

# Welcome and Presentation of Charge

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Accelerator Advisory Committee

([http://www.fnal.gov/directorate/Fermilab\\_AAC\\_mtgs.htm](http://www.fnal.gov/directorate/Fermilab_AAC_mtgs.htm))

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# The Current Landscape: Update Since May 2004 Meeting

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- Run II

- Completed FY2004 run with delivered luminosity ~12% above design projection (342 pb<sup>-1</sup>).
  - First store with luminosity  $>1 \times 10^{32}$  cm<sup>-2</sup>sec<sup>-1</sup>
- Initiated Fall 2004 shutdown with major (Run II) goal:
  - Installation of electron cooling in the Recycler
- FY2005 luminosity goals established at 480 pb<sup>-1</sup> (design) and 370 pb<sup>-1</sup> (base)

- Neutrinos

- MiniBoone FY2004 run completed with total to date of 3.7E20 protons on target.
    - Horn failure in late July after world record  $94 \times 10^6$  pulses (replaced in fall shutdown)
  - NuMI completion of installation during Fall 2004 shutdown.
    - Initiation of commissioning with beam in December
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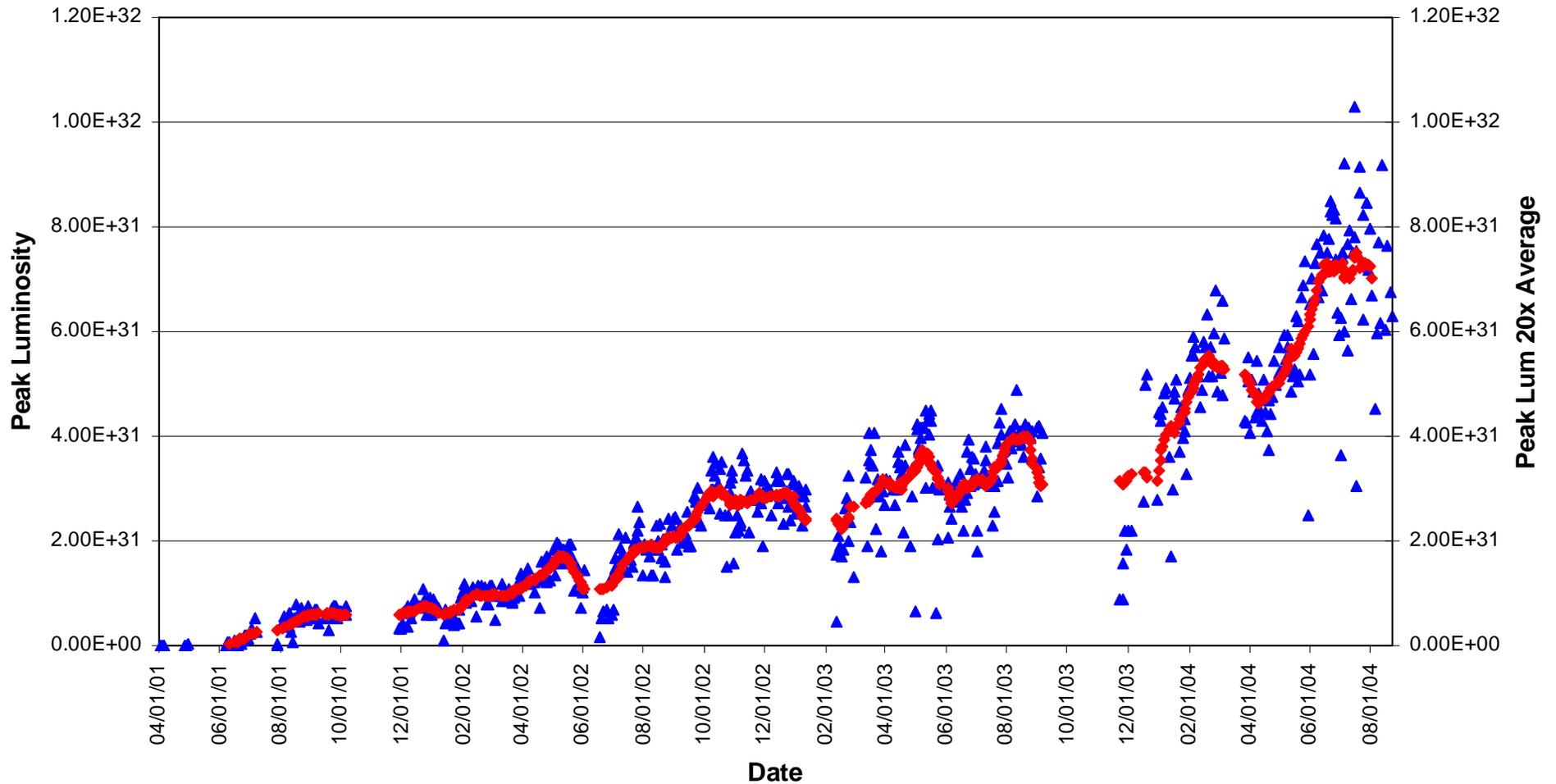
# The Current Landscape: Update Since May 2004 Meeting

