

JLab Users Group Board of Directors (UGBOD)  
Minutes of the meeting on Friday, October 20, 2006

Present: Todd Averett, Ed Brash, Peter Bosted, Gordon Cates, Gail Dodge, Ronald Gilman, Rachel Harris, Aiden Kelleher, Karl Slifer

**Table of Contents and Executive Summary / Action Items for Users**  
(Fuller discussion in Detailed Reports below.)

Christoph Leeman gave an overview of the status of the lab. The current continuing resolution may significantly impact on our physics productivity. The UG might ask people to write to Congress at an appropriate time, likely when budget issues again surface in January. Constraints from previous budgets have led to a tension between carrying out the most healthy 6 GeV program and continuing the 12 GeV upgrade in the most timely manner.

Roy Whitney reported on changes to computer policies to reflect increased Cyber Security concerns, from DOE and the lab. These changes will affect you – see the detailed report.

Betsy Beise reports on education/outreach and mentoring. Much work is done at the laboratory, but it needs to have higher visibility due to its greater role in the upcoming Nuclear Physics long range plan.

Jerry Draayer reports on changes to the Residence Facility operations as part of the new JSA M&O contract. If you stay at the ResFac, you should read the detailed report.

Swapam Chattopadhyay reports on the laboratory's plan to achieve 5.7 GeV by fall 2007, and higher energies afterward.

Kees de Jager reports on the American Physical Society Division of Nuclear Physics election. In the next month there will be an election for DNP. JLab electromagnetic physics is under-represented in DNP, and you should join if you are not a member, and **please vote** in the election.

Kees de Jager, Volker Burkert, Rolf Ent, Elton Smith, and David Richards report on the experimental Halls and theory at the lab. A common theme of the reports was the difficulty of hiring people due to previous budget and management considerations, and compromises between fully carrying out the 6 GeV program and preparing for the 12 GeV upgrade.

Allison Lung reports on the 12 GeV program continuing to have successful

reviews, and future reviews and anticipated dates for CD2 and CD3.

Larry Cardman reports on the Nuclear Physics Long Range Plan and future plans for PACs. You should try to attend the upcoming town meetings, to make your voices heard.

Initial plans for next year's User Group Meeting were discussed. The meeting is likely to be different from those of previous years. Your input and attendance are encouraged.

A number of additional issues were discussed were briefly discussed at the end of the meeting.

### **Detailed Reports**

#### **Christoph Leeman:**

Recent management reviews of the laboratory have gone well and the laboratory is optimistic about its initial performance under the new Jefferson Science Associates (JSA) contract. The lab has an excellent safety record, especially from the users, which was marred by a few accidents in the 2<sup>nd</sup> quarter of the year. Safety considerations are of extreme importance, since they act approximately as a multiplier in determining the laboratory's score.

The 12 GeV upgrade project schedule is for CD2 about late summer 2007, and CD3 (start of construction funds) in 2008. The Science and Technology review was very good. The project is undergoing about 1 review per month this year. The lab is pursuing non-DOE funds, including from the National Science Foundation and from the Commonwealth of Virginia. Elke Aschenauer will join Hall D as group leader in December.

The budget went from \$86M in FY05 down to \$77M in FY06, with the President's budget at \$96M for FY07. The decrease in FY06 was somewhat ameliorated by some money carried over from FY05. This money is now gone, and with the lab currently operating under a continuing resolution, we are only able to spend at the FY06 rate. However, the \$96M includes \$7M of new money for the 12 GeV project, and the lab is being allowed to spend that money, which somewhat improves the situation. The budget basically tracks the overall nuclear physics budget. Although the House mark up matches the President's budget (\$454m), the Senate mark up has a \$20M decrease, with the money going to a new High Energy Density Physics Science (which also takes money from other fields). It is possible, but unclear, that this money would end up supporting RHIC. It is unclear where the nuclear physics budget will end up, but it is clear that significant impacts on the schedule will start to occur after a few

months of operations under a continuing resolution. A general issue is keeping the 6 GeV program healthy, as we work on the long term 12-GeV future.

**Roy Whitney:**

There is a new JLab Insight portal up. With the contributions of CSC, its deployment took only a few months, instead of the 1.5 years it would have taken in the past.

Cyber security is a top issue for DOE, as the labs are under real threats from serious hackers. In one recent incident, a hacker obtained a valid user name and password (from a user off site), which was used to get inside the firewall, apparently in an attempt to gain control of machines to contribute to a botnet. (Note to users: if you have high speed internet at home, and keep your machine up and connected, unless you have been careful with your firewalls and upgrades, someone else likely has taken control of your machine. The time scale for this at present is typically a few weeks.)

