

SPIRE FPU AND JFET BOXES MECHANICAL/THERMAL DUMMY

Planning Proposal

in response to

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CONTENTS

1. INTRODUCTION..... 4

2. SUMMARY OF PLAN..... 5

 2.1 OVERALL NETWORK DIAGRAM..... 5

 2.2 PROJECT BAR CHART 6

3. BAR CHARTS BY PHASE..... 7

 3.1 DESIGN AND ANALYSIS 7

 3.2 MANUFACTURE AND PROCUREMENT..... 8

 3.3 AIV 9

4. MILESTONES 10

5. CRITICAL AREAS 11

 5.1 DESIGN AND ANALYSIS 11

 5.2 PARTS PROCUREMENT 11

 5.3 CLEANLINESS 11

 5.4 FM DESIGN 11

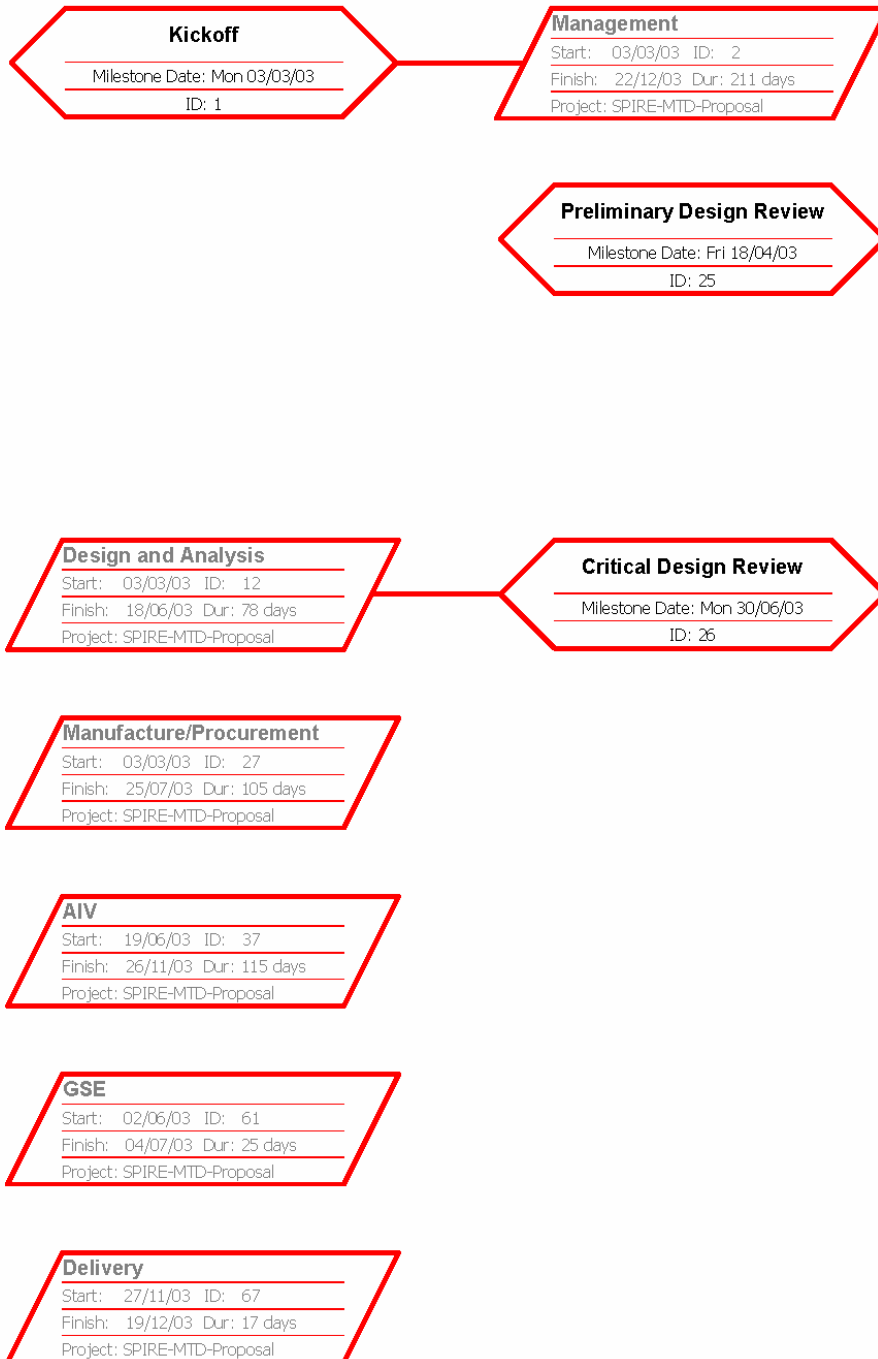
6. CONTINGENCY 12

1. INTRODUCTION

This document presents the proposed schedule for the completion of the SPIRE FPU and JFET Mechanical Thermal Dummies (MTDs). The length of the proposed project is 9.5 months from kickoff to delivery. This timeframe contains contingency as outlined later. The bar charts presented here assume a kickoff in early March. It is accepted that this is unlikely that kickoff would occur this early, in which case the whole project, including milestones and delivery, would shift a corresponding amount.

