Preliminary Findings and Recommendations

Intro

Omega 60

Omega EP

General user issues

Information flow

Broader Issues

Great work Omega!

Great facility, very helpful, responsive, and professional staff, excellent communications

The Exec Com is very impressed with the quality of student work shown here

NNSA: thanks for the travel support

keep supporting them and their research!

PRELIMINARY findings and recommendations follow

As always, things can improve…..

These issues and recommendations will be worked over, processed, and prioritized into a report by the Exec Com

- **Goal is report by May 27**
- **Need member feedback by June 3 for our final input to scheduling process 23 June**

Strongly resonant recommendations are highlighted below

Feel free to provide more input to Exec Com members

(We do understand that EP and OMEGA are works in progress)

Omega 60

Penalty and conflict information would help. e.g. pointing, framing camera moves, phase plates, etc

Need to be able to drive any legs from any driver

- **i.e., up to 3 legs on backlighter driver or to run main and SSD simultaneously into any legs**
- **Now can only drive one leg with backlighter driver**
- **Becomes a major problem for X-ray Thomson Scattering**

More SG8 or similar DPPs would be useful

Get back to more static x-ray PHCs

Spherical crystal imaging would be nice

Omega EP

Phase plates at 1 mm give or take are essential to a number of users

SSD will also matter for a number of possible experiments

Strongly endorse adding simultaneous SOP to ASBO

Pulse shaping equivalent to NIF capability will help a number of users (100 ps to 30 ns)

Spherical crystal imaging will be very helpful

Low-energy probe beams would be helpful

- **1w chirped via an air compressor to allow adjustment**
- **2w or 3w too would be better**
- **Diffraction limited would help for phase contrast**
- **Up to 1 J would provide an x-ray option**

Need to somehow develop a record of experience with EMP vs type of expt, laser intensity, diags

Organized penalty and conflict information would be helpful e.g. blast shield

General user issues

Earlier assessment of conflicts or problems in the setup; e.g. more access to scheduling committee outputs but being able to get this 6 months in advance would be great. Want to know also what operational delays may be introduced by the initial plan.

Option for experimental proposal reviewed with more than minimum requirement of 2 months, e.g. 6 months

Establish link scientists/engineers/technicians as mentors … (as Chuck Source does for LLNL)

Zero interframe timing for x-ray framing cameras should be
- A standard operating procedure each day
- Readily available on the web

Arrange calibration and testing as a dedicated instrument maintenance block of time

LLE should host wikis for areas of user interest, e.g. x-ray Thomson scatt, x-ray framing cameras.

Need to keep using Be

Improved links to more information in SRFs and other material, especially for each diagnostic
- Brief description, contact people, RSI or other references, procedures ….

Dedicated lab space for visiting groups
- Enable preparations without conflicts
- Computer linkages in this lab or wherever preparations occur

Comments on after-shot feedback process:

Quality is not entirely satisfying. Overall sense is that 20% give or take of the feedback is too hurried or pressured to be accurate. Issues like data quality are often not clear for a while.

Add shot cycle assessment line to feedback form

Amended/revised after-shot feed back sheet

Information flow

A challenge, especially when not having strong internal connections, despite the fantastic job Omega is doing.

Put an x-ray framing camera and streak camera status page up on the web for all-user access

- **Coordination and information flow for framing camera flat fields and signal levels would also be very useful, to improve user planning. (See wikis)**

Implement a search capability to enable all users to find out who has done or is planning to use specific diagnostics or other capabilities (including SRFs and PIs).

- **This would enable users to figure out the right people to contact.**
- **Include ability to identify empty TIMs for potential diagnostic tests.**

Implement automatic notification of diagnostic status during runup toward shots that use it

There was a problem with information flow relating to changes in policy about DT fill, although in general users report good communication about policy changes.

EP information:

- **Need focus and energy and timing updates regularly**
- **Need to know focusability vs energy through blast shields in EP ASAP**
- **Need to know contrast on EP ASAP**
- **Need regular updates on EP pulse shaping capabilities**
- **Status of DIM updates needed**

Need regular updates on phase plate inventories and availability (both 60 & EP)

Broader Issues

Absence of explicit support for diagnostic development in universities has an increasingly adverse effect on hands-on training in an era of increasingly formal facility operations.

Concern about availability of small facilities as staging grounds for hands-on training, diagnostics, and experiment development

Proceed with the HIPER/US workshop to promote joint and complementary research on HEDP physics