In September a DOE security team visited the lab, and managed to find a number of weaknesses in the labs computer systems and management. These include lack of strong authentication, too small an IT staff, ~10% of computers running ancient operating systems, weak patch management, insufficient vulnerability scanning, insufficient network segmentation, etc.

A number of changes will be occurring over the next few months, most of which will be transparent to the users. The help desk will be staffed from 8:30 AM, to help the expected greater need for user support. Machines will be regularly scanned for vulnerabilities, in particular whenever you boot the machine and connect to the network. If you are on site regularly, your computer will either be a level 1, 2, 3, or 4 system. You will need to keep the software updated, most easily done, if possible, by running a level 1 or 2 machine, in which case the computer center will push patches to your system. It appears this will be possible for Windows, Macs, and (at least some) Linux boxes. If you come from off site, and it is found your software is not up to date, your network access will be restricted to update sites. The lab does not want an incident where a visitors box starts sending out spam, viruses, etc, from the laboratory's IP address space. The JLab WEP key network will remain for conferences, but the regular JLab WEP key network will be decommissioned; people will have to move to the secure network.

Discussion focused on the inconvenience to temporary lab visitors, who might be at the lab for a short period of time, and unable to do anything with their laptops as a result. There was general happiness with vulnerability scanning, as it will make us safer off site. The board recommended that each conference

room needs to have a functioning computer people can use for email, presenting talks, etc, and a functioning projector.

**Betsy Beise:**

People in the Hampton Roads area find that the laboratory is involved in a number of education / outreach activities, of which the users are largely unaware – e.g. [Http://education.jlab.org](http://education.jlab.org), and further of which people involved in DNP education / outreach seem to be unaware. Since the new nuclear physics long range plan that is being developed has an explicit education component, these efforts need to be better publicized. DNP is having an education meeting at Brookhaven in Dec. 1-2; several people in the lab and user group are going. Board members noted that we are unaware of any good resources from the lab to help people doing outreach. Brookhaven appears to have some people devoted to this effort. People in the Hampton Roads area find that NASA has significant outreach efforts. A number of ideas were discussed, with the ultimate decision that a subcommittee of the UGBOD (Averett, Bosted, Brash, Cates, and Kelleher) will meet again to look into this topic further. It was emphasized that it is important to tell people what they find is interesting, rather than what we find is interesting.

Betsy gave a lunch seminar – the pizza seminar series focused on the graduate students and post docs on site – on preparing for academic jobs. This resulted from her being on hiring committees at Maryland, and observing that high energy students seem generally better prepared for the interview process. She suggested there is a need for better mentoring of our post docs and graduate students.

**Jerry Draayer:**

The SURA Residence Facility has been operated in close connection with the laboratory, but that will no longer be possible under the new JSA M&O contract; DOE was opposed to putting the ResFac in the contract. As a result, SURA will manage the residence facility directly without JSA involvement, which requires several changes in ResFac operations. Various items that were provided by the lab and billed to the ResFac will now have to be contracted and run entirely separately, such as computers, internet service, lawn care, security, ... Employees will become SURA rather than Jefferson Lab employees. As the separation happens over the next several weeks, users will notice they need to pick up keys at the ResFac, rather than from the guards, the internet service is provided by Cox, rather than the lab, the lab supplied computers will go away, and the security gate will be moved.

SURA will have some one-time charges to replace, eg, network routers. It was not clear that the computers need to be replaced in every guest room, as many

people who stay at the ResFac bring their own laptops, or just walk over to their offices to do their computing. Perhaps some public terminals in the Great Room are sufficient, or there should be some laptops that people can borrow – but then maybe the lab should have such a program, given the new computer security policies. The overall finances of the change were unclear, as SURA saves some money, but has some additional expenses. SURA has operated the ResFac as a “bare bones” facility at cost. User input is desired about whether the facility should be kept as is or upgraded.

With the M&O contract changed to JSA, there is a new JSA Initiatives fund, which feeds money into the user community or Jlab to enhance activities at the laboratory; the fund can support activities that cannot otherwise be supported under the DOE contract. The fund is about double the corresponding amount under the SURA contract. This fund has supported numerous user activities in the past, including a sabbatical program, graduate student fellowships, thesis prize awards, etc. The UGBOD will be in contact with Steve Wallace, Chair of the JSA Program Committee, about support of various projects.

