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Risk Reduction and Environmental Stewardship— Remediation Services Project

Quality Procedure

for Change Control for Spatial Features

Revision Log

Revision No.	Effective Date	Prepared By	Description of Changes	Affected Pages
R0	01/07/02	H. Plannerer	New Procedure	All
R1	05/07/04	H. Plannerer	Project name change; change in personnel titles; elimination of non-record spatial theme change log.	All

Change Control for Spatial Features

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List of Acronyms and Abbreviations

ECR	Environmental Characterization and Remediation Group
GIS	geographic information system
LANL	Los Alamos National Laboratory
TL	team leader
QP	quality procedure
QPPL	quality program project leader
RRES-RS	Risk Reduction and Environmental Stewardship—Remediation Services

Change Control for Spatial Features

1.0 PURPOSE

This Quality Procedure (QP) states the responsibilities and describes the process for submitting and approving changes to RRES Remediation Services Project (RRES-RS) Geographic Information Systems (GIS) spatial feature data and attribute records.

2.0 SCOPE

- 2.1 All **RRES-RS/ECR personnel** shall implement this mandatory QP when performing changes to spatial feature data for themes stewarded by the RRES-RS and for the attribute records stored with those themes.
- 2.2 This QP shall not apply to commercially acquired themes or themes under the ownership and or stewardship of other Los Alamos National Laboratory (LANL) organizations or United States Government agencies.
- 2.3 This QP is not applicable to spatial feature themes, such as event themes, generated exclusively from coordinate data and attributes stored and controlled in the ERDB_PROD relational database management system (RDBMS).
- 2.4 **Subcontractors** performing work under the RRES-RS quality program shall follow this QP.

3.0 TRAINING

- 3.1 **RRES-RS project participants** shall train (e.g., read and/or classroom) to and use the current version of this QP; contact the author of this QP if the text is unclear.
- 3.2 **RRES-RS project participants** using this QP shall document training in accordance with QP-2.2.
- 3.3 The responsible **project leader (PL)** shall monitor the proper implementation of this procedure.
- 3.4 The responsible **team leader (TL)** shall ensure that the appropriate personnel complete all applicable training assignments.
- 3.5 **RRES-RS project participants** may request any needed assistance with implementation of this procedure from RRES-RS Quality Integration and Improvement (QII).

4.0 DEFINITIONS

- 4.1 *Attribute*—A characteristic of a geographic feature that is typically stored in tabular format and linked to the feature by a user-assigned identifier.
- 4.2 *Feature data*—The representation of a surface location, lineation or bounding outline that is depicted as a point, a line, a polygon, or a region, and that is created for displaying geographic relationships and for identification.
- 4.3 *Geographic Information Systems*—An organized collection of computer hardware, software, networks, and technical expertise designed to efficiently capture, store, update, manipulate, query, retrieve, analyze, and display all forms of spatially referenced digital information. This resource is used by the RRES-RS to evaluate associations among geographic features and environmental issues, integrate data sets for modeling, conduct decision support analyses, and perform mathematical and statistical operations for risk analysis and site suitability.
- 4.4 *Metadata*—documentation that characterizes the data set; provides a general assessment of its quality; describes the system of objects and the grid reference that is used to represent features; describes the entities, attributes, attribute values, and related characteristics encoded in the data set; and, provides information about the distributor of and options for obtaining the data set.
- 4.5 *Minor changes*—A typographic change to an attribute, attribute-formatting convention, or to a string field of an annotation layer. These changes correct typographic errors or add a degree of conformance to established presentation standards.
- 4.6 *RRES-RS Stewarded Themes*—Spatial feature themes that the RRES-RS manages for the control of content and accuracy.
- 4.7 *Spatial Theme Change (STC) Form*— 1) The form that tracks a change or changes to spatial feature data from request and initiator to review and approvals. (2) The ER Project record that is created from the completed STC form and its associated documents.

5.0 RESPONSIBLE PERSONNEL

The following personnel are responsible for activities identified in this procedure:

- GIS project leader
- GIS technician
- Quality liaison
- RRES-RS/ECR personnel (also the Initiator)

- team leader

6.0 PROCEDURE

6.1 Implement Minor Changes

RRES-RS/ECR personnel performing their official duties may request minor changes to attribute entries.

