

OSTI's STI Announcement Web Service For 241.1 Information

June 2013

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1.0 About

1.1 Announcement Notice 241.1

Announcement Notice (AN) 241.1 provides the Office of Scientific and Technical Information (OSTI) with the information needed to identify, process, and announce/or disseminate the results of work funded by the DOE or performed in DOE facilities. (See DOE Order 241.1B). When submitted, the AN 241.1 set of metadata creates a citation/record that is loaded by E-Link into the appropriate OSTI databases.

Using OSTI's web services allows a submitting site to send this information in a completely automated manner. Metadata is generated at the submitting site per the programming set up by the site's IT developers and POSTed as an output file to OSTI. The schedule for the POST operation may be multiple times daily, once daily, once weekly, etc.

DOE, DOE Major Site/Facility Management contractors, multiprogram laboratories, single program laboratories, and other DOE facilities should submit the AN 241.1 metadata with the URL for the site-maintained copy of the STI product or transmit the STI product via FTP to OSTI'S FTP directory. The STI product will be a full text document, such as a technical report, thesis/dissertation, book, journal literature, conference literature, or a program document. It could also be multimedia.

1.2 OSTI's Web Service for AN 241.1

OSTI's Web Service for AN 241.1 provides a mechanism to submit new Announcement Notices, edit existing Announcement Notices, and retrieve metadata for Scientific and Technical Information (STI) Announcement Notices. A user manipulates a record by performing HTTP operations on the web service URL and providing XML metadata. The POST command/request allows a submitter to create or modify AN 241.1 records. The GET command/request allows a submitter to view records.

Submitters must coordinate with OSTI and submit records to a test environment before POSTing their first file. The test URL is <https://www.osti.gov/elinktest/2411api>. OSTI's production web service for announcing datasets is available at <https://www.osti.gov/elink/2411api>.

All transactions with the web service require authentication through an active E-Link user account. For details or to request access to E-Link and obtain an active account, please visit <https://www.osti.gov/elink/register.jsp>.

2.0 Using the STI Announcement Web Service

2.1 Authentication

Each request requires authentication through an active E-Link user account. OSTI's STI Announcement Web Services supports HTTP Basic authentication over SSL. With this method, the client connects an HTTPS URL (e.g., <https://www.osti.gov/elink/2411api>). The POST and GET verb commands will pass along the standard Authentication HTTP header (base64 encoding).

If authentication is successful, the input body of the request is read as an XML document, parsed, and submitted appropriately. HTML status codes (200=OK, 401=Unauthorized, 500=System error, etc.) and an XML response, which includes certain metadata fields, are returned at the end of processing each request. Additional authentication steps may be taken prior to editing a metadata record.

2.2 POST Command: Creating and Modifying Records

When submitting data via the 241.1 web service, a secure connection is created, and the login/authentication information and the metadata records are streamed through the connection. The OSTI web service will generate a response indicating success or failure for each record. An error message will be included for each failed record, as well. Multiple records can be submitted in a single submission.

