

Standards Change Request

MSL Keyword Approval

SCR3-1153.v1

Provenance:

Date: 2009-07-08

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Working Group: E. Rye (lead), J. Diehl, S. Slavney, B. Sword (suggested)

Problem:

The following seven (7) keywords were proposed for and used by the MER mission, but still have a STATUS_TYPE of PENDING: ROVER_MOTION_COUNTER, ROVER_MOTION_COUNTER_NAME, SEQUENCE_ID, SEQUENCE_VERSION_ID, APPLICATION_PROCESS_ID, APPLICATION_PROCESS_NAME and TELEMETRY_SOURCE_NAME. The MSL project would like to use these and would like to have their status updated to APPROVED. Also, because SEQUENCE_ID replaces the older SEQ_ID keyword, this SCR proposed to change the STATUS_TYPE of that keyword to "OBSOLETE".

Current Urgency:

MSL is schedule to launch in 2012. The current schedule for approval of the archive SIS is October 1, 2009.

Proposed Solution:

Update the status of the following keywords to "APPROVED". Note that their CHANGE_DATE and LABEL_REVISION_NOTE values have been updated as well.

ROVER_MOTION_COUNTER
ROVER_MOTION_COUNTER_NAME
SEQUENCE_ID
SEQUENCE_VERSION_ID
APPLICATION_PROCESS_ID
APPLICATION_PROCESS_NAME
TELEMETRY_SOURCE_NAME

Update the status of the following keyword to "OBSOLETE". Note that the CHANGE_DATE and LABEL_REVISION_NOTE values for this keywords have also been updated.

SEQ_ID

Impact Assessment:

PDS Standards Reference – No impact.

Archive Preparation Guide – No impact.

Proposer's Archive Guide – No impact.

Planetary Science Data Dictionary – Change to the keyword status and date values for the affected keyword.

PDS tools – No impact.

Additional Information:

None.

Requested Changes:

Changes are in **RED**. Data and time values to be determined by PDS.

ROVER_MOTION_COUNTER

```
PDS_VERSION_ID           = PDS3
LABEL_REVISION_NOTE      = "2004-06-10 IMG:RXA Initial Submission;
                           2009-07-08 IMG:JMD Revised Submission"
OBJECT                    = ELEMENT_DEFINITION
  ELEMENT_NAME            = "rover_motion_counter"
  BL_NAME                  = "rovr_mot_cnt"
  DESCRIPTION              = "
```

The ROVER_MOTION_COUNTER element provides a set of integers which describe a (potentially) unique location (position/orientation) for a rover. Each time an event occurs that moves, or could potentially move, the rover, a new motion counter value is created. This includes intentional motion due to drive commands, as well as potential motion due to other articulating devices, such as arms or antennae. This motion counter (or part of it) is used as a reference to define instances coordinate systems which can move such as SITE or ROVER frames. The motion counter is defined in a mission-specific manner. Although the original intent was to have incrementing

indices (e.g., MER), the motion counter could also contain any integer values which conform to the above definition, such as time or spacecraft clock values.

Note: For MER, the motion counter consists of five values. In order, they are Site, Drive, IDD, PMA, and HGA. The Site value increments whenever a new major Site frame is declared. The Drive value increments any time intentional driving is done. Each of those resets all later indices to 0 when they increment. The IDD, PMA, and HGA increment whenever the corresponding articulation device moves. It is TBD whether IDD, PMA, and HGA are independent of each other, or reset the others to 0 in a hierarchical manner when they are incremented. Conceptually, a sixth value could be added by ground processing to indicate unintentional slippage (e.g., the wind blew the rover off a rock). This sixth value will never occur in telemetry but might occur in certain RDR's. (Implementation of this is TBD)."

```

GENERAL_DATA_TYPE           = "INTEGER"
MAXIMUM                     = "UNK"
MINIMUM                     = "0"
MAXIMUM_LENGTH              = "N/A"
MINIMUM_LENGTH              = "N/A"
STANDARD_VALUE_TYPE         = "RANGE"
STANDARD_VALUE_SET_DESC     = "N/A"
KEYWORD_DEFAULT_VALUE       = "N/A"
UNIT_ID                     = "N/A"
SOURCE_NAME                  = "MER"
FORMATION_RULE_DESC         = "N/A"
SYSTEM_CLASSIFICATION_ID    = "PDS_MER_OPS"
GENERAL_CLASSIFICATION_TYPE = "MISSION"
CHANGE_DATE                  = "2009-07-08"
STATUS_TYPE                  = "APPROVED"
STANDARD_VALUE_OUTPUT_FLAG  = "N"
TEXT_FLAG                    = "N"
TERSE_NAME                   = "rovr_mot_cnt"
SQL_FORMAT                   = "CHAR(20)"
BL_SQL_FORMAT                = "char(20)"
DISPLAY_FORMAT               = "JUSTLEFT"
AVAILABLE_VALUE_TYPE        = "N"
END_OBJECT                   = ELEMENT_DEFINITION
END

