The 8-Pack Project is prototyping NLC equipment and needs to be well documented.

The 8-Pack Project is being done on a shoestring, and we can’t afford miscommunication and mistakes that waste time and money.

NLC will need orders of magnitude more CM, and we need to get it started and build good habits.
Goals of 8-Pack Configuration Management

- Capture the physics and engineering information
  - Requirements (Primary, functional, and system)
  - Interface agreements (ICDs)
  - Drawings and specifications
  - Procurement documents
  - Procedures
- Keep them in a CM system that is usable
  - Requirements management
    - Simple and Web-based to start
    - Grow into a trackable and object-linked software system (DOORS, RTM)
  - Document control
    - Use existing SLAC system
- Control changes
- Preserve final as-built documentation
  - Phase I and Phase II
  - Integration with NLCTA
Requirements are hierarchical

- **NLC primary criteria**
  - Project R&D needs
  - Project promotional needs
- **NLCTA 8-Pack functional requirements**
  - Requirements for R&D results
  - Requirements for functioning as part of NLCTA
- **System design requirements (SDRs)**
  - Verifiable physics and engineering design characteristics
  - Can be for systems and/or subsystems
- **Interface control documents (ICDs)**
  - Details of the agreement between responsible individuals of two interfacing systems
  - Defines the characteristics of the interface – physical, mechanical, electrical, signal…
  - Defines which system is responsible for what
  - Usually refers to drawings, specs, memos…..
- **We have been concentrating on ICDs because they tend to drive schedule in early stages**
Requirement documents are being controlled in a Web-based system

### NLCTA 8-Pack Interface Control Documents (ICDs)

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<tr>
<th>Rev</th>
<th>Conventional Facilities</th>
<th>Last updated</th>
<th>Klystrons</th>
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<td>4.2_4.3</td>
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Status of ICDs and SDRs

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</table>

There will be an SDR for each major system, and for some subsystems.
The contents of a System Design Requirements document

1.0 Scope
2.0 Applicable Documents
3.0 Requirements and Verification
   3.1 System Definition
      3.1.1 System Description
      3.1.2 System Functions
      3.1.3 System Diagrams
      3.1.4 System Interfaces
      3.1.5 Major Subsystems
   3.2 System Characteristics and Verification
      3.2.1 Performance Characteristics
      3.2.2 Physical Characteristics
      3.2.3 Environmental
      3.2.4 Reliability, Availability, Maintainability
   3.3 Design and Construction
   3.4 Logistics
   3.5 Other
   3.6 Major Subsystems Characteristics and Verification
4.0 Quality Assurance Provisions
   4.1 Quality Requirements
   4.2 Quality Assurance Measures
5.0 Notes
6.0 Revision Record
Requirement and document control and change management process

- Documents converted to images both for requirements and document control
- PDF images of SDRs and ICDs linked to referenced documents in the Web-based system
- Drawings and specifications are controlled in the SLAC system
- Changes require approval by 8-Pack Project Change Control Board
  - CCB made up of 8-Pack Project managers and system engineers
  - Chaired by configuration manager
- SDRs and ICDs are “binding” until changed
- ICDs get re-signed by interface partners, assigned revision number
- Change process kept as easy as possible for this project
  - Email requests and notification of changes acceptable
  - Verbal **NOT** acceptable