The following sample of Java code illustrates a submission with the POST command. The sample name “testPost” can, of course, be changed to any name desired.

```
protected static boolean testPost( ) throws IOException {
    HttpURLConnection c = null;
    DataOutputStream out = null;
    InputStreamReader in = null;
    BufferedReader br = null;

    try {

        /** build the URL to connect to */
        StringBuilder url = new StringBuilder();
        // urlPart is defined elsewhere - it is the "https://www.osti....."
        url.append(urlPart);
        URL u = new URL(url.toString());
        c = (HttpURLConnection) u.openConnection();
        c.setRequestMethod("POST");
        c.setRequestProperty("Accept", "application/xml");
        c.setRequestProperty("Content-Type", "application/xml;charset=UTF-8");

        /** add login authentication
            usr_passwd is a string defined elsewhere. It is USERNAME + ":" +
PASSWORD for the elink user account
        */
        String auth =
org.apache.commons.codec.binary.Base64.encodeBase64URLSafeString(
(usr_passwd).getBytes() );
        c.setRequestProperty("Authorization", "Basic " + auth);

        /** write out the metadata stream */
        c.setDoOutput(true);
        out = new DataOutputStream(c.getOutputStream());

        /** make a string that contains the record(s) in XML format
            YOUR SITE DATA GOES IN THIS STRING
        */
        String rec = [SITE DATA];

        /** add the rec string to the output stream */
        byte[] buf = (null==rec) ? "".getBytes("UTF-8") : rec.getBytes("UTF-8");
        out.write(buf, 0, buf.length);
        out.close(); out = null;

        /** open the connection */
        c.connect();
    }
}
```

```

    /** get the response and appropriate response information */
    int responseCode = c.getResponseCode();
    if (responseCode >= 400) in = new InputStreamReader(c.getErrorStream());
    else in = new InputStreamReader(c.getInputStream());

    br = new BufferedReader(in);
    StringWriter writer = new StringWriter();
    char[] buffer = new char[1024];
    int n=0;
    while ((n=br.read(buffer))!=-1) {
        writer.write(buffer, 0, n);
    }
    writer.close();

    // see what the test results are from the API servlet
    StringBuffer outBuf = writer.getBuffer();
    System.out.print("Response returned " + outBuf.toString());

    /** log any errors */
    if (responseCode != 200) {
        log.error("OSTI ID: " + m.getOstiId() + " failed to post new DOI, error code="
+ responseCode);
        log.error("Message: " + writer.toString());
    }
    /** finished */
    return (200==responseCode);
} finally {
    try {
        if (br != null) br.close(); br = null;
        if (in != null) in.close(); in = null;
        if (out != null) out.close(); out = null;
    } catch (Exception e) {
        log.error("URL Close Error: " + e.getMessage());
    }
}
}
}

```

2.3 GET Command: Requesting Records

Metadata can be retrieved for records previously submitted from your site by using a GET request and supplying the `osti_id` as a parameter in the request. Authentication is required and is handled in the same fashion as a Create/Modify command. Metadata is returned as XML.

The following sample of Java code illustrates a GET request. The sample name “testGet” can, of course, be changed to any name desired.

```

protected static boolean testGet( ) throws IOException {

    HttpURLConnection c = null;
    DataOutputStream out = null;
    InputStreamReader in = null;
    BufferedReader br = null;

    try {
        /** build the URL to connect to */
        StringBuilder url = new StringBuilder();
        // urlPart is defined elsewhere - it is the "https://www.osti...../2411api"
        url.append(urlPart);
        /** append the osti id parameter**/
        url.append("?osti_id=1001628");
        URL u = new URL(url.toString());
        c = (HttpURLConnection) u.openConnection();
        c.setRequestMethod("GET");
        c.setRequestProperty("Accept", "application/xml");
        c.setRequestProperty("Content-Type", "application/xml;charset=UTF-8");

        /** add login authentication
            usr_passwd is a string defined elsewhere. It is USERNAME + ":" +
PASSWORD for the elink user account
        */
        String auth =
org.apache.commons.codec.binary.Base64.encodeBase64URLSafeString(
(usr_passwd).getBytes() );
        c.setRequestProperty("Authorization", "Basic " + auth);
        c.connect();

        /** get the response and appropriate response information */
        int responseCode = c.getResponseCode();

        if (responseCode>=400) in = new InputStreamReader(c.getErrorStream());
        else          in = new InputStreamReader(c.getInputStream());

        br = new BufferedReader(in);
        StringWriter writer = new StringWriter();
        char[] buffer = new char[1024];
        int n=0;
        while ((n=br.read(buffer))!=-1) {
            writer.write(buffer, 0, n);
        }
        writer.close();

        /** log any errors */
        if (responseCode!=200) {

```

```

        log.error("OSTI ID: 10011628; error code=" + responseCode);
        log.error("Message: " + writer.toString());
    }
    /** finished */

    } finally {
        try {
            if (br!=null) br.close(); br = null;
            if (in!=null) in.close(); in = null;
            if (out!=null) out.close(); out = null;
        } catch ( Exception e ) {
            log.error("URL Close Error: " + e.getMessage());
        }
    }
}
}
}

```

3.0 AN 241.1 Web Service Metadata

3.1 AN 241.1 Required Fields

The following is a list of the required fields for the AN 241.1 STI Announcement Web Service. Required fields are designated by an asterisk (*). Records without required fields will fail to load into E-Link for processing. Xx metadata and/or administrative fields are required. The other fields available for your use are optional, though some, such as the Abstract/Description, are highly encouraged.