```

ROVER_MOTION_COUNTER_NAME

```

PDS_VERSION_ID              = PDS3
LABEL_REVISION_NOTE         = "2004-06-10 IMG:RXA Initial Submission;
                               2009-07-08 IMG:JMD Revised Submission"
OBJECT                       = ELEMENT_DEFINITION
  ELEMENT_NAME               = "rover_motion_counter_name"
  BL_NAME                     = "rv_mo_cnt_nm"
  DESCRIPTION                 = ""

```

The ROVER_MOTION_COUNTER_NAME element is an array of values that provides the formal names

identifiying each integer in ROVER_MOTION_COUNTER."

GENERAL_DATA_TYPE	= "CHARACTER"
MAXIMUM	= "N/A"
MINIMUM	= "N/A"
MAXIMUM_LENGTH	= "N/A"
MINIMUM_LENGTH	= "N/A"
STANDARD_VALUE_TYPE	= "SUGGESTED"
STANDARD_VALUE_SET_DESC	= "NULL"
KEYWORD_DEFAULT_VALUE	= "N/A"
UNIT_ID	= "N/A"
SOURCE_NAME	= "MER"
FORMATION_RULE_DESC	= "N/A"
OBJECT	= ELEMENT_STANDARD_VALUE
COLUMN_VALUE	= "DRIVE"
COLUMN_VALUE_TYPE	= "A"
COLUMN_VALUE_NODE_ID	= "U"
OUTPUT_FLAG	= "Y"
END_OBJECT	= ELEMENT_STANDARD_VALUE
OBJECT	= ELEMENT_STANDARD_VALUE
COLUMN_VALUE	= "HGA"
COLUMN_VALUE_TYPE	= "A"
COLUMN_VALUE_NODE_ID	= "U"
OUTPUT_FLAG	= "Y"
END_OBJECT	= ELEMENT_STANDARD_VALUE
OBJECT	= ELEMENT_STANDARD_VALUE
COLUMN_VALUE	= "IDD"
COLUMN_VALUE_TYPE	= "A"
COLUMN_VALUE_NODE_ID	= "U"
OUTPUT_FLAG	= "Y"
END_OBJECT	= ELEMENT_STANDARD_VALUE
OBJECT	= ELEMENT_STANDARD_VALUE
COLUMN_VALUE	= "PMA"
COLUMN_VALUE_TYPE	= "A"
COLUMN_VALUE_NODE_ID	= "U"
OUTPUT_FLAG	= "Y"
END_OBJECT	= ELEMENT_STANDARD_VALUE
OBJECT	= ELEMENT_STANDARD_VALUE
COLUMN_VALUE	= "SITE"
COLUMN_VALUE_TYPE	= "A"
COLUMN_VALUE_NODE_ID	= "U"
OUTPUT_FLAG	= "Y"
END_OBJECT	= ELEMENT_STANDARD_VALUE
SYSTEM_CLASSIFICATION_ID	= "PDS_MER_OPS"
GENERAL_CLASSIFICATION_TYPE	= "MISSION"
CHANGE_DATE	= "2009-07-08"
STATUS_TYPE	= "APPROVED"
STANDARD_VALUE_OUTPUT_FLAG	= "Y"
TEXT_FLAG	= "N"
TERSE_NAME	= "rv_mo_cnt_nm"
SQL_FORMAT	= "CHAR(20)"
BL_SQL_FORMAT	= "char(20)"
DISPLAY_FORMAT	= "JUSTLEFT"
AVAILABLE_VALUE_TYPE	= "N"

```

END_OBJECT          = ELEMENT_DEFINITION
END

