Lisa Whitehead (remote), Bob Zwaska
GSA officers: Chris Prokop, Alex Radovic, Brian Tice (remote)

Guests:

Tom Handler (remote), Herman White, Katie Yurkewicz

News from the Directorate – Pier Oddone

Committee had good discussion with Pier structured as question-and-answer session.

Q: Status of LBNE after recent letter from DOE?

A: Office of Science Director Bill Brinkman has hands tied. White House says energy research has priority. Also requiring flat budgets. Meanwhile Office of Science must honor commitments to completion of ITER.

If we are to do LBNE in phases as suggested by the letter, need credible plan. Lab creating steering group which will include physics subgroup and cost/engineering subgroup. Proposals will be vetted by both so we have fair comparisons. All plans must also work within scope of existing CD0.

Ideas kicking around include 4 or 5 options:

Build beamline in direction of Homestake and small detector either on surface or deep. Would be cheaper on surface, but a richer program if deep. Can do mass hierarchy on surface, but not proton decay or supernova detection. May be possible to build beamline and do short-baseline work in first phase, but probably not viable.

Use existing NUMI beamline and either surface site at Ash River or underground site at Soudan. Would give off-axis beam to NOvA with narrow energy spectrum. Question then is how much mass needed to get to CP violation. On surface, don't get proton decay or supernovas. Another option: use second cavern at Soudan. NUMI beamline limited by having too high an energy spectrum at Soudan on axis and low rates at Ash River 14 mrad off axis. Would need lower energy to get to oscillation "sweet spot," but need higher energy for beam power.

Q: What chances of getting funding for both LBNE and ILC?

A: Making argument that LBNE must go forward and that we need to recapture ILC effort under some framework as part of international effort. Getting strong support in House from Rep. Hultgren. However, their budget constraints very tight: all cuts must come from civilian

discretionary spending. Senate will be more forgiving, but more respectful of President's priorities. Continuing Resolution a strong possibility. Problem with Continuing Resolution is that the fiscal year's funding not known until budget resolved, so need to restrict spending until budget actually passed.

Q: Could cuts have been avoided if LBNE were proposed as staged project originally?

A: Office of Science could have delayed ramp-up in budget. Works out the same if we can structure phased program with early physics and possibility to upgrade for complete physics reach. In better position since they've said the science is great, but we need to stretch the money. We are handicapped by the way U.S. funds science, e.g., lack of multi-year budgets.

Q: Concern from our meeting with OMB on the DC trip that they are interested in short-term research funding as opposed to facilities, with about 25% of the budget for facilities construction and operation.

A: Such a mix unsustainable for the kind of science DOE supports in the nation. Other agencies also rely on DOE providing the facilities. Such limitation would seriously impact BES as well. We need to argue to public that we are investigating the fundamental mysteries of Universe and that it is an important quest for a great nation.

Q: What can we do to help?

A: Need to get out message that a great country should be investigating fundamental nature of Universe.

Discussion of DC trip

The discussion included guests Tom Handler and Herman White, who came on the trip, and Katie Yurkewicz.

Comments and suggestions:

Next time, need to start planning earlier - get started in October on materials we will be taking. Congressional staff like the wavelength-shifter rulers and Tevatron pins - love hearing how the rulers are particle-detector technology.

Participants should study materials early, which will be helped by an earlier start.

Some of materials need updating. Should coordinate better so all groups use same materials.

May want to consider more training sessions, not just a single day.

Most important part of the trip is "putting a face" to the research ("experiments are people, my friend").

When we started working with SLAC in 2000, had training meetings at FNAL and SLAC where people went to both and message was honed.

Other groups have more stability in attendees from year to year. To have more experienced people going, should we include more non-UEC and ex-UEC people? Or consider changing UEC terms to 3 years? (See further discussion in "News from the Chair" below.)

In House we visited only about 25% of members on Energy and Water appropriations subcommittee. In Senate we got more like 75%. Should make effort to target all of them even if nobody on the trip has personal connection.

