

APPENDIX C - PROCESS SPECIFICATION REPORT

1.2.6 EXPORT ALMRS SPATIAL DATA

Capability:

The ALMRS system shall contain spatial data which are of interest to users external to ALMRS, but affiliated with BLM as well as users external to BLM. Exporting ALMRS data is a capability that will also be used by BLM contractors and (or) project cooperators. In addition, internal ALMRS users shall also have the capability to export spatial data. An exported data theme shall optionally be reimported into ALMRS by using process 1.2.2 or COTS command line level.

Exporting ALMRS data shall permit non-records users access to BLM spatial information. The "Export ALMRS Spatial Data" process shall transfer spatial coordinate data, spatial attribute data, spatial data - coordinates & all attributes, data quality reports (i.e., spatial metadata), and baseline cartographic products.

ALMRS data shall be requested by the ALMRS System Manager for geographic and (or) cartographic applications based on evaluating the Data Quality Report (DQR) for a specific area of interest (e.g., township) and data theme. However, the ALMRS data requestor shall not be required to evaluate a DQR prior to requesting exportation of an ALMRS data theme. ALMRS system shall export one or more data theme(s), one or more thematic view(s) or one or more baseline cartographic product(s); baseline view; at a time. For example, if a user wants to export multiple data themes for the same area of interest, the 1.2.6 process shall be executed once.

Export data shall be created from all available data themes, thematic views, and baseline cartographic products in the ALMRS system which are not restricted for export based on the requesting user's access rights.

A standard set of ALMRS attribute information to accompany the exported data theme's spatial coordinates shall be based on the requesting user's access rights.

Clarifications:

1. ALMRS shall not export any reference themes even if reference themes are contained in a thematic view or baseline view.
2. Preview display of any spatial information requested for export shall not be a capability of 1.2.6. Preview of spatial data or a baseline cartographic product prior to exportation shall optionally be executed by using either process 1.2.4 "Process Spatial Queries & Displays" or process 1.2.5.1.3 "Preview Cartographic Product".

APPENDIX C - PROCESS SPECIFICATION REPORT

1.2.6.1 DETERMINE DATA OR PRODUCT TO EXPORT

Capability:

"Determine Data or Product to Export" shall interact with the ALMRS System Manager and processes 1.2.4.5.1, 1.2.4.5.2, 1.2.4.5.3, 1.2.4.5.5, and 1.2.4.5.6 in order to provide the capability to structure export data query criteria.

The ALMRS System Manager shall request data for export by specifying an area of interest (e.g., township, quadrangle, county, user-defined minimum bounding polygon) or Case Identifier(s). The specified area of interest shall control the geographic extent of the exported data. The ALMRS System Manager shall be able to further define data export requests based on the data theme(s), thematic view(s) or baseline cartographic product(s); baseline view(s).

Requests for exporting ALMRS spatial data shall only be permitted for unrestricted ALMRS data sources based on the user's access rights, spatial data copyrights, and (or) the official maintenance authority.

Based on the structured query requests from the ALMRS System Manager, processes 1.2.4.1.X and 1.2.4.2.X shall provide the extracted spatial data for the ALMRS data theme(s), thematic view(s) or baseline cartographic product(s); baseline view(s) specified for export. In addition, process 1.2.4.5.5 shall issue the geographic extent of the area of interest to process 1.2.6.1.

Process 1.2.6.1 shall output the extracted spatial data as well as export parameters (e.g., area of interest, geographic extent, and minimum bounding rectangle) to process 1.2.6.2 (Determine Export Parameters) for data conversion.

Clarifications:

1. ALMRS system shall dynamically update a "thematic scorecard" as the user specifies which theme(s), thematic view(s), and baseline view(s) for which to export spatial data.
2. The ALMRS System Manager shall have privileges to export spatial data using multiple Areas of Interest. For example, the user shall optionally specify several townships, quads, or various combinations in order to establish the geographic extent for spatial data export. The areas of interest specified do not have to be contiguous.
3. If the ALMRS System Manager selects any primary or secondary "Land Status" theme for export, the 1.2.4.2.1 process by default shall provide the data in a spatially aggregated structure.
4. If the ALMRS System Manager selects any primary or secondary "L&M" theme for export, the system shall query the ALMRS System Manager as to whether the L&M theme shall be provided by the 1.2.4.2.2 process in "Case Boundaries" or "Case Event Boundaries" structure. ALMRS system default for any L&M theme exported unless otherwise indicated shall be "Case Boundaries". Exporting any primary or secondary "L&M" theme in a spatially aggregated structure shall not be an option.
5. The primary purpose of specifying an ALMRS baseline view shall be for exporting a "baseline cartographic product". The user shall select a baseline view for exporting the actual thematic spatial data. However, the ALMRS system shall not permit the user to export only "GCDB" data from the rectangular land theme using a baseline view. If the user wants to export only "GCDB" data from the rectangular land theme, the user shall either explicitly select the rectangular land theme or a thematic view which contains the rectangular land theme.

APPENDIX C - PROCESS SPECIFICATION REPORT

6. The ALMRS IOC system shall have a system-generated table which documents the specific theme(s) comprising each "user-defined thematic view name".

Future Enhancements:

1. The ALMRS system will allow the user to export historical spatial data rather than the IOC system default of current vintage.

Detail Spec:

ACCEPT 1.2.6.1 AREA OF INTEREST FROM B_USER_2 SYSTEM MANAGER

ISSUE 1.2.6.1 EXPORT AOI TO 1.2.4 PROCESS SPATIAL QUERIES & DISPLAYS

ACCEPT 1.2.4.5.2 AVAILABLE THEMES FROM 1.2.4 PROCESS SPATIAL QUERIES & DISPLAYS

ACCEPT 1.2.4.5.3 THEMATIC VIEWS FROM 1.2.4 PROCESS SPATIAL QUERIES & DISPLAYS

ACCEPT 1.2.4.5.5 AVAILABLE STANDARD VIEWS
FROM 1.2.4 PROCESS SPATIAL QUERIES & DISPLAYS

ACCEPT 1.2.4.5.2 GEO EXT FROM 1.2.4 PROCESS SPATIAL QUERIES & DISPLAYS

ISSUE 1.2.6.1 AVAIL DATA OR PRODUCTS
TO B_USER_2 SYSTEM MANAGER

FOR EACH Z_STANDARD_THEMATIC_VIEW_CD, Z_L&M_THEME_CD, Z_LAND_THEME_CD, or
Z_USER_DEFINED_TVW_NAME available:

