

```
#####
#
#                               DDLm REFERENCE DICTIONARY
#
#####
```

```
data_DDL_DIC
```

```

  _dictionary.title           DDL_DIC
  _dictionary.class           Reference
  _dictionary.version         3.11.03
  _dictionary.date            2013-04-24
  _dictionary.uri             www.iucr.org/cif/dic/ddl.dic
  _dictionary.ddl_conformance 3.11.03
  _dictionary.namespace       DdlDic
  _description.text
```

```
;
  This dictionary contains the definitions of attributes that
  make up the DDLm dictionary definition language. It provides
  the meta meta data for all CIF dictionaries.
;
```

```
save_ATTRIBUTES
```

```

  _definition.id              ATTRIBUTES
  _definition.scope           Category
  _definition.class           Head
  _definition.update          2011-07-27
  _description.text
```

```
;
  This category is parent of all other categories in the DDLm
  dictionary.
;
```

```

  _name.object_id             ATTRIBUTES
```

```
#####
```

```
save_ALIAS
```

```

  _definition.id              ALIAS
  _definition.scope           Category
  _definition.class           Loop
  _definition.update          2011-06-07
  _description.text
```

```
;
  The attributes used to specify the aliased names of definitions.
;
```

```

  _name.category_id           ATTRIBUTES
  _name.object_id             ALIAS
  _category.key_id            '_alias.definition_id'
```

```
save_alias.definition_id
```

```

  _definition.id              '_alias.definition_id'
  _definition.class           Attribute
  _definition.update          2006-11-16
  _description.text
```

```
;
  Identifier tag of an aliased definition.
;
```

```

  _name.category_id           alias
  _name.object_id             definition_id
  _type.purpose                 Key
  _type.source                 Assigned
  _type.container              Single
  _type.contents               Tag
  save_
```

```

save_alias.dictionary_uri
  _definition.id          '_alias.dictionary_uri'
  _definition.update      2006-11-16
  _definition.class       Attribute
  _description.text
;
  Dictionary URI in which the aliased definition belongs.
;
  _name.category_id       alias
  _name.object_id         dictionary_uri
  _type.purpose             Identify
  _type.source            Assigned
  _type.container         Single
  _type.contents          Uri
  save_
  save_ #----- close of ALIAS category

#=====

save_CATEGORY
  _definition.id          CATEGORY
  _definition.scope       Category
  _definition.class       Set
  _definition.update      2006-11-16
  _description.text
;
  The attributes used to specify the properties of a
  "category" of data items.
;
  _name.category_id       ATTRIBUTES
  _name.object_id         CATEGORY

save_category.key_id
  _definition.id          '_category.key_id'
  _definition.update      2011-07-27
  _definition.class       Attribute
  _description.text
;
  Tag of a data item in a Loop category which is the generic key
  to access other items in the category. The value of this
  item must be unique in order to provide unambiguous access to
  a packet (row) in the table of values.
;
  _name.category_id       category
  _name.object_id         key_id
  _type.purpose             Identify
  _type.source            Assigned
  _type.container         Single
  _type.contents          Tag
  save_
  save_ #----- close of CATEGORY category

#=====

save_DEFINITION

```

```

    _definition.id          DEFINITION
    _definition.scope      Category
    _definition.class      Set
    _definition.update     2011-06-20
    _description.text
;
    The attributes for classifying dictionary definitions.
;
    _name.category_id      ATTRIBUTES
    _name.object_id       DEFINITION

save_definition.class
    _definition.id        '_definition.class'
    _definition.update    2013-03-08
    _definition.class     Attribute
    _description.text
;
    The nature and the function of a definition or definitions.
;
    _name.category_id     definition
    _name.object_id      class
    _type.purpose          State
    _type.source         Assigned
    _type.container      Single
    _type.contents      Code
    loop_
    _enumeration_set.state
    _enumeration_set.detail
;
    Attribute
;
    Item used as an attribute in the definition
    of other data items in DDLm dictionaries.
    These items never appear in data instance files.
;
    Functions
;
    Category of items that are transient function
    definitions used only in dREL methods scripts.
    These items never appear in data instance files.
;
    Datum
;
    Item defined in a domain-specific dictionary.
    These items appear only in data instance files.
;
    Head
;
    Category of items that is the parent of
    all other categories in the dictionary.
;
    Loop
;
    Category of items that in a data file must
    reside in a loop-list with a key item defined.
;
    Set
;
    Category of items that form a set (but not a
    loopable list). These items may be referenced
    as a class of items in a dREL methods expression.
;
    Ref-loop
;
    A category containing one item that identifies the
    a category of items that is repeated in a sequence
    of save frames. The item, which is specifies as a
    as a Ref-table value (see type.container), is looped.
    This construction is for loop categories that contain
    child categories.
    If in the instance file, the child items have only
    one set of values, the Ref-loop item need not be used

```

and child items need not be placed in a save frame.

```
;
  _enumeration.default      Datum
  save_

save_definition.id
  _definition.id           '_definition.id'
  _definition.update       2006-11-16
  _definition.class        Attribute
  _description.text

;
  Identifier name of the Item or Category definition contained
  within a save frame.

;
  _name.category_id        definition
  _name.object_id          id
  _type.purpose              Identify
  _type.source              Assigned
  _type.container          Single
  _type.contents           Tag
  save_

save_definition.scope
  _definition.id           '_definition.scope'
  _definition.update       2006-11-16
  _definition.class        Attribute
  _description.text

;
  The extent to which a definition affects other definitions.

;
  _name.category_id        definition
  _name.object_id          scope
  _type.purpose              State
  _type.source              Assigned
  _type.container          Single
  _type.contents           Code
  loop_
  _enumeration_set.state
  _enumeration_set.detail
    Dictionary             "applies to all defined items in the dictionary"
    Category               "applies to all defined items in the category"
    Item                   "applies to a single item definition"
  _enumeration.default     Item
  save_

save_definition.update
  _definition.id           '_definition.update'
  _definition.update       2006-11-16
  _definition.class        Attribute
  _description.text

;
  The date that a definition was last changed.

;
  _name.category_id        definition
  _name.object_id          update
  _type.purpose              Audit
  _type.source              Assigned
  _type.container          Single
  _type.contents           Date
  save_

save_definition.xref_code
```

```

    _definition.id          '_definition.xref_code'
    _definition.update      2006-11-16
    _definition.class       Attribute
    _description.text
;
    Code identifying the equivalent definition in the dictionary
    referenced by the DICTIONARY_XREF attributes.
;
    _name.category_id       definition
    _name.object_id         xref_code
    _type.purpose             Audit
    _type.source            Assigned
    _type.container         Single
    _type.contents          Code
    save_

    save_ #----- close the DEFINITION category
#-----

save_DESCRIPTION

    _definition.id          DESCRIPTION
    _definition.scope       Category
    _definition.class       Set
    _definition.update      2011-06-20
    _description.text
;
    The attributes of descriptive (non-machine parseable) parts of
    definitions.
;
    _name.category_id       ATTRIBUTES
    _name.object_id         DESCRIPTION

save_description.key_words
    _definition.id          '_description.key_words'
    _definition.update      2013-03-06
    _definition.class       Attribute
    _description.text
;
    List of key-words categorising the item.
;
    _description.common     'key words'
    _name.category_id       description
    _name.object_id         key_words
    _type.purpose             Encode
    _type.source            Assigned
    _type.container         Single
    _type.contents          Text
    save_

save_description.common
    _definition.id          '_description.common'
    _definition.update      2006-11-16
    _definition.class       Attribute
    _description.text
;
    Commonly-used identifying name for the item.
;
    _description.common     'common name'
    _name.category_id       description
    _name.object_id         common
    _type.purpose             Describe

