

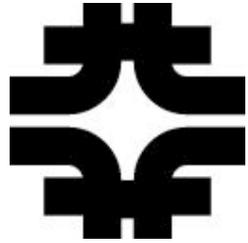


*Power/AC challenges at  
Fermilab*

D. Petravick

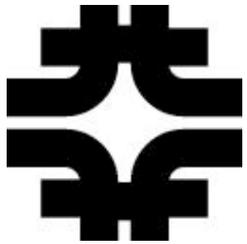
Fermilab

April 24, 2007

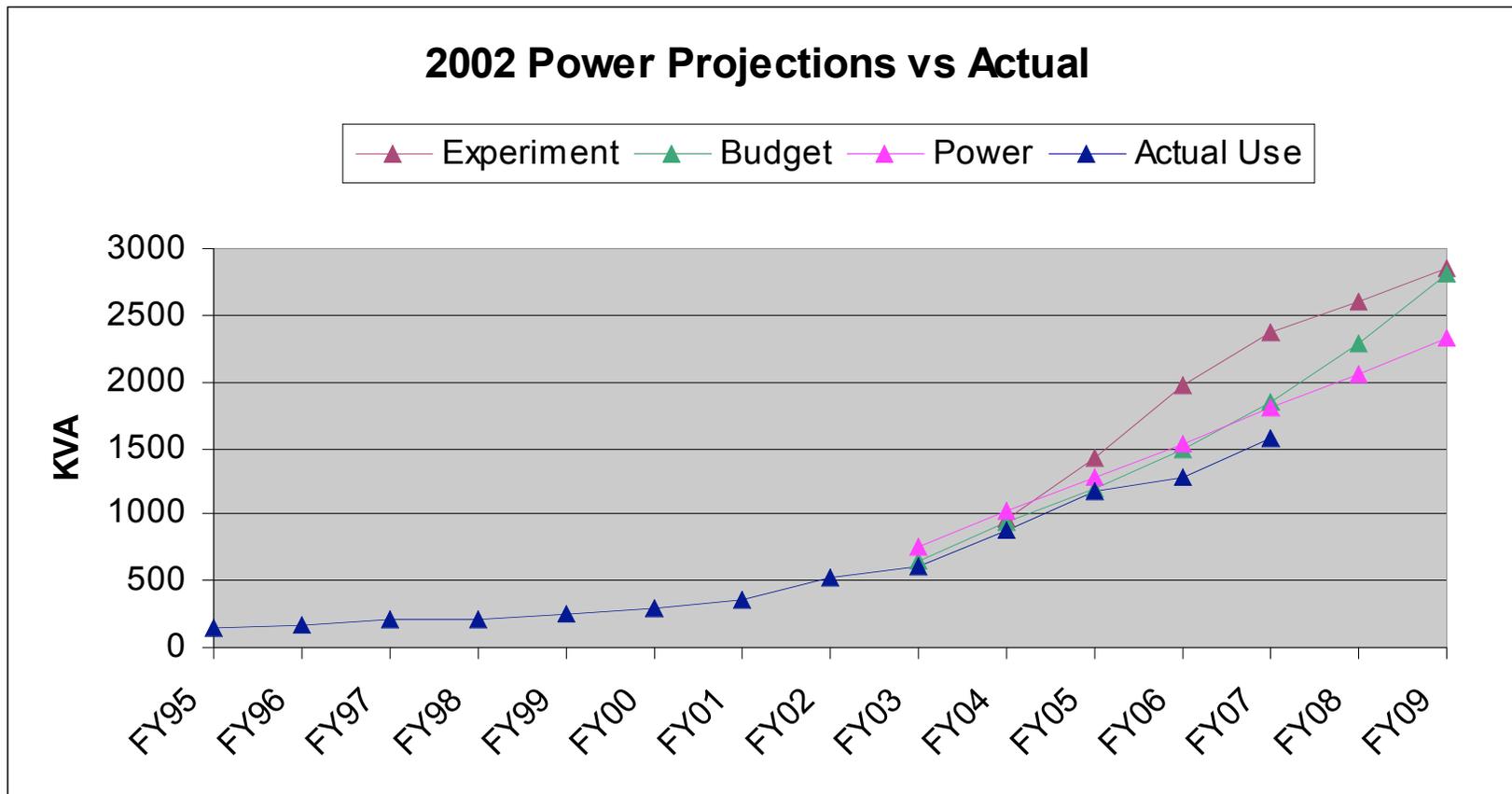


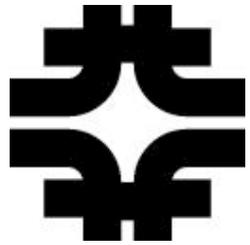
# *FNAL Scientific Computing*

- CDF
- D0
- Lattice QCD
- CMS Tier 1 center
- Experimental Astrophysics
- Theoretical Astrophysics
  - partner w/Kavli Inst. U Chicago
- Accelerator Simulations
- Neutrino Program