ACCEPT 1.2.6.1 DATA OR PROD
TO EXP FROM B_USER_2 SYSTEM MANAGER

ENDFOR

ISSUE 1.2.6.1 THEMES OR STANDARD VIEWS TO EXP TO 1.2.4 PROCESS SPATIAL QUERIES &
DISPLAYS

ISSUE 1.2.6.1 THEMATIC VIEWS TO EXP TO 1.2.4 PROCESS SPATIAL QUERIES & DISPLAYS

** Data flow "1.2.4 Spatial Data for Export" is a composite flow containing individual "simple" 1.2.4.X data flows for all themes, baseline views (as defined by 1.2.4.5.5 tables), and user-defined thematic views (as defined by 1.2.6.1 Clarification #6) selected for export. **

ACCEPT 1.2.4 SPATIAL DATA FOR EXPORT FROM 1.2.4 PROCESS SPATIAL QUERIES & DISPLAYS

ISSUE 1.2.6.1 SPATIAL DATA TO EXPORT TO 1.2.6.2 DETERMINE EXPORT PARAMETERS

APPENDIX C - PROCESS SPECIFICATION REPORT

1.2.6.2 DETERMINE EXPORT PARAMETERS

Capability:

"Determine Export Parameters" shall function as a controlling process which interacts with the ALMRS System Manager and process 1.2.6.1 (Determine Data or Product to Export). The 1.2.6.1 process shall provide the export parameters (area of interest, geographic extent, minimum bounding rectangle, data theme code(s), thematic view name(s) or baseline view code(s)) as well as the actual spatial data necessary for data exportation.

The ALMRS System Manager shall request data for export by specifying a desired export product format (see Appendix J.5 and J.6). In addition, the ALMRS System Manager shall input the export product type to create (i.e., spatial coordinates only, spatial attributes only, spatial - coordinates & all attributes, cartographic product or data quality report).

Based on the export parameters provided by process 1.2.6.1 and the ALMRS System Manager query responses generated by 1.2.6.2, the ALMRS process 1.2.6.2 shall determine which subsequent export process (i.e., 1.2.6.3 - 1.2.6.7) to initiate (see Table 1.2.6.2).

The Data Quality Report (i.e., 1.2.6.6 or 1.2.6.7) shall automatically be included with the exported spatial data. Generation of the Data Quality Report shall use the query parameters area of interest, geographic extent, minimum bounding rectangle, and data theme/view code(s) as well as the spatial data as determined by process 1.2.6.1.

Clarifications:

1. The export product format and export product type requested by the ALMRS System Manager shall apply universally for all data theme(s), thematic view(s) or baseline view(s) specified for export.
2. If the user has input "cartographic product" as the export product type, the ALMRS system shall not export any theme(s) activated on the "thematic scorecard" which are not valid for the baseline view(s) requested.
3. If the ALMRS System Manager has selected "Rectangular Land" as a theme to export, the system shall query whether to export only "GCDB" data from the rectangular land theme. Since the ALMRS rectangular land theme may consist of several different data sources, the system shall reselect for all features and additionally select all spatial objects where metadata source equals "GCDB". The ALMRS system default for exporting "Rectangular Land" shall be **ALL** data sources.
4. The export product format selected by the ALMRS System Manager shall dictate the ALMRS IOC export topological data structure based on the preferred ranking listed below:
 - 1) Feature-based; including regions
 - 2) Arc/Node
5. The ALMRS IOC system shall have a system-generated table which documents the specific theme(s) comprising each "user-defined thematic view name".

APPENDIX C - PROCESS SPECIFICATION REPORT**1.2.6.2 EXPORT TABLE**

Export Product Format	Export Product Type	Export Process Initiated
SDTS	SPATIAL	1.2.6.4 & 1.2.6.6
SDTS	DATA QUALITY REPORT	1.2.6.6
COTS (APPENDIX J.5)	SPATIAL	1.2.6.3 & 1.2.6.7
COTS (APPENDIX J.6)	CARTOGRAPHIC PRODUCT	1.2.6.5 & 1.2.6.7
ARC/SQL EXPORT	CARTOGRAPHIC PRODUCT	1.2.6.5 & 1.2.6.7
ARC/SQL EXPORT	SPATIAL	1.2.6.3 & 1.2.6.7
ARC/SQL EXPORT	SPATIAL ATTRIBUTES	1.2.6.3 & 1.2.6.7
ARC/SQL UNGENERATE	SPATIAL COORDINATES	1.2.6.3 & 1.2.6.7
ASCII (Z39.50)	DATA QUALITY REPORT	1.2.6.7

APPENDIX C - PROCESS SPECIFICATION REPORT

Detail Spec:

ACCEPT 1.2.6.2 EXPORT PRODUCT TYPE FROM B_USER_2 SYSTEM MANAGER

ACCEPT 1.2.6.2 EXPORT PRODUCT FORMAT FROM B_USER_2 SYSTEM MANAGER

FOR EACH Z_STANDARD_THEMATIC_VIEW_CD, Z_L&M_THEME_CD, Z_LAND_THEME_CD, or Z_USER_DEFINED_TVW_NAME selected for export:

** Data flow "1.2.6.1 Spatial Data to Export" contains individual theme(s) which comprise a specific baseline view code or thematic code as defined by 1.2.4.5.5 tables or specific user-defined thematic view name as defined by 1.2.6.2 Clarification #5. **

ACCEPT 1.2.6.1 SPATIAL DATA TO EXPORT
FROM 1.2.6.1 DETERMINE DATA OR PRODUCT TO EXPORT

IF Z_LAND_THEME_CD or Z_USER_DEFINED_TVW_NAME to be exported contains
"RECTANGULAR LAND" THEN

ACCEPT 1.2.6.2 EXPORT PRODUCT SOURCE
FROM B_USER_2 SYSTEM MANAGER

IF Z_EXPORT_PRODUCT_SOURCE_CD = "GCDB" THEN

** \Z_GCDB_RECT_LAND is an internal process structure which shall contain all feature objects, all spatial objects, all topological relationships, all spatial attributes, and all GCDB land attributes. \Z_GCDB_RECT_LAND internal process structure is populated when a user requests creation of an export file for the "Rectangular Land" theme segregated by data source (i.e., Z_EXPORT_PRODUCT_SOURCE_CD = "GCDB"). **

