

Standards Change Request 3-1073

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Objective: Modify use of the ARCHIVE_STATUS keyword

Date: 2007-01-17 (EN)
Revised: 2007-01-19 (Simpson)
Revised: 2007-02-27 (Sword)
Revised: 2007-02-27 (Simpson)

Working Group

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Background

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ARCHIVE_STATUS was added to the DATA_SET_INFORMATION object (in the DATA_SET object) and to the DATA_SET_RELEASE object several years ago. From the beginning, there was confusion over both the function and use of the new keyword. Some felt that it was primarily for the internal use of PDS -- to track the progress of data sets through the archiving process. Others argued that it was better suited to warn users about available, but only partially archived, data. Still others suggested that it could do both, but that its use needed to be under closer supervision.

The situation has been complicated by the fact that there are nine standard values, few of which can be applied unambiguously. In addition, a modifier to the standard values was authorized, meaning that the total number of possible combinations is at least 18. Use of the modifier has been inconsistent; some have insisted on using the modifier without any of the standard value roots.

Some data providers, charged with initializing the value of ARCHIVE_STATUS in DATASET.CAT files, have been puzzled at their responsibilities (or lack of same) as data sets moved through the review and ingestion steps and the value of ARCHIVE_STATUS presumably needed revision. What is the process by which values of ARCHIVE_STATUS are changed? Eventually, the PDS Management Council directed that ARCHIVE_STATUS be removed from the DATA_SET_INFORMATION object and that its future use be clarified.

This Standards Change Request removes ARCHIVE_STATUS from the list of required keywords in the DATA_SET_INFORMATION object, adds it to the list for the DATA_SET_HOUSEKEEPING object, reduces the number of standard values, defines a new keyword (DELIVERY_STATUS) to provide the previous function served by the modifier, and assigns responsibility for maintaining current values of both keywords.

Current Urgency

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In practical terms there is no urgency. Proposals to rescind the requirement for ARCHIVE_STATUS were floated almost as soon as it was implemented more than three years ago. If there is urgency, it is in responding to the Management Council directive in a timely manner.

Recommendations

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The Working Group recommends the following actions:

1. Amend the Planetary Science Data Dictionary (PSDD) to redefine the ARCHIVE_STATUS keyword and its standard values:
 - replace IN QUEUE, PRE PEER REVIEW, IN PEER REVIEW, IN LIEN RESOLUTION and LOCALLY ARCHIVED with two standard values: "IN REVIEW" and "N/A".
 - update descriptions for several standard values by substituting "curating node" for "CN" and "Central Node" and deleting references to NSSDC
 - remove ACCUMULATING as a qualifier for standard values
2. Amend the PSDD by adding the DELIVERY_STATUS keyword, which will qualify the state of a data set in terms of its current and future delivery schedule.
3. Amend the Standards Reference and PSDD to remove ARCHIVE_STATUS as a required element of the DATA_SET_INFORMATION catalog object.
4. Amend the PSDD to add the ARCHIVE_STATUS and DELIVERY_STATUS keywords as required elements of the DATA_SET_HOUSEKEEPING object.
5. Amend the PSDD to add the DELIVERY_STATUS keyword as a required element of the DATA_SET_RELEASE object.
6. Add the values of ARCHIVE_STATUS and DELIVERY_STATUS to display pages for individual data sets in the following:
 - (a) the PDS subscription service:

Planetary Data System

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PDS Subscription Service

Data Products

Data Set ID: ODY-M-GRS-2-EDR-V1.0
Release: 0006
Data Set Name: ODY MARS GAMMA RAY SPECTROMETER 2 EDR V1.0
Description: This release of Odyssey GRS EDRs includes data acquired from April 1 through June 30, 2003.
 Archive Status: In Review
 Delivery Status: Multiple-accumulating

- (b) The PDS Data Set View (we propose adding columns between Data Set and Instrument Host):

Planetary Data System

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Search Results (19 data sets found) [Help](#)

Data Set	Instrument Host	Information About the Data Set	Data Products & Related Files	Other Resources
1. 2001 Mars Odyssey Accelerometer Altitude Derived Data Records	ODY	View Information for ODY-M-ACCEL-5-ALTITUDE-V1.0	Search for Products with Basic Browser	<ul style="list-style-type: none"> ● EN Backup Volumes Offline ● Mars Odyssey Data Archives ● Mars Odyssey Home Page
2. 2001 Mars Odyssey Gamma Ray Spectrometer, Neutron Spectrometer, and High Energy Neutron Detector Experiment Data Records	ODY	View Information for ODY-M-GRS-2-EDR-V1.0	Search for Products with Geosciences Web Services	<ul style="list-style-type: none"> ● Atlas ● Geosciences Online Archives ● EN Backup Volumes Offline ● Mars Odyssey Data Archives ● Mars Odyssey Data Archives ● Mars Odyssey Home Page

Note: Although ARCHIVE_STATUS and DELIVERY_STATUS can be obtained from a

DATA_SET_RELEASE object, their current values will be initialized and maintained by the curating node in the DATA_SET_HOUSEKEEPING object. Changes in DATA_SET_HOUSEKEEPING values do not necessarily trigger issuance of new DATA_SET_RELEASE objects.