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- The Future
  - ITRP/ICFA decision on “cold” technology for the linear collider
    - Triggering integration of Proton Driver and Linear Collider efforts at Fermilab
    - Development of SMTF concept and submission of an Expression of Interest to Fermilab Director
  - First Nb<sub>3</sub>Sn model magnet to reach short sample
  - Final testing of low field (“superferric”) magnet at full current (104 kA)
  
- Changes in Accelerator Advisory Committee Membership
  - Passing of Joe Rogers
  - Resignation of Sasha Zholents
  - New members: John Corlett and Georg Hofstaetter

# The Current Landscape

## Initial Luminosity (through 8/22/04)

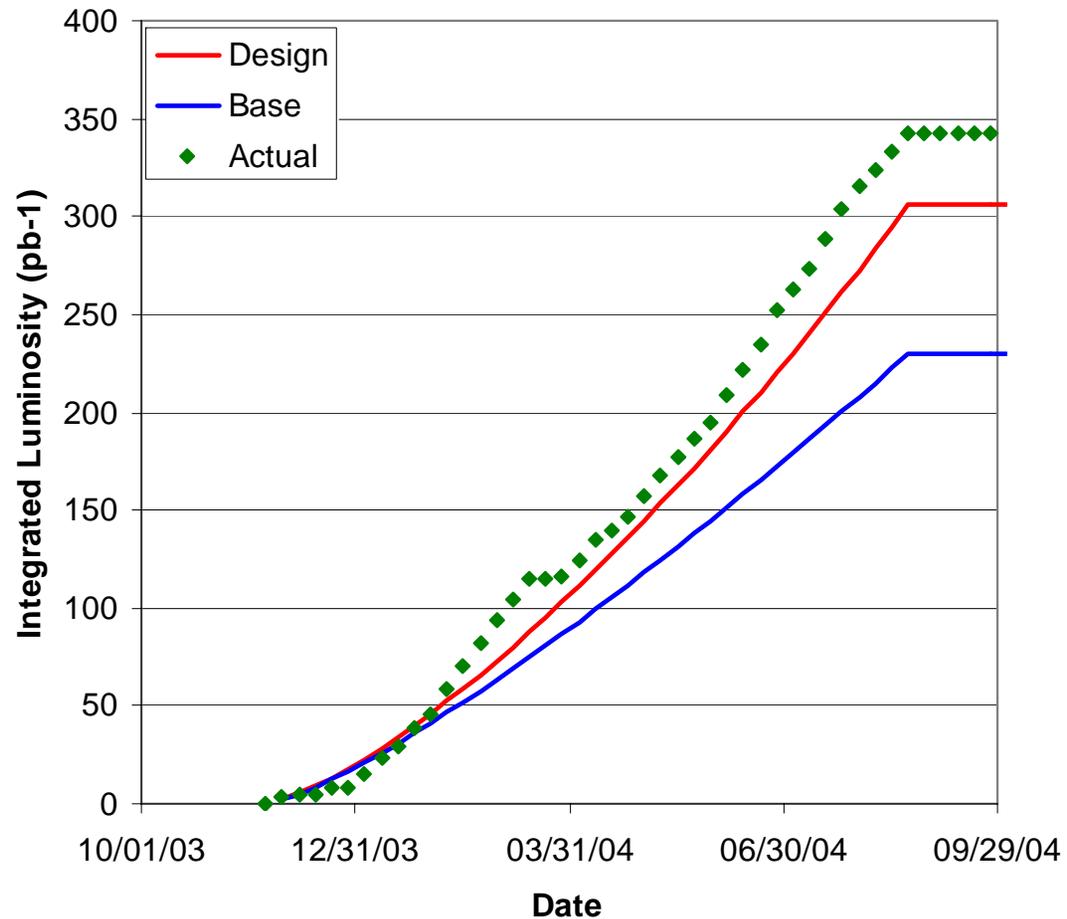


▲ Peak Luminosity ◆ Peak Lum 20X Average

# The Current Landscape

## Integrated Luminosity (FY2004)

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# Charge to the Committee

## (Rev. 4)

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Major goals in the Tevatron complex in FY2005, in addition to continuing collider operations, include commissioning of the newly installed electron cooling system in the Recycler Ring and initiation of NuMI operations simultaneous with antiproton production in support of the Tevatron Collider. In parallel plans are progressing for aligning Fermilab's R&D activities with the vision presented in the Fermilab Long Range Plan and with the recent linear collider technology decision.

At its fall 2004 meeting the Fermilab Accelerator Advisory Committee (AAC) is asked to review, comment on, and offer recommendations as appropriate in the following areas:

# Charge to the Committee

## (Electron Cooling)

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### Electron Cooling Commissioning Plan:

An electron cooling commissioning plan has been prepared and reviewed internally within the Accelerator Division. The primary feedback we would like from the AAC is whether, in your view, the commissioning plan provides a sound basis for demonstrating the ability of the Recycler based electron cooling system to demonstrate cooling of antiprotons by the start of the 2005 shutdown. More specifically:

- Are the goals well defined and credible?
- Does the strategy appear effective both in terms of achieving these goals and in being consistent with the anticipated allocation of antiprotons and access time within the Run II plan for 2005?
