

Comprehensive Large Array-data Storage System (CLASS) FY08OA Analysis

The operational analysis (OA) is an annual, in-depth review of the CLASS program's performance based on the following;

- Customer Results
- Performance Measures
- Strategic and Business Results
- Financial Performance
- Innovation

The focus on this analysis will include a review FY08 performance, measures and results highlighting significant achievements/ performances. An historical review/ comparison of FY07OA will also be conducted to highlight significant information and contributions.

1.0 Customer Results

The CLASS program is fully meeting the customer's needs and the program is delivering the services that it is intended to deliver as outlined in the NOAA and NESDIS operational plans. CLASS archives and provides access to data used by the NOAA National Data Centers (NNDCs) as well as an extensive user community.

CLASS is instrumental in preserving long-term data records of environmental conditions.

The nation is a stakeholder; other customers include federal agencies including;

- National Aeronautics and Space Administration (NASA)
- State and local governments
- Academic researchers
- Individuals
- First responders
- Corporations in the agribusiness, lumber, utilities, transportation, travel, real estate development, and health industries

The value of CLASS data archiving has been well documented and mandates a continued need for this investment. The cost to the customer is as low as it could be for the results delivered.

1.1 Performance Measures

The CLASS mission is two fold:

- 1) Storage archival of valuable climate data and data distribution to a large user community to support immediate needs for environmental data.
- 2) Facilitate scientific research.

CLASS performance measures which align with the "Customer Results Measurement Area" of the Performance Reference Model developed by the Federal Enterprise Architecture Program Management Office (FEA-PMO) address both components of the CLASS mission:

- 1) The number of files cataloged is the indicator of the number of files that are being preserved by CLASS and that are readily available to the user community.
- 2) The number of files delivered is the indicator of CLASS data usage by the user community.

Customer Results Performance Measure- FY08 Baseline was data delivery of 6.41M files. The FY08 Actual results were 7.95M files as of 09/30/08. This was 124% of target.

Note: FY2007 Baseline was data delivery of 5.83M files. The Actual Results 10.2M data files delivered as of 6/30/07 (Achieved 175% increase of target).

2.0 Strategic and Business Results

CLASS is meeting its goals and objectives; as well as, those of the agency. Program management and controls are in place;

- 1) Ensuring the program continues to meet its goals and objectives.
- 2) Monitoring performance.

- As of FY2008, CLASS has been designated a NOAA enterprise level program, reflecting its vital role in meeting NOAA strategic goals.
- The CLASS program directly supports the mission goal to “Understand Climate Variability and Change to Enhance Society's Ability to Plan and Respond.” This meets significant demands on virtually all of NOAA's programs to provide information to the Nation and the World community on the health of the environment in real-time.
- The CLASS website provides worldwide continuous availability of NOAA environmental data.

2.1 Program Management and Controls

CLASS performs extensive, continuous analysis of the performance of the CLASS system's operational components;

- System resources and the ancillary supporting infrastructure (security, training, facilities, etc.).
- Labor resources remain optimally functional and configured to support NOAA goals.

CLASS management reports to Ground System management on a monthly basis.

CLASS reports to NESDIS and NOAA management as requested.

Performance deficiencies in the CLASS operational system resulting from hardware are referred to the maintenance contractor for remediation. Performance deficiencies for IT systems resulting from software problems are also handled by the maintenance contractor.

Key performance issues and risks are identified through these reviews and tracked by CLASS management.

For all IT components;

- Performance thresholds have been established.
- Performance is measured continuously through mainly automated process.
- Measurement is supplemented by a manual process when required.
- Performance data are gathered at the functional level and reported on a weekly basis.

2.2 Monitoring Cost, Schedule and Performance

Cost

- Variety of budget analyses- fiscal year.
- Obligations and expenditures- weekly.

- Labor costs and full time equivalent usage- bi-weekly.
- Earned Value Management (EVM) of cost and schedule variances- monthly.
- Planning, Programming, Budgeting and Execution System (PPBES) and the Ground System Division's budget planning processes- annually.
- Key budget issues and risks are identified through these reviews and tracked by CLASS management.
- CLASS monthly project report, which summarizes CLASS cost, schedule, and performance, provides the Ground System Division management with information for monitoring the CLASS program.

2.3 Security

Accredited under requirements in NOAA 212-13(08/06/90) and NESDIS Information Technology Security Policy based on OMB and NIST guidance.

- System Security Plans, Risk Assessments, and Contingency Plans were certified and approved for CLASS.
- CLASS has been through the C&A Process and has been granted Full Authority to Operate- 08/2008. CLASS contingency plan was tested in 05/2008.
- CLASS Security control testing completed in 03/2008.

The CLASS system is classified as Mission Critical. CLASS has an approved System Security Plan, Risk Assessment, and Contingency Plan in place. Management, operational and technical security controls are in place to ensure the confidentiality, integrity, and availability of information.

2.4 Performance Measures

Mission and Business Results which is an increase availability of environmental data as measured by number of files in the catalog established a Baseline of 10.98M files available. FY2008 target was to increase environmental data availability to 12.62M files in catalog. Actual results were 14.43M files available as of 09/30/08. Achieved 114% of FY08 Target.

Processes and Activities for Operational Effectiveness- It is noted that no ITIL standards were applied to CLASS; however, as of 09/30/08, CLASS implemented new Incident Reporting procedure based on ITIL standards. This resulted in an updated CLASS baseline to reflect updated security policies and practices in support of CLASS C&A package and ATO.

Technology- Data Availability. Legacy configuration of HW and SW data storage. Tape robotics technology purchased and installed in summer, 2008. Completed installation of SUN SL8500 tape robotics at NCDC, starter data migration. Completed evaluation of Metadata server Replacement server and Asset management tool; currently preparing final reports.

3.0 Financial Performance

The current CLASS financial performance compares actual cost of the program compared to a pre-established cost baseline (i.e., annual spend plan). The CLASS program plans and executes budget based upon a fiscal year calendar.

The current CLASS financial performance is based on a pre-established cost baseline (e.g., annual spend plan). Program operational costs consist of contractor labor dedicated to CLASS, travel, communications and corporate overhead. During FY2008 the CLASS program consistently stayed within a ten percent variance.

4.0 Innovation to Meet Future Customer Needs

The following projects have been implemented in FY2008, or are being implemented in FY2009 to address future challenges, better meet customer needs, make better use of technology, and lower operating costs.

Improved Data Storage Technology- In 2QFY08 a tape robotics study to evaluate the suitability of this technology to support program requirements was commissioned.

- On-site installation and configuration of a prototype SUN SL8500 Storagetek™ Modular Library unit was completed in 04/2008.
- Tape Robotics study was completed in 3QFY08, and the results of this study will be integrated into the CLASS program plan for FY09 and beyond.
- SGI Server replacement study was completed in 06/2008.

Awarded New CLASS Performance Based Contract- In the third quarter of FY08, CLASS announced the award of a major performance-based contract.

CLASS Initial Baseline Review (IBR)- Conducted to create the new cost and schedule baselines to facilitate performance tracking of the CLASS project consistent with industry best practices.

4.1 Development Activities to Support Future Missions

CLASS successfully completed development activities to ensure continued operations in support of CLASS and CLASS customer missions:

- Release 4.4 (enhancement for Ingest subsystem for support of NPP mission)
- Release 4.4.1 (completed 05/2008)
- Release 5.0 (promoted to Integration and Testing, 07/2008)
- Release 5.0 (promoted to Operations, 10/2008)
- Release 5.0.1 (promoted to Operations, 11/2008)