

# PDR RID Report

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Document PDR Presentations - 1) User & Algorithm Models; 2) Data

Section N/A

Server Subsystem Capabilities Phasing; 3) Science DP CSCI;

Page PDR Slides AE-31, AE-32,

Figure Table N/A

AI 34, AI 35, MI 3 3,

RID ID PDR 477

Review SDPS

Originator Ref IVV-LCM-01

Priority 2

Category Name Segment-Level

Actionee HAIS

Sub Category

Subject Sizing of SDPS H/W & performance requirements compliance assessment

## Description of Problem or Suggestion:

Very little analysis results were presented or documented on the sizing of SDPS components for the preliminary design. We know from examining the system simulation model (reference: IV&V ECS Modeling Assessment Report - Deliverable 0506, 2/10/95) and from verbal communications from HAIS that the model does not include any of the Pull workloads; the CERES and MODIS production processing workloads have not been integrated into the model; and MODIS stand-alone simulation has not been completed. Further, the model does not represent disk delays and represents processor delays only for the Data Processing subsystem. Stand-alone simulations for CERES and MODIS (partially completed) production processing indicate serious problems. Most all of the PDR sizing has been done using static analysis (although the analysis documentation has not been provided). This is inadequate to size the SDPS configurations for the preliminary design because it does not allow determination of whether the design can be expected to meet the delay and throughput requirements. For example, results from the simulation model indicate that it will take 1.5 months to process one month of CERES data. This may or may not be a problem depending on whether data from multiple months can be processed concurrently (i.e., is this a resource saturation problem or just a phase shift phenomenon). The static sizing cannot answer these kind of performance questions and cannot be used to assess expected performance requirements compliance of the ECS design.

## Originator's Recommendation

We believe that HAIS expects to make a good faith effort to address the sizing problems with the system simulation model. They have said that they will enhance the model to address some of the concerns identified above and in the IV&V report. IV&V recommends that HAIS:

- 1) enhance the system simulation model to include all push and pull workloads and the disk and processing delay characteristics of all of the subsystems as well as the CSMS network resources (see recommendations in IV&V report);
- 2) identify, perform, and publish results for CDR design analyses prior to CDR; and
- 3) provide a detailed schedule for the model enhancements and the analyses.

GSFC Response by:

GSFC Response Date

HAIS Response by: Suhrstedt

HAIS Schedule

HAIS R. E. H. Brackett

HAIS Response Date 5/3/95

1) The model has been enhanced to include all pull and push workloads (except MODIS which is being reworked by the MODIS team), and the disk and processing delays of all subsystems (CSMS will be modeled as requested by the release designers); 2) the release designers will identify and publish the design analyses prior to CDR as part of the CDR documentation - modeling will perform the runs, analyze the results and provide them to the designers; 3) draft detailed schedules have been provided for review and prioritization by the Modeling Steering Committee and final schedules will be provided.

Status **Closed**

Date Closed **7/6/95**

Sponsor **Szczur**

\*\*\*\*\* Attachment if any \*\*\*\*\*