Timing of the trip was not ideal relative to Energy & Water appropriations requests which were due while we were there. Would be better to get to DC before requests due. On other hand, difficult scheduling problem - appropriations schedule rarely known as far in advance as we need to book the trip.

(Later, when Bridget Krieger from Lewis-Burke called in, we asked about how far in advance to schedule congressperson meetings.

A: Six weeks before the visit at most. Three weeks is probably ideal.)

What message worked? "Accelerators in Industry" article had real numbers: \$500B of goods annually "touched" by an accelerator. Message of dual benefits of fundamental research and spin-offs resonated. Would help to have more numbers on impacts. An important part of training was to mention the "ask" as often as possible.

Quite a few meetings were by team of two grad students - should be avoided in future.

Start in early on thinking about training and discuss at UEC meetings.

Consider using video training. But custom training videos expensive and time-consuming to make. Katie suggests general-purpose videos about meeting with Congress.

One-page brochure very helpful. Trip participants should know it inside and out. Helps to research each district whose office one visits to know what Congressman cares about and what institutions nearby. Also good to know what and how much Office of Science funding nearby. Working out primary assignments early would help us get info on the districts.

However, a chicken/egg problem - can't do primary assignments until we know participants. But can't know participants until dates chosen.

On Hill yesterday for another issue, Bridget saw some mixed reactions to our visit: some were clearly supportive, others nodding politely.

Lewis-Burke report – Bridget Krieger

Capitol Hill trying to figure out what's achievable in current environment. Senate passed resolution to cut \$19B more, numbers will be lower across the board. Not clear what will happen. Could be year-long CR. Appropriations subcommittees told to be prepared to move

bills through the process. Energy and water a more political bill, so could be held up and may not move. Will get wrapped up into whatever CR is there at end of process.

Congress recess for next two weeks. Would be good to reach out to them if you are in home district.

Some calling Lame Duck session after election "Taxageddon." Congress will need to act on extending Bush tax cuts, sequestration, and appropriations bills.

Pier assembling team for LBNE redesign.

Helpful that UEC submit written testimony to Energy and Water appropriations subcommittees.

Dan working on draft letter to Brinkman about strong support of HEP community for LBNE's broad and rich program.

Dan noted there was no neutrino information on Fermilab poster at NUFO User Science Exhibition at Congress, but there was Higgs - deserves attention next year.

Appropriations requests were due today. Now committee staffs will start drafting bills.

Should re-evaluate how we contact offices for DC trip. Faxes seem ineffective. For 2013 trip, organizers should ask Lewis-Burke if directly contacting congressional-office schedulers is right way to go.

News from the Chair – Daniel Kaplan

Next meeting dates: 4/27, 5/11 (conflict w/ Minos mtg. @FNAL), 6/14 (after Users' Mtg.)

Recent visits to DC:

UEC/SLUO/USLUO trip was 3/20-23

Executive office visits: OSTP & OMB 3/21, DOE HQ & NSF 3/22, DOE Germantown 3/23

NUFO User Science Exhibition was 3/28-29

OSTP: met w/ Jerry Blazey, Ataf Carim, Kei Koizumi - advised us to stress innovation, internationalization, and job creation. HEP needs to articulate unified plan and prioritize. Mustn't ignore \$1B cap on HEP projects.

OMB: met w/ Arti Garg, Joel Parriott - Garg is examiner for Office of Science, has Harvard astro PhD. Parriott (former DOE examiner) now covers NSF - also astro Phd, from UMich. Were unaware of Daya Bay result (which came out only 2 weeks before) and its impact on probability that LBNE can do neutrino CPV until we informed them. Q raised about U.S. becoming CERN assoc. member - would ease working at CERN somewhat. Current U.S.-CERN agreement ends 2017, new agreement to be negotiated. Assoc. membership would cost 27M euros/yr. They recognize the question is above OSc level, since e.g. we don't charge Europeans for use of U.S. light sources.

DOE HQ: met w/ Steve Chu, Bill Brinkman - Brinkman view that LBNE as proposed will cost \$2B and measure one number - too expensive! Dan drafting response letter for UEC/USLUO/SLUO leaders' approval and signature.