6.1.1 **RRES-RS/ECR personnel** shall initiate a minor change by conveying the change to the GIS project leader.

6.1.2 The **GIS project leader**, in concurrence with the team leader, may perform minor changes to an attribute entry.

6.1.3 For each record affected by the change, the GIS project leader or designated GIS technician shall enter a brief description of the change in the "Minor_ch" attribute field followed by the name of the affected Project Team and the date of the change.

6.2 Implement Changes other than Minor Changes

6.2.1 **RRES-RS/ECR personnel** performing their official duties may request changes to spatial feature data and or attributes by using the action steps that follow.

6.2.2 **RRES-RS/ECR personnel** shall initiate changes by completing Section 1 of the Spatial Theme Change (STC) Form (Attachment A) and attach to the form all supporting graphic and text descriptions of the changes. The initiator requesting the changes then signs and dates Section 1-e of the form.

6.2.3 The **initiator** shall submit the STC Form to the GIS project leader.

6.2.4 The **GIS project leader** shall review the STC Form and attached documentation for the adequacy and completeness of the information to perform the requested changes.

6.2.5 The **GIS project leader** shall sign and date Section 2 of the form to acknowledge their review of the documentation.

6.2.6 The **team leader**, whose responsibilities govern the activities reflected in the proposed changes, shall review the STC Form.

6.2.7 The **team leader** shall approve of the proposed changes by signing and dating Section 3 of the form.

6.2.8 The **GIS project leader** shall provide a sequential unique identification number (SUID) in Section 4-a of the STC Form. The STC Form is not recognized as an ER Project record unless it receives a SUID in the course of following this procedure. The

GIS project leader shall provide the previous SUID to the affected spatial theme in Section 4-c of the STC Form.

- 6.2.9 The **GIS project leader** shall designate a GIS technician to create and compile the digital features and attribute records for the changes in an otherwise blank feature class. Perform this computerized GIS work in a limited-access staging directory.
 - 6.2.10 The **GIS technician** shall fabricate a proof sheet set that displays both the new or revised data and any data it replaces. The proof sheet set shall conform to Desk Instruction (DI) -4.34, "Standard Layout for Feature Data Proof Sheets."
 - 6.2.11 The **GIS technician** shall forward the proof set to the GIS project leader.
 - 6.2.12 The **GIS project leader** shall record the total number of sheets in the proof set on the STC Form in Section 4-b.
- Note:** In addition to the proof set, the GIS technician may supply the requester with additional large-format prints to present details of the changes. The large-format prints shall not become part of the official record.
- 6.2.13 The **GIS Project leader** shall circulate the proof set between the initiator and the team leader who approved the changes.
 - 6.2.14 The **initiator** and the team **leader** shall determine whether the changes, as executed by the GIS technician, are accepted, require additional work, or voided.
 - 6.2.15 The **initiator** or the team **leader** shall return changes requiring additional work to step 6.2.8.

Note: If changes are voided by the two parties, advance to Section 6.3. If the two parties accept the changes, advance to subsection 6.4.

6.3 Designate Voided Changes

- 6.3.1 The **initiator** and or the **team leader** shall designate voided changes in Section 6 of the STC Form with their signature and date.
- 6.3.2 The **GIS technician** shall delete the changes from the staging directory.
- 6.3.3 The **GIS project leader** shall forward the STC Form to an RRES-RS Quality Liaison who shall review the form for completeness.
- 6.3.4 The **quality liaison** shall document the review of the STC Form with a signature and date of review in Section 7 of the form.