SET \Z_GCDB_RECT_LAND TO null

FOR EACH FEATURE, POINT, and LINE
within 1.2.6.1 SPATIAL DATA TO EXPORT:

READ 1.2.6.2 RECT LAND SOURCE
FROM DS.MD METADATA
MATCHING ON SRC_PRODUCT_CD = "GCDB"

FOR EACH match found:

SET \Z_GCDB_RECT_LAND TO \Z_GCDB_RECT_LAND
+ all elements associated with match
+ all other spatial objects and associated elements
associated with match that have not been previously
added

FOR EACH GEO_LOC_ID associated with a matched FEATURE:

READ 1.2.6.2 LAND IDENTIFIERS
FROM DS.GL GEO LOCATION
MATCHING ON GEO_LOC_ID

READ 1.2.6.2 GCDB LAND ATTRIBUTES
FROM DS.LD LAND
MATCHING ON \LAND_KEYS

APPENDIX C - PROCESS SPECIFICATION REPORT

```

SET \Z_GCDB_RECT_LAND TO
  \Z_GCDB_RECT_LAND
  + 1.2.6.2 GCDB LAND ATTRIBUTES

```

```

ENDFOR

```

```

ENDFOR

```

```

ENDFOR

```

```

ENDIF

```

```

ENDIF

```

```

CASE

```

```

Z_EXPORT_PRODUCT_FORMAT_CD = "SDTS" and
Z_EXPORT_PRODUCT_TYPE_CD != "DATA QUALITY REPORT":

```

```

  ISSUE 1.2.6.2 SDTS DATA TO EXPORT
  TO 1.2.6.4 PRODUCE SDTS EXCHANGE FILE

```

```

  ISSUE 1.2.6.2 SDTS DQR REQUEST
  TO 1.2.6.6 PRODUCE SDTS DATA QUALITY REPORT

```

```

Z_EXPORT_PRODUCT_FORMAT_CD = "SDTS" and
Z_EXPORT_PRODUCT_TYPE_CD = "DATA QUALITY REPORT":

```

```

  ISSUE 1.2.6.2 SDTS DQR REQUEST
  TO 1.2.6.6 PRODUCE SDTS DATA QUALITY REPORT

```

```

Z_EXPORT_PRODUCT_FORMAT_CD != "SDTS" and
Z_EXPORT_PRODUCT_TYPE_CD != "CARTOGRAPHIC PRODUCT" and
Z_EXPORT_PRODUCT_TYPE_CD != "DATA QUALITY REPORT":

```

```

  ISSUE 1.2.6.2 COTS DATA TO EXPORT
  TO 1.2.6.3 PRODUCE COTS SPATIAL AND (OR) ATT EXPORT FILE

```

```

  ISSUE 1.2.6.2 ASCII DQR REQUEST
  TO 1.2.6.7 PRODUCE ASCII DATA QUALITY REPORT

```

```

Z_EXPORT_PRODUCT_FORMAT_CD != "SDTS" and
Z_EXPORT_PRODUCT_TYPE_CD = "DATA QUALITY REPORT":

```

```

  ISSUE 1.2.6.2 ASCII DQR REQUEST
  TO 1.2.6.7 PRODUCE ASCII DATA QUALITY REPORT

```

```

Z_EXPORT_PRODUCT_FORMAT_CD != "SDTS" AND
Z_EXPORT_PRODUCT_TYPE_CD = "CARTOGRAPHIC PRODUCT":

```

** If the export product type = "CARTOGRAPHIC PRODUCT" then the spatial data for the cartographic product must have been generated by a query based on baseline view. **

APPENDIX C - PROCESS SPECIFICATION REPORT

ISSUE 1.2.6.2 CARTO PRODUCT TO EXPORT
TO 1.2.6.5 PRODUCE COTS CARTO EXPORT FILE

ENDCASE

ENDFOR

APPENDIX C - PROCESS SPECIFICATION REPORT

1.2.6.3 PRODUCE COTS SPATIAL AND (OR) ATTRIBUTE EXPORT FILE

Capability:

Converting ALMRS spatial and (or) attribute data into a COTS data exchange format shall provide the mechanism for transferring information between other BLM projects such as GCDB and Resources which may not be using the Modernization platform and (or) COTS software. Producing COTS spatial and (or) attribute export files shall use the supported vector formats listed in Appendix J.5.

The 1.2.6.3 process shall provide the capability to export ALMRS spatial coordinates only, spatial attributes only, or spatial data - coordinates & all attributes.

Requests for producing COTS data exchange file(s) shall be the responsibility of the ALMRS System Manager.

COTS export files created for the ALMRS "Rectangular Land" theme using metadata source equals "GCDB" shall not necessarily be a topologically consistent spatial dataset. The status of the topologic consistency shall be documented in the ASCII Data Quality Report.

An ASCII Data Quality Report (1.2.6.7) shall automatically be included with each exported theme.

Clarifications:

1. Exporting ALMRS land data within the specified area of interest shall include all coordinates for land descriptions that have a spatial representation.
2. ALMRS shall not execute coordinate system or datum conversions for producing a COTS spatial export file. The process of coordinate system conversion shall be the responsibility of the end user.
3. Extracting geographic location subsets from the requested data theme shall be the responsibility of the data exchange originator. For example, the ALMRS system shall not have the capability to export only the Congressional District entities from the "GeoPolitical Land" theme.
4. Exporting specific coordinate data sources from the ALMRS Land theme shall only be possible for GCDB data contained within the "Rectangular Land" theme.
5. A request to export "spatial attributes only" shall include all alphanumeric attributes in the active "attribute view". The request for alphanumeric attributes which are related to spatial objects and (or) feature objects shall be supplied by process 4.3.4 (Export ALMRS IOC Alphanumeric Data). An "attribute view" is defined as **ALL** alphanumeric tables and (or) fields which are related to the spatial objects and (or) feature objects within the area of interest at the time of export.
6. The ALMRS IOC system shall have a system-generated table which documents the specific theme(s) comprising each "user-defined thematic view name".

