Testimony to HEPAP

Henry Frisch
Prof. of Physics, EFI, Univ. of Chicago

I come to talk for you with some trepidation, as giving unsolicited advice is generally a waste of time. Edmund Burke, in his Speech on Conciliation with the Colonies to Parliament, said in 1775:

" It generally argues some degree of natural impotence of mind, or some want of knowledge of the world, to hazard plans of government except from a seat of authority. Propositions are made, not only ineffectually, but somewhat disreputably, when the minds of men are not properly disposed for their reception."

I came to Chicago in 1971 because of the proximity to Fermilab, and because Jim Cronin came to UC for the same reason. I consequently saw Bob Wilson's vision for the Lab as a national treasure for research and scientific education, his deep belief in our mission, his over-riding confidence in the Lab, his drive for excellence, and his deep sense of the responsibility of getting the most bang for the buck for the taxpayer.

I have several propositions, and in spite of Burke's warning hope that your minds will be at least partially disposed for their reception.

First, we must look forward, and not backward. The key now is to exploit the present opportunities to the maximum, and use what what we learn to look even further forward. I strongly believe that the field of High Energy Physics has more opportunity for major discoveries than any other field in the physical sciences today; we have solid reasons for the existence of phenomena beyond our present understanding, and the Tevatron is the forefront tool for their exploration for at least the next 3-4 years.

Second, we must be both grateful and responsive to the responsibility we have to the American public and to the future generations of scientists; we need to be aggressive in using the resources that have been given to us. This is not an entitlement, and we must not be complacent. We are doing forefront science, and in forefront science one is either gaining momentum or losing it; there is no coasting. This is, I propose, because the best young scientists flock to where the action and scientific payoffs are; it is the constant influx of the best and the brightest that makes a field, and once we as a field lose confidence in ourselves we will stop. We have a responsibility to extract the most from the present opportunity at the world's highest energy machine. We can not make the Tevatron 'go away' and wait until the LHC; we will have missed several generations of the best students, and it is having the best students that brings in the new best students.

So, looking forward, I have three concrete proposals for action:

1. The DOE establish a performance standard for the Lab of at least 300 pb-1 on tape (after taxes) for Fiscal 2004.
2. The DOE formally challenge CDF and D0 to extract the maximum physics out of next year's running by increasing bandwidth, trigger purity, and efficiency.
3. The BOO initiate a search for a strong leader at the Deputy Director level with vision and a track record of success in accelerator physics so that credibility and confidence in the Lab and its mission of excellence can be restored.