```

```

    _type.source          Assigned
    _type.container       Single
    _type.contents        Text
    save_

save_description.text
    _definition.id        '_description.text'
    _definition.update     2006-11-16
    _definition.class      Attribute
    _description.text
;
    The text description of the defined item.
;
    _description.common    'description'
    _name.category_id      description
    _name.object_id        text
    _type.purpose            Describe
    _type.source           Assigned
    _type.container        Single
    _type.contents         Text
    save_

#-----

save_DESCRIPTION_EXAMPLE
    _definition.id        DESCRIPTION_EXAMPLE
    _definition.scope     Category
    _definition.class      Loop
    _definition.update     2011-06-20
    _description.text
;
    The attributes of descriptive (non-machine parseable) examples of
    values of the defined items.
;
    _name.category_id      DESCRIPTION
    _name.object_id        EXAMPLE
    _category.key_id       '_description_example.case'

save_description_example.case
    _definition.id        '_description_example.case'
    _definition.update     2013-03-08
    _definition.class      Attribute
    _description.text
;
    An example case of the defined item.
;
    _name.category_id      example
    _name.object_id        case
    _type.purpose            Key
    _type.source           Assigned
    _type.container        Single
    _type.contents         Implied
    save_

save_description_example.detail
    _definition.id        '_description_example.detail'
    _definition.update     2006-11-16
    _definition.class      Attribute
    _description.text
;

```

```

    A description of an example case for the defined item.
;
    _name.category_id          example
    _name.object_id           detail
    _type.purpose               Describe
    _type.source               Assigned
    _type.container            Single
    _type.contents             Text
    save_

    save_ #----- close the DESCRIPTION_EXAMPLE category

    save_ #----- close the DESCRIPTION category

#-----

save_DICTIONARY

    _definition.id            DICTIONARY
    _definition.scope         Category
    _definition.class         Set
    _definition.update        2011-06-20
    _description.text

;
    Attributes for identifying and registering the dictionary. The items
    in this category are NOT used as attributes of INDIVIDUAL data items.
;
    _name.category_id          ATTRIBUTES
    _name.object_id            DICTIONARY

save_dictionary.class
    _definition.id            '_dictionary.class'
    _definition.update        2012-05-07
    _definition.class         Attribute
    _description.text

;
    The nature, or field of interest, of data items defined in the dictionary.
;
    _name.category_id          dictionary
    _name.object_id            class
    _type.purpose                State
    _type.source                Assigned
    _type.container            Single
    _type.contents             Code
    loop_
    _enumeration_set.state
    _enumeration_set.detail
        Reference              'DDLm reference attribute definitions'
        Instance                'domain-specific data instance definitions'
        Template                'domain-specific attribute/enumeration templates'
        Function                'domain-specific method function scripts'
    _enumeration.default       Instance
    save_

save_dictionary.date
    _definition.id            '_dictionary.date'
    _definition.update        2006-11-16
    _definition.class         Attribute
    _description.text

;
    The date that the last dictionary revision took place.
;
    _name.category_id          dictionary

```

```
_name.object_id      date
_type.purpose         Audit
_type.source        Assigned
_type.container     Single
_type.contents      Date
save_
```

```
save_dictionary.ddl_conformance
  _definition.id      '_dictionary.ddl_conformance'
  _definition.update  '2006-11-16'
  _definition.class   Attribute
  _description.text

;
  The version number of the DDL dictionary that this dictionary
  conforms to.
;
  _name.category_id  dictionary
  _name.object_id    ddl_conformance
  _type.purpose        Audit
  _type.source       Assigned
  _type.container    Single
  _type.contents     Version
save_
```

```
save_dictionary.namespace
  _definition.id      '_dictionary.namespace'
  _definition.update  '2006-12-05'
  _definition.class   Attribute
  _description.text

;
  The namespace code that may be prefixed (with a trailing colon
  ":") to an item tag defined in the defining dictionary when used
  in particular applications. Because tags must be unique, namespace
  codes are unlikely to be used in data files.
;
  _name.category_id  dictionary
  _name.object_id    namespace
  _type.purpose        Audit
  _type.source       Assigned
  _type.container    Single
  _type.contents     Code
save_
```

```
save_dictionary.title
  _definition.id      '_dictionary.title'
  _definition.update  '2006-11-16'
  _definition.class   Attribute
  _description.text

;
  The common title of the dictionary. Will usually match the name
  attached to the data_ statement of the dictionary file.
;
  _name.category_id  dictionary
  _name.object_id    title
  _type.purpose        Audit
  _type.source       Assigned
  _type.container    Single
  _type.contents     Code
save_
```

```
save_dictionary.uri
  _definition.id      '_dictionary.uri'
```



```

    _definition.update          2006-11-16
    _definition.class          Attribute
    _description.text
;
    The universal resource indicator of this dictionary.
;
    _name.category_id          dictionary
    _name.object_id            uri
    _type.purpose                Identify
    _type.source                Assigned
    _type.container            Single
    _type.contents             Uri
    save_

save_dictionary.version
    _definition.id             '_dictionary.version'
    _definition.update         2006-11-16
    _definition.class          Attribute
    _description.text
;
    A unique version identifier for the dictionary.
;
    _name.category_id          dictionary
    _name.object_id            version
    _type.purpose                Audit
    _type.source                Assigned
    _type.container            Single
    _type.contents             Version
    save_

#-----

save_DICTIONARY_AUDIT

    _definition.id            DICTIONARY_AUDIT
    _definition.scope          Category
    _definition.class          Loop
    _definition.update         2011-06-20
    _description.text
;
    Attributes for identifying and registering the dictionary. The items
    in this category are NOT used as attributes of individual data items.
;
    _name.category_id          DICTIONARY
    _name.object_id            AUDIT
    _category.key_id           '_dictionary_audit.version'

save_dictionary_audit.date
    _definition.id             '_dictionary_audit.date'
    _definition.update         2011-06-27
    _definition.class          Attribute
    _description.text
;
    The date of each dictionary revision.
;
    _name.category_id          audit
    _name.object_id            date
    _type.purpose                Audit
    _type.source                Assigned
    _type.container            Single
    _type.contents             Date
    save_