APPENDIX C - PROCESS SPECIFICATION REPORT

Detail Spec:

FOR EACH Z_LAND_THEME_CD, Z_L&M_THEME_CD, Z_USER_DEFINED_TVW_NAME, or
Z_STANDARD_THEMATIC_VIEW_CD selected for export:

** Data flow "1.2.6.2 COTS Data to Export" contains an individual theme in a
specific thematic code as defined by 1.2.4.5.5 tables or user-defined thematic view name as
defined by 1.2.6.3 Clarification #6. **

ACCEPT 1.2.6.2 COTS DATA TO EXPORT
FROM 1.2.6.2 DETERMINE EXPORT PARAMETERS

CASE

Z_EXPORT_PRODUCT_TYPE_CD = "SPATIAL":

COMPUTE the 1.2.6.3 COTS EXPORT FILE
using the 1.2.6.2 COTS DATA TO EXPORT
and the Z_EXPORT_PRODUCT_FORMAT_CD

ISSUE 1.2.6.3 COTS EXPORT FILE TO B_USER_2 SYSTEM MANAGER

Z_EXPORT_PRODUCT_TYPE_CD = "SPATIAL ATTRIBUTES":

COMPUTE the 1.2.6.3 COTS EXPORT FILE using the A/N components of the
1.2.6.2 COTS DATA TO EXPORT
and the Z_EXPORT_PRODUCT_FORMAT_CD

ISSUE 1.2.6.3 COTS EXPORT FILE TO B_USER_2 SYSTEM MANAGER

Z_EXPORT_PRODUCT_TYPE_CD = "SPATIAL COORDINATES":

COMPUTE the 1.2.6.3 COTS EXPORT FILE
using the \Z_SPATIAL_OBJECTS component
of the 1.2.6.2 COTS DATA TO EXPORT
and the Z_EXPORT_PRODUCT_FORMAT_CD

ISSUE 1.2.6.3 COTS EXPORT FILE TO B_USER_2 SYSTEM MANAGER

ENDCASE

ENDFOR

APPENDIX C - PROCESS SPECIFICATION REPORT

1.2.6.4 PRODUCE SDTS EXCHANGE FILE

Capability:

The Spatial Data Transfer Standard (SDTS) shall serve as a national spatial data transfer mechanism for federal agencies of the United States Government. SDTS is a Federal Information Processing Standard (FIPS 173) that shall become mandatory effective February, 1994 for any new geographic data systems (e.g., ALMRS) which are implemented.

This process shall provide the capability to transfer both the spatial coordinates and all associated attribute data. The only valid domain value for "export product type" shall be spatial (i.e., coordinates and all attributes).

The ALMRS System Manager shall be responsible for producing SDTS exchange file(s).

SDTS exchange files created for the ALMRS "Rectangular Land" theme using the metadata SRC_PRODUCT_CD element equal "GCDB" shall not necessarily be a topologically consistent spatial dataset. The status of the topologic consistency shall be documented in the SDTS Data Quality Report.

A SDTS Data Quality Report (1.2.6.6) shall automatically be included with each SDTS exchange file.

Clarifications:

1. Extracting geographic location subsets from the requested data theme shall be the responsibility of the data exchange originator. For example, the ALMRS system shall not have the capability to export only the Congressional District entities from the "GeoPolitical Land" theme.
2. Exporting specific coordinate data sources from the ALMRS Land theme shall only be possible for GCDB data contained within the "Rectangular Land" theme.
3. The SDTS exchange file produced shall include **ALL** alphanumeric tables and (or) fields which are related to the spatial objects and (or) feature objects within the area of interest at the time of export.
4. The ALMRS IOC system shall have a system-generated table which documents the specific theme(s) comprising each "user-defined thematic view name".

Detail Spec:

FOR EACH Z_LAND_THEME_CD, Z_L&M_THEME_CD, Z_USER_DEFINED_TVW_NAME, or Z_STANDARD_THEMATIC_VIEW_CD selected for export:

** Data flow "1.2.6.2 SDTS Data to Export" contains an individual theme in a specific thematic code as defined by 1.2.4.5.5 tables or user-defined thematic view name as defined by 1.2.6.4 Clarification #4. **

ACCEPT 1.2.6.2 SDTS DATA TO EXPORT FROM 1.2.6.2 DETERMINE EXPORT PARAMETERS

SET Z_EXPORT_PRODUCT_FORMAT_CD TO "SDTS"

COMPUTE the 1.2.6.4 SDTS EXCHANGE FILE using the 1.2.6.2 SDTS DATA TO EXPORT and the Z_EXPORT_PRODUCT_FORMAT_CD

APPENDIX C - PROCESS SPECIFICATION REPORT

ISSUE 1.2.6.4 SDTS EXCHANGE FILE TO B_USER_2 SYSTEM MANAGER

ENDFOR

APPENDIX C - PROCESS SPECIFICATION REPORT

1.2.6.5 PRODUCE COTS CARTOGRAPHIC EXPORT FILE

Capability:

Converting ALMRS baseline cartographic product(s) (i.e., COTS internal graphics format) into a COTS graphic exchange format shall provide the transfer mechanism for exchanging cartographic information between ALMRS users within the same BLM Administrative State as well as between different Administrative State Offices. This process shall provide the capability for ALMRS users who are not networked to a specific hardcopy graphic output device or individual offices which do not have the output device (e.g., color electrostatic plotter) necessary for generating a requested baseline cartographic product(s) to create a COTS cartographic export file(s).

The ALMRS System Manager shall be responsible for generating COTS cartographic export file(s) of ALMRS baseline cartographic product(s) which need to be reproduced at a different host site.

If the user requests a unique output device (e.g., postscript-compatible printer), the ALMRS System Manager shall convert the standard ALMRS COTS internal graphics format to a COTS supported graphic format (see Appendix J.6).

"Produce COTS Cartographic Export File" shall interact with process 1.2.5.1.5 (Produce Cartographic Product) in order to create an export file(s). Process 1.2.5.1.5 shall utilize the area of interest, baseline view code(s), and extracted spatial data provided by 1.2.6.5 to dynamically generate the baseline cartographic product(s) requested. ALMRS shall have supplemental products (e.g. supplemental graphics due to data density, scanned documents, data reliability diagram, etc.) associated with each baseline cartographic product. As a result, this process shall need to convert all products supplied by process 1.2.5.1.5 for each baseline cartographic product in the internal COTS graphics format (e.g., supplemental graphic) to the export product format specified. Supplemental products not provided in the COTS internal graphics format (e.g., scanned document, etc.) shall be exported in their "native" ALMRS format for each baseline cartographic product requested.