### **Swapam Chattopadhyay:**

A top priority in accelerator division is restoring the ability to provide 6 GeV, through the “C50” project to refurbish cryomodules. It has been found that in addition to the several modules severely impacted by Hurricane Isabel and the ensuing warm up of the accelerator, there is a general loss of capability of about 50 MeV per year in the accelerator. Over the next few years, several cryomodules per year will be refurbished. Currently, four modules are in various stages of dis-assembly and re-assembly, with the first refurbished module expected to be reinstalled into the accelerator shortly. It is expected that we will obtain 5.7 GeV capability by fall 2007, and 6 GeV by October 2008. At present, the laboratory plans to generally not schedule experiments that require 5.7 GeV until 2008, to better ensure successful runs. As a back up plan, in recent beam tests CASA people ran the accelerator with the two linacs mismatched by about 10% successfully for a few hours. This asymmetric running would allow the accelerator to exceed the limits of the lower capability linac. While the test was short, and there is no guarantee the technique will work under the more demanding high-current, three-Hall conditions, it is believed that asymmetries up to 15% can be tolerated.

### **Kees de Jager:**

The DNP nominating committee prepared a slate of candidates for the upcoming DNP Executive Committee elections, announced at the Nashville meeting. The election will be held electronically, within the next month. Since the JLab electromagnetic community is under-represented on DNP, and few DNP members vote, we urge the user group membership to vote when the election

ballots are sent out.

**Kees de Jager:**

Hall A has run successfully, deinstalling GEn, running low energy deuteron experiments in parallel with G0, and now running 4He polarization transfer. Significant design and engineering resources are needed to carry out the planned Coulomb Sum Rule experiment in mid 2007, the polarized 3He program in 2007-2008, and the parity violation program in 2008-2009. Examples of needed equipment include a new warm temperature septum and Compton and Moeller polarimeter upgrades. All the design manpower needed is currently available, if it is not taken away for other projects.

Larry Cardman details the problem we have with design and engineering manpower. The problem has its roots in the budget problems of FY06 and the ensuing hiring freeze. This, together with staffing losses from the "buyout" in FY06 and the growing need for engineering and design efforts for 12 GeV has lead to a real crunch. It has been exacerbated by concerns due to the continuing resolution budget for the early part of FY07; if the continuing resolution goes beyond the first quarter (and it is now likely to) there will be a terrible budget crunch. We did (and do) not want to hire people now and then have to RIF (Reduction in Force) them in February to stay within budget. There were also internal delays due in part to the JSA transition and (still incomplete) planning for creation of a new engineering division. There is a growing tension between the needs of the current program, and the need to move rapidly on design and engineering work on the 12 GeV upgrade. The current continuing resolution will keep hiring slow until it is resolved. Unfortunately, even when the budget issue has been resolved it will take several months for new people to come up to speed and be productive.

In order to meet the requirements for CD-2, the design of all components of the 12 GeV Upgrade must be developed to 35% maturity. The estimate is that this will involve ~10 Mechanical Designers and ~4 Electrical Designers in FY07.

**Volker Burkert:**

Hall B continues to progress, with a g13 run, the current two-photon exchange (e+/e- cross section ratios) test run, and developments in the FROST target in preparation for January '07 installation. Hall B has a shortage of physicists as several have left / moved to other projects, such as Will Brooks, Bernhard Mecking, and Elton Smith; it is hoped that there can be more hiring soon, to support the current program and the 12 GeV upgrade activities.

**Rolf Ent:**

Although Hall C has a 4 year approved experiment backlog, the backlog is

actually larger, as Q-weak will undoubtedly have a second phase with much beam time. The long term schedule is more or less determined by the need to fit a number of high priority experiments in before the 12 GeV upgrade, such as Q weak, GEp-III, hypernuclei, and SANE. It appears to be impossible to run these and all the other approved experiments before the 12 GeV upgrade. The SHMS design has been reworked, but more design / engineering staff and Project Engineering and Design (PED) money are needed now for additional work on the Hall C upgrade. The work on 12 GeV has led to delays for SANE and Q-weak. As discussed, it was along slow process to hire a new Hall A/C designer. Hall C now has approval to hire 3 new techs; the staff had decreased by 5 over the years.

**Elton Smith:**

A successful test of the Hall D barrel calorimeter was recently carried out in Hall B. Hall D has very limited resources, with only 2.5 FTEs at the lab right now, and no designers – a designer is needed NOW! With the start of construction funds in 2008, and the planned accelerator shut down and upgrade in 2012, it is necessary to have a large ramp up in people working on 12 GeV over the next two years. The project is attempting to identify physicists and engineers to work on 12 GeV.