```

```

save_dictionary_audit.revision
  _definition.id          '_dictionary_audit.revision'
  _definition.update      2011-06-27
  _definition.class       Attribute
  _description.text
;
  A description of the revision applied for the _dictionary_audit.version.
;
  _name.category_id       audit
  _name.object_id         revision
  _type.purpose             Describe
  _type.source            Assigned
  _type.container         Single
  _type.contents          Text
  save_

```

```

save_dictionary_audit.version
  _definition.id          '_dictionary_audit.version'
  _definition.update      2011-06-27
  _definition.class       Attribute
  _description.text
;
  A unique version identifier for each revision of the dictionary.
;
  _name.category_id       audit
  _name.object_id         version
  _type.purpose             Key
  _type.source            Assigned
  _type.container         Single
  _type.contents          Version
  save_
  save_      #----- close the DICTIONARY_AUDIT category

```

#-----

```

save_DICTIONARY_VALID
  _definition.id          DICTIONARY_VALID
  _definition.scope       Category
  _definition.class       Loop
  _definition.update      2011-06-21
  _description.text
;
  Data items which are used to specify the contents of definitions in
  the dictionary in terms of the _definition.scope      and the required
  and prohibited attributes.
;
  _name.category_id       DICTIONARY
  _name.object_id         VALID
  _category.key_id        '_dictionary_valid.application'

```

```

save_dictionary_valid.attributes
  _definition.id          '_dictionary_valid.attributes'
  _definition.update      2013-03-06
  _definition.class       Attribute
  _description.text
;
  A list of the attribute names and categories that are assessed
  for application in the item, category and dictionary definitions.

```

```

;
  _name.category_id          valid
  _name.object_id           attributes
  _type.purpose               Audit
  _type.source              Assigned
  _type.container           List
  _type.contents            Name
  _type.dimension           []
  save_

save_dictionary_valid.option
  _definition.id            '_dictionary_valid.option'
  _definition.update        2013-03-06
  _definition.class         Attribute
  _description.text

;
  Option codes for applicability of attributes in definitions.
;
  _name.category_id          valid
  _name.object_id           option
  _type.purpose               State
  _type.source              Assigned
  _type.container           Single
  _type.contents            Code
  loop_
  _enumeration_set.state
  _enumeration_set.detail
    Mandatory               'attribute must be present in definition frame'
    Recommended             'attribute is usually in definition frame'
    Prohibited              'attribute must not be used in definition frame'
  _enumeration.default      Recommended
  save_

save_dictionary_valid.application
  _definition.id            '_dictionary_valid.application'
  _definition.update        2013-02-12
  _definition.class         Attribute
  _description.text

;
  Provides the information identifying the definition scope (
  from the _definition.scope enumeration list) and the validity
  options (from the _dictionary_valid.option enumeration list),
  as a two element list. This list signals the validity of applying
  the attributes given in _dictionary_valid.attributes.
;
  _name.category_id          valid
  _name.object_id           application
  _type.purpose               Key
  _type.source              Assigned
  _type.container           List
  _type.contents            Code
  _type.dimension           [2]
  loop_
  _method.purpose             Definition
  _method.expression
  Definition
;
  _dictionary_valid.application
    = [_definition.scope, _dictionary_valid.option]
;
  save_

  save_      #----- close the DICTIONARY_VALID category
#-----

```

save\_DICTIONARY\_XREF

_definition.id	DICTIONARY_XREF
_definition.scope	Category
_definition.class	Loop
_definition.update	2011-06-20
_description.text	

;

Data items which are used to cross reference other dictionaries that have defined the same data items. Data items in this category are NOT used as attributes of individual data items.

;

_name.category_id	DICTIONARY
_name.object_id	XREF
_category.key_id	'_dictionary_xref.code'

save\_dictionary\_xref.code

_definition.id	'_dictionary_xref.code'
_definition.update	2006-11-27
_definition.class	Attribute
_description.text	

;

A code identifying the cross-referenced dictionary.

;

_name.category_id	xref
_name.object_id	code
_type.purpose	Key
_type.source	Assigned
_type.container	Single
_type.contents	Code
save_	

save\_dictionary\_xref.date

_definition.id	'_dictionary_xref.date'
_definition.update	2011-06-27
_definition.class	Attribute
_description.text	

;

Date of the cross-referenced dictionary.

;

_name.category_id	xref
_name.object_id	date
_type.purpose	Audit
_type.source	Assigned
_type.container	Single
_type.contents	Date
save_	

save\_dictionary\_xref.format

_definition.id	'_dictionary_xref.format'
_definition.update	2011-06-27
_definition.class	Attribute
_description.text	

;

Format of the cross referenced dictionary.

;

_name.category_id	xref
_name.object_id	format
_type.purpose	Audit
_type.source	Assigned
_type.container	Single

```

    _type.contents          Text
    save_

save_dictionary_xref.name
    _definition.id         '_dictionary_xref.name'
    _definition.update     2011-06-27
    _definition.class      Attribute
    _description.text
;
    The name and description of the cross-referenced dictionary.
;
    _name.category_id      xref
    _name.object_id        name
    _type.purpose            Audit
    _type.source            Assigned
    _type.container        Single
    _type.contents         Text
    save_

save_dictionary_xref.uri
    _definition.id         '_dictionary_xref.uri'
    _definition.update     2011-06-27
    _definition.class      Attribute
    _description.text
;
    The source URI of the cross referenced dictionary data.
;
    _name.category_id      xref
    _name.object_id        uri
    _type.purpose            Audit
    _type.source            Assigned
    _type.container        Single
    _type.contents         Uri
    save_

    save_      #----- close the DICTIONARY_XREF category

    save_      #----- close the DICTIONARY category

#-----

save_ENUMERATION

    _definition.id         ENUMERATION
    _definition.scope      Category
    _definition.class      Set
    _definition.update     2011-06-20
    _description.text
;
    The attributes for restricting the values of defined data items.
;
    _name.category_id      ATTRIBUTES
    _name.object_id        ENUMERATION

save_enumeration.default
    _definition.id         '_enumeration.default'
    _definition.update     2013-03-08
    _definition.class      Attribute
    _description.text
;
    The default value for the defined item if it is not specified explicitly.

