

Project Management - Product Development

Document No: FD09003 Version: 003

FD Project Management

A five milestone system is used in managing all projects.

- 1. Project Kickoff
- 2. IDR Initial Design Review
- 3. DDR Detail Design Review
- 4. PDR Prototype Design Review
- 5. FDR Final Design Review

These milestones are defined by the "sub-products" that are to be achieved <u>prior</u> to that review or milestone.

I. Project Kick-off

The following is to be complete for Kick-off:

- 1. The PO has been reviewed by all project members; finance and delivery schedule has been accepted.
- 2. A project organization board defining "who does what", communication channels, etc., has been defined and put in writing.
- 3. A preliminary functional specification that includes project scope, cost targets, deliverables and delivery schedule has been issued to project members.

II. IDR - Initial Design Review

The following is to be completed and presented at IDR:

- 1. Functional spec approved
- 2. Multiple design approaches presented
- 3. ID renderings, multiple as needed (where applicable)



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- 4. Kinematics diagram presented (where applicable)
- 5. Outline mechanical drawings presented
- 6. Updated project schedule/manpower schedule presented

III. DDR – Detail Design Review

The following is to be completed and presented at DDR:

- 1. Updated functional spec
- 2. Updated kinematics diagram (where applicable)
- 3. A single design approach selected
- 4. ID selected
- 5. 3D model of each part and assembly complete
- 6. Mfg. detail drawings complete
- 7. Assembly drawing with preliminary BOM done
- 8. Electrical Schematics complete
- 9. PCB layouts and PCB mechanicals done

IV. PDR – Prototype Design Review

The following is to be completed and presented at PDR:

- 1. Revised PCB layouts
- 2. Revised 3D model
- 3. Fully assembled prototype demonstrating form, fit and function. (where applicable) This would include any software/firmware. If automation equipment or tooling, the commissioning "run-off" would be conducted at this time.



Project Management –Design Review definition

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V. FDR - Final Design Review

The following is completed and presented at FDR:

- 1. Revised 3D models, 3D parts, Electrical schematics, PCB layouts
- 2. Revised functional prototype (incorporating corrections from PDR)
- 3. Functional demonstration or "run-off" (where applicable)
- 4. Full Documentation package: 3d parts files, manufacturing detail drawings, assembly drawings, assembly procedure documents with complete BOM, fully commented source code, spare parts list, operators and PM manuals, as applicable.