**David Richards:**

The theory group works on a wide range of topics, including Lattice QCD, the new excited baryon analysis center (EBAC), conventional hadronic theory, effective field theory, etc. One problem has been getting students; this would be easier if there were more long-term theory positions, so that there were better career prospects for young people.

**Allison Lung:**

The 12 GeV project is continuing, with reviews of various aspects of the project happening about every 2 or 3 weeks. CD2, expected by 9/30/2007, requires 4 more reviews. CD3 is expected one year later. Need for more staff to work on 12 GeV is an issue, as discussed above. The situation is helped over the long term by PED funds being available, but as indicated above there is a short term problem.

**Larry Cardman:**

The long-range planning procedure has started with five town meetings planned, two pairs of which are joint meetings. Our primary interest is in the joint QCD meeting, at Rutgers University on January 12 – 14, 2007 (<http://www.physics.rutgers.edu/np/2007lrp-home.html>). Oddly, the QCD hadronic physics and QCD phase diagram meetings are asked to produce a joint white paper. The JLab community is underrepresented on NSAC.

It is anticipated that 6- and 12- GeV PACS will alternate over the next few years, until we are within 3 years of the expected 12-GeV upgrade shutdown. The PAC will then be asked to review a proposed 6 GeV physics program, including whether some experiments are more appropriately run after the 12 GeV upgrade. The 6-GeV experiments not approved by the PAC for the proposed program will be considered lost to jeopardy, but they may be reformulated as needed to run during the 12 GeV era, and resubmitted to a 12 GeV PAC – the 12 GeV PACs will continue during the final years of the 6-GeV era. Although more 6-GeV PACs are not planned, it will be possible for new 6 GeV proposals go before the PAC if, for example, something sufficiently important is developed.

The PAC membership is changing, as Serge Kox and Berthold Schoch are rotating off the board. Roy Holt will move up to the chair position. The UGBOD was asked for suggestions for two new members.

### **User Group Meeting:**

The board discussed ideas for the annual User Group Meeting, to enhance interest and attendance in the meeting. Typically the meeting has a few prominent outside speakers, reports from the funding agencies, a business meeting, and numerous reports on JLab physics. The meeting is typically poorly attended by people who have to travel to JLab, if they are not speakers.

The UGBOD discussed several possible prominent speakers, and new sessions – eg, focused on the long range plan, Glue-X, 12 GeV, or education and outreach. More generally, the group discussed possible changes to the annual meeting to make it better attended - the budget for UGBOD activities has arisen solely from the annual meeting registration fees in the past, and this year we had a slight shortage, which has been resolved thanks to some Jefferson Lab Physics Division meeting support funds. SLAC meetings have been generally short, and correlated to collaboration meetings. We could attempt this model, which would lead to omitting much of the usual JLab physics review, since it would be in the correlated collaboration meetings. Having short presentations and discussion panels is an alternative popular in many meetings today, which we could attempt. Another possibility is having a political talk, from someone who can be influential in support of the lab. An example is US Representative JoAnne Davis, someone higher up at DOE, or the past or present Virginia governors.

### **Additional Topics (Ron Gilman, Peter Bosted, Todd Averett):**

The User Group Satellite meeting at DNP is set for Thursday evening, Oct 26.

Prestigious post-doctoral fellowships exist in a number of physics subfields,

making holders of the fellowships attractive candidates for faculty positions at prominent universities. We should consider ways to enhance the Isgur fellowship program, to enlarge the number of recipients.

A number of Chinese physicists associated with the laboratory have had extended background checks in the recent past. At present it does not appear that there is a general problem as we saw a few years ago. Rather, it is related to technicalities of how the FBI carries out name checks on individuals.

Response to the user manpower survey, of students and recent Ph.D.'s, is poor. It is very important that JLab can document that it produces a large fraction of nuclear physics Ph.D.s - 25% in recent years. Bob Welsh reports, however, that response to the survey has been poor. People who have not responded should do so – see <http://www.jlab.org/manpower.html>.

Occasional visitors seem to be having trouble turning on their building access. For U.S. Citizens, cards are de-activated if you have not been on site in a year, and you need to email Rachel to re-activate your card. Non-U.S. Citizens typically need to arrive and show some documentation at the VARC building. It would be helpful if there were a central web page that could display someone's training and badge status, and if they are off site, give them a list of things they need to do as part of their next trip to JLab.

While there are several high energy / nuclear physics data archiving site, there appears to be no professionally managed site quite directed to JLab physics. Peter Bosted volunteers to look into Jefferson Lab having such an archive.

As the day came to an end, RG neglected to report on NUFO activities. This was done after the meeting to the UGBOD by email; other individuals were contacted as well and asked to participate in NUFO activities.