```

```

;
  _name.category_id          enumeration
  _name.object_id           default
  _type.purpose               Encode
  _type.source              Assigned
  _type.container           Single
  _type.contents            Implied
  save_

save_enumeration.def_index_id
  _definition.id            '_enumeration.def_index_id'
  _definition.update        2012-05-07
  _definition.class         Attribute
  _description.text

;
  Specifies the data name with a value used as an index to the
  DEFAULT enumeration list (in category enumeration_default)
  in order to select the default enumeration value for the
  defined item. The value of the identified data item must match
  one of the _enumeration_default.index values.

;
  _name.category_id          enumeration
  _name.object_id           def_index_id
  _type.purpose               Identify
  _type.source              Assigned
  _type.container           Single
  _type.contents            Tag
  save_

save_enumeration.range
  _definition.id            '_enumeration.range'
  _definition.update        2013-04-17
  _definition.class         Attribute
  _description.text

;
  The inclusive range of values "from:to" allowed for the defined item.

;
  _name.category_id          enumeration
  _name.object_id           range
  _type.purpose               Encode
  _type.source              Assigned
  _type.container           Single
  _type.contents            Range
  save_

save_enumeration.mandatory
  _definition.id            '_enumeration.mandatory'
  _definition.update        2012-05-07
  _definition.class         Attribute
  _description.text

;
  Yes or No flag on whether the enumerate states specified for an
  item in the current definition (in which item appears) MUST be
  used on instantiation.

;
  _name.category_id          enumeration
  _name.object_id           mandatory
  _type.purpose               State
  _type.source              Assigned
  _type.container           Single
  _type.contents            Code
  _loop_
  _enumeration_set.state

```

```

_enumeration_set.detail          Yes  'Use of state is mandatory'
                                 No   'Use of state is unnecessary'
_enumeration.default             Yes
save_

```

```
#-----
```

```
save_ENUMERATION_DEFAULT
```

```

_definition.id                   ENUMERATION_DEFAULT
_definition.scope                 Category
_definition.class                 Loop
_definition.update                2011-06-20
_description.text

```

```

;
  Loop of pre-determined default enumeration values indexed to a
  data item by the item _enumeration.def_index_id.
;

```

```

_name.category_id                ENUMERATION
_name.object_id                  DEFAULT
_category.key_id                 '_enumeration_default.index'

```

```
save_enumeration_default.index
```

```

_definition.id                   '_enumeration_default.index'
_definition.update                2013-04-17
_definition.class                 Attribute
_description.text

```

```

;
  Index key in the list default values referenced to by the value
  of _enumeration.def_index_id .
;

```

```

_name.category_id                default
_name.object_id                  index
_type.purpose                      Key
_type.source                     Assigned
_type.container                  Single
_type.contents                   Code
save_

```

```
save_enumeration_default.value
```

```

_definition.id                   '_enumeration_default.value'
_definition.update                2013-04-17
_definition.class                 Attribute
_description.text

```

```

;
  Default enumeration value in the list referenced by the value of
  _enumeration.def_index_id. The reference index key is given by
  the value of _enumeration_default.index value.
;

```

```

_name.category_id                default
_name.object_id                  value
_type.purpose                      Encode
_type.source                     Assigned
_type.container                  Single
_type.contents                   Implied
save_

```

```
save_ #----- close the ENUMERATION_DEFAULT category
```

```
#-----
```

```

save_ENUMERATION_SET
    _definition.id          ENUMERATION_SET
    _definition.scope       Category
    _definition.class       Loop
    _definition.update      2011-06-20
    _description.text
;
    Attributes of data items which are used to define a
    set of unique pre-determined values.
;
    _name.category_id       ENUMERATION
    _name.object_id         SET
    _category.key_id        '_enumeration_set.state'

save_enumeration_set.state
    _definition.id          '_enumeration_set.state'
    _definition.update      2011-06-27
    _definition.class       Attribute
    _description.text
;
    Permitted value state for the defined item.
;
    _name.category_id       set
    _name.object_id         state
    _type.purpose             Key
    _type.source            Assigned
    _type.container         Single
    _type.contents          Code
    save_

save_enumeration_set.table_id
    _definition.id          '_enumeration_set.table_id'
    _definition.update      2011-08-02
    _definition.class       Attribute
    _description.text
;
    Permitted id codes in the defined TABLE item {"<id>:<val>,...}.
;
    _name.category_id       set
    _name.object_id         table_id
    _type.purpose             Encode
    _type.source            Assigned
    _type.container         Single
    _type.contents          Code
    save_

save_enumeration_set.detail
    _definition.id          '_enumeration_set.detail'
    _definition.update      2011-06-27
    _definition.class       Attribute
    _description.text
;
    The meaning of the code (identified by _enumeration_set.state)
    in terms of the value of the quantity it describes.
;
    _name.category_id       set
    _name.object_id         detail
    _type.purpose             Describe
    _type.source            Assigned
    _type.container         Single
    _type.contents          Text

```



```

save_

save_enumeration_set.xref_code
  _definition.id          '_enumeration_set.xref_code'
  _definition.update      2011-06-27
  _definition.class       Attribute
  _description.text
;
  Identity of the equivalent item in the dictionary
  referenced by the DICTIONARY_XREF attributes.
;
  _name.category_id       set
  _name.object_id        xref_code
  _type.purpose            Audit
  _type.source           Assigned
  _type.container        Single
  _type.contents         Code
  save_

save_enumeration_set.xref_dictionary
  _definition.id          '_enumeration_set.xref_dictionary'
  _definition.update      2011-06-27
  _definition.class       Attribute
  _description.text
;
  Code identifying the dictionary in the DICTIONARY_XREF
  list.
;
  _name.category_id       set
  _name.object_id        xref_dictionary
  _type.purpose            Audit
  _type.source           Assigned
  _type.container        Single
  _type.contents         Code
  save_

  save_ #----- close the ENUMERATION_SET category

  save_ #----- close the ENUMERATION category

#-----

save_IMPORT
  _definition.id          IMPORT
  _definition.scope       Category
  _definition.class       Set
  _definition.update      2011-06-27
  _description.text
;
  Used to import the values of specific attributes from other dictionary
  definitions within and without the current dictionary.
;
  _name.category_id       ATTRIBUTES
  _name.object_id        IMPORT

save_import.file_id
  _definition.id          '_import.file_id'
  _definition.update      2011-06-27
  _definition.class       Attribute
  _description.text
;
  The file name/URI of the source dictionary

```

```

;
_name.category_id      import
_name.object_id       file_id
_type.purpose           Identify
_type.source          Assigned
_type.container        Single
_type.contents         Uri
save_

save_import.frame_id
_definition.id         '_import.frame_id'
_definition.update     2011-06-27
_definition.class      Attribute
_description.text

;
    The framecode of the definition frame to be imported.
;
_name.category_id      import
_name.object_id       frame_id
_type.purpose           Identify
_type.source          Assigned
_type.container        Single
_type.contents         Code
save_

save_import.mode
_definition.id         '_import.mode'
_definition.update     2011-10-16
_definition.class      Attribute
_description.text

;
    Code identifying how a definition save frame is to be imported.
    "Full" imports the entire definition frame including the leading
        and trailing save statements.
    "Contents" imports only the lines within the save frame.
;
_name.category_id      import
_name.object_id       mode
_type.purpose           State
_type.source          Assigned
_type.container        Single
_type.contents         Code
_loop_
_enumeration_set.state
_enumeration_set.detail
                    Full 'import requested definition with frame'
                    Contents 'import contents of requested defn frame'
_enumeration.default   Contents
save_

save_import.if_dupl
_definition.id         '_import.if_dupl'
_definition.update     2012-10-16
_definition.class      Attribute
_description.text

;
    Code identifying the action taken if the requested definition block
    already exists within the importing dictionary.
;
_name.category_id      import
_name.object_id       if_dupl
_type.purpose           State
_type.source          Assigned
_type.container        Single