An ASCII Data Quality Report (1.2.6.7) shall automatically be included with each exported baseline cartographic product. Generation of the ASCII Data Quality Report shall utilize the metadata information provided by process 1.2.5.1.6.1 (Collect Carto Metadata for Baseline Products).

Clarifications:

1. Exporting individual cartographic elements from the ALMRS cartographic library shall be supported outside of IOC at the COTS command line level.
2. Exporting custom cartographic products from ALMRS shall be supported outside of IOC at the COTS command line level.
3. Importing an ALMRS COTS Cartographic Export File at the destination plotting site shall be supported outside of IOC at the COTS command line level.
4. The metadata provided by process 1.2.5.1.6.1 shall consist of the metadata report for the baseline cartographic product generated. Metadata information contained in the baseline cartographic product "collar" and the metadata report shall substitute for the ALMRS IOC Metadata LDM "Data Set Source". Processing information contained in the baseline cartographic product metadata report shall substitute for the ALMRS IOC Metadata LDM "Process History".

Detail Spec:

FOR EACH Z_STANDARD_THEMATIC_VIEW_CD selected for export:

APPENDIX C - PROCESS SPECIFICATION REPORT

** Data flow "1.2.6.2 Carto Product to Export" contains individual theme(s) which comprise a specific standard thematic view code as defined by 1.2.4.5.5. **

ACCEPT 1.2.6.2 CARTO PRODUCT TO EXPORT
FROM 1.2.6.2 DETERMINE EXPORT PARAMETERS

ISSUE 1.2.6.5 CARTO PRODUCT GENERATION
TO 1.2.5 GENERATE CARTOGRAPHIC PRODUCTS

ACCEPT 1.2.5.1.5 CARTO PRODUCT FROM 1.2.5 GENERATE CARTOGRAPHIC PRODUCTS

FOR EACH baseline carto product within \Z_EXPORT_CARTO_PRODUCT:

CASE

\Z_EXPORT_CARTO_PRODUCT = "\Z_STND_PROD_PLAT_MAP":

COMPUTE the 1.2.6.5 CARTO EXPORT FILE using
\Z_STND_PROD_PLAT_MAP and
Z_EXPORT_PRODUCT_FORMAT_CD

ISSUE 1.2.6.5 CARTO EXPORT FILE
TO B_USER_2 SYSTEM MANAGER

** If \Z_EXPORT_CARTO_PRODUCT is \Z_SCANNED_DOCUMENT then
export in "native ALMRS IOC structure". **

\Z_EXPORT_CARTO_PRODUCT = "\Z_SCANNED_DOCUMENT":

SET 1.2.6.5 CARTO EXPORT FILE
TO "native structure for \Z_SCANNED_DOCUMENT"

ISSUE 1.2.6.5 CARTO EXPORT FILE
TO B_USER_2 SYSTEM MANAGER

ENDCASE

ENDFOR

ACCEPT 1.2.5.1.6 SUPPL EXPORT PRODUCTS
FROM 1.2.5 GENERATE CARTOGRAPHIC PRODUCTS

FOR EACH supplemental product within 1.2.5.1.6 SUPPL EXPORT PRODUCTS:

CASE

supplemental product = "\Z_STND_PROD_LAND_RELIA_DIAG":

COMPUTE the 1.2.6.5 CARTO EXPORT FILE
using \Z_STND_PROD_LAND_RELIA_DIAG and
Z_EXPORT_PRODUCT_FORMAT_CD

ISSUE 1.2.6.5 CARTO EXPORT FILE
TO B_USER_2 SYSTEM MANAGER

APPENDIX C - PROCESS SPECIFICATION REPORT

** If supplemental product is \Z_STND_CRTO_PROD_CASE_RPT
then export in "native ALMRS IOC structure". **

supplemental product = "\Z_STND_CRTO_PROD_CASE_RPT":

SET 1.2.6.5 CARTO EXPORT FILE
TO "native structure for \Z_STND_CRTO_PROD_CASE_RPT"

ISSUE 1.2.6.5 CARTO EXPORT FILE
TO B_USER_2 SYSTEM MANAGER

supplemental product = "\Z_STND_PROD_METADATA_RPT":

ISSUE 1.2.6.5 ASCII DQR REQUEST
TO 1.2.6.7 PRODUCE ASCII DATA QUALITY REPORT

ENDCASE

ENDFOR

ENDFOR

APPENDIX C - PROCESS SPECIFICATION REPORT

1.2.6.6 PRODUCE SDTS DATA QUALITY REPORT

Capability:

This process provides the capability to generate a report in SDTS (FIPS 173) format that describes the quality of an ALMRS data theme(s) as requested by the ALMRS System Manager.

The SDTS Data Quality Report (DQR) shall be available separately from the actual spatial data. However, the SDTS DQR shall not be available separately for the ALMRS L&M theme(s). This process shall be accessed upon execution of "Export ALMRS Data" process 1.2.6.4 (Produce SDTS Exchange File) and optionally as an independent function. For example, SDTS DQR shall summarize data set metadata information such as data reliability, data set contributors, data set contact, data set distribution, geographic extent, coordinate system, spatial data processing lineage, attribution schema, etc.

Since an ALMRS spatial data theme may consist of several different data sources in order to provide the user with complete feature coverage for a specific area of interest, the metadata information contained in the SDTS DQR shall allow users to evaluate whether an ALMRS data theme(s) meets their application requirements.

The ALMRS System Manager shall be responsible for generating a SDTS DQR.

The ALMRS process 1.2.6.6 shall extract existing spatial metadata information from the ALMRS metadata store based on the actual spatial data and geographic extent provided by process 1.2.6.2 (Determine Export Parameters).

The process of producing a SDTS DQR shall create certain spatial metadata information on-the-fly such as data reliability, geographic extent, number of spatial objects, metadata date, native environment computing system, etc. using the extracted spatial data provided by process 1.2.6.2.

Clarifications:

1. The long name in the ALMRS IOC Data Dictionary for metadata information shall be the FGDC Spatial Metadata Content Standard entity/element name.
2. The ALMRS IOC system shall have a system-generated table which documents the specific theme(s) comprising each "user-defined thematic view name".

