# Refined Milestones Objective

The refined milestones for the detector controller have a general philosophy behind it which is made more explicit in this document. The PDR goals are the actions that should happen before PDR which helps prepare for PDR and makes the design more mature. The FDR goals are the actions which respond to input from the PDR and further maturates the design to the final configuration for deployment. After the FDR, the design may still need some adjustment based on the tests made for FDR. These should be addressed before going into full scale manufacture of the 6 board sets. Only small changes should be anticipated between the 2G design and the final design. The posted milestones attempt to schedule this work.

**PDR Goals**

1. Document the design for ZTF CCD controller
   1. Schematics for nominally final design
   2. Word document describing nominally final design, including performance predictions
   3. Mechanical packaging design
2. Document performance measurements made with present design which is considered the prototype
3. Deliver clock/timing board primarily to demonstrate timing generation tools and host software interface (API)

**FDR Goals**

1. Document final design for both CCD controller boards. Design changes from the prototype should be based on input from PDR and from test data from prototype boards.
   1. Schematics for 2G design
   2. Word document describing 2G design including performance predictions.
   3. Mechanical packaging design
2. Document performance measurements made with 2G controller prototype (first copy of new boards)
3. Deliver clock/timing board to allow development and testing of CCD control waveforms at Caltech during the production of the final controller hardware.

**Post FDR Goals/Pre-Production Review**

1. Document the final design for both CCD controller boards. Design changes should be based on input from FDR and from test data from first copy of new boards.
   1. Schematics for final design
   2. Word document describing final design including performance predictions.
2. Document performance measurements made with full CCD controller in final package with final power supply and final software.
3. Testing of CCD controller with surrogate CCD (whatever IUCAA has in hand)