Note that the OSTI ID is a required field for all POST requests where the intent is to edit or update records. The GET request must also include the OSTI ID and will allow retrieval of a record previously submitted by your site.

REQUIRED

	Field Name	XML Tag Name	Additional Information
1	OSTI ID+	<osti_id>	Note that the OSTI ID is required in all requests intended to edit or update records. When POSTing new records to OSTI, no <osti_id> tag is needed in the XML. E-Link automatically assigns an OSTI ID to each record successfully submitted; you will receive it in the XML response returned to your site by the OSTI webservice.
2	Record Status*	<new/> <revdata/> <revprod>	These tags are required to inform the system of the status of the record being submitted. For new records, only the <new></new> or <new/> is needed. For revised metadata or products, the OSTI ID is also needed as an

			attribute. See format below.																		
	Record Status Attributes are needed for” revdata” tag and “revprod” tag. <revdata osti_id='1053369' /> <revprod osti_id='1053370' />																				
3	Site Code*	<site_input_code>																			
4	Product Type*	<product_type/>	Correct alpha code must be used as the value. Note that the values are upper case letters. Only one code can be placed in this field. Depending on the code, additional information may be needed. The allowed values are:																		
			<table border="0"> <thead> <tr> <th>Code</th> <th>Definition</th> </tr> </thead> <tbody> <tr> <td>TR</td> <td>Technical Report or Workshop Report</td> </tr> <tr> <td>CO</td> <td>Conference/Event Paper, Proceedings, or Presentation</td> </tr> <tr> <td>JA</td> <td>Journal Article</td> </tr> <tr> <td>TD</td> <td>Thesis or Dissertation</td> </tr> <tr> <td>PD</td> <td>Program Document</td> </tr> <tr> <td>B</td> <td>Book/Monograph</td> </tr> <tr> <td>AR</td> <td>Accomplishment Report</td> </tr> <tr> <td>P</td> <td>Patent</td> </tr> </tbody> </table>	Code	Definition	TR	Technical Report or Workshop Report	CO	Conference/Event Paper, Proceedings, or Presentation	JA	Journal Article	TD	Thesis or Dissertation	PD	Program Document	B	Book/Monograph	AR	Accomplishment Report	P	Patent
Code	Definition																				
TR	Technical Report or Workshop Report																				
CO	Conference/Event Paper, Proceedings, or Presentation																				
JA	Journal Article																				
TD	Thesis or Dissertation																				
PD	Program Document																				
B	Book/Monograph																				
AR	Accomplishment Report																				
P	Patent																				
If product type = CO, the following field is also required: Conference Information <conference_information/> Include name of conference, location, and inclusive dates.																					
If product type = JA, the following fields are also required/needed: <ul style="list-style-type: none"> Journal Type <journal_type> Allowed values are AC (for announcement citation only) or FT (meaning the full text of the article is being submitted through posting at the site or FTP to OSTI. The medium code will be ED if the journal type is FT.) Journal Name <journal_name> Journal Volume <journal_volume> Journal Issue <journal_issue> Journal Serial ID <journal_serial_id> 																					
If product type = B, the following field is also required unless full text is being sent to OSTI: Publisher Information <publisher_information/> Include name of publisher and city, state, and country if other than U.S.																					
If product type = P, the following field is also required: Patent Assignee <patent_assignee/>																					
5	STI Product Title*	<title/>																			
6	Authors(s)*	<author/>	Format is Last Name, First Name, MI Separate multiple authors with a semi-colon followed by a space.																		
7	Report/Product Number(s)*	<report_nos/>	A value in this field is required if the product is a TR (report) or TD (thesis/dissertation). The value may be the word, None, if no																		

