

Summary: Beam Containment (BCS)

- *Baseline Cost Model*

- Generic cost model based on 3 levels-PIC/PLIC, LION & Toroids
- Requirements still in flux
- Segmentation easily accomplished with generic model
- Catalog sheets & WBS template in progress

- *TBD*

- Reliability, cmplt generic costs, system requirements

- *FY99 Proposed R&D*

- Complete generic cost model
- Perform system reliability analysis
- Design system self test diagnostic capabilities to the sensor level
- Investigate low cost sealed ion chambers
- Evaluate rad hardness requirements for sensor electronics

Beam Containment- Requirements

- *Latest (6/17/98) Radiation Physics requirements for NLC Linac systems*
 - *3 independent but only 2 distinct systems types*
 - *Instrument the Linac tunnels only below gallery alcoves*
 - *Need to measure only average beam loss ($dT \sim 1$ sec)*
 - *Do not need a fast shutoff*
- *Proposed BCS System*
 - *2 independent short LION systems on each side of tunnel sector alcove*
 - *Pairs of toroids to measure average current and compare beam loss (1% device averaged over 100 pulses $\sim 0.1%$)*
 - *Simple switch/ relay equivalent type shutoff system*

PPS Summary

- *The NLC effort is integrated with a general study to develop a next generation PPS system for upgrading systems at SLAC.*
- *A white paper was developed to outline some basic goals and principles, such as full redundancy, remote testability of all inputs, and other fail-safe features (available from R. Larsen).*
- *Current study relies on an integrated team of builders (PPS group), regulators (health physics, safety committees, ADSO) and users (operations, certification & maintenance groups).*
- *A new key engineer position has been created in PPS to help lead the technical development and should be filled soon. This should provide a needed focus and driving function.*
- *Technical discussions have focussed on generic subsystems (building blocks) as well as higher level integration. A treaty with Operations is needed to proceed on design, because front end details depend very much on the operational scenarios.*

Summary: Facilities Planning

- *Baseline Cost Model*

- Utilities for all subsystems, rack and cooling, space and environment, being defined
- Diagrams being prepared for various options
- All cable plant data summarized for linac sector

- *TBD*

- Generic rack cost model & catalog sheets
 - Reliability analysis
 - Extend to DR & IP
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- *FY99 Proposed R&D*

- Design standard rack w/ rack protection/ RFI/ instrumentation/ controls/ power & cooling system
- Perform reliability analysis
- Complete all footprint drawings & utilities reqmnts for controls in machine areas and control rooms

Summary: Personnel Protection (PPS)

• *Baseline Cost Model*

Cost model not established
Discussing PLCs with
integrated entry electronics,
fiber optic communications

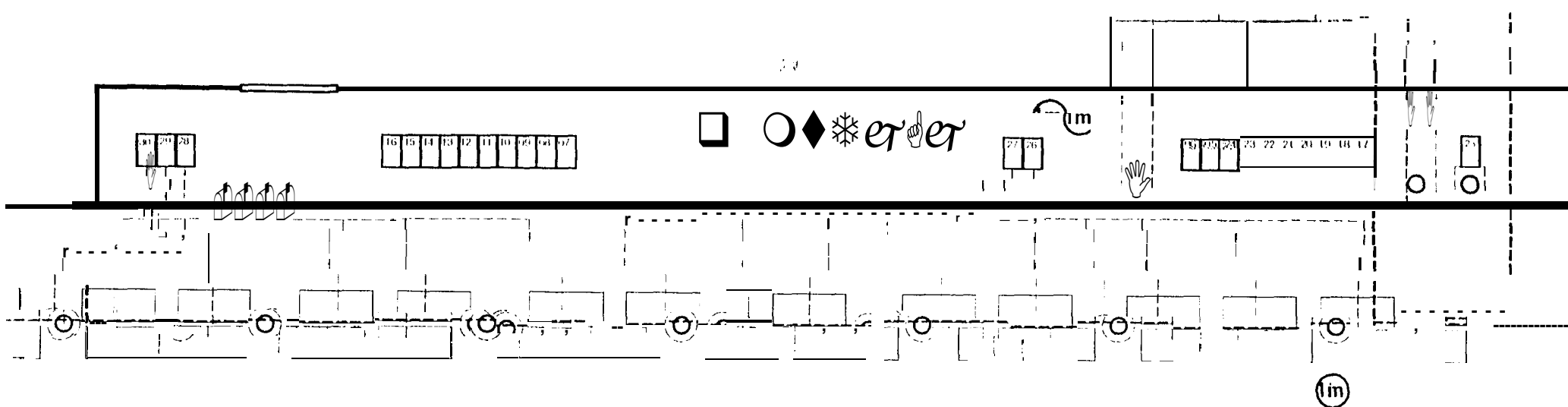
- Studying segmentation requirements for commissioning, operation, maintenance

• *TBD*

- Compute generic cost model
- Reliability analysis of BD
- Model Injectors, IP

• *FY99 Proposed R&D*

- Develop proto system for implementation at SLAC, eg. PLC/PLDs, fiber links
- Develop model for integrating entry electronics (incl. keybank alternatives)
- Develop administrative control reqmnts with Operations, ADSO and Radiation Physics inputs
- Develop machine area segmentation plan



Top View