```

```

_type.contents          Code
_loop_
_enumeration_set.state
_enumeration_set.detail
                        Ignore  'ignore imported definitions if id conflict'
                        Replace  'replace existing with imported definitions'
                        Exit    'issue error exception and exit'
_enumeration.default   Exit
save_

save_import.if_miss
_definition.id          '_import.if_miss'
_definition.update     2012-10-16
_definition.class      Attribute
_description.text

;
Code identifying the action taken if the requested definition block
is missing from the source dictionary.
;
_name.category_id      import
_name.object_id        if_miss
_type.purpose            State
_type.source           Assigned
_type.container        Single
_type.contents         Code
_loop_
_enumeration_set.state
_enumeration_set.detail
                        Ignore  'ignore import'
                        Exit    'issue error exception and exit'
_enumeration.default   Exit
save_

save_import.get
_definition.id          '_import.get'
_definition.update     2013-03-08
_definition.class      Attribute
_description.text

;
A table of attributes defined individually in the category IMPORT,
used to import definitions from other dictionaries.
;
_name.category_id      import
_name.object_id        get
_type.purpose            Import
_type.source           Assigned
_type.container        Table
_type.contents         List(Code)
_type.dimension        [{}]
_loop_
_enumeration_set.state
_enumeration_set.table_id
_enumeration_set.detail
    '1' file 'filename/URI of source dictionary'
    '2' save 'save framecode of source definition'
    '3' mode 'mode for including save frames'
    '4' dupl 'option for duplicate entries'
    '5' miss 'option for missing duplicate entries'
_loop_
_method.purpose
_method.expression
Evaluation
;
With i as import

```

```

    _import.get = [{"file":i.file_id, "save":i.frame_id, "mode":i.mode,
                  "dupl":i.if_dupl, "miss":i.if_miss}]
;
    save_

    save_      #----- close the IMPORT category

#-----

save_LOOP

    _definition.id          LOOP
    _definition.scope      Category
    _definition.class      Set
    _definition.update      2011-06-20
    _description.text

;
    Attributes for looped lists.
;
    _name.category_id      ATTRIBUTES
    _name.object_id        LOOP

save_loop.level
    _definition.id          '_loop.level'
    _definition.update      2012-05-07
    _definition.class      Attribute
    _description.text

;
    Specifies the level of the loop structure in which a defined
    item must reside if it used in a looped list.
;
    _name.category_id      loop
    _name.object_id        level
    _type.purpose            Number
    _type.source            Assigned
    _type.container        Single
    _type.contents         Index
    _enumeration.range     1:
    _enumeration.default   1
    save_

    save_      #----- close the LOOP category

#-----

save_METHOD

    _definition.id          METHOD
    _definition.scope      Category
    _definition.class      Loop
    _definition.update      2011-06-20
    _description.text

;
    Methods used for evaluating, validating and defining items.
;
    _name.category_id      ATTRIBUTES
    _name.object_id        METHOD
    _category.key_id       '_method.purpose'

```

```

save_method.purpose
  _definition.id          '_method.purpose'
  _definition.update      2006-11-16
  _definition.class       Attribute
  _description.text
;
  The purpose and scope of the method expression.
;
  _name.category_id       method
  _name.object_id         purpose
  _type.purpose              State
  _type.source             Assigned
  _type.container          Single
  _type.contents           Code
  loop_
  _enumeration_set.state
  _enumeration_set.detail
  Evaluation               "method evaluates an item from related item values"
  Definition               "method generates attribute value(s) in the definition"
  Validation               "method compares an evaluation with existing item value"
  _enumeration.default     Evaluation
  save_

```

```

save_method.expression
  _definition.id          '_method.expression'
  _definition.update      2006-11-16
  _definition.class       Attribute
  _description.text
;
  The method expression for the defined item.
;
  _name.category_id       method
  _name.object_id         expression
  _type.purpose              Method
  _type.source             Assigned
  _type.container          Single
  _type.contents           Text
  save_

```

```

save_      #----- close the METHOD category

```

```

#-----

```

```

save_NAME
  _definition.id          NAME
  _definition.scope       Category
  _definition.class       Set
  _definition.update      2011-06-20
  _description.text
;
  Attributes for identifying items and item categories.
;
  _name.category_id       ATTRIBUTES
  _name.object_id         NAME

```

```

save_name.object_id
  _definition.id          '_name.object_id'
  _definition.update      2011-07-27
  _definition.class       Attribute
  _description.text
;
  The object name of a category or name unique within the

```

```

    category or family of categories.
;
    _name.category_id          name
    _name.object_id           object_id
    _type.purpose                Identify
    _type.source                Assigned
    _type.container            Single
    _type.contents              Name
    save_

save_name.category_id
    _definition.id             '_name.category_id'
    _definition.update          2011-07-27
    _definition.class           Attribute
    _description.text
;
    The name of the category in which a category or item resides.
;
    _name.category_id          name
    _name.object_id            category_id
    _type.purpose                Identify
    _type.source                Assigned
    _type.container            Single
    _type.contents              Name
    save_

save_name.linked_item_id
    _definition.id             '_name.linked_item_id'
    _definition.update          2011-12-08
    _definition.class           Attribute
    _description.text
;
    Dataname of an equivalent item in another category which has a
    common set of values, or, in the definition of a type Su
    item is the name of the associated Measurement item to
    which the standard uncertainty applies.
;
    _name.category_id          name
    _name.object_id            linked_item_id
    _type.purpose                Identify
    _type.source                Assigned
    _type.container            Single
    _type.contents              Tag
    save_

    save_      #----- close the NAME category
#-----

save_TYPE
    _definition.id             TYPE
    _definition.scope          Category
    _definition.class           Set
    _definition.update          2011-06-26
    _description.text
;
    Attributes which specify the 'typing' of data items.
;
    _name.category_id          ATTRIBUTES
    _name.object_id            TYPE