Detail Spec:

FOR EACH Z_LAND_THEME_CD, Z_L&M_THEME_CD, Z_USER_DEFINED_TVW_NAME, or Z_STANDARD_THEMATIC_VIEW_CD selected for export:

** Data flow "1.2.6.2 SDTS DQR Request" contains an individual theme in a specific thematic code as defined by 1.2.4.5.5 tables or user-defined thematic view name as defined by 1.2.6.6 Clarification #2. **

ACCEPT 1.2.6.2 SDTS DQR REQUEST FROM 1.2.6.2 DETERMINE EXPORT PARAMETERS

** Retrieve all spatial metadata (i.e., MD.SDS, MD.CONTACT, and MD.DISTRIBUTION) for data set contributors to export theme. **

FOR EACH \Z_SPATIAL_ID within \Z_AGGR_GEO_EXT

READ 1.2.6.6 SPATIAL METADATA
FROM DS.MD METADATA

APPENDIX C - PROCESS SPECIFICATION REPORT

MATCHING ON APH_ID and SDS_ID

ENDFOR

** Retrieve ALMRS Spatial Process History information as supplemental transaction lineage for export theme. **

FOR EACH \Z_SPATIAL_ID within \Z_AGGR_GEO_EXT

READ 1.2.6.6 SPATIAL METADATA
FROM DS.MD METADATA
MATCHING ON APH_ID

ENDFOR

SET \Z_SDS_PROCESS_HISTORY TO \APH

IF the \Z_THEMES, \Z_TVW, or \Z_STND_TVW_DATA to be exported contains any
Z_L&M_THEME_CD THEN

FOR EACH FEATURE_ID within \Z_AGGR_GEO_EXT

READ 1.2.6.6 GEO LOCATION
FROM DS.GL GEO LOCATION
MATCHING ON FEATURE_ID

** Retrieve additional ALMRS Process History information for Case export themes. **

IF the Z_L&M_THEME_CD >= 1 AND Z_L&M_THEME_CD < 11 THEN

READ 1.2.6.6 L&M RECORD
FROM DS.LM L&M RECORDS
MATCHING ON GEO_LOC_ID

READ 1.2.6.6 L&M HISTORY
FROM DS.LM L&M RECORDS
MATCHING ON CASE_ID

SET \Z_SDS_PROCESS_HISTORY TO \Z_SDS_PROCESS_HISTORY
+ W_METADATA

ELSE

** Retrieve additional ALMRS Process History information for Land Status export themes. **

IF the Z_L&M_THEME_CD > 10 THEN

READ 1.2.6.6 LAND STATUS RECORD
FROM DS.LM L&M RECORDS
MATCHING ON GEO_LOC_ID

READ 1.2.6.6 LAND STATUS HISTORY
FROM DS.LM L&M RECORDS
MATCHING ON \Z_LS_ID

APPENDIX C - PROCESS SPECIFICATION REPORT

```

SET \Z_SDS_PROCESS_HISTORY
  TO \Z_SDS_PROCESS_HISTORY
  + \Z_LS_PROCESS_HISTORY

```

```

ENDIF

```

```

ENDIF

```

```

ENDFOR

```

```

ENDIF

```

** Retrieve BLM standardized Distribution and Contact metadata files for ALMRS IOC themes. **

```

READ 1.2.6.6 SPATIAL METADATA
FROM DS.MD METADATA
MATCHING ON DS_DSTRBN_ID

```

```

READ 1.2.6.6 SPATIAL METADATA
FROM DS.MD METADATA
MATCHING ON CONTACT_ORG_ID or CONTACT_PERS_ID

```

** Create Data Set Source LDM metadata information for exported ALMRS theme. **

```

COMPUTE \Z_SDS_OUTER_RING and \Z_SDS_EXCL_RING using \Z_AGGR_GEO_EXT

```

```

COMPUTE \Z_SDS_VECTOR_INFO using \Z_SPATIAL_ID within \Z_AGGR_GEO_EXT

```

```

SET \Z_SDS_THEME TO Z_L&M_THEME_CD or Z_LAND_THEME_CD

```

```

SET \Z_SDS_GEO_KEYWORD TO \Z_EXPORT_AOI

```

```

SET \Z_SDS_SPATIAL_REF TO \Z_COORD_SYS

```

```

SET \Z_SDS_MBR TO \Z_AOI_MBR

```

```

SET SDS_NAT_ENV_TXT TO "ALMRS Modernization Platform"

```

```

SET SDS_NAT_STRUCT_TXT TO "Vector"

```

```

IF Z_EXPORT_PRODUCT_SOURCE_CD = "GCDB" THEN

```

```

  SET \Z_SDS_RELY TO \Z_GCDB_RELY ** BLM standardized GCDB metadata file **

```

```

ELSE

```

```

  COMPUTE \Z_SDS_RELY using \Z_AGGR_GEO_EXT and \Z_SPATIAL_ID
  within \Z_AGGR_GEO_EXT

```

```

ENDIF

```

```

SET \Z_SDS_IDENTIFIER TO \Z_EXPORT_AOI + Z_L&M_THEME_CD
  or Z_LAND_THEME_CD + Z_QUERY_DATE

```

```

SET SDS_STATUS_TXT TO "Available"

```

APPENDIX C - PROCESS SPECIFICATION REPORT

SET SDS_RSL_DATE and SDS_METADATA_DATE TO "ALMRS System Date"

SET \Z_SDS_RESTRICTION TO "Standardized ALMRS IOC use restrictions"

SET \Z_SDS_SPATIAL_ENCODING TO \Z_COORD_SYS

** Per 1.2.6.6 Design Constraint in APPENDIX J, the FGDC Spatial Metadata Content Standard Entity/Attribute information shall be extracted from the ALMRS IOC Data Dictionary in order to complete the SDTS DQR. **

SET Z_EXPORT_PRODUCT_FORMAT_CD TO "SDTS"

ISSUE 1.2.6.6 SDTS DQR ** per Z_EXPORT_PRODUCT_FORMAT_CD **
TO B_USER_2 SYSTEM MANAGER

ENDFOR

** Comments on DQR Creation **

1. The MD.37 entity shall not be used due to the fact that the contributing source data sets shall be documented in the \APH.
2. Metadata entity MD.44 shall not be populated, since ALMRS IOC shall not export only point data sets.
3. Entities MD.07 and MD.35 were not created, since those metadata elements are system dependent.
4. MD.01 metadata elements: SDS_MAINT_UPD_FREQ_NO, SDS_METADATA_REVW_DATE, and SDS_METADATA_FTR_REVW_DATE were not populated, since these element domains are OPSCON dependent.