			report number exists. An identifying number unique to the product (a product number) may be used for any other product type.
8	DOE Contract Number(s)*	<doe_contract_nos/>	Use the format of the contract “as is,” but please leave off any preceding “DE”. If multiple contract numbers apply, separate with a semi-colon followed by a space.
9	Originating Research Organization*	<originating_research_org/>	Use the spelled-out text exactly as shown in the Originating Research Organization Authority at https://www.osti.gov/eline/authorities.jsp If work for this product was done at more than one research organization, multiple values may be listed; they should be separated by a semicolon and a space. The primary DOE organization should be listed first, followed by any others. If non-DOE orgs are included, input the spelled-out, full name of the organization.
10	Publication/Issue Date*	<publication_date/>	Use one of these three Publication Date formats: <ul style="list-style-type: none"> • mm/dd/yyyy • yyyy • yyyy Month <p>If product type = TR or TD, the mm/dd/yyyy format must always be used.</p>
11	Language*	<language/>	Up to 75 characters; use format from OSTI’s Language Authority; e.g. English Authority values are available at https://www.osti.gov/eline/authorities.jsp
12	Country of Origin/Publication*	<country_publication_code/>	Use two character code from OSTI’s Country Code Authority; e.g. US Authority values are available at https://www.osti.gov/eline/authorities.jsp
13	Sponsoring Organization(s)*	<sponsor_org/>	Use the spelled-out text as shown in the Sponsoring Organization Authority at https://www.osti.gov/eline/authorities.jsp . The DOE Order 241.1B now requires that three levels of sponsoring information be provided for DOE funding: Agency, Program Office, and the sub-program within the DOE Program Office. If funding for this product was provided from more than one organization, multiple values may be listed; they should be separated by a semicolon and a space. The primary DOE sponsor should be listed first, followed by any others. If any of the others are not included in the Sponsor Organization Authority (non-DOE organizations, for example), please include the spelled-out, full name of the other

			sponsoring organization.
14	Access Limitation*	<p><access.limitation/></p> <p>Note: There are several attribute tags and values associated with the list of limited access codes. See 3.2 Access Limitations – Attributes and Values for additional information needed when submitting access limitation values.</p>	<p>Access /Distribution Limitation(s) should be one of the following code values. Note XML formatting in 3.2 Access Limitations - Attributes and Values:</p> <ul style="list-style-type: none"> • UNL (Unlimited Announcement) • OPN (OpenNet) • CPY (Copyright Material with Restrictions) • OUO (Official Use Only) • OUOECI (Export Controlled Information) • OUOSSI (Security Sensitive Information) • OUOPROT (Protected Data – CRADA or Other) • OUOPAT (Patent Pending) • OUOLRD (Limited Rights Data (Proprietary/Trade Secret)) • OUOAT (Applied Technology) • OUOPDOUO (Program Determined Official Use Only) • NNPI (Naval Nuclear Propulsion Info)
15	Medium Code*	<medium_code/>	<p>Allowed values are</p> <ul style="list-style-type: none"> • ED (if the full text document is being uploaded or FTP'd to OSTI or if a site ULR is being provided for a full text document posted at the submitting site) • X (if the full text document can not be posted at the site or uploaded to OSTI.) If X , no URL is provided in the metadata; the submission is considered “Announcement Notice Only”. • AV (if the product is audiovisual material) Any product type may exist in an audiovisual format. The most common product type that gets an AV medium code is CO for conference/event presentations. . <p>Note that the alpha codes should be upper case. Also note that, depending on the value put in this field, additional information will be needed.</p>
If medium code = ED and the full-text product is posted at the site, the following 2 fields are required and/or needed.			
	Site URL*	<site_url/>	
	File Format	<file_format/>	<p>Allowed values are</p> <ul style="list-style-type: none"> • PDFN (searchable PDF full text) • HTML • PPT
If medium code = ED and the full-text product is being transmitted to OSTI, the			

