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**SANDIA NATIONAL LABORATORIES  
QUALITY ASSURANCE PROGRAM  
for the  
OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT**

**QAP 19-2**

**SUBMITTAL OF DATA TO THE TECHNICAL  
DATA MANAGEMENT SYSTEM**

**Revision 0**

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### CHANGE HISTORY

<b>Revision</b>	<b>Description</b>	<b>Effective Date</b>
0	This is the initial version of this document.	06/08/2004

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## 1.0 Purpose and Scope

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This Quality Assurance Procedure (QAP) establishes the responsibilities and processes for submitting and incorporating data generated for work activities specified by the Office of Science & Technology and International (OSTI) Program to the Yucca Mountain Project (YMP) Technical Data Management System (TDMS). OSTI work is governed by the Office of Civilian Radioactive Waste Management (OCRWM) Quality Assurance Requirements and Description (QARD), DOE/RW-0333P, Supplement III, Section III.2. This procedure provides equivalent methods to the requirements of AP-SIII.3Q, *Submittal and Incorporation of Data to the Technical Data Management System* for submittal of technical data to the TDMS for Sandia National Laboratories (SNL) OSTI activities.

This QAP applies to individuals within the SNL OSTI Program, and other participants, who generate, prepare and submit key technical data to the TDMS.

For the purpose of this procedure, key technical data refer to a subset of all data obtained from SNL OSTI scientific investigations that may be used to characterize and license a high-level nuclear waste geologic repository.

Acronyms and definitions for terms used in this procedure may be found in the OSTI Glossary.

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## 2.0 Implementation Actions

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### 2.1 Origination of Key Technical Data

The SNL OSTI Principal Investigators (PIs) or technical staff, who generate data shall derive key technical data from scientific investigations that are documented in scientific notebooks controlled by QAP 20-2 *Scientific Notebooks and Routine Calculations*, or other applicable Planning Documents.

All key technical data shall be submitted to the TDMS and tracked by the Automated Technical Data Tracking (ATDT) System.

### 2.2 Incorporation of Metadata to the ATDT Database

#### 2.2.1 The Data Originator shall:

- A. Ensure compliance with the requirements of QAP 20-5, *Control of the Electronic Management of Information*.
- B. Provide all required data information to the Data Coordinator by filling out an OSTI DTN Request Sheet Form QAP 19-2-1 (Appendix A). For developed data, clearly identify direct sources (Technical Information Center [TIC] Catalog Numbers, TDMS Data Tracking Numbers [DTN], OCRWM Record Processing Center [RPC] Accession/Package Numbers, etc.).
- C. Complete an OSTI Key Technical Data Traceability Form QAP 19-2-2 (Appendix B), which provides traceability to the supporting data (that is, references the applicable scientific notebooks and page numbers, photographs, maps, computer files, etc.).
- D. Clearly identify all records for the submittal package.
- E. If Qualified data are Acquired or Developed, and are not Product Output a comprehensive index of affiliated records must be produced. Provide records-related information with appropriate identification to the Data Coordinator for completion of an Electronic Records Road Map (ERRM).

- F. Submit sample number verification documents for any data that are generated using or relying on samples that are requested and tracked by the YMP Sample Management Facility (SMF). These documents must include reference to those samples. Include the reference to those samples in the form of either of the following:
1. E-mail from the SMF verifying that the sample numbers provided exist in the SMF
- OR
2. A verification report created using the SMF sample verification tool available at the TDMS intranet site.