NSF: met w/ Saul Gonzalez - encouraged perseverance despite current difficulties.

DOE G't'n: met w/ Dave Boehlein, Glen Crawford, John Kogut, LK Len, Mike Procario, Eli Rosenberg, Jim Siegrist, Kathy Turner, Mike Zisman, et al. - discussed our experiences in DC.

NUFO: Dan and Mike Kordosky of William & Mary attended. Two sessions on successive days, at Senate and House. FNAL poster stood out - all others were practical while ours concerned fundamental nature of universe.

Reflections: Given our role in making the case for HEP to Congress, could be beneficial to field more experienced team - 3-year UEC terms could help, but getting there from here could be awkward - would need Users Org approval of UEC Constitution amendment.

Drafts of written UEC testimony to House and Senate Energy & Water subcommittee hearings circulated by email, approved by UEC.

How to track Fermilab "alumni": hard to get good data, FNAL Library thesis list incomplete, CDF and DØ spokespersons too busy to keep track

Could we use record of technology transfer and commercialization to help in making our case? Data available from Bruce Chrisman's office.

Discussion of names to suggest for new PAC members.

Subcommittee Reports:

Users' Meeting – Lisa Whitehead

Money for student travel available from last year's grant.

Poster session abstract request will go out soon.

Public lecture will be given by David Gross.

Registration page will go live next week.

Banquet plans set.

Have preliminary agenda, 35 minutes left to play with. Suggestions: Town Hall, 10 minutes from Education Office, VIP talk, report on UEC DC trip.

Discussion of poster contest. Suggested to get more judges to make short-list, then all judges review finalists.

Quality of Life – Mike Cooke

Discussion of transportation in Village. 50% of Village residents own or rent car, 50% have no transportation. Ace \$36/day car rentals available from Lab, however, cars stored near Hi-Rise. Zipcar would cost Lab \$75/yr, user would pay \$25/yr and \$7/hr. Questions remain for Zipcar: Zipcar generally requires >1-yr possession of US license. Can International Drivers License be used? Also need to know minimum usage they require to justify car at Village.

Plan transportation poll to see how many will use it. Also advertise PACE ridesharing, daily car rental, etc.

Career fair: Date for 2012 fair Sept 20-21 - discussion what level of support from Lab to propose.

Outreach – Mike Cooke (for Nikos Varelas)

Subcommittee met with Marge Bardeen March 13, discussed ways UEC could help to further Education Office activities. Can advertise many and varied ways users can contribute to Education Office program. Marge will talk at Users' Meeting and we will organize a morning "Education Fest" in Fall to advertise all programs and encourage user participation.

Places we and users can help:

- Advertise Educational Internship Programs and deadlines. Numbers of applicants low. See <http://ed.fnal.gov/interns/programs/>. Applicants often apply to wrong program (international vs US students).
- Need volunteers/mentors for these programs
- Need more exhibits/demos both at Lederman center and in kits - seems bigger need for kits and demonstrations that could travel, and especially about Intensity Frontier.
- Volunteers to get Lederman material to schools. Send brochures with demos.
- Add slides/videos for demos, and list of items to purchase so satellite demos can be constructed at faraway schools.
- Need neutrino/astrophysics data for QuarkNet
- Need volunteers/activities for Lab's Open House
- Improve web page to advertise the programs

International Users – Jonathan Lewis

Subcommittee met with Amanda Thompson of Users' and Visa offices. Glacier tax software going well, >100 licenses used. Users seem not to be reading emails sent on the subject, but instead learn about tax issues and software from friends and colleagues. Also some problems with instructions, which are only in English. We'll suggest getting translations. (Perhaps users can help.)

Working on materials to explain US healthcare system to foreign nationals. Also plan survey to assess foreign users' needs to buy coverage while in US.

Project proceeding to make orientation slide shows for international users. Intern spearheading the project is moving away, may be possible to get new intern. Getting audio translations recorded in different languages somewhat slow - difficult to schedule both narrators and Visual Media Services.

Next UEC meeting: April 27, 2012 in the afternoon

Scribe: Jonathan Lewis