```

SEQUENCE_ID

```

PDS_VERSION_ID      = PDS3
LABEL_REVISION_NOTE = "2004-06-10 IMG:RXA Initial Submission;
                      2009-07-08 IMG:JMD Revised Submission"
OBJECT              = ELEMENT_DEFINITION
  ELEMENT_NAME      = "sequence_id"
  BL_NAME           = "sequence_id"
  DESCRIPTION       = "

```

The SEQUENCE_ID element provides an identification of the spacecraft sequence associated with the given product. This element may replace the older SEQ_ID element."

```

  GENERAL_DATA_TYPE = "CHARACTER"
  MAXIMUM           = "N/A"
  MINIMUM           = "N/A"
  MAXIMUM_LENGTH    = "30"
  MINIMUM_LENGTH    = "N/A"
  STANDARD_VALUE_TYPE = "SUGGESTED"
  STANDARD_VALUE_SET_DESC = "N/A"
  KEYWORD_DEFAULT_VALUE = "N/A"
  UNIT_ID           = "N/A"
  SOURCE_NAME       = "MER"
  FORMATION_RULE_DESC = "N/A"
  SYSTEM_CLASSIFICATION_ID = "PDS_MER_OPS"
  GENERAL_CLASSIFICATION_TYPE = "MISSION"
  CHANGE_DATE       = "2009-07-08"
  STATUS_TYPE       = "APPROVED"
  STANDARD_VALUE_OUTPUT_FLAG = "N"
  TEXT_FLAG         = "N"
  TERSE_NAME        = "sequence_id"
  SQL_FORMAT        = "CHAR(20)"
  BL_SQL_FORMAT     = "char(20)"
  DISPLAY_FORMAT    = "JUSTLEFT"
  AVAILABLE_VALUE_TYPE = "N"
END_OBJECT          = ELEMENT_DEFINITION
END

```

SEQUENCE_VERSION_ID

```

PDS_VERSION_ID      = PDS3
LABEL_REVISION_NOTE = "2004-06-10 IMG:RXA Initial Submission
                      2009-07-
08 IMG:JMD Revised Submission"
OBJECT              = ELEMENT_DEFINITION
  ELEMENT_NAME      = "sequence_version_id"
  BL_NAME           = "seq_versn_id"
  DESCRIPTION       = "

```

The SEQUENCE_VERSION_ID element specifies the version identifier for a particular sequence used during planning or data processing."

```

GENERAL_DATA_TYPE           = "CHARACTER"
MAXIMUM                     = "N/A"
MINIMUM                     = "N/A"
MAXIMUM_LENGTH              = "30"
MINIMUM_LENGTH              = "N/A"
STANDARD_VALUE_TYPE        = "SUGGESTED"
STANDARD_VALUE_SET_DESC    = "N/A"
KEYWORD_DEFAULT_VALUE      = "N/A"
UNIT_ID                     = "N/A"
SOURCE_NAME                 = "MER"
FORMATION_RULE_DESC        = "N/A"
SYSTEM_CLASSIFICATION_ID   = "PDS_MER_OPS"
GENERAL_CLASSIFICATION_TYPE = "MISSION"
CHANGE_DATE                 = "2009-07-08"
STATUS_TYPE                 = "APPROVED"
STANDARD_VALUE_OUTPUT_FLAG = "Y"
TEXT_FLAG                   = "N"
TERSE_NAME                  = "seq_versn_id"
SQL_FORMAT                  = "CHAR(20)"
BL_SQL_FORMAT               = "char(20)"
DISPLAY_FORMAT              = "JUSTLEFT"
AVAILABLE_VALUE_TYPE       = "N"
END_OBJECT                  = ELEMENT_DEFINITION
END