**2.2.2** The Data Coordinator shall complete the initial incorporation of the data information (metadata) for all key technical data using the following steps:

- A. Assign a data tracking number to the SNL data using the format SNXXXOSTIXXX.YYY, where SN identifies SNL and the twelve character "XXXOSTIXXX" is a unique code that lists the year and month of the submittal, identifies OSTI and the remaining alphanumeric characters are specific characters that may identify each data set (e.g., LB0404OSTIECRB.001).
- B. Complete a Technical Data Information Form (TDIF – see attachments 3 and 6 of AP-SIII.3Q).
- C. When required, complete the Electronic Records Road Map (see Part IV of Attachment 6 of AP-SIII.3Q).
- D. If the data information provided by the Data Originator indicates that a supersession, a qualification downgrade, or an editorial correction to an existing data set is required, an Impact Review Action Notice (IRAN) Form QAP 19-2-3 (Appendix C) shall be initiated prior to processing the request.
  1. Coordinate supersession effort with applicable TDMS Database Administrators (DBAs).
  2. Initiate an IRAN(s) in accordance with Section 2.3.
- E. Notify the ATDT DBA that the incorporation of the metadata has been completed. Provide copies of the initiated IRAN(s) for supersessions or qualification downgrades to the ATDT DBA.
- F. Print a hard copy of the TDIF form and the ERRM and submit the data package to OCRWM and a copy to the SNL Records Center in accordance with Section 3.
- G. For data that are not appropriate for submittal to any of the TDMS components (such as proprietary data) but that are currently housed in either the TIC or the RPC, notify the ATDT DBA and the TDMS Manager, using E-mail or letter, that the data reside in the TIC or RPC (provide appropriate tracking number) and that the data will not be submitted to any of the databases. Include in this notification the date when the data were submitted to the TIC or RPC.
- H. Submit the data to the TDMS within 30 working days of the TDIF submittal date. If the 30 working day submittal time cannot be met, contact the appropriate DBA to coordinate an acceptable submittal date.

### **2.2.3 Changes to the TDIF**

For changes to an existing ATDT entry, the Data Coordinator shall:

- A. Contact the ATDT DBA to make the ATDT Entry Screen available to accept changes.
- B. Enter necessary changes to existing metadata.
- C. Ensure all modifications/corrections to the metadata are documented in the appropriate ATDT Entry Screen field. Changes to the comments or description fields must be annotated with the date of the change. Document which TDIF fields were changed in the ATDT Change History Table.
- D. Notify the ATDT DBA that changes have been completed.
- E. Forward the updated TDIFs (including TDIFs revised due to superseded data) to OCRWM for submittal to the RPC per Section 3.

## 2.2.4 Superseding and Superseded Data

The PI or designee shall treat data that supersede previously submitted data as a new data submittal and provide the Data Coordinator with all required metadata information. The Data Coordinator shall identify superseding and superseded DTNs in the ATDT database, as follows:

- A. In accordance with information provided by the data Originator, identify data that supersede data previously reported in ATDT database with the new DTN(s).
- B. Identify the superseded DTN(s) on the ATDT Entry Screen by including the statement “*These data supersede data previously identified by DTN(s): (insert DTN(s) of superseded data)*” in the Description field and by entering the superseded DTN(s) in the Supersedes DTN field.
- C. Describe the difference between the superseded and superseding data in the Comments field of the superseding DTN ATDT Entry Screen.
- D. Contact the ATDT DBA to make the ATDT Entry Screen of the superseded TDIF available to accept changes.
- E. Modify superseded TDIF on the ATDT Entry Screen in the ATDT database with the statement “*These data have been superseded by data identified with DTN(s): (insert DTN(s) of superseding data)*” in the Description of Data field and by entering the superseding data DTN(s) in the Superseded by DTN field. This modification of existing metadata also requires documentation in the Comments field and the ATDT Change History Table.
- F. Describe the difference between the superseded and superseding data in the Comments field of the superseded DTN ATDT Entry Screen.
- G. Notify the ATDT DBA that changes have been made.
- H. Submit the data to the appropriate DBA within 30 working days of superseding TDIF submittal date.

## 2.3 Initiating and Completing Data Impact Reviews

**2.3.1** The Data Originator and/or Data Coordinator shall initiate an impact review of the data supersession, qualification downgrade, or editorial correction and identify the technical or model reports or data that have used the data as input and may be potentially impacted/affected.