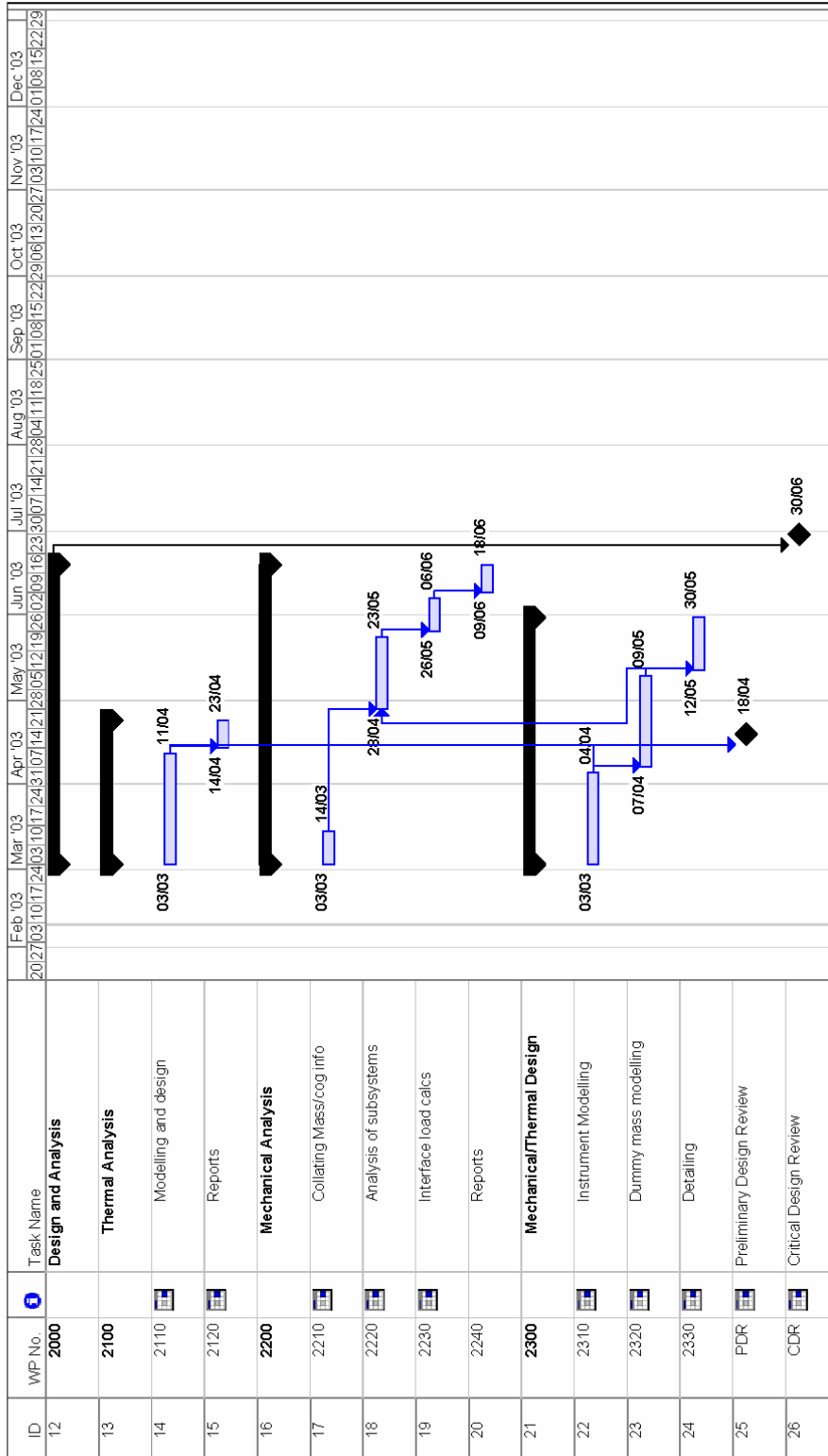
2. SUMMARY OF PLAN

2.1 OVERALL NETWORK DIAGRAM

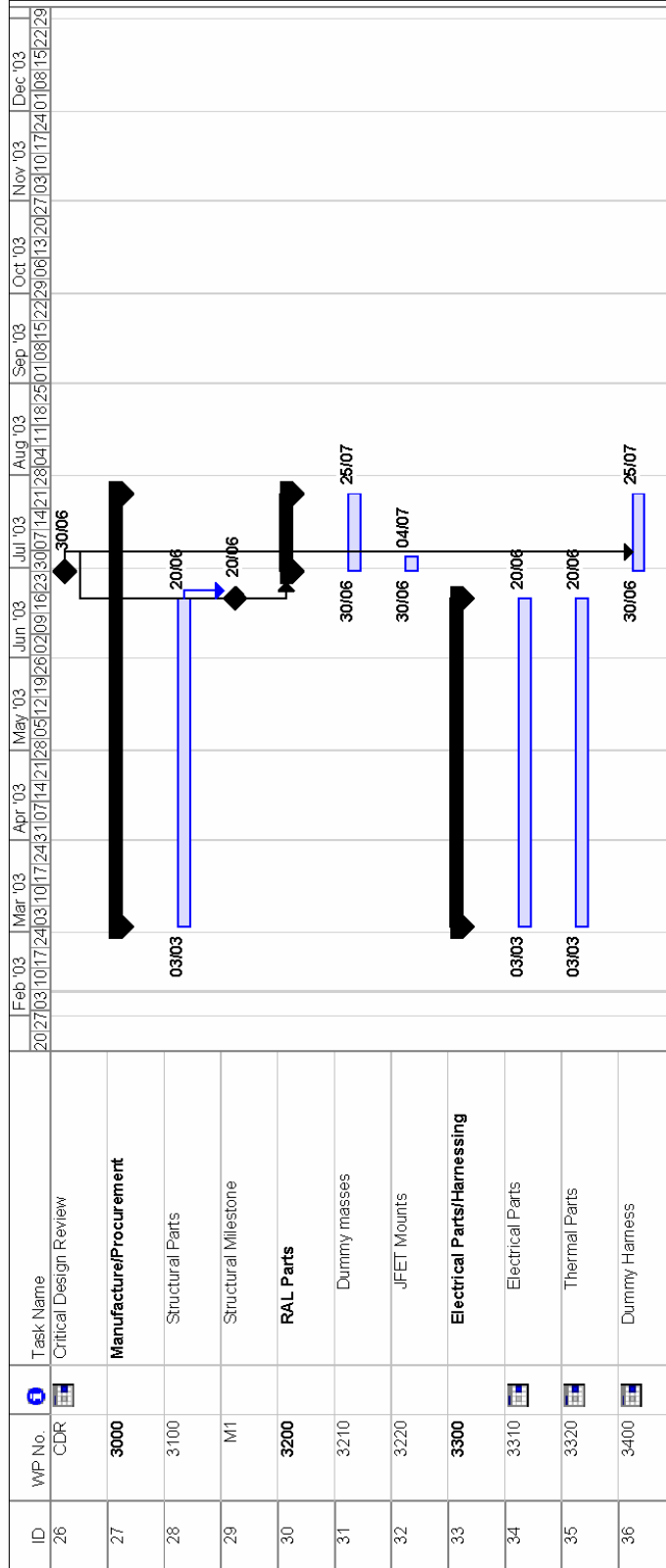


3. BAR CHARTS BY PHASE

3.1 DESIGN AND ANALYSIS



3.2 MANUFACTURE AND PROCUREMENT



4. MILESTONES

It is proposed that there are three main milestones –

- A preliminary design review (PDR) which would occur about six weeks after kickoff. This is a formal review that would take place at RAL. It would be at a point in the project where most of the thermal analysis, and a preliminary mechanical design would be complete. The purpose would be to give the customer a clear indication of the status of the project and identify any technical issues that need resolving at an early stage.
- A critical design review (CDR) which would occur about 4 months after kickoff at a point where all mechanical analysis, design and detailing would be complete. This is a formal review that would take place at RAL. The purpose of this review would be to present the final design to the customer, and gain approval to move into the manufacture and AIV phases.
- An acceptance review would take place on delivery of the MTDs to the customer. The review would focus on the results of any acceptance tests relevant to the delivery of the MTDs and within the framework of the units' requirement matrices.