```

APPLICATION_PROCESS_ID

```

PDS_VERSION_ID             = PDS3
LABEL_REVISION_NOTE       = "2004-06-10 IMG:RXA Initial Submission
                               2009-07-

```

08 IMG:JMD Revised Submission"

```

OBJECT                     = ELEMENT_DEFINITION
ELEMENT_NAME               = "application_process_id"
BL_NAME                    = "app_proc_id"
DESCRIPTION                 = "

```

The APPLICATION_PROCESS_ID identifies the process, or source, which created the data."

```

GENERAL_DATA_TYPE          = "INTEGER"
MAXIMUM                    = "N/A"
MINIMUM                    = "0"
MAXIMUM_LENGTH             = "N/A"
MINIMUM_LENGTH             = "N/A"
STANDARD_VALUE_TYPE        = "RANGE"
STANDARD_VALUE_SET_DESC    = "N/A"
KEYWORD_DEFAULT_VALUE      = "N/A"
UNIT_ID                    = "N/A"
SOURCE_NAME                 = "MER"
FORMATION_RULE_DESC        = "N/A"
SYSTEM_CLASSIFICATION_ID   = "PDS_MER_OPS"
GENERAL_CLASSIFICATION_TYPE = "MISSION"
CHANGE_DATE                 = "2009-07-08"
STATUS_TYPE                 = "APPROVED"

```

```

STANDARD_VALUE_OUTPUT_FLAG      = "N"
TEXT_FLAG                       = "N"
TERSE_NAME                     = "app_proc_id"
SQL_FORMAT                     = "CHAR(20)"
BL_SQL_FORMAT                  = "char(20)"
DISPLAY_FORMAT                 = "JUSTLEFT"
AVAILABLE_VALUE_TYPE           = "N"
END_OBJECT                     = ELEMENT_DEFINITION
END

```

APPLICATION_PROCESS_NAME

```

PDS_VERSION_ID                 = PDS3
LABEL_REVISION_NOTE           = "2004-06-10 IMG:RXA Initial Submission
2009-07-

```

08 IMG:JMD Revised Submission"

```

OBJECT                         = ELEMENT_DEFINITION
  ELEMENT_NAME                 = "application_process_name"
  BL_NAME                     = "app_proc_nam"
  DESCRIPTION                  = "

```

The APPLICATION_PROCESS_NAME element provides the name associated with the source or process which created the data."

```

GENERAL_DATA_TYPE             = "CHARACTER"
MAXIMUM                       = "N/A"
MINIMUM                       = "N/A"
MAXIMUM_LENGTH                = "256"
MINIMUM_LENGTH                = "1"
STANDARD_VALUE_TYPE           = "SUGGESTED"
STANDARD_VALUE_SET_DESC       = "N/A"
KEYWORD_DEFAULT_VALUE         = "N/A"
UNIT_ID                       = "N/A"
SOURCE_NAME                   = "MER"
FORMATION_RULE_DESC           = "N/A"
OBJECT                         = ELEMENT_STANDARD_VALUE
  COLUMN_VALUE                 = "APXS"
  COLUMN_VALUE_TYPE            = "A"
  COLUMN_VALUE_NODE_ID         = "U"
  OUTPUT_FLAG                  = "Y"
END_OBJECT                     = ELEMENT_STANDARD_VALUE
OBJECT                         = ELEMENT_STANDARD_VALUE
  COLUMN_VALUE                 = "DESCENT IMAGER"
  COLUMN_VALUE_TYPE            = "A"
  COLUMN_VALUE_NODE_ID         = "U"
  OUTPUT_FLAG                  = "Y"
END_OBJECT                     = ELEMENT_STANDARD_VALUE
OBJECT                         = ELEMENT_STANDARD_VALUE
  COLUMN_VALUE                 = "HAZCAM LEFT FRONT"
  COLUMN_VALUE_TYPE            = "A"
  COLUMN_VALUE_NODE_ID         = "U"
  OUTPUT_FLAG                  = "Y"
END_OBJECT                     = ELEMENT_STANDARD_VALUE
OBJECT                         = ELEMENT_STANDARD_VALUE
  COLUMN_VALUE                 = "HAZCAM LEFT REAR"