The Data Coordinator shall:

- A. Create IRAN forms for potentially impacted data, and/or technical/model reports and send forms to the Affected PI(s).
- B. If no affected data or reports are identified, document on the IRAN form and proceed to Section 2.3.4.

**2.3.2** The affected PI shall perform (or designate a qualified technical staff to perform) the impact evaluation as follows:

- A. Review potentially impacted data and/or technical/model reports listed on the IRAN form. Results of the review could include the following:
  1. No impact identified.
  2. Revision or change of an impacted technical/model report or developed data set is not needed because the effect on technical results is not significant. Include an explanation of the reason the effect on technical results is not significant.
  3. Revision or change of an impacted technical/model report or data is needed.

- Determine if the impact is within the OSTI-SNL Project requirements and work scope, cost, and schedule baselines, and is part of the normal evolution of the product as currently scheduled.

OR

- If not within the baseline, identify additional work to be performed and request approval from the Responsible Manager(s) prior to performing any additional work.

- B. Document the results of the impact evaluation on the IRAN form.
- C. If additional work to the affected data and/or technical/model report has been identified, inform the Responsible Manager(s) and ensure appropriate actions are taken to document the additional work.
- D. Enter printed name, signature, and date and forward the IRAN form(s) to the Affected PI or to the Responsible Manager(s) (if the Affected PI was the Reviewer) for signature.

**2.3.3** The Affected PI or Responsible Manager(s) (if the Affected PI was the Reviewer) shall sign the IRAN form indicating approval of the impact review results and return the IRAN form to the Data Coordinator for incorporation in the Comments field of the superseding and superseded DTN TDIFs.

**2.3.4** If no affected organizations or disciplines were identified on the IRAN the Data Originator shall sign the IRAN form and provide relevant IRAN information to the Data Coordinator for incorporation in the Comments field of the superseding and superseded DTN TDIFs. Provide IRAN tracking numbers and other information to provide traceability and transparency throughout the supersession, qualification downgrade, or editorial correction.

## **2.4 Submittal of Data for Incorporation to the TDMS**

### **2.4.1 Data Originator:**

- A. Provide the Data Coordinator with the labeled data identified with units, constraints, limitations, or assumptions in accordance with the applicable format requirements for the designated component of TDMS (see attachment 7, 8, 9 or 10 of AP-SIII.3Q).
- B. The data may be either final or preliminary.
- C. For data classified as final, the technical reviews must be completed in accordance with QAP 6-1, *Document Review*. The Review Criteria for the Technical Review of Data/Product Output (Appendix D) shall be used to conduct the data review and all data supporting documentation shall be listed in the Key Technical Data Traceability Form QAP 19-2-2 (Appendix B).

### **2.4.2 Data Coordinator:**

- A. Upon receipt of a submittal package, identify the database component of the TDMS where the data should be maintained, accessed, and displayed.
- B. For identifying the parameters and attributes related to the data, use the Technical Data Parameter (TDP) Dictionary on the YMP TDMS Web Page or if a parameter or attribute is not found in the TDP Dictionary, submit a recommendation for inclusion of a parameter or attribute via e-mail to the TDP Administrator providing the name of the attribute or name and definition of the parameter in accordance with AP-SIII.3Q.
- C. Prepare and submit a data submittal package to the appropriate DBA that includes at a minimum the following:
  1. Cover letter (letter of transmittal), including:

- A recommendation identifying in which TDMS database component the data should be displayed
  - The identification of each DTN with its associated data (when more than one DTN is represented in a submittal package).
2. Copy of TDIF(s).
  3. Copy of initiated IRAN(s), if applicable.
  4. SMF sample number verification documentation, if applicable.
  5. Subject data identified with constraints, limitations, or assumptions and compiled by the Data Originator in accordance with the applicable format requirements.
  6. Copy of Technical Review of data/product output, if applicable.