APPENDIX C - PROCESS SPECIFICATION REPORT

1.2.6.7 PRODUCE ASCII DATA QUALITY REPORT

Capability:

This process provides the capability to generate a report in ASCII (Z39.50 - Information Retrieval Service Definition and Protocol Specification) format that describes the quality of an ALMRS data theme(s) or baseline cartographic product(s) as requested by the ALMRS System Manager.

The ASCII Data Quality Report (DQR) shall be available separately from the actual spatial data. However, the ASCII DQR shall not be available separately from the baseline cartographic product(s) or the ALMRS L&M data theme(s). This process shall be accessed upon execution of "Export ALMRS Data" processes 1.2.6.3 (Produce COTS Spatial/Attribute Export File) and 1.2.6.5 (Produce COTS Cartographic Export File) and optionally as an independent function. ASCII DQR for an ALMRS data theme shall summarize data set metadata information such as data reliability, data set contributors, data set contact, data set distribution, geographic extent, coordinate system, spatial data processing lineage, attribution schema, etc. Metadata information contained in an ASCII DQR for a baseline cartographic product shall summarize baseline product processing lineage, baseline contact, and baseline product distribution. The baseline cartographic product "collar" information shall substitute for the ALMRS IOC Data Set Source LDM metadata information.

Since an ALMRS spatial data theme may consist of several different data sources in order to provide the user with complete feature coverage for a specific area of interest, the metadata information contained in the ASCII DQR shall allow users to evaluate whether an ALMRS data theme(s) meets their application requirements.

The ALMRS System Manager shall be responsible for generating an ASCII DQR.

The ALMRS process 1.2.6.7 shall extract existing spatial metadata information from the ALMRS metadata store based on the actual spatial data and geographic extent provided by process 1.2.6.2 (Determine Export Parameters).

The process of producing an ASCII DQR for a data theme(s) shall create certain spatial metadata information on-the-fly such as data reliability, geographic extent, number of spatial objects, metadata date, native environment computing system, etc. using the extracted spatial data provided by process 1.2.6.2.

Production of an ASCII DQR for a baseline cartographic product(s) shall be based on the export product type provided by process 1.2.6.2 and the metadata information provided by process 1.2.5.1.6.

Clarifications:

1. The long name in the ALMRS IOC Data Dictionary for metadata information shall be the FGDC Spatial Metadata Content Standard entity/element name.
2. The ALMRS IOC system shall have a system-generated table which documents the specific theme(s) comprising each "user-defined thematic view name".

APPENDIX C - PROCESS SPECIFICATION REPORT

Detail Spec:

SET Z_EXPORT_PRODUCT_FORMAT_CD TO "Z39.50 (WAIS)"

IF the 1.2.6.2 ASCII DQR REQUEST exists THEN

** Data flow "1.2.6.2 ASCII DQR Request" contains an individual theme in a specific thematic code as defined by 1.2.4.5.5 tables or user-defined thematic view name as defined by 1.2.6.7 Clarification #2. **

ACCEPT 1.2.6.2 ASCII DQR REQUEST FROM 1.2.6.2 DETERMINE EXPORT PARAMETERS

ELSE

IF the 1.2.6.5 ASCII DQR REQUEST exists THEN

** Data flow "1.2.6.5 ASCII DQR Request" contains an individual baseline product metadata report for a specific baseline thematic view code as defined by 1.2.4.5.5. **

ACCEPT 1.2.6.5 ASCII DQR REQUEST
FROM 1.2.6.5 PRODUCE COTS CARTO EXPORT FILE

ENDIF

ENDIF

IF the Z_EXPORT_PRODUCT_TYPE_CD != "CARTOGRAPHIC PRODUCT" THEN

FOR EACH Z_LAND_THEME_CD, Z_L&M_THEME_CD, Z_USER_DEFINED_TVW_NAME, or
Z_STANDARD_THEMATIC_VIEW_CD selected for export:

** Retrieve all spatial metadata (i.e., MD.SDS, MD.CONTACT, and MD.DISTRIBUTION) for data set contributors to export theme. **

FOR EACH \Z_SPATIAL_ID within \Z_AGGR_GEO_EXT

READ 1.2.6.7 SPATIAL METADATA
FROM DS.MD METADATA
MATCHING ON APH_ID and SDS_ID

ENDFOR

** Retrieve ALMRS Spatial Process History information as supplemental transaction lineage for export theme. **

FOR EACH \Z_SPATIAL_ID within \Z_AGGR_GEO_EXT

READ 1.2.6.7 SPATIAL METADATA
FROM DS.MD METADATA
MATCHING ON APH_ID

ENDFOR

SET \Z_SDS_PROCESS_HISTORY TO \APH

IF the \Z_THEMES, \Z_TVW, or \Z_STND_TVW_DATA to be exported contains any
Z_L&M_THEME_CD THEN