```

COLUMN_VALUE_TYPE	= "A"
COLUMN_VALUE_NODE_ID	= "U"
OUTPUT_FLAG	= "Y"
END_OBJECT	= ELEMENT_STANDARD_VALUE
OBJECT	= ELEMENT_STANDARD_VALUE
COLUMN_VALUE	= "HAZCAM RIGHT FRONT"
COLUMN_VALUE_TYPE	= "A"
COLUMN_VALUE_NODE_ID	= "U"
OUTPUT_FLAG	= "Y"
END_OBJECT	= ELEMENT_STANDARD_VALUE
OBJECT	= ELEMENT_STANDARD_VALUE
COLUMN_VALUE	= "HAZCAM RIGHT REAR"
COLUMN_VALUE_TYPE	= "A"
COLUMN_VALUE_NODE_ID	= "U"
OUTPUT_FLAG	= "Y"
END_OBJECT	= ELEMENT_STANDARD_VALUE
OBJECT	= ELEMENT_STANDARD_VALUE
COLUMN_VALUE	= "MB"
COLUMN_VALUE_TYPE	= "A"
COLUMN_VALUE_NODE_ID	= "U"
OUTPUT_FLAG	= "Y"
END_OBJECT	= ELEMENT_STANDARD_VALUE
OBJECT	= ELEMENT_STANDARD_VALUE
COLUMN_VALUE	= "MI"
COLUMN_VALUE_TYPE	= "A"
COLUMN_VALUE_NODE_ID	= "U"
OUTPUT_FLAG	= "Y"
END_OBJECT	= ELEMENT_STANDARD_VALUE
OBJECT	= ELEMENT_STANDARD_VALUE
COLUMN_VALUE	= "MINUTES"
COLUMN_VALUE_TYPE	= "A"
COLUMN_VALUE_NODE_ID	= "U"
OUTPUT_FLAG	= "Y"
END_OBJECT	= ELEMENT_STANDARD_VALUE
OBJECT	= ELEMENT_STANDARD_VALUE
COLUMN_VALUE	= "NAVCAM LEFT"
COLUMN_VALUE_TYPE	= "A"
COLUMN_VALUE_NODE_ID	= "U"
OUTPUT_FLAG	= "Y"
END_OBJECT	= ELEMENT_STANDARD_VALUE
OBJECT	= ELEMENT_STANDARD_VALUE
COLUMN_VALUE	= "NAVCAM RIGHT"
COLUMN_VALUE_TYPE	= "A"
COLUMN_VALUE_NODE_ID	= "U"
OUTPUT_FLAG	= "Y"
END_OBJECT	= ELEMENT_STANDARD_VALUE
OBJECT	= ELEMENT_STANDARD_VALUE
COLUMN_VALUE	= "PANCAM LEFT"
COLUMN_VALUE_TYPE	= "A"
COLUMN_VALUE_NODE_ID	= "U"
OUTPUT_FLAG	= "Y"
END_OBJECT	= ELEMENT_STANDARD_VALUE
OBJECT	= ELEMENT_STANDARD_VALUE


```

COLUMN_VALUE = "PANCAM RIGHT"
COLUMN_VALUE_TYPE = "A"
COLUMN_VALUE_NODE_ID = "U"
OUTPUT_FLAG = "Y"
END_OBJECT = ELEMENT_STANDARD_VALUE
OBJECT = ELEMENT_STANDARD_VALUE
COLUMN_VALUE = "RAT"
COLUMN_VALUE_TYPE = "A"
COLUMN_VALUE_NODE_ID = "U"
OUTPUT_FLAG = "Y"
END_OBJECT = ELEMENT_STANDARD_VALUE
SYSTEM_CLASSIFICATION_ID = "PDS_MER_OPS"
GENERAL_CLASSIFICATION_TYPE = "MISSION"
CHANGE_DATE = "2009-07-08"
STATUS_TYPE = "APPROVED"
STANDARD_VALUE_OUTPUT_FLAG = "Y"
TEXT_FLAG = "N"
TERSE_NAME = "app_proc_nam"
SQL_FORMAT = "CHAR(20)"
BL_SQL_FORMAT = "char(20)"
DISPLAY_FORMAT = "JUSTLEFT"
AVAILABLE_VALUE_TYPE = "N"
END_OBJECT = ELEMENT_DEFINITION
END