## **2.5 Data Submittal Package Rejection**

Upon notification of data submittal package rejection from the DBA of the TDMS component to where the data were submitted, the Data Coordinator shall inform the data originator that the data submittal package was rejected.

**2.5.1** The Data Originator shall perform one of the following:

- A. Recompile the submittal to resolve rejection issue(s) and resubmit in accordance with Sections 2.2 and 2.3 of this procedure.
- B. Supersede the submittal with a new data set.

Note: Provide via memorandum to the ATDT DBA, Data Coordinator, and the TDMS Manager the reason why the DTN will not be needed [IRAN(s) shall be generated for this option].

## **2.6 Data Submittal Package Verification**

**2.6.1** Upon notification of a data submittal package from the DBA of the TDMS component to where the data were submitted, the Data Coordinator shall inform the Data Originator that the data submittal package is available via TDMS.

**2.6.2** Upon notification by the Data Coordinator that the incorporation of the submittal package is complete, the Data Originator shall review the submittal package for correctness. Any inaccuracies in the posting should be reported to the Technical Data Coordinator within one business day of posting. Posting errors can be repaired at any time up to one business day or until the Data Originator notifies TDMS that the posting is acceptable (whichever comes first). Non-responses after one business day of posting will indicate Data Originator concurrence with the correctness of the posting.

## **2.7 Identifying and Correcting Data Errors in Existing TDMS Submittals**

Discovery of error(s) within existing data that have been posted and verified in the TDMS, require a DTN supersession or editorial change to correct.

**2.7.1** The Data Originator and/or Data Coordinator shall perform the following:

- A. Prepare an Impact Review in accordance with Section 2.3.
- B. If a supersession is required, prepare the incorporation of the superseding DTN metadata and submit the superseding data for incorporation to the TDMS in accordance with Section 2.4.

- C. An editorial change to existing data (strictly for minor corrections such as correction to unit values for TDP parameter or attribute field or a typographical error correction for a single datapoint) may be made only upon the completion of the IRAN for the proposed changes when a “no Impact” is determined. Submit the corrected data for incorporation to the TDMS in accordance with Section 2.4.
- D. Upon notification of superseding a data submittal package acceptance from the DBA of the TDMS component where the data were submitted, review the submittal package for correctness in accordance with Section 2.6.
- E. Submit all supplemental records of the IRAN documentation, including the revised TDIF and data to the Records Coordinator for submittal to the RPC in accordance with Section 3.

## 2.8 Documentation of Errata

Upon receipt of errata documentation, the Data Coordinator shall add a note to the description section of the TDIF for the affected DTN making reference to the errata information. Include, document identifier, date, and records information, if applicable.

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## 3.0 Records

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The following QA records, which may be generated through implementation of this procedure, shall be prepared and submitted to OCRWM and a copy to the SNL Records Center in accordance with QAP 17-1, *Records*.

### Permanent Records

#### Q-Data submittals:

- Subject data and associated supporting documentation (compiled and formatted as required by this procedure)
- Notification of submittal rejection from TDMS or communication of reason for non-submittal of data, if applicable
- Record Road Map, if applicable
- Technical Review of Data
- Completed IRAN(s), if applicable
- Key Data Traceability Form
- TDIF
- DTN Request Sheet

### Non-Permanent Records

- Cover Letter
- Acceptance Notification from TDMS DBA

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## 4.0 Appendices

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- Appendix A: Form QAP 19-2-1, OSTI Data Tracking Number Request Sheet  
Appendix B: Form QAP 19-2-2, OSTI Key Technical Data Traceability Form  
Appendix C: Form QAP 19-2-3, OSTI Impact Review Action Notice  
Appendix D: Criteria for the Technical Review of Data/Product Output

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## 5.0 References

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- QAP 6-1 *Document Review*  
QAP 17-1 *Records*  
QAP 20-2 *Scientific Notebooks and Routine Calculations*  
QAP 20-5 *Control of the Electronic Management of Information*  
AP-SIII.3Q *Submittal and Incorporation of Data to the Technical Data Management System*



