

VLHC Steering Committee - goals & plans

Recent History:

- 1992 Clinton terminates SSC
- 1994 Bloomington Indiana 'Workshop on Future Hadron Facilities in the U.S.' - Steve Holmes Ed.
- 1995 PAC in Dallas several publications
- 1996 Snowmass 'Really Large Hadron Collider Working Group' Dugan, Limon & Syphers
 - NLC
 - Muon Collider
 - RLHC



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- 1997/8 Gilman subpanel ‘Planning for the future of U.S. High Energy Physics’
 - **The Subpanel recommends an expanded program of R&D on cost reduction strategies, enabling technologies, and accelerator physics for a VLHC. These efforts should be coordinated across laboratory and university groups with the aim of identifying design concepts for an economically and technically viable facility. The scale and progress of the R&D program should be subject to additional review in about 2 years.**
- 1998 John Peoples requests Directors of LBNL, BNL & Cornell to nominate representatives to a National Steering Committee



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Mission Statement: The steering committee for a future very large hadron collider coordinates efforts in the United States to achieve a superconducting proton-proton collider with approximately 100 TeV cm and approximately $10^{34} \text{ cm}^{-2} \text{ sec}^{-1}$ luminosity.

Charge: The Steering Committee will encourage the exchange of personnel between participating institutions, promote coordination in planning and sharing of research facilities and provide a mechanism for all interested parties to participate in the evaluation of the alternative technological approaches that are presently being pursued.

The Steering Committee does not manage the work of the individual institutions. It will organize the selection of a good name and logo for the VLHC. It will issue an annual report summarizing work of each group and setting goals for the next year. The focus is on technology and cost reduction.



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Committee Membership:

- Peter Limon, Ernie Malamud - FNAL
- Bill Barletta, Jim Siegrist - LBNL
- Gerry Dugan - Cornell
- Steve Peggs, Mike Harrison - BNL

First meeting takes place where the Committee firmly endorses concept of a ‘steering’ and not a ‘rowing’ committee and promptly creates three working groups to perform the ‘heavy lifting’

- Magnet technology
- Accelerator Physics
- Accelerator Technology



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Committee's concept is that of an annual meeting (preliminarily scheduled for June in Monterey) where progress is reviewed, short term goals established, we talk to each other, reports from working groups, annual report, etc.....

Each working group is requested to hold 1 additional meeting per year per working group

- **Charge to the Accelerator Technologies Working Group :**
Guided by the Snowmass '96 parameter sets explore and develop innovative concepts that will result in significant cost reductions. Coordinate parameter sets, infrastructure requirements for the various options, and designs with the other working groups. Foster dialog and partnerships with industry. Develop bases including costs for comparing different designs.



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So what we really trying to achieve ? It is important to understand the context of huge new hadron machine

- **Tevatron is the energy frontier until LHC**
- **LHC - turning on in 2006 (World machine ?)**
- **NLC - seeking CD1 (permission to prepare a CDR) this Spring. Next major U.S. HEP Project ?**
- **Muon Collider R&D program**
- **We are not a Project and we receive no direct HEP funding support**
- **DOE views VLHC as ~15 years away**

Not terribly encouraging at face value !



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However:-

- There is a tacit acceptance of the viewpoint that a post LHC hadron collider will be built somewhere, sometime, somehow by somebody
- There is general agreement that the Snowmass parameters are about right
- timescales permit R&D without pressures of pending deadlines. This is the time to be innovative/risky

Concepts developed at these workshops can (and if they're strong enough, will) influence the ongoing machine development (R&D and beam studies) programs at Fermilab & BNL

Will provide the intellectual support for proposals to, and discussions with, both the DOE and Lab management. This will naturally lead to increased activities.



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At this point in time then the emphasis ought to be on identifying innovative concepts consistent with the broad scheme.

- New technologies with large potential leverage.
- Identifying problem areas where technology is lacking.

We should not be trying to design a facility !



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