```

TELEMETRY_SOURCE_NAME

```

PDS_VERSION_ID = PDS3
LABEL_REVISION_NOTE = "2004-12-23, BJS (CN);
2009-07-08 IMG:JMD Revised Submission"
OBJECT = ELEMENT_DEFINITION
ELEMENT_NAME = "telemetry_source_name"
BL_NAME = "tlm_src_name"
DESCRIPTION = "
The TELEMETRY_SOURCE_NAME element identifies the telemetry
source used in creation of a data set."
GENERAL_DATA_TYPE = "CHARACTER"
MAXIMUM = "N/A"
MINIMUM = "N/A"
MAXIMUM_LENGTH = "60"
MINIMUM_LENGTH = "1"
STANDARD_VALUE_TYPE = "DYNAMIC"
STANDARD_VALUE_SET_DESC = "N/A"
KEYWORD_DEFAULT_VALUE = "N/A"
UNIT_ID = "N/A"
SOURCE_NAME = "PDS CN/B.SWORD"
FORMATION_RULE_DESC = "N/A"
SYSTEM_CLASSIFICATION_ID = "PDS_MER_OPS"
GENERAL_CLASSIFICATION_TYPE = "MISSION"
CHANGE_DATE = "2009-07-08"
STATUS_TYPE = "APPROVED "
STANDARD_VALUE_OUTPUT_FLAG = "N"
TEXT_FLAG = "N"

```

```

TERSE_NAME           = "tlm_src_name"
SQL_FORMAT           = "CHAR(60)"
BL_SQL_FORMAT        = "char(60)"
DISPLAY_FORMAT       = "JUSTLEFT"
AVAILABLE_VALUE_TYPE = "N"
END_OBJECT           = ELEMENT_DEFINITION
END

```

SEQ_ID

```

PDS_VERSION_ID       = PDS3
LABEL_REVISION_NOTE = "2009-07-08 IMG:JMD Superseded by
SEQUENCE_ID"
OBJECT                = ELEMENT_DEFINITION
ELEMENT_NAME         = "seq_id"
BL_NAME              = "seqid"
DESCRIPTION           = "

```

The seq_id element provides an identification of the spacecraft sequence associated with the given product.

Note: This keyword was used for the Mars Exploration Rovers mission and has been superseded by the SEQUENCE_ID element; it should no longer be used."

```

GENERAL_DATA_TYPE    = "CHARACTER"
MAXIMUM              = "N/A"
MINIMUM              = "N/A"
MAXIMUM_LENGTH       = "30"
MINIMUM_LENGTH       = "N/A"
STANDARD_VALUE_TYPE  = "SUGGESTED"
STANDARD_VALUE_SET_DESC = ""
KEYWORD_DEFAULT_VALUE = ""
UNIT_ID              = "none"
SOURCE_NAME          = ""
FORMATION_RULE_DESC   = ""
SYSTEM_CLASSIFICATION_ID = "JPL_AMMOS_SPECIFIC"
GENERAL_CLASSIFICATION_TYPE = "SYSTEM"
CHANGE_DATE          = "2009-07-08"
STATUS_TYPE          = "OBSOLETE"
STANDARD_VALUE_OUTPUT_FLAG = "N"
TEXT_FLAG            = "N"
TERSE_NAME           = ""
SQL_FORMAT           = "CHAR(30)"
BL_SQL_FORMAT        = "char(30)"
DISPLAY_FORMAT       = "JUSTLEFT"
AVAILABLE_VALUE_TYPE = ""
END_OBJECT           = ELEMENT_DEFINITION
END

```