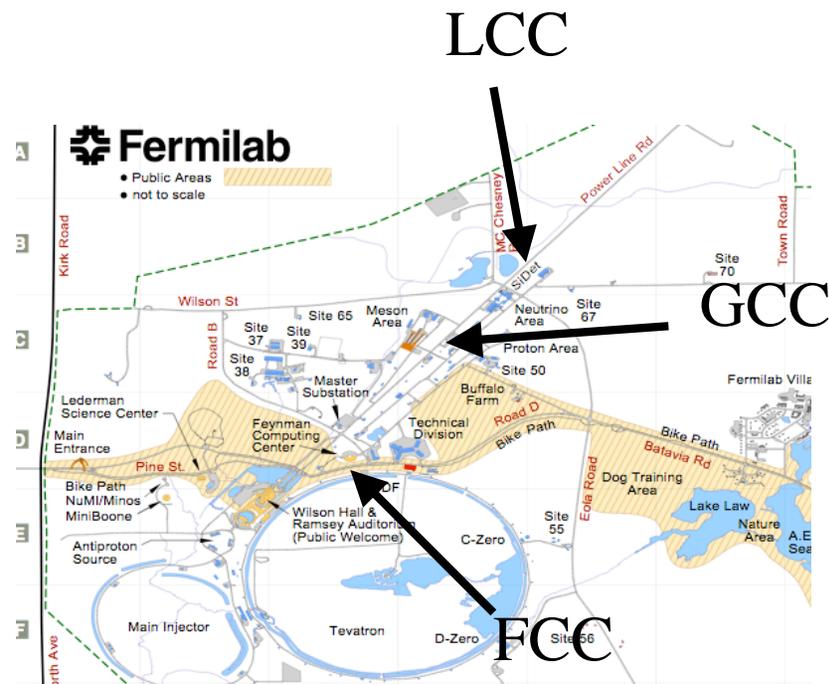
# 2002 Forecast,





# Computing Centers

- Three computing buildings.
- FCC, -- > 20 year old purpose built
- LCC, GCC: built on former experimental halls w/ substantial power infrastructure.