## Appendix A

<b>OSTI DATA TRACKING NUMBER REQUEST SHEET</b>		<b>Form Number:</b> <b>QAP 19-2-1</b>  Page ____ of ____
This sheet is designed to facilitate the identification and submittal of data and technical information to the TDMS. All areas are required fields. Additional information may be required prior to officially submitting data or technical information to the TDMS-		
Is this a request for a DTN qualification downgrade or supersession to a previously existing DTN? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, upon receipt of the completed IRANs, you must include/generate a supplemental records submittal to the records package containing the records for the previously existing DTN.		
TDMS Database <input type="checkbox"/> GIS <input type="checkbox"/> MWD <input type="checkbox"/> RIB <input type="checkbox"/> SEP <input type="checkbox"/> SPA <input type="checkbox"/> Other (indicate where the data/technical information will reside: <input type="checkbox"/> TIC <input type="checkbox"/> RPC)		
Data Originator/Preparer (i.e., Principal Investigator)	Originator/Preparer Corporate Organization (e.g., Duke, SAIC, etc.)	
Submittal Type (Acquired/Developed)	Data Qualification Status (Q or Un-Q or Technical Information)	
If UnQualified, the reason for submitting unqualified data or technical information		
<ul style="list-style-type: none"> <li>• <b>Developed</b> must have source DTNs and/or TIC numbers or <i>MOL</i> number provided</li> <li>• <b>If Developed AND Qualified</b>, all sources must be qualified, except Product Output</li> <li>• <b>Qualified and Product Output</b> submittals must have been technically reviewed and have documentation of the review.</li> <li>• Submittals which represent data reduction activities are <b>Developed Data</b>.</li> </ul>		
Are these data preliminary? <input type="checkbox"/> Yes <input type="checkbox"/> No	Are these data Product Under development? <input type="checkbox"/> Yes <input type="checkbox"/> No	Are these data Product Output? <input type="checkbox"/> Yes <input type="checkbox"/> No
Are these data "Established Fact"? <input type="checkbox"/> Yes <input type="checkbox"/> No		
If Yes, give the title, document number, revision, and accession number of the report that created the technical information		
Have the Data/Product Output received a separate technical review that establishes and documents the validity of the data? <input type="checkbox"/> Yes <input type="checkbox"/> No	Do the data supersede any previously identified data? <input type="checkbox"/> Yes <input type="checkbox"/> No	
If Yes, provide DTN(s) and the reason for the supersession (Note: You must send a copy of the initiated IRAN to the data coordinator upon requesting a DTN for superseding data or technical information)		
Governing Plan (Governing plans are listed at the end of this form)		
SCP Activity Number (SCP MUST be provided if data/technical information were collected under SCP governing plan)		
WBS; Number		
Title of Data		
Brief Description of Data		
Name, Number and Revision of the procedure under which the data/technical information were acquired/developed		
Software Name and STN Number	Report Number (Include revision and ICN where applicable)	
Location where the data/technical information were developed/acquired	Data/technical information development/acquisition period (MM/DD/YYYY - MM/DD/YYYY format)	