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PDS Standards Reference Changes
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(1) Section B.1.6 - Example (DATA_SET)

- (a) Remove "ARCHIVE_STATUS = ARCHIVED" from the example

Change:

```
OBJECT = DATA_SET
DATA_SET_ID = "MGN-V-RDRS-5-GVDR-V1.0"

OBJECT = DATA_SET_INFORMATION
DATA_SET_NAME = "MGN V RDRS DERIVED GLOBAL VECTOR DATA
RECORD V1.0"

DATA_SET_COLLECTION_MEMBER_FLG = "N"
DATA_OBJECT_TYPE = TABLE
ARCHIVE STATUS = ARCHIVED
START TIME = 1990-08-01T00:00:00
STOP TIME = 1993-12-31T23:59:59
DATA SET RELEASE DATE = 1994-07-01
PRODUCER_FULL_NAME = "MICHAEL J. MAURER"
DETAILED_CATALOG_FLAG = "N"
```

To:

```
OBJECT = DATA_SET
DATA_SET_ID = "MGN-V-RDRS-5-GVDR-V1.0"

OBJECT = DATA_SET_INFORMATION
DATA_SET_NAME = "MGN V RDRS DERIVED GLOBAL VECTOR DATA
RECORD V1.0"

DATA_SET_COLLECTION_MEMBER_FLG = "N"
DATA_OBJECT_TYPE = TABLE
START TIME = 1990-08-01T00:00:00
STOP TIME = 1993-12-31T23:59:59
DATA SET RELEASE DATE = 1994-07-01
PRODUCER_FULL_NAME = "MICHAEL J. MAURER"
DETAILED_CATALOG_FLAG = "N"
```

(2) Section B.7.1 - Required Keywords (DATA_SET_INFORMATION)

- (a) Remove "ARCHIVE_STATUS" from the list of Required Keywords:

Change:

B.7.1 Required Keywords

1. ABSTRACT_DESC
2. ARCHIVE_STATUS
3. CITATION_DESC
4. CONFIDENCE_LEVEL_NOTE
5. DATA_OBJECT_TYPE
6. DATA_SET_COLLECTION_MEMBER_FLG
7. DATA_SET_DESC
8. DATA_SET_NAME
9. DATA_SET_RELEASE_DATE
10. DATA_SET_TERSE_DESC
11. DETAILED_CATALOG_FLAG

12. PRODUCER_FULL_NAME
13. START_TIME
14. STOP_TIME

To:

B.7.1 Required Keywords

1. ABSTRACT_DESC
2. CITATION_DESC
3. CONFIDENCE_LEVEL_NOTE
4. DATA_OBJECT_TYPE
5. DATA_SET_COLLECTION_MEMBER_FLG
6. DATA_SET_DESC
7. DATA_SET_NAME
8. DATA_SET_RELEASE_DATE
9. DATA_SET_TERSE_DESC
10. DETAILED_CATALOG_FLAG
11. PRODUCER_FULL_NAME
12. START_TIME
13. STOP_TIME

(3) Appendix G - SAVED Data

- No change: The following sentence is not affected by the proposed revisions:

In rare cases data will be encountered in the PDS archive which are classified as having ARCHIVE_STATUS = SAVED.

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PDS Data Dictionary Changes
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- (1) Amend the DATA_SET_INFORMATION object definition by removing the ARCHIVE_STATUS keyword.

```
OBJECT = SPECIFIC_OBJECT_DEFINITION
NAME = DATA_SET_INFORMATION
STATUS_TYPE = PENDING
DESCRIPTION = "
    The DATASETINFO (Data Set Information) catalog object is
    completed for the data set specified in the DATASET catalog
    object, in order to provide information specific to the
    given data set, such as the boundaries of the data set."
REQUIRED_ELEMENT_SET = {
    ABSTRACT_DESC,
    CITATION_DESC,
    CONFIDENCE_LEVEL_NOTE,
    DATA_OBJECT_TYPE,
    DATA_SET_COLLECTION_MEMBER_FLG,
    DATA_SET_DESC,
    DATA_SET_NAME,
    DATA_SET_RELEASE_DATE,
    DATA_SET_TERSE_DESC,
    DETAILED_CATALOG_FLAG,
    PRODUCER_FULL_NAME,
    START_TIME,
    STOP_TIME}
OBJECT_TYPE = SPECIFIC
END_OBJECT = SPECIFIC_OBJECT_DEFINITION
END
```

