Mike - The Early Days

A little history

First heard about an experiment at Fermilab that was using silicon strip detectors behind a target in a photon beam at a proton accelerator to look at charmed mesons. This was E-691 with Mike as spokesperson. They were doing better than we were at CLEO in the mid 80's for some of the charm decays.

Santa Barbara Group joined CLEO in late 80's and Mike became a collaborator bringing the silicon strip technology with them.

Commuting to Ithaca from Santa Barbara is at least a second order transition.

Worked with Mike on the Witherell Subpanel in 1992.

Mike becomes Fermilab Director July 1, 1999.

Opportunities

Numi/Minos construction project

Safety and Security

The Bright Side

Run II and Collider Detector Upgrades

New Initiatives

Budgets with less than positive slope

Increasing Oversight

Numi/MINOS

When Mike arrived, the Numi tunnel excavation was underway with S. A. Healy as the contractor.

The MINOS detector hall in the Soudan mine was nearly finished and installation of the detector was beginning.

A year later, schedule slippage and cost increases became apparent.

Project was re-baselined during the Fall of 2001 with nearly one year added to the schedule and an increase of 33 M$ to the TPC (171 M$). Project plan was to have operations by 3/30/05 and DOE baseline was for 9/30/05.

Contractor safety performance becomes an serious issue.

Safety and Security

Serious injury accident for a contractor employee leads to a laboratory wide stand down.

Previous to this, a fire in the kitchen and an electrical flashover had already raised safety concerns.

DOE policy changes to make safety number 1.

Mike initiates a very proactive approach to safety. Currently Fermilab has the best safety record of all of the DOE labs.

First it was security of the computing systems at the laboratory.

The events of 9/11 closed the laboratory to the public which was one of its greatest assets.

Only recently has the assess been restored at some level with only sensitive areas requiring badges.

Mike has worked tirelessly to open the laboratory.

On the Bright Side

The Sloan Digital Sky Survey was doing very well.

The construction of the Pierre Auger Array was underway and going well.

The installation of the CDMS detector system in a lab adjacent to the MINOS detector in the Soudan mine had begun and was going well.

Construction of the MiniBooNE detector, target station and beam line from the Booster were underway and it was going well.

MiniBooNE began data taking during the Fall of 2002.

US CMS with Dan Green as project manager was thriving.

The US contribution to the LHC accelerator with Jim Strait as project manager was off to a good start.

Run II and the Detector Upgrades

Run II begins in spring of 2000 on schedule. Upgraded detectors come on-line are commissioned and begin to take data. But clouds appear on the horizon.

Luminosity of the Tevatron slowly comes up. Problems with anti-proton accumulation rate and proton emittance are limiting performance.

Reliability of the Collider systems further limit integrated luminosity delivered to the detectors.

By early 2002 the luminosity of the Tevatron is still lagging behind expectations and there is a vacuum episode in the Recycler.

By Fall of 2002 the DOE becomes interested in the Tevatron Luminosity problem and there are hints of a gathering storm.

Accelerator physicists and engineers from other HEP laboratories are sought along with staff from other Fermilab divisions and after some initial rough edges they begin to make positive contributions.

Early in 2003, the Beams Division is reorganized with Roger Dixon being appointed Head with Dave McGinnis as his deputy.

During the Spring of 2003, the Machine Advisor Committee meets and expresses concerns about the luminosity projections.

This led to transforming the Run II luminosity upgrade into a project with Jeff Spaulding as project manager.

A Run II Task Force made up of senior laboratory members is created to advise Mike on strategic issues.

At the 2003 Aspen Meeting of the PAC, the planned silicon detector upgrades for both detectors were reviewed.

July brought a Lehman Review of the Run II luminosity upgrade plans with the intention of repeating it every six months. The review was guarded in its outlook for success.

The Fall 2003 shutdown was a major campaign to realign Tevatron magnets, bake the Recycler vacuum chamber, and implement better beam instrumentation for the Recycler and the Tevatron along with some of the critical beam transport lines.

The shutdown was very successful, finished on schedule with no safety incidents and the luminosity performance of the complex began its steady improvement to today's level.

New Initiatives

Past Directors have had the opportunity to move forward on a number of new initiatives. In the new world, there is much less flexibility.

During the 2003 Aspen Meeting of the PAC, two new initiatives were given Stage 1 approval. BTeV for the collider program and CKM for the fixed target program for the Main Injector.

Both of these experiments were then subjected to the new P5 process with BTeV receiving high marks and CKM given lower priority.

On the accelerator side, Fermilab made major contributions in the manufacturing of the NLC accelerating structures.

A feasibility study for a neutrino factory based on a muon storage ring was carried out in February 2000. This led to new test facility at the end of the linac.

Budgets with less than positive slopes

Budgets that do not grow with inflation take their toll.

Aging infrastructure especially in the power distribution system demands an increasing commitment of scarce resources.

The cancellation of the creative financing scheme for replacing some of the electrical distribution system by using anticipated electricity savings was particularly unfortunate.

The reconstruction of Wilson Hall was not fully funded from money outside the research program.

In the end, this was probably the largest challenge for Mike.

Increased Oversight

It hasn’t come quite to the stage of a review per week but it is getting close, certainly within a factor of three.

The Run II luminosity upgrade experience is typical.

P5 adds yet another layer to the process of getting a medium scale project approved for construction and operation.

Mike, it has been a great ride!

Thanks