```

```

save_type.container
  _definition.id          '_type.container'
  _definition.update      2013-04-07
  _definition.class       Attribute
  _description.text
;
  The CONTAINER type of the defined data item value.
;
  _name.category_id       type
  _name.object_id         container
  _type.purpose             State
  _type.source             Assigned
  _type.container         Single
  _type.contents          Code
  loop_
  _enumeration_set.state
  _enumeration_set.detail

  Single   'single value'

  Multiple 'values as List or by boolean ,|&!* or range : ops'

  List     '''ordered set of values bounded by [] and separated by
           commas. Elements need not be of same contents type.'''

  Array    '''ordered set of numerical values bounded by [] and
           separated by commas. Operations across arrays are
           equivalent to operations across elements of the Array.'''

  Matrix   '''ordered set of numerical values for a tensor bounded by
           [] and separated by commas. Tensor operations such as
           dot and cross products, are valid cross matrix objects.'''

  Table    'id:value elements bounded by {}; separated by commas'

  Ref-table '''a STAR construction with key:value elements bounded
           by ${..}$ and separated by commas.
           The id tags below are privileged and optional.
           source - filename or URI
           block  - data blockname
           frame  - framecode or [framecode,framecode,..]
           item   - dataname or [dataname,dataname,..]
           key    - key value if item is in a list      '''
  _enumeration.default   Single
  save_

```

```

save_type.contents
  _definition.id          '_type.contents'
  _definition.update      2013-04-24
  _definition.class       Attribute
  _description.text
;
  Syntax of the value elements within the container type.
  This may be a single enumerated code, or, in the case of a list,
  a comma-delimited sequence of codes, or, if there are alternate
  types, a boolean-linked (or range) sequence of codes.
  The typing of elements is determined by the replication
  of the minimum set of states declared.
;
  _name.category_id       type
  _name.object_id         contents
  _type.purpose             State
  _type.source             Assigned
  _type.container         Multiple
  _type.contents          Code

```

```

loop_
_enumeration_set.state
_enumeration_set.detail
Text      'case-sens strings or lines of STAR characters'

Code      'case-insens contig. string of STAR characters'

Name      'case-insens contig. string of alpha-num chars or underscore'

Tag       'case-insens contig. STAR string with leading underscore'

Filename  'case-sens string indentifying an external file'

Uri       'case-sens string as universal resource indicator of a file'

Date      'ISO standard date format <yyyy>-<mm>-<dd>'

Version   'version digit string of the form <major>.<version>.<update>'

Dimension 'integer limits of an Array/Matrix/List in square brackets'

Range     'inclusive range of numerical values min:max'

Count     'unsigned integer number'

Index     'unsigned non-zero integer number'

Integer   'positive or negative integer number'

Real      'floating-point real number'

Imag      'floating-point imaginary number'

Complex   'complex number <R>+j<I>'

Binary    'binary number \b<N>'

Hexadecimal 'hexadecimal number \x<N>'

Octal     'octal number \o<N>'

Implied   'implied by the context of the attribute'

```

```

_enumeration.default Text
loop_
_description_example.case
_description_example.detail
  'Integer'      'content is a single or multiple integer(s)'
  'Real,Integer' 'List elements of a real number and an integer'
  'List(Real,Code)' 'List of Lists of a real number and a code'
  'Text|Real'    'content is either text OR a real number'
save_

```

```

save_type.purpose
_definition.id          '_type.purpose'
_definition.update     '2013-03-06'
_definition.class      'Attribute'
_description.text

;
  The primary purpose or function the defined data item serves in a
  dictionary or a specific data instance.
;
_name.category_id      type
_name.object_id        purpose
_type.purpose            State

```



```
_type.source          Assigned
_type.container       Single
_type.contents        Code
_loop_
_enumeration_set.state
_enumeration_set.detail
```

```
Import
;      >>> Applied ONLY in the DDLm Reference Dictionary <<<
      Used to type the SPECIAL attribute "_import.get" that
      is present in dictionaries to instigate the importation
      of external dictionary definitions.
;
Method
;      >>> Applied ONLY in the DDLm Reference Dictionary <<<
      Used to type the attribute "_method.expression" that
      is present in dictionary definitions to provide the
      text method expressing the defined item in terms of
      other defined items.
;
Audit
;      >>> Applied ONLY in the DDLm Reference Dictionary <<<
      Used to type attributes employed to record the audit
      definition information (creation date, update version and
      cross reference codes) of items, categories and files.
;
Identify
;      >>> Applied ONLY in the DDLm Reference Dictionary <<<
      Used to type attributes that identify an item tag (or
      part thereof), save frame or the URI of an external file.
;
#.....the PURPOSE types used in all dictionaries .....
Extend
;      *** Used to EXTEND the DDLm Reference Dictionary ***
      Used in a definition, residing in the "extensions"
      save frame of a domain dictionary, to specify a new
      enumeration state using an Evaluation method.
;
Describe
;      Used to type items with values that are descriptive
      text intended for human interpretation.
;
Encode
;      Used to type items with values that are text or codes
      that are formatted to be machine parsible.
;
State
;      Used to type items with values that are restricted to
      codes present in their "enumeration_set.state" lists.
;
Key
;      Used to type an item with a value that is unique within
      the looped list of these items, and may be used as a
      reference "key" to identify a specific packet of items
      within the category.
;
Link
;      Used to type an item with a value that is unique within
      a looped list of items belonging to another category.
      The definition of this item must contain the attribute
      "_name.linked_item_id" specifying the data name of the
      key item for this list. The defined item represents a
      a foreign key linking packets in this category list to
      packets in another category.
```

```

;
Composite
;
Used to type items with value strings composed of
separate parts. These will usually need to be separated
and parsed for complete interpretation and application.
;
Number
;
Used to type items that are numerical and exact (i.e.
no standard uncertainty value).
;
Measurand
;
Used to type an item with a numerically estimated value
that has been recorded by measurement or derivation. This
value must be accompanied by its standard uncertainty
(SU) value, expressed either as:
    1) appended integers, in parentheses (), at the
       precision of the trailing digits,      or
    2) a separately defined item with the same name as the
       measurand item but with an additional suffix '_su'.
;
SU
;
Used to type an item with a numerical value that is the
standard uncertainty of an item with the identical name
except for the suffix '_su'. The definition of an SU item
must include the attribute "_name.linked_item_id" which
explicitly identifies the associated measurand item.
;
_enumeration.default Describe
save_
save_type.source
_definition.id          '_type.source'
_definition.update      2013-04-16
_definition.class       Attribute
_description.text
;
The origin or source of the defined data item, indicating by what
recording process it has been added to the domain instance.
;
_name.category_id      type
_name.object_id        source
_type.purpose            State
_type.source           Assigned
_type.container        Single
_type.contents         Code
_loop_
_enumeration_set.state
_enumeration_set.detail
Recorded
;
A value (numerical or otherwise) recorded by
observation or measurement during the experimental
collection of data. This item is PRIMITIVE.
;
Assigned
;
A value (numerical or otherwise) assigned as part of
the data collection, analysis or modelling required
for a specific domain instance. These assignments
often represent a decision made that determines the
course of the experiment (and therefore may be deemed
PRIMITIVE) or a particular choice in the way the data
was analysed (and therefore may be considered NOT
PRIMITIVE).
;
Related