- (2) Amend the definition of the ARCHIVE STATUS data element. Remove IN QUEUE, PRE PEER REVIEW, IN PEER REVIEW, IN LIEN RESOLUTION, and LOCALLY_ARCHIVED from the list of standard values, and remove ACCUMULATING as a qualifier for standard values. Add IN REVIEW to the list of standard values. Edit the description of ARCHIVED to delete requirement that data be delivered to NSSDC. Edit description of SUPERSEDED to discourage use except for historical purposes. Edit description of IN LIEN RESOLUTION to include the sentence "Use with caution." Other editorial improvements as indicated.

```
OBJECT = ELEMENT_DEFINITION
NAME = ARCHIVE_STATUS
STATUS_TYPE = PENDING
GENERAL_DATA_TYPE = CHARACTER
UNIT_ID = NONE
STANDARD_VALUE_TYPE = DYNAMIC
MAXIMUM_LENGTH = 30
DESCRIPTION = "
```

The archive_status element provides the status of a data set that has been submitted for inclusion in the PDS archive.

The archive_status_note element is available to expand on the archive_status value in more detail.

STANDARD VALUES

IN REVIEW - The data set has been partially or wholly received at the curating node and formal review and lien correction have either not been initiated or are incomplete. This data set should be used with caution.

ARCHIVED - Passed peer review with all liens resolved. Available through the Data Set Catalog.

SUPERSEDED - Superseded by a new version of the data set. The data set should not to be used except for historical reasons.

SAVED - Received by the PDS; no evaluation is planned and data will not be formally archived. This data set should be used with caution.

Note: If a data set is being archived in segments, select the lower of the two levels, IN REVIEW and ARCHIVED. IN REVIEW is assumed to be the lower level and ARCHIVED the higher. For example, if any portion of a data set has not been declared ARCHIVED, assign the value of IN REVIEW to ARCHIVE_STATUS even though other portions may have completed the archive process.

N/A - Not applicable at this time to this data set.

```
STANDARD_VALUE_SET = {
  "ARCHIVED",
  "IN REVIEW"
  "SAVED",
  "SUPERSEDED",
  "N/A"}
END_OBJECT = ELEMENT_DEFINITION
END
```

- (3) Create a new DELIVERY_STATUS data element, which qualifies the state of a data set with regard to its current and future delivery schedule.

```
OBJECT = ELEMENT_DEFINITION
```

```

NAME = DELIVERY_STATUS
STATUS_TYPE = PENDING
GENERAL_DATA_TYPE = IDENTIFIER
UNIT_ID = NONE
STANDARD_VALUE_TYPE = STATIC
MINIMUM_LENGTH = 1
MAXIMUM_LENGTH = 25
DESCRIPTION = "
The DELIVERY_STATUS element describes the state of the
intended delivery or deliveries of a data set that will be or
has been submitted for inclusion in the PDS archive. Changes in the
value are usually initiated by the data provider.

```

STANDARD VALUES

```

SINGLE-PENDING - the data set will be submitted as a single
                delivery, or the delivery is in progress.

SINGLE-DELIVERED - the data set has been submitted as a single delivery
                  and the delivery is complete.

MULTIPLE-PENDING - the data set will be submitted as multiple
                  deliveries.

MULTIPLE-ACCUMULATING - the data set is being submitted as multiple
                        deliveries; at least one delivery has been
                        started, and the final delivery has not been
                        completed.

MULTIPLE-DELIVERED - the data set was submitted as multiple
                    deliveries. All deliveries are complete."

