**CDR Outline**

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| **KEY** |
| **BLACK = MANDATORY**  **BLUE = DESIRE**  **GREEN = OPTIONAL ONES THAT MAKE SENSE TO OUR PROJECT** |

The Spring 2015 CDR presentations will occur in class during regularly scheduled class time the week of March 9, 2015. The presentation order, will be determined by random draw on Monday, March 2 This will be the final in-class presentation of the Capstone sequence. The final review will be the poster session. Additional details on the poster will be forthcoming.

All team members must present in roughly equal duration during the team presentations. This is your last chance to present for me, so work to impress me!

I’ve used the (somewhat outdated) MIL-SPEC language so that you can see how a formal requirement on content is presented to the contractor. In this case, you are the contractor teams and I am the customer.

**50.1 General.**

The Critical Design Review shall be conducted on each configuration item prior to fabrication/production/coding release to insure that the detail design solutions, as reflected in the Draft Hardware Design Specification, Software Detailed Design Document (SDDD), Interface Design Document(s) (IDD(s) satisfy requirements established by the hardware Development Specification. […]

**50.1.1 Equipment/Facilities configuration items.**

The detail design […] shall be reviewed. […] .

**50.1.2 Computer Software configuration items (CSCIs).**

The CDR for a CSCI shall be a formal technical review of the CSCI detail design, including database and interfaces. The CDR is normally accomplished for the purpose of establishing integrity of computer software design at the level of a Unit's logical design prior to coding and testing. […] The primary product of the CDR is a formal identification of specific software documentation, which will be released for coding and testing.

**50.1.2.1**

Since computer software development is an iterative process, the completion of a CDR for a CSCI is not necessarily sufficient for maintaining adequate visibility into the remaining development effort through testing.

**50.2 Items to be Reviewed.**

The team [contractor] shall present the following for review by the contracting agency:

**50.2.1 HWCIs**

a. (M) Adequacy of the detail design to [achieve the specified system performance].

b. (D) […E]ngineering drawings [or schematics of sufficient detail to assess the completeness of the design effort. …] c

. Adequacy of the detailed design in the following areas:

(1) (M) Electrical design

(2) (M) Mechanical design

**50.2.2 CSCIs.**

a. (M) [Review the functionality and interfaces for the Computer Software Configuration items, if any…. ].

b. (D) Supporting documentation describing results of analyses, testing, etc.[…]

e. (D) [Interface Control Documents as appropriate. …]

f. (D) Progress on activities required by PDR

h. (D) Updated operation and s upport documents

i. (D) Schedules for remaining milestones.

**50.3 Detailed Design Evaluation**

**50.3.1 HWCIs.**

Detailed block diagrams, schematics, and logic diagrams shall be compared with interface control drawings to determine system compatibility. Analytical and available test data shall be reviewed to insure the hardware Development Specification has been satisfied. As a minimum, the information presented during CDR shall provide descriptions and status for the following:

a. (D) Detailed logic flow diagrams

b. (D) Processing algorithms

c. (D) Circuit diagrams

d. (D) Clock and timing data (e.g., timing charts for microinstructions)

e. (D) Real and Virtual Memory

h. (D) Input/output data description

i. (D)Diagnostics

**50.3.2 CSCIs.**

The contractor shall present the detailed design (including rationale) of the CSCI to include:

a. (D) The assignment of CSCI requirements to specific software modules, the criteria and design rules used to accomplish this assignment, and the traceability of module designs to satisfy CSCI

requirements.

c. (O) The design details of the CSCI including data definitions, timing and sizing, data and storage requirements and allocations.

b. (D) The overall information flow between software modules, the method(s) by which each module gains control, and the sequencing of modules relative to each other.

d. (D) The detailed design characteristics of all interfaces, including their data source, destination, interface name and interrelationships; and, if applicable, the design for direct memory access. The contractor shall also give an overview of the key design issues of the interface software design, and indicate whether data flow formats are fixed or subject to extensive dynamic changes.

**50.13 Test.**

**50.13.**

(M) [Review the provisions for testing and demonstration of the device. …] .

**50.13.3**

(O) For any development model, prototype, etc., on which testing may have been performed, examine test results for design compliance with hardware Development, Software Requirements, and Interface Requirements Specification requirements.