```

```
; A value or tag used in the construction of looped
lists of data. Typically identifying an item whose
unique value is the reference key for a loop category
and/or an item which as values in common with those
of another loop category and is considered a Link
between these lists.
```

```
;
Derived
; A quantity derived from other data items within the
domain instance. This item is NOT PRIMITIVE.
```

```
;
_enumeration.default Selected
save_
```

```
save_type.dimension
_definition.id          '_type.dimension'
_definition.update      2013-04-17
_definition.class       Attribute
_description.text
```

```
;
The dimensions of a list or matrix of elements as a text string
within bounding square brackets.
```

```
;
_name.category_id       type
_name.object_id         dimension
_type.purpose             Encode
_type.source            Assigned
_type.container         Single
_type.contents          Dimension
_loop_
_description_example.case
_description_example.detail
    "[3,3]"              '3x3 matrix of elements'
    "[6]"                'list of 6 elements'
    "[]"                  'unknown number of list elements'
save_
save_ #----- close the TYPE category
```

```
#-----
```

```
save_UNITS
```

```
_definition.id          UNITS
_definition.scope       Category
_definition.class       Set
_definition.update      2013-03-06
_description.text
```

```
;
The attributes for specifying units of measure.
```

```
;
_name.category_id       ATTRIBUTES
_name.object_id         UNITS
```

```
save_units.code
```

```
_definition.id          '_units.code'
_definition.update      2012-01-25
_definition.class       Attribute
_description.text
```

```
;
A code which identifies the units of measurement.
```

```
;
_name.category_id       units
```

```

_name.object_id      code
_type.purpose         State
_type.source        Assigned
_type.container     Single
_type.contents      Code
_import.get         [{"file":'templ_enum.cif',"save":'units_code'}]
_enumeration.default Arbitrary
save_

save_      #----- close the UNITS category

save_      #----- close the ATTRIBUTES category

```

```

=====
# The attribute validation criteria for application to a domain dictionary
=====

```

```

loop_
_dictionary_valid.application
_dictionary_valid.attributes

["Dictionary","Mandatory"]  [_dictionary.title",
                           "_dictionary.class",
                           "_dictionary.version",
                           "_dictionary.date",
                           "_dictionary.uri",
                           "_dictionary.ddl_conformance",
                           "_dictionary.namespace"]

["Dictionary","Recommended"] [_description.text",
                              "_dictionary_audit.version",
                              "_dictionary_audit.date",
                              "_dictionary_audit.revision"]

["Dictionary","Prohibited"] ["ALIAS",
                              "CATEGORY",
                              "DEFINITION",
                              "ENUMERATION",
                              "LOOP",
                              "METHOD",
                              "NAME",
                              "TYPE",
                              "UNITS"]

["Category","Mandatory"]   ["_definition.id",
                           "_definition.scope",
                           "_definition.class",
                           "_name.category_id",
                           "_name.object_id"]

["Category","Recommended"] ["_category.key_id",
                           "_description.text"]

["Category","Prohibited"] ["ALIAS",
                           "DICTIONARY",
                           "ENUMERATION",
                           "IMPORT",
                           "LOOP",
                           "TYPE",
                           "UNITS"]

["Item","Mandatory"]      ["_definition.id",
                           "_definition.update",

```

```

        "_name.object_id",
        "_name.category_id",
        "_type.purpose",
        "_type.source",
        "_type.container",
        "_type.contents"]

["Item","Recommended"]      ["_definition.scope",
                             "_definition.class",
                             "_type.source",
                             "_description.text",
                             "_description.common"]

["Item","Prohibited"]      ["CATEGORY",
                             "DICTIONARY"]

```

```

=====
# The dictionary's audit trail and creation history.
=====

```

```

    loop_
    _dictionary_audit.version
    _dictionary_audit.date
    _dictionary_audit.revision

    3.3.00  2004-11-09
;
Change definition.import_id to definition_import.id in many defs.
Insert category DEFINITION_IMPORT and the items .id, .conflict,
.protocol and .source.
;
    3.3.01  2004-11-10
;
Make further changes to the DEFINITION_IMPORT definitions and
introduce the DEFINITION_TEMPLATE category.
;
    3.3.02  2004-11-11
;
Introduce an IMPORT category containing IMPORT_DICTIONARY,
IMPORT_DEFINITION, IMPORT_CATEGORY, IMPORT_ATTRIBUTE.
Change DEFINITION_TEMPLATE to IMPORT_TEMPLATE.
;
    3.3.03  2004-11-12
;
Major changes to all the new attributes. Introduce categories
DEFINITION_CONTEXT.
;
    3.3.04  2004-11-13
;
Cleaned up the IMPORT changes and cases of enumerates.
;
    3.3.05  2004-11-16
;
Further changes to IMPORT definitions.
;
    3.3.06  2004-11-18
;
Some minor correction of typos
;
    3.3.07  2005-11-22
;
Changed _dictionary.name to _dictionary.filename
Changed _dictionary_xref.name to _dictionary_xref.filename
Added _dictionary.title to describe the common name of the dictionary
;
    3.3.08  2005-12-12

```

```

;
Changed ddl to ddl_attr
Added Template and Function to _dictionary.class
;
3.3.09 2006-02-02
;
Add the definition of _dictionary_xref.source.
;
3.3.10 2006-02-07
;
Add import attribute definitions
;
3.4.01 2006-02-12
;
Remove save frames from dictionary attributes.
Change the attribute _dictionary.parent_name to _dictionary.parent_id
;
3.4.02 2006-02-16
;
In the import_*.conflict definitions change the enumeration state Unique
to Ignore, and change the default state to Error.
In the import_*.missing definitions change default enumeration state to
Error.
;
3.5.01 2006-03-07
;
Structural changes to the file to conform with the import model 3.
Move the template file for *.relational_id to com_att.dic
Change all references to *.relational_id into the tuple format.
Move the _codes_ddl.units_code to enum_set.dic and insert the
import_enum_set.id tuples.
;
3.5.02 2006-03-22
;
Rename _enumeration.default_index_id to _enumeration.def_index_id.
Correct the attributes _enumeration_default.index and *.value.
;
3.5.03 2006-05-09
;
Reword many of the import attributes.
Correct the tuple description for import_dictionary.
Insert all of the definitions for import_defaults attributes.
Update _dictionary.class definition - change "Template" to "Import".
Remove _enumeration.scope "open" from _definition_context.domain.
;
3.6.01 2006-06-16
;
Major revamp of TYPE attributes... changed:
_type.value to _type.contents and expand enumeration list.
_type.purpose has new role and different enumeration states.
_name.object_id changed to _name.object_id.
_enumeration_set.code becomes _enumeration_set.state.
Changed the _type.value (now .contents) states to match expanded list.
Added _dictionary.ddl_conformance attribute.
Changed _category.join_set_id to _category.join_cat_id.
Remove _enumeration.scope definition.
;
3.6.02 2006-06-17
;
Change the states of _type.purpose.
;
3.6.03 2006-06-18
;
Correct _type.contents value in import_dictionary.id.
;
3.6.04 2006-06-20

