Baseline RF Distribution and Beamline Layout

- Tunnel Topology
- RF Distribution---Single-mode
  - RF Delay Line Distribution System (DLDS)
  - Vacuum Requirements
- Beamline Layout
  - Accelerator Structure Supports---strong back
  - Accelerators on Girders
NLC typical RF Station
X-Band 8 Klystrons

Note: M1 - M3 are monitor points for fundamental RF
M4 - M9 are monitor points for S-BPMs

75 mW

150 mW

300 mW

600 mW
Waveguide in the Tunnel

- 12.5 meter sections of WC475
  - class II or better copper
- Flanges or Eyelets
- Vacuum
  - $10^{-8}$ Torr
  - one 75 l/s pump every 25 meters
Section of Linac Beamline
Vacuum System Requirements

- One shift pump-down
  - $\sim 5 \times 10^{-5}$ torr in 4 hours

- RF Components
  - $10^{-8}$ torr

- Ganged power supplies for diagnostics
  - one per arm of the DLDS
  - one per girder
Accelerator Structure inside the space-frame strong-back
Three accelerator sections on a Girder
Baseline RF Distribution and Beamline Layout Summary

- Major RF components
  - Wrap around mode converters
  - H-plane combiners

- Accelerator alignment and processing
  - initial alignment in space-frame strong-back
    - bake-out as a single unit
  - three accelerator assemblies on a girder
    - pre-conditioned as a single unit