It is also proposed that other milestones are added at sensible points in the baseline schedule. Obvious points for milestones would be:

- After the completion of the mechanical design of subassembly mass-dummies.
- After the manufacture of all structural hardware for the FPU.
- After the vibration test

The customer would at all times be kept informed if there were any signs that any of these milestones might slip.

5. CRITICAL AREAS

5.1 DESIGN AND ANALYSIS

Of the three design and analysis tasks, thermal analysis (WP2100), mechanical analysis (WP2200) and mechanical design (WP2300), it is the thermal analysis which is initially on the critical path. Before the CDR, there is not much slack in either of the other two tasks.

It is assumed that thermal and mechanical FM models for the FPU will be available, and that modifications to these models will be sufficient rather than re-creating such models from scratch.

In addition, the MTDs are thought to be simple enough that a single iteration of mechanical and thermal design should be sufficient.

5.2 PARTS PROCUREMENT

There are several items which are expected to have long lead-times. These are structural and electrical/thermal parts. It is recommended that orders are placed for these items soon after kickoff to avoid potential delays in the AIV schedule. The items of concern are well enough defined that this would be possible.

5.3 CLEANLINESS

The cleanliness specification is tight and raises two further areas of potential concern for the schedule.

- The methods of cleanliness verification are assumed to not be time intensive tasks. It is assumed that analysis of witness mirrors and particulate tapes would not add more than five days on to the overall schedule.
- Although provision has been included for the cleaning of parts as well as bakeouts at both component and assembly levels, there is no provision for time lost in having to investigate and rectify the situation should one of the cleanliness tests result in a non-conformance.

5.4 FM DESIGN

Any changes in FM design that result in necessary changes in MTD design over the course of the MTD project may result in a re-scheduling of the MTD project.

6. CONTINGENCY

The workpackages have been broken down into tasks that are small enough to give realistic time estimates. There is no contingency added to individual tasks in this schedule, but there is a period of 4 weeks between the scheduled completion of AIV tasks and the date of delivery to the customer (27/11/03 – 24/12/03 in the schedule presented here).