**Appendix A** (continued)

<p><b>OSTI DATA TRACKING NUMBER REQUEST SHEET</b> <b>Continuation Page</b></p>	<p><b>Form Number:</b> <b>QAP 19-2-1</b></p> <p>Page ____ of ____</p>																														
<p>Comments (If "Established Fact," provide justification/rationale)</p>																															
<p>Parameter(s) (Provide both the name and number of the parameter(s) as shown in the TDP) (See: <a href="http://M-o.ymp.gov/cgi-bin/proldb-tdpltdpltdp.exe?svc=menu">http://M-o.ymp.gov/cgi-bin/proldb-tdpltdpltdp.exe?svc=menu</a> for the current list)</p>																															
<p>Source (e.g., DTNs, TIC numbers, etc.)</p>																															
<p><b>Things to Consider:</b></p> <ol style="list-style-type: none"> <li>1. For a Data Tracking Number to have a qualification status of Product Output, it must be post-Process Validation and Reengineering (PVAR) (i.e., must have a beginning date of 06/30/1999 or later) or have been produced pre-PVAR but in compliance with PVAR procedures. In the later case, a statement in the comments section regarding this compliance must be provided.</li> <li>2. There must be a Governing Plan to input into the ATDT system to generate a DTN. If SCP is the plan, the SCP number must be provided. The governing plans are:</li> </ol>																															
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>DP</td><td>Design Plan</td></tr> <tr><td>EMMP</td><td>Environmental Monitoring and Mitigation Plan</td></tr> <tr><td>EPAQ</td><td>Environmental Field Plan/Air Quality</td></tr> <tr><td>EPGM</td><td>Environmental Field Plan/Gaseous Monitoring</td></tr> <tr><td>GMP</td><td>Groundwater Monitoring Plan</td></tr> <tr><td>MMP</td><td>Meteorological Monitoring Plan</td></tr> <tr><td>N/A</td><td>Not Applicable</td></tr> <tr><td>NCCP</td><td>Nye County Comprehensive Plan</td></tr> <tr><td>PAMP</td><td>Performance Assessment Management Plan</td></tr> <tr><td>RADMP</td><td>Radiological Monitoring Plan</td></tr> <tr><td>SCP</td><td>Site Characterization Plan</td></tr> <tr><td>SCPPD</td><td>Site Characterization Plan - Prototype Data</td></tr> <tr><td>SID</td><td>Socioeconomic Plan</td></tr> <tr><td>TAD</td><td>Transportation Activities Document</td></tr> <tr><td>TDMP</td><td>Technical Data Management Plan</td></tr> </table>		DP	Design Plan	EMMP	Environmental Monitoring and Mitigation Plan	EPAQ	Environmental Field Plan/Air Quality	EPGM	Environmental Field Plan/Gaseous Monitoring	GMP	Groundwater Monitoring Plan	MMP	Meteorological Monitoring Plan	N/A	Not Applicable	NCCP	Nye County Comprehensive Plan	PAMP	Performance Assessment Management Plan	RADMP	Radiological Monitoring Plan	SCP	Site Characterization Plan	SCPPD	Site Characterization Plan - Prototype Data	SID	Socioeconomic Plan	TAD	Transportation Activities Document	TDMP	Technical Data Management Plan
DP	Design Plan																														
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EPGM	Environmental Field Plan/Gaseous Monitoring																														
GMP	Groundwater Monitoring Plan																														
MMP	Meteorological Monitoring Plan																														
N/A	Not Applicable																														
NCCP	Nye County Comprehensive Plan																														
PAMP	Performance Assessment Management Plan																														
RADMP	Radiological Monitoring Plan																														
SCP	Site Characterization Plan																														
SCPPD	Site Characterization Plan - Prototype Data																														
SID	Socioeconomic Plan																														
TAD	Transportation Activities Document																														
TDMP	Technical Data Management Plan																														