- What are the primary technical risks and their potential impacts? Are there any suggestions on mitigation of these risks?

# Charge to the Committee (NuMI)

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## NuMI Commissioning Plan:

This plan is in preparation for release prior to the December 2005 accelerator startup. At this stage of preparation we would like the committee's views on:

- Are the goals well defined and credible?
- Is the approach effective and is it consistent with the Run II operational plan for 2005?
- What are the primary technical risks and their potential impacts?
- How can the plan be improved?

# Charge to the Committee (SMTF)

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## Superconducting Module Test Facility Proposal:

The laboratory has received an Expression of Interest for the construction and operation of a Superconducting Module Test Facility in support of the International Linear Collider, the Proton Driver, both of direct interest to Fermilab, and other superconducting rf based programs of interest within the DOE and NSF. While a more formal proposal is now in preparation by the proponents, the EOI already contains an outline of the scope, goals, and implementation strategy of the SMTF. The EOI will be presented to the AAC and we are asking for both an overall reaction to the approach accompanied by specific commentary in the following areas:

- Are the goals of the SMTF clearly established and do they make sense in terms of the needs of the U.S. based scrf community?
- Does the SMTF as described in the EOI effectively meet the needs of the ILC and Proton Driver programs?

# Charge to the Committee

## (SMTF, continued)

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- Does the SMTF as described in the EOI effectively meet the needs of the CW scrf communities?
- Does the plan integrate well the capabilities of all participating institutions with minimal redundancy.
- Is the staging plan credible?

### Fine Print

As usual the committee is invited to issue comments or suggestions on any aspect of the programs discussed beyond those specifically included in this charge.

In order to provide a framework for the presentations and subsequent discussions the report of the FLRPC will be made available in advance to the committee, and a presentation will open the meeting.

It is requested that a concise report responsive to this charge be forwarded to the Fermilab Director by June 17, 2004. Thank you.

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