```

```

STANDARD_VALUE_SET = {
    "SINGLE-PENDING",
    "SINGLE-DELIVERED",
    "MULTIPLE-PENDING",
    "MULTIPLE-ACCUMULATING",
    "MULTIPLE-DELIVERED"}
END_OBJECT = ELEMENT_DEFINITION
END

```

- (4) Amend the DATA_SET_HOUSEKEEPING object definition such that the ARCHIVE_STATUS and DELIVERY_STATUS keywords are mandatory elements. Expand the description to mention other information beyond resources.

```

OBJECT = GENERIC_OBJECT_DEFINITION
NAME = DATA_SET_HOUSEKEEPING
STATUS_TYPE = PENDING
DESCRIPTION = "
    The DATA_SET_HOUSEKEEPING object contains information about
    the delivery, archiving, and curational status of a single
    data set and its associated resources (e.g. web pages, data set
    browsers, etc). The resources are used to select and download data
    products or other files associated with the data set."
REQUIRED_ELEMENT_SET = {
    ARCHIVE_STATUS,
    DELIVERY_STATUS,
    CURATING_NODE_ID,
    DATA_SET_ID}
REQUIRED_OBJECT_SET = {
    RESOURCE_INFORMATION}
OBJECT_TYPE = GENERIC

```

```
END_OBJECT = GENERIC_OBJECT_DEFINITION
END
```

- (5) Amend the DATA_SET_RELEASE object such that the DELIVERY_STATUS keyword is a mandatory element.

```
OBJECT = GENERIC_OBJECT_DEFINITION
NAME = DATA_SET_RELEASE
STATUS_TYPE = PENDING
DESCRIPTION = "
    The DATA_SET_RELEASE object provides information on the
    release of a data set or portion of a data set being made
    available for online access."
REQUIRED_ELEMENT_SET = {
    ARCHIVE_STATUS,
    DATA_PROVIDER_NAME,
    DATA_SET_ID,
    DELIVERY_STATUS,
    DESCRIPTION,
    DISTRIBUTION_TYPE,
    PRODUCT_TYPE,
    RELEASE_DATE,
    RELEASE_ID,
    RELEASE_MEDIUM,
    RELEASE_PARAMETER_TEXT}
OBJECT_TYPE = GENERIC
END_OBJECT = GENERIC_OBJECT_DESCRIPTION
```

Impact Assessment

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In addition to the Standards Reference and PSDD changes above, the following tasks have been identified as being required to implement SCR 3-1073:

1. PDS Tool Suite - no impact
2. Ingestion tools - update the software that ingests DATA_SET_HOUSEKEEPING objects to include the ARCHIVE_STATUS and DELIVERY_STATUS keywords
- update the software that ingests DATA_SET_RELEASE objects to include the DELIVERY_STATUS keyword.
3. "Release Manager" web page - update the software that ingests the DATA_SET_RELEASE objects to include the new DELIVERY_STATUS keyword and the amended ARCHIVE_STATUS standard values.
4. "Resource Manager" web page - update the software that ingests the DATA_SET_HOUSEKEEPING objects to include the new DELIVERY_STATUS keyword and the amended ARCHIVE_STATUS standard values.
5. "PDS Subscription Service" - add ARCHIVE_STATUS and DELIVERY_STATUS to the display page
6. "PDS Data Set View" - add ARCHIVE_STATUS and DELIVERY_STATUS to the display page
7. EN documentation - update the (internal) EN Ingestion manual to reflect the change in the DATA_SET_HOUSEKEEPING and DATA_SET_RELEASE objects.

The recommendations above do not impact the PDS validation software

as the modifications to the PSDD drive the creation of pdsdd.full which, in turn, drives the validation software.

Adding the ARCHIVE_STATUS and DELIVERY_STATUS keywords to the DATA_SET_HOUSEKEEPING object will affect the ingestion software, but the change is minimal and will not require much effort.

Adding ARCHIVE_STATUS and DELIVERY_STATUS to the Subscription Service and Data Set View pages will impact the software used to generate those pages, but the change is minimal and will not require much effort.

The changes to the DATA_SET_INFORMATION, DATA_SET_RELEASE and DATA_SET_HOUSEKEEPING objects will impact the catalog ingestion software, but the updates are minimal and will not require much effort.

This proposal presents minimal disruption to the current operational system, accommodates the design of the PDS, is tightly constrained, and presents minimal impact on tool development.

8. Catalog update - Updating the value of ARCHIVE_STATUS and establishing initial values for DELIVERY_STATUS for existing data sets presents an unknown impact on resources. At the time of this writing, PDS holdings include data sets in the following categories:

ARCHIVED:	746
IN PEER REVIEW:	17
IN QUEUE :	169
PRE PEER REVIEW:	168
IN LIEN RESOLUTION:	12
LOCALLY ARCHIVED:	98
SUPERSEDED:	79
SAVED	6

Those IN PEER REVIEW, IN QUEUE, PRE PEER REVIEW and IN LIEN RESOLUTION could almost be assumed to fit the IN REVIEW category and thus easily updated. Those in LOCALLY ARCHIVED should be looked at to determine if they belong in the ARCHIVED or IN REVIEW category. Those ARCHIVED or SUPERCEDED should not in general need to change.