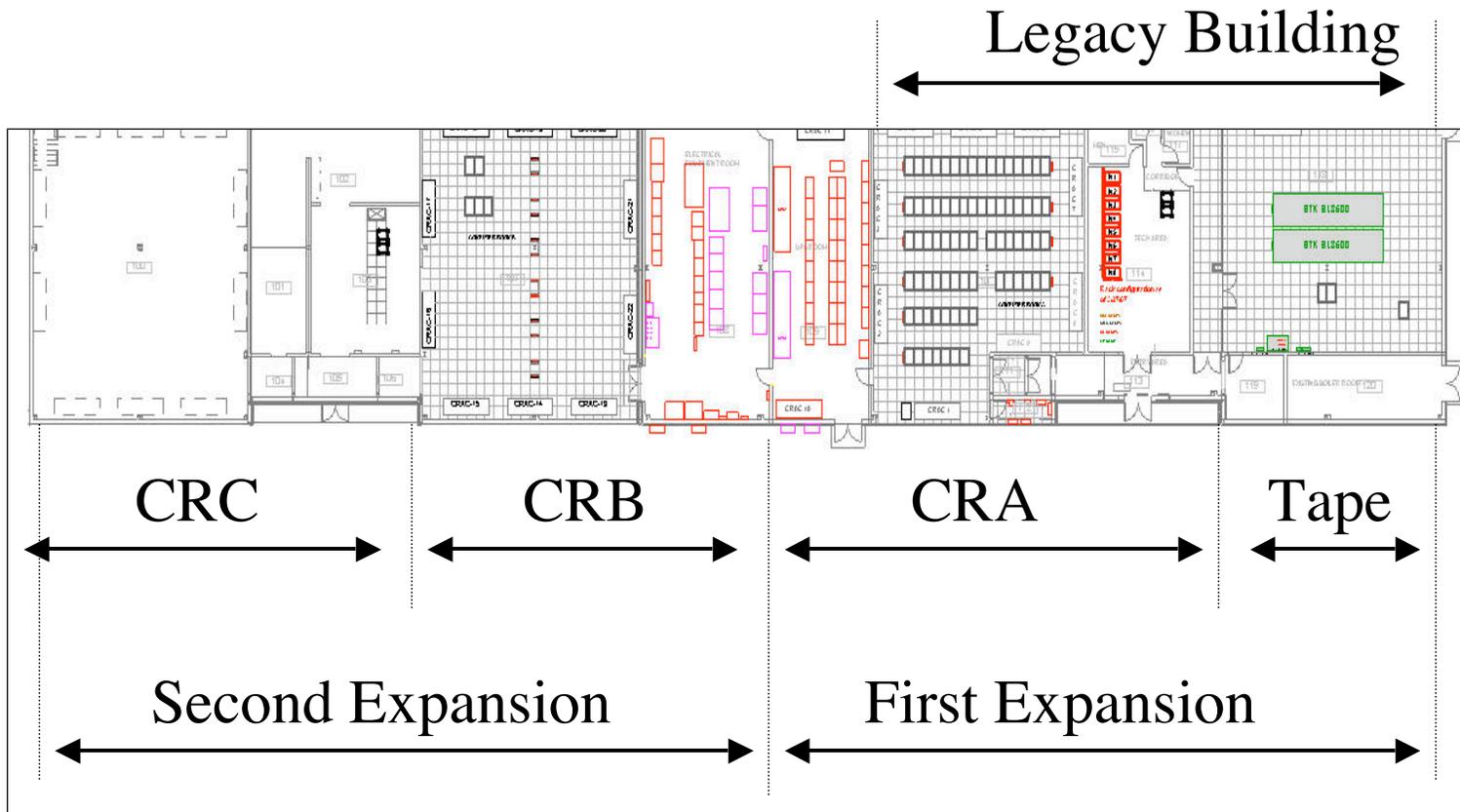


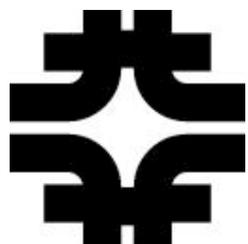
## *Type of Space*

- Thinking continues to evolve, notion is that there is:
  - Space for new computing systems.
  - Space for long-lived, “tape” storage.
  - Space for generator backed disk.
  - Space for other disk.



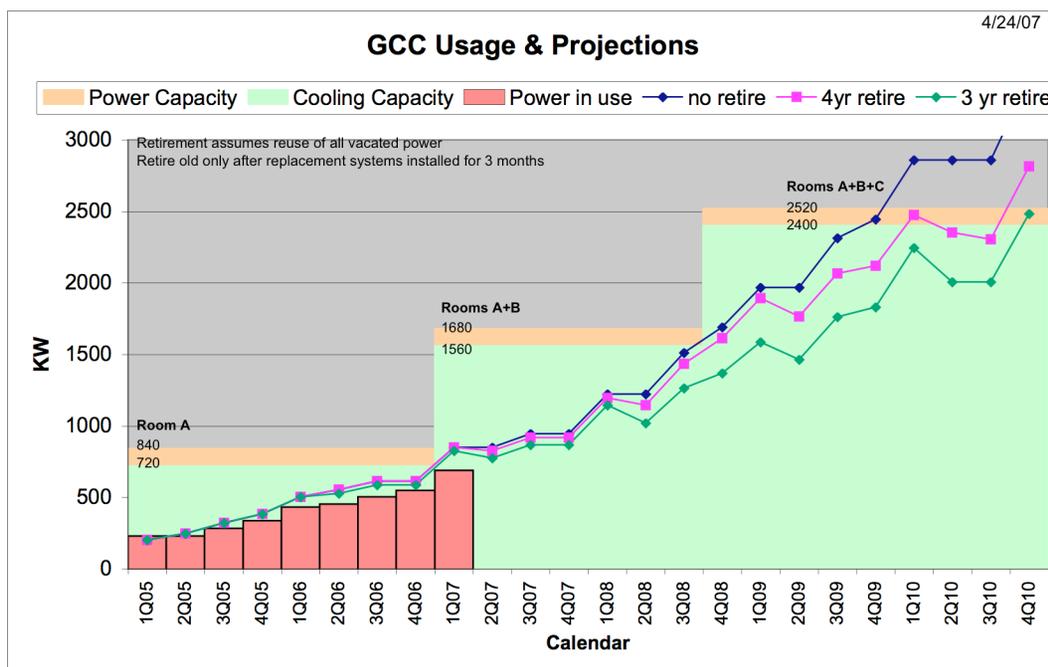
# *GCC Grid Computing Center*



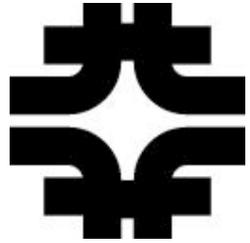


# Just in Time Delivery

KVA, excluding cooling



|              |             |
|--------------|-------------|
| FCC          | 600         |
| LCC          | 710         |
| CRA          | 840         |
| CRB          | 840         |
| CRC          | 840         |
| Tape         | 45          |
| <b>Total</b> | <b>3875</b> |



## *Summary*

- Fermilab has a diverse scientific computing program.
- Forecasting has shown a need to continually expand computing facilities.
- Fermilab has expanded its capacity incrementally.
- Notwithstanding that, the lab's program includes substantial future growth.