

FY07 Plan for **Linear Collider/ILCTA**

Prepared by: Margaret Votava

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Relevant Strategic Plans - [ILC Strategic Plan](#) (ILCSP)

ILCTA.Goal -

- Lead and contribute to the ILCTA controls group efforts to provide a controls framework and device interfaces for cryomodule and photocathode tube testing at NML and prepare for beam in FY08. Support horizontal test stand and vertical test stand infrastructure.

ILCTA.Strategy –

Provide various control systems and interfaces that standardize control systems across several areas (capture cavity, horizontal test facility(HTF), vertical test facility (VTF), cryomodule test beam area and 3.9 GHz coupler conditioner. Infrastructure should be flexible enough to support R&D on the controls system itself.

Linear Collider/ILC Controls/ILCTA

Objectives for FY07

1. Create integrated, standardized, and ongoing prototype system for control systems
 - a. ILCTA Controls requirements document February 2007
 - b. Milestone: Warm Cryomodule and coupler conditioning July 2007
 - c. Milestone: Photocathode preparation system August 2007
2. Provide integration expertise in terms of various controls systems in use:
EPICS, DOOCS, Labview, Matlab.
3. Provide project management including budget and project planning and reporting.
 - a. DOE SCRF Review in February 2007
4. Provide infrastructure support in terms of system administrations, software product distribution, and software development methodology.
5. Improve DOOCS, Labview and Matlab expertise within our group

Linear Collider/ILC Controls/ILCTA/NML

- Activity type: Ongoing
- Timescale: all of 2007
- Milestones: Formal External Review on 2/15/2007
- Metrics: Passing formal review

Linear Collider/ILC Controls/ILCTA/HTF

- Activity type: Ongoing
- Timescale: All year
- Milestones: Testing cavities appropriately as they arrive
- Metrics: Cavity processing automated and integrated in data management

Linear Collider/ILC Controls/ILCTA/Cryomodule

- Activity type: New
- Timescale: all of 2007
- Milestones: Cryomodule arrival July 2007
- Metrics: Warm testing can be started on arrival

Linear Collider/ILC Controls/ILCTA/Photocathode

- Activity type: New
- Timescale: 4th Q 2007
- Milestones: Photocathode prep system arrival August 2007
- Metrics: Prep testing can be started on arrival

Priorities: The most important objectives are for passing the DOE SCRF review in February as all funding for SCRF development at NML is contingent upon this. The top priorities from the GDE are dictated as being the Vertical and Horizontal Test Facility. It's critical to get cavities into the system for people to test. R&D on other systems such as controls, LLRF, and instrumentation at considered secondary.

If we are short in time or resources, we will first let go of controls system R&D needed to run NML well from an operational standpoint (ie, make it much less automated). The next thing to sacrifice are some of the standards and uniformity across systems. This is robbing Peter to pay Paul as we will pay for this in the long term by a larger support load and the need to standardize later.

Staffing: We will need to hire or find a person with controls system integration and hardware skills NOW. This effort is now running at about 50% of estimated resources. Our plan assumes that one additional engineer and one additional software developer is.

Change control:

If we are told by Stanek that any relevant ILC schedule has changed requiring a change to the deliverables, or we find that we have inadequate resources within our budget we will file a formal change request to this plan. Any change request must originate with Wolbers and proceed through Division Channels. The stakeholders who need to be informed of any change are Stanek, Wolbers, and (if the changes have financial impact) CD/FSG.

Risk Assessment:

1. Failure on the vertical and horizontal test stands will have significant repercussions on the ILC cryomodule schedule. The other elements can be delayed a few months but no more before major impacts occur.
2. We have a real risk of not meeting staffing requirements. This will delay schedule for NML, but the cryomodule delivery schedule has serious risk being

significantly delayed because of funding delays. If we can't meet our staffing requirements, we impact the level of quality and automation of the test facilities.