```

```

;
Change state 'Point' to 'Link' in _type.contents definition.
Add Formula to _type.contents
;
    3.6.05  2006-06-27
;
Change all IMPORT attributes and apply.
Add _dictionary.namespace attribute and apply.
Add states to _definition.class and apply.
Add _enumeration_set.scope.
Add .context to ENUMERATE_SET, ENUMERATE_DEFAULT, DESCRIPTION_EXAMPLE
;
    3.6.06  2006-07-18
;
Change the descriptions of the _type.container states.
The _enumeration_set.scope removed (enumeration.mandatory used).
In _type_array.dimension change _type.contents to List.
;
    3.6.07  2006-08-30
;
Change 'att' to 'sta' in the imports of _type.contents and _units.code.
Replace states 'vector' and 'matrix' in _type.container with 'array'.
In _type.purpose change 'model' to 'assigned'; 'observe' to 'observed';
and 'measure' to 'measured'.
;
    3.6.08  2006-08-31
;
Remove the category TYPE_ARRAY and insert _type.dimension
Replace _description.compact with _description.common
Replace _description.abbreviated with _description.key_words
;
    3.6.09  2006-10-31
;
Remove all attributes and categories referring to 'context'.
;
    3.6.10  2006-11-09
;
Replace _method.id with method.purpose.
Redefine the DICTIONARY_VALID values.
;
    3.7.01  2006-11-16
;
Apply _definition.scope changes.
Add _category.parent_join.
Add _dictionary.xref_code.
Add _enumeration_set.xref_dictionary.
Remove all relational keys.
;
    3.7.02  2006-12-05
;
Rewording of description.text in DDL_ATTR and definition.namespace
Rewording of category_mandatory.item_id
Reworded descriptions of definition.Class descriptions.
Removed dictionary.filename.
Corrected examples in type.dimension.
Remove dictionary.parent_id and dictionary.parent_uri.
;
    3.7.03  2006-12-21
;
Default for _category.parent_join is now "No"
;
    3.7.04  2007-02-06
;
Change _category_key.item_id to _category_key.generic
Add _category_key.primitive
;

```

```
3.7.05 2007-02-08
;
Change the _type.purpose of _category_key.generic and .primitive
to Identify
;
3.7.06 2007-03-18
;
Change the description for _name.linked_item_id
;
3.7.07 2007-10-11
;
Correct the _type.dimension assignments to [n[m]].
Remove _type_array.dimension from _type.dimension definition.
;
3.7.08 2008-01-17
;
Change 'Definition' to 'Evaluation' in import_list.id.
Changed import.scope entries to leading uc character.
;
3.7.09 2008-02-12
;
Change 'Itm' to 'Def' in import.scope.
;
3.7.10 2008-03-28
;
Update the definition of _type.dimension.
;
3.7.11 2008-05-18
;
Changed 2 type.contents values from "Implied" to "Inherited"
Change import_list.id to be ((.....))
;
3.7.12 2008-08-05
;
Correct _type.dimension definition.
;
3.7.13 2011-01-27
;
Change definition scope of Head category to "Dictionary"
Remove all tabs and replace with blank string
;
3.7.14 2011-03-25
;
In the attribute import_list.id
Change _type.contents Tuple(Code,Tag,Uri,Code,Code)
To _type.contents Tuple(Code,Ctag,Uri,Code,Code)
In the attribute import.block
Change _type.contents Tag
To _type.contents Ctag
And change the case examples
;
3.8.01 2011-06-07
;
Remove the Tuple and Array enumerations from _type.container
Change category class enumeration from List to Loop; and change
all invocations of _category.class in the definitions
Introduce nested save frames for expressing nested categories.
;
3.8.02 2011-06-21
;
Reconfigure _dictionary_valid attribures into lists, and reset the
attribute application criteria at the rear of the DDL dictionary.
;
3.8.03 2011-06-22
;
```



```
Change IMPORT_LIST to IMPORT TABLE. Change the IMPORT arguments to
match this. Change the import_list.id invocations to import_table
equivalents. Add _enumeration_set.table_tag.
;
    3.8.04 2011-06-23
;
Remove IMPORT_TABLE. Change the IMPORT to a set category.
Insert a import.get attribute to replace import_table.id
Rename the DDL_ATTR category as ATTRIBUTES
;
    3.8.05 2011-06-27
;
Change the _name.category_id value to reflect the parent category.
;
    3.8.06 2011-06-29
;
Change Reference in _type.purpose to Ref-key
;
    3.8.07 2011-06-30
;
Change Reference in _definition.class to Ref-loop.
Remove import from type.contents and insert enumeration_set list.
Insert name.category_id into every category definition.
;
    3.8.08 2011-07-28
;
Add name.category_id and name.object_id to category definitions.
Remove category.parent_id from category definitions.
Remove definitions for category.parent_id and the CATEGORY_KEY
and CATEGORY_MANDATORY definitions. Define category.key_id
;
    3.8.08 2011-08-15
;
Add the state "Extend" to the type.purpose" attribute.
;
    3.9.01 2011-12-08
;
Add types "Array" and "Matrix" to type.container attribute definition.
Add type "Su" to the type.purpose attribute definition.
;
    3.9.02 2012-01-25
;
For import.get change the key "fram" to "save".
;
    3.10.01 2012-05-07
;
Revamp the type.purpose states. Remove state "Limit"
Add the new attribute type.source
Change dictionary.class "Attribute" to "Reference"
Removed attribute enumeration_set.construct
;
    3.10.02 2012-10-16
;
Correct enum states for type.contents and type.container
;
    3.10.03 2012-11-20
;
Remove "Implied" as an enumeration state for type.contents
;
    3.10.04 2013-02-12
;
Added missing loop statement to methods of dictionary_valid.application.
Corrected the definition of the enumeration state 'Code' in type.contents.
;
    3.10.05 2013-02-22
;
```

```
Add state value to enum_set loop of import.get defn as the key
;
    3.10.06 2013-02-25
;
Remove the quotes from Multiple string in type.container definition
Add 'Functions' to the enumeration states of definition.class
;
    3.10.07 2013-03-03
;
Added type.contents enum state "Implied" for category key definitions
;
    3.10.08 2013-03-06
;
Added various attributes to conform with ALIGN requirements
;
    3.11.01 2013-04-11
;
Added type.source to all definitions
Change type.contents state "Table" to "Pairs"
;
    3.11.02 2013-04-16
;
Removed 'Measured' as a state for type.source
;
    3.11.03 2013-04-24
;
    Changed type.source 'Quantity' to 'Number' or 'Encode'
    State 'Float' in type.contents removed.
;
```