### Appendix B

<b>OSTI KEY TECHNICAL DATA TRACEABILITY</b>		<b>Form Number: QAP 19-2-2</b>																				
		Page ____ of ____																				
Date _____ Data Tracking Number: _____																						
Prepared By: _____																						
Title/Subject: _____																						
<p>The following contain supporting documentation for the attached data submittal. These documents have been, or shall be submitted to OCRWM Records Processing Center.</p> <p>Notebook/source documents:</p> <table><tr><td>_____</td><td>_____</td></tr><tr><td style="text-align: center;">ID#</td><td style="text-align: center;">Page Numbers</td></tr><tr><td>_____</td><td>_____</td></tr><tr><td style="text-align: center;">ID#</td><td style="text-align: center;">Page Numbers</td></tr><tr><td>_____</td><td>_____</td></tr><tr><td style="text-align: center;">ID#</td><td style="text-align: center;">Page Numbers</td></tr></table> <p>Photos:</p> <table><tr><td>_____</td><td>_____</td></tr><tr><td style="text-align: center;">ID (if possible)</td><td style="text-align: center;">ID (if possible)</td></tr></table> <p>Maps:</p> <table><tr><td>_____</td><td>_____</td></tr><tr><td style="text-align: center;">ID (if possible)</td><td style="text-align: center;">ID (if possible)</td></tr></table> <p>Computer Files are Listed on the Data Readme File. Software Codes Used to Generate the Data are Listed on the Data Readme File. Constraints, Caveats, Assumptions and Limitations are Listed on the Data Readme File.</p>			_____	_____	ID#	Page Numbers	_____	_____	ID#	Page Numbers	_____	_____	ID#	Page Numbers	_____	_____	ID (if possible)	ID (if possible)	_____	_____	ID (if possible)	ID (if possible)
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Principal Investigator's Name	Signature	Date																				
_____	_____	_____																				
Technical Data Coordinator's Name	Signature	Date																				



### Appendix C

<b>OSTI IMPACT REVIEW ACTION NOTICE</b>			<b>Form Number:</b> <b>QAP 19-2-3</b>  <b>Page</b> ____ <b>of</b> ____
2. Responsible Manager (print name)		3. Date	
4a. Affected Manager (print name)	4b. Affected Manager (signature)	5. Reviewer (print name)	
Review the document/data described below to determine the impact on technical products/data. Document results below, indicating required actions to ensure consistency between inputs and technical products/data or that no actions are required. Include document and revision numbers of technical products/data to be revised.			
6. Data to be Evaluated	Title	7. Complete Impact Review by: (Date)	
	Data Tracking No.	<input type="checkbox"/> Initial Issue <input type="checkbox"/> Supersession <input type="checkbox"/> Revision or <input type="checkbox"/> Status Change <input type="checkbox"/> Cancellation Change	
8a. Impacted documents/Data			
Document/DTN No.	Rev.	Document Data/Title	8b. Results of impact Review
8c. Proposed Trend Description			
9a. Reviewer (print name)		9b. Reviewer (Signature)	10. Date
11. Affected Manager/Responsible Manager (signature)			12. Date

## Appendix D

### CRITERIA FOR THE TECHNICAL REVIEW OF DATA/PRODUCT OUTPUT

1. Do the Data/Product Output meet the requirements for accuracy, precision, and representativeness identified in the planning document for the investigation?
2. Are the Data Product Output clearly identified and traceable?
3. Does the Data/Product Output appear correctly presented and reasonable for the methods identified in the planning document or procedures used to generate the submittal?
4. Are the Data/Product Output legible and adequately labeled with respect to units, axis labels, etc.? (Note that spreadsheets or other computer outputs may not label the units, in which case this information could be provided as supplementary information accompanying the submittal.)
5. If other previously reported submittals or submittals from other sources are present along with the new submittal being reviewed, are these clearly separated or distinguishable?
6. Is the quality assurance status of the Data/Product Output:
  - a) Identified by information supplied with the submittal package if no DTN has been issued?
  - b) Traceable to information supplied with the submittal package if a DTN has been issued (i.e., the DTN number provides a link to the QA status)?
7. Are calculations correct and described in sufficient detail to permit reproduction by the reviewer?
8. Is computer software used adequately identified, documented, and controlled in accordance with OSTI-LBNL-SI.0, *Soft ware Management* or other applicable Yucca Mountain Project procedures?
9. Are the following complete and accurate?
  - a) Description of the work as it was performed?
  - b) Results obtained?
  - c) Names of the persons performing the work?
10. Are there any anomalies or typographical errors apparent in the Data/Product Output? Confirm that files have not been corrupted by comparing file size, file modification dates, and spot-checking.
11. Are restrictions and limitations identified?