**PDS Internal Assessment for PDS4 Build 1 (version 1b)**

Reports due January 15, 2011

Please send input to rbeebe@nmsu.edu

This assessment worksheet is intended as a guideline for assessing build 1 of the PDS4 emerging standards. Version 1b will be the version used for the internal assessment and review. The objective is to ensure that the documents and content are appropriate so that data engineers and providers a) understand the emerging standard at its current level; b) have an opportunity to provide input before this is set in stone and c) provide comments on how to improve the documentation/communication of the standard.

The internal review is geared towards members within PDS who are not part of the DDWG/design team since they do not have the deep knowledge of the design. The output of the review will be used to improve and prepare for an external review by a select set of PDS data providers.

It is important to note that the standards are a “work in progress”. Therefore, some sections of documents are incomplete. A principal focus in FY11 is identifying the discipline-specific extensions. Gathering input will help PDS determine the best path forward during 2011 as PDS prepares a production release of PDS4.

The information below provides a guideline of documents to review and example data products. It is followed by a set of questions to guide the input. Please provide those answers directly to Reta Beebe, PDS Chief Scientist (rbeebe@nmsu.edu).

**Section 1 – Resources (Standards, User Guides and Glossary)**

Build 1 includes a number of supporting documents that define the structure and usage of a PDS4 data product. The following provides links to the critical resources that you are requested to review. Under each section are a set of criteria that would be useful to consider when answering the questions in section 3.

**Build1 Assessment Website** – this website contains links to the documents that support Build1. Links to all of the supporting materials required to assess Build1 can be found at this website; including, the PDS4 Data Standards Concepts, the Data Providers Handbook (DPH), Data Dictionary (PSDD) and Tutorial, Standards Reference (PDSSR), Glossary and XML schemas.

 http://pds-engineering.jpl.nasa.gov/index.cfm?pid=145&cid=164

**PDS4 Data Standards Concepts** – This document provides overviews and some basic terminology for understanding and applying the PDS4 data formatting standards.

As an assessor of Build1, review the document for its ability to:

* Serve as a good introduction, background and overview of the data standards.
* Illustrate basic PDS requirements, structures and definitions of the data standards.

**Data Providers Handbook (DPH)** –The DPH functions in the capacity of a tutor / coach to provide information and examples to guide data suppliers in the design and preparation of data to be archived with the PDS. The document is used in conjunction with the PDS Standards Reference (PDSSR) and the Planetary Science Data Dictionary (PSDD).

As an assessor of Build1, review the document for its ability to:

* Guide / coach novice PDS4 data providers towards designing and producing PDS4 compliant products.
* Illustrate PDS4 concepts and building blocks and the data structures into which PDS4 products can be assembled.
* Provide meaningful, well-formed examples of PDS4 products.

**Standards Reference** – The PDS4 Standards Reference (PSSR) remains the definitive source for ensuring mission data meet the PDS4 archive criteria. This document is intended primarily to serve the community of scientists and engineers responsible for preparing planetary science data sets for submission to the PDS. These include restored data from the era prior to PDS, mission data from active and future planetary missions, and data from earth-based sites. The audience includes personnel at PDS discipline and data nodes, mission principal investigators, and ground data system engineers.

In order for planetary science data to be useful to those not directly involved in its creation, supporting information must be made available with the data to enable its effective use and interpretation. The Standards Reference defines these underlying principles.

As an assessor of Build1, review the document for its ability to:

* Serve as a reference document detailing PDS4 Standards used in the preparation of PDS4 compliant data.
* Provide definitive, concise guidance to the preparation of a PDS4 compliant archive.
* Describe PDS4 principles and concepts and the data structures into which PDS4 products can be assembled.

**Data Dictionary and Tutorial** - The primary purpose of the Planetary Science Data Dictionary (PSDD) is to serve as a reference for data element descriptions contained in the Planetary Data System. Additionally, the PSDD allows members of the planetary science community to benefit from standards work done in the area of data product description. The core of the dictionary, the data element definitions, are (at least with respect to Build 1) a minimal set of discipline-specific keywords.

 As an assessor of Build1, review the PSDD document for its ability to:

* Serve as a reference document that defines the set of data elements within PDS4 (Build 1).
* Define the organization and components of PDS4 product labels. (e.g., classes, attributes, and data types).
* Define the engineering terminology that describes the various structures / components involved in the organization of PDS4 product labels.

As an assessor of Build1, review the Tutorial for its ability to:

* Serve as an introduction to the PSDD.
* Help users to learn about PDS4 and its components.

**Glossary** – This document defines terms used across the Planetary Data System in its version 4 (PDS4).

As an assessor of Build1, review the document for its ability to:

* Provide meaningful definitions that explain the terms used in the data standards documents.

**Section 2 – PDS4 Data Products**

PDS4 is a data product-centric model. Within PDS4, both the XML label and the data itself have specific rigidly defined structures that are governed by the standard and implemented in the PDS4 Information Model. The principal function of the XML label is to provide a concise definition of the structure and format of the underlying PDS4 product being described by the label. Please review the sample products below:

The sample data products to be reviewed can be found at the build 1 review site as follows:

http://pds-engineering.jpl.nasa.gov/index.cfm?pid=145&cid=164

As an assessor of Build1, review the generated XML labels for the PDS4 products:

* To assess the XML label structure (e.g., the definition and content) and how well the label accurately defines the structure and format of the underlying PDS4 product.
* To assess the various functional components (e.g., <Product\_Identification\_Area>, <Observation\_Area>, <File\_Area>, etc) and how these area form a fully functional definition of the PDS4 product.

**Part 3 – Assessment Questions**

Below are a set of questions to help guide the assessment. Given that PDS4 is a development project, your input will be very valuable in helping to set priorities in the future.

1. Do the document provide sufficient background for the review? If not, how could they be improved?
2. Assess the four fundamental structures. Are they useful? Will they support your needs? Do you have products that you believe will not fit into the structures?
3. Assess the PDS4 core product types. Do they provide an adequate set of baseline templates for constructing new templates and new PDS4 products? What is missing?
4. Assess the structure and layout of the PDS4 product examples? How can it be improved?
5. What overall recommendations do you have for the team? Do have you have suggestions for improvement?