- 6.3.5 The **GIS project leader** shall forward the STC Form to the Records Processing Facility (RPF) for archiving.
- 6.3.6 The **GIS project leader** shall discard all other associated documentation attached to the STC Form, including the proof set.
- 6.4 Designate Accepted Changes
 - 6.4.1 The **initiator** and the **team leader** shall designate accepted feature and attribute changes in Section 5 of the STC Form with their signature and date.
 - 6.4.2 The **GIS technician** shall transfer possession of the approved digital changes to the GIS project leader.
 - 6.4.3 The **GIS project leader** shall move the approved digital changes into a limited-access staging directory along with a current copy of the theme to which the changes apply.
 - 6.4.4 The **GIS project leader** shall remove replaced features from the theme to which the changes apply.
 - 6.4.5 The **GIS project leader** shall merge the approved digital changes with the theme resulting from the previous step.
 - 6.4.6 The **GIS project leader** shall provide the ER_FID and FAC_CODE values to the new attribute records of the merged theme.
 - 6.4.7 The **GIS project leader** shall amend the metadata to the theme to reflect the approved changes.
 - 6.4.8 The **GIS project leader** shall forward the STC Form to an RRES-RS Quality Liaison who shall review the form for completeness.
 - 6.4.9 The **Quality Liaison** shall document their review of the STC Form with a signature and date of review in Section 7 of the form.
 - 6.4.10 The **GIS project leader** shall forward the STC Form, the proof set, a digital copy of the approved changes, and a digital copy of the updated theme with metadata to the Processing Facility (RPF) for archiving.
 - 6.4.11 The **GIS project leader** shall post the updated theme to the production server and notify RRES-RS authenticated users of its availability.

7.0 LESSONS LEARNED

- 7.1 Before performing work described in this QP, **RRES-RS/ECR personnel** should go to the Department of Energy Lessons Learned Information

Services home page, located at <http://www.tis.eh.doe.gov/II/II.html>, and/or to the LANL Lessons Learned Resources web page, located at http://www.lanl.gov/projects/lessons_learned/, and search for applicable lessons.

- 7.2 During work performance and/or after the completion of work activities, **RRES-RS/ECR personnel**, as appropriate, shall identify, document, and submit lessons learned in accordance with the LANL, Lessons Learned System located at http://www.lanl.gov/projects/lessons_learned/.

8.0 RECORDS

The **GIS project leader** shall submit the following records to the Records Processing Facility, in accordance with QP-4.4:

- The completed STC Form, the proof set, a digital copy of the approved changes, and a digital copy of the updated theme with metadata.

9.0 REFERENCES

To implement properly this QP, **RRES-RS/ECR personnel** should become familiar with the contents of the following documents, located at http://erinternal.lanl.gov/home_links/Library_proc.shtml:

- RRES-RS Quality Management Plan
- QP-2.2, Personnel Orientation and Training
- QP-4.4, Record Transmittal to the Records Processing Facility

10.0 ATTACHMENTS

Attachment A: Spatial Theme Change Form.

[Using a token card, click here to record "self-study" training to this procedure.](#)

If you do not possess a token card or encounter problems, contact the RRES-ECR training specialist.

Attachment A: Spatial Theme Change (STC) Form

Page __ of __

Section 1: Change Request (Use separate sheet of blank paper if necessary.)

1-a. Spatial Theme or Layer:

1-b. Theme Change Title:

1-c. Reason for Proposed Changes:

1-d. Description of Proposed Changes:

1-e. Initiator: _____
(Print name, then sign) (Z number) (Date)

Section 2: GIS Project Leader Review

2-a. GIS project leader acknowledges adequacy and completeness of supporting documentation to perform proposed changes :

(Print name, then sign) (Z number) (Date)

Section 3: Approval For Proposed Changes

3-a. Affected team leader approves of proposed changes :

(Print name, then sign) (Z number) (Date)

Section 4: SUID and Sheets in Proof Set (Completed by the GIS Computer Specialist.)

4-a. Sequential Unique Identification
Number (SUID):

4-b. Number of Sheets in the Proof
Set:

4-c. Previous SUID for affected
spatial theme:

Section 5: Accepted Changes to Spatial Features

5-a. Changes accepted by Initiator :

(Print name, then sign) (Z number) (Date)

5-b. Changes accepted by team leader:

(Print name, then sign) (Z number) (Date)

Section 6: Voided Changes to Spatial Features

6-a. Changes voided by Initiator :

(Print name, then sign) (Z number) (Date)

6-b. Changes voided by team leader:

(Print name, then sign) (Z number) (Date)

Section 7: Quality Integration and Improvement Review

7-a. Quality Liaison acknowledges completeness of STC Form:

(Print name, then sign) (Z number) (Date)

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Los Alamos National Laboratory
RRES-Remediation Services