APPENDIX C - PROCESS SPECIFICATION REPORT

FOR EACH FEATURE_ID within \Z_AGGR_GEO_EXT

READ 1.2.6.7 GEO LOCATION
FROM DS.GL GEO LOCATION
MATCHING ON FEATURE_ID

** Retrieve additional ALMRS Process History information
for Case export themes. **

IF the Z_L&M_THEME_CD >= 1 AND Z_L&M_THEME_CD < 11 THEN

READ 1.2.6.7 L&M RECORD
FROM DS.LM L&M RECORDS
MATCHING ON GEO_LOC_ID

READ 1.2.6.7 L&M HISTORY
FROM DS.LM L&M RECORDS
MATCHING ON CASE_ID

SET \Z_SDS_PROCESS_HISTORY
TO \Z_SDS_PROCESS_HISTORY
+ W_METADATA

ELSE

** Retrieve additional ALMRS Process History information
for Land Status export themes. **

IF the Z_L&M_THEME_CD > 10 THEN

READ 1.2.6.7 LAND STATUS RECORD
FROM DS.LM L&M RECORDS
MATCHING ON GEO_LOC_ID

READ 1.2.6.7 LAND STATUS HISTORY
FROM DS.LM L&M RECORDS
MATCHING ON \Z_LS_ID

SET \Z_SDS_PROCESS_HISTORY
TO \Z_SDS_PROCESS_HISTORY
+ \Z_LS_PROCESS_HISTORY

ENDIF

ENDIF

ENDFOR

ENDIF

** Create Data Set Source LDM metadata information for exported ALMRS theme. **

COMPUTE \Z_SDS_OUTER_RING and \Z_SDS_EXCL_RING using
\Z_AGGR_GEO_EXT

APPENDIX C - PROCESS SPECIFICATION REPORT

COMPUTE \Z_SDS_VECTOR_INFO using \Z_SPATIAL_ID within \Z_AGGR_GEO_EXT

SET \Z_SDS_THEME TO Z_L&M_THEME_CD or Z_LAND_THEME_CD

SET \Z_SDS_GEO_KEYWORD TO \Z_EXPORT_AOI

SET \Z_SDS_SPATIAL_REF TO \Z_COORD_SYS

SET \Z_SDS_MBR TO \Z_AOI_MBR

SET SDS_NAT_ENV_TXT TO "ALMRS Modernization Platform"

SET SDS_NAT_STRUCT_TXT TO "Vector"

IF Z_EXPORT_PRODUCT_SOURCE_CD = "GCDB" THEN

 SET \Z_SDS_RELY TO \Z_GCDB_RELY

 ** BLM standardized GCDB metadata file **

ELSE

 COMPUTE \Z_SDS_RELY using \Z_AGGR_GEO_EXT and \Z_SPATIAL_ID
 within \Z_AGGR_GEO_EXT

ENDIF

SET \Z_SDS_IDENTIFIER TO \Z_EXPORT_AOI + Z_L&M_THEME_CD
 or Z_LAND_THEME_CD + Z_QUERY_DATE

SET SDS_STATUS_TXT TO "Available"

SET SDS_RSL_DATE and SDS_METADATA_DATE TO "ALMRS System Date"

SET \Z_SDS_RESTRICTION TO "Standardized ALMRS IOC use restrictions"

SET \Z_SDS_SPATIAL_ENCODING TO \Z_COORD_SYS

** Per 1.2.6.7 Design Constraint in APPENDIX J, the FGDC Spatial Metadata Content Standard Entity/Attribute information shall be extracted from the ALMRS IOC Data Dictionary in order to complete the ASCII DQR. **

ENDFOR

** The \Z_STND_PROD_METADATA_RPT shall substitute for the \APH {AMD.APH.THEME matrix}. The baseline cartographic product "collar information" and \Z_STND_PROD_METADATA_RPT shall substitute for the \METADATA {MD.SDS.THEME matrix} in order to complete the 1.2.6.7 ASCII DQR for 1.2.6.5. Produce COTS Cartographic Export File. **

ELSE ** Z_EXPORT_PRODUCT_TYPE_CD = "Cartographic Product" **

 FOR each Z_STANDARD_THEMATIC_VIEW_CD selected for export:

 ** Create Data Set Source LDM metadata for exported ALMRS baseline product. **

 COMPUTE \Z_SDS_OUTER_RING and \Z_SDS_EXCL_RING using
 \Z_AGGR_GEO_EXT

APPENDIX C - PROCESS SPECIFICATION REPORT

```

SET \Z_SDS_MBR TO \Z_AOI_MBR

SET \Z_SDS_THEME TO Z_STANDARD_THEMATIC_VIEW_CD

SET \Z_SDS_GEO_KEYWORD TO each occurrence of LND_DESC_TYPE_CD
OR \Z_USGS_MRC
OR Z_USGS_7.5X7.5_MIN_QUAD_NAME
OR Z_USGS_7.5X15_MIN_QUAD_NAME

SET \Z_SDS_SPATIAL_REF AND \Z_SDS_SPATIAL_ENCODING
TO \Z_CARTO_PROD_PARAMS

SET SDS_NAT_ENV_TXT TO "ALMRS Modernization Platform"

SET SDS_NAT_STRUCT_TXT TO "Graphic Product"

SET \Z_SDS_RELY TO "BLM standardized cartographic product metadata file "

SET \Z_SDS_IDENTIFIER TO Z_CARTO_PROD_TTL_TXT + \Z_QUERY_DATE
+ Z_SYMBLGY_ASGN_NAME
+ Z_MSTR_CARTO_TMPLT_NAME

SET SDS_STATUS_TXT TO "Available"

SET SDS_RSL_DATE and SDS_METADATA_DATE TO "ALMRS System Date"

SET \Z_SDS_RESTRICTION TO "Standardized ALMRS IOC use restrictions"

SET \Z_SDS_PROCESS_HISTORY TO \Z_CARTO_PROD_PROCESS_HIST
+ \Z_STND_PROD_ARROW_EDITS
+ \Z_STND_PROD_LABEL_EDITS

SET \METADATA TO "Baseline cartographic product collar information"

```

ENDFOR

ENDIF

** Comments on DQR Creation for ALMRS export themes **

1. The MD.37 entity shall not be used due to the fact that the contributing source data sets shall be documented in the \APH.
2. Metadata entity MD.44 shall not be populated, since ALMRS IOC shall not export only point data sets.
3. Entities MD.07 and MD.35 were not created, since those metadata elements are system dependent.
4. MD.01 metadata elements: SDS_MAINT_UPD_FREQ_NO, SDS_METADATA_REVW_DATE, and SDS_METADATA_FTR_REVW_DATE were not populated, since these element domains are OPSCON dependent.

** Retrieve BLM standardized Distribution and Contact metadata files for ALMRS IOC themes and baseline cartographic products. **

```

READ 1.2.6.7 SPATIAL METADATA
FROM DS.MD METADATA
MATCHING ON DS_DSTRBN_ID

```

APPENDIX C - PROCESS SPECIFICATION REPORT

READ 1.2.6.7 SPATIAL METADATA
FROM DS.MD METADATA
MATCHING ON CONTACT_ORG_ID or CONTACT_PERS_ID

ISSUE 1.2.6.7 ASCII DQR ** per Z_EXPORT_PRODUCT_FORMAT_CD **
TO B_USER_2 SYSTEM MANAGER

APPENDIX C - PROCESS SPECIFICATION REPORT