following field is required and/or needed.			
	File Format	<file_format/>	Allowed values are <ul style="list-style-type: none"> • PDFN (searchable PDF full text) • PDFI (non-searchable PDF) • HTML • PPT
If medium code = AV and the video is posted at your site or websites such as YouTube or Scivee, the following 3 fields are required and/or needed.			
	Site URL*	<site_url/>	
	Audio/Video Content	<av_content/>	
	File Format	<file_format/>	Allowed values: "WMA", "WMV", "MP2", "MP3", "MP4", "MPEG", "ASF", "AVI", "ACV", "DV", "FLV", "MOV", "RM", "WAV" (See http://www.osti.gov/stip/audiovisualsti for more on these formats)
	Format Other	<format_other>	Provide the length of the video as shown in this example: Run time: 00:50:25
16	Released by Name*	<released_by/>	The name of the designated releasing official responsible for approval of distribution/access limitation and for ensuring no PPI is contained in the metadata or the full text. OSTI admin field; does not display in output databases.
17	Released Date*	<released_date/> mm/dd/yyyy	Date that the record was released to osti by the releasing official.
18	Released by Email* Released by Phone*	<released_by_email/> <released_by_phone/>	Both of these fields must be included in the metadata. This is contact information only and will not be display in the output databases.

3.2 Access Limitation(s) – Attributes and Values

Unclassified, unlimited information (UNL) is available to the U.S and non-U.S. public, but certain types of information have restricted access whose publication or distribution is restricted by various laws, federal codes, executive orders, international agreements, etc. Records describing STI products with access limitations are not released to OSTI’s publicly available databases. They are available to DOE and DOE contractors in Science Research Connection (SRC) with different levels of access based on the product and the requestor.

Records with access limitation codes other than UNL may require additional, different information formatted as “attributes” rather than “elements.” The following table provides this formatting guidance. For more guidance on the actual restrictions, markings, and handling of STI with access limitations, see the STIP home page at <http://www.osti.gov/stip/> or contact OSTI staff.

Access Limitation Code	Definition	Tags, examples, other information	
UNL (Unlimited Announcement)	Select this option if the STI Product should have unlimited and unrestricted distribution to the U.S. and non-U.S. public.	Example: <access_limitation> <unl/> <access_limitation>	
OPN (OpenNet)	OpenNet is a website supported by DOE’s Office of Classification to provide access to declassified documents and other related information, in support of the national Openness Initiative.	Example: <access_limitation> <opn/> <access_limitation>	See OpenNet policy and guidance at https://www.osti.gov/opennet/ STI Products marked as OpenNet will be announced by OSTI on the OpenNet database as well as on the STI announcement systems. To enable OSTI to transfer data to the OpenNet database, the following OpenNet data must be provided. Non-STI OpenNet products should be submitted using the DOE F 475.1.
Required/Needed Attributes of <access_limitation/> if Access Limitation is OpenNet (OPN)			
OpenNet Accession Number*	<opennet_accession_no>		
OpenNet Document Location	<opennet_doc_location>		
Applicable field Office Acronym	opennet_fieldoffice_acronym	Use the appropriate acronym provided in OpenNet DeClassified Information Database Data Input Specifications,' revised April 3, 1998.	
OpenNet Declassification Status*	<opennet_declass_status>	Allowed values: D (Declassified) S (Sanitized) N (Never Classified) U (Unknown).	
OpenNet Declassification Date*	opennet_declass_date	Required if opn_declass_status = ‘D’ or ‘S’. Format is mm/dd/yyyy	

OpenNet Document Categories* Example: <access_limitation> <opn opennet_accession_no='111' opennet_document_location='doc loc' opennet_fieldoffice_acronym='test OFC' opennet_document_keywords='OPN KEYS' opennet_declass_date='01/01/2001' opennet_declass_status='U'/> </access_limitation>		opennet_document_keywords
CPY (Copyright Material with Restrictions)	Copyrighted material may be subject to restrictions on reproduction, distribution, the preparation of derivative works, including translations; public display of the material; and public performance of the material.	Example: <access_limitation> <cpy/> </access_limitation>
OUO (Official Use Only)		(Provide exemption number if OUO and no other OUO category applies.)
OUOECI (Export Controlled Information)	Information containing technical data as defined in and controlled by U.S. export control statutes. (e.g., under ITAR/EAR) (FOIA Exemption 3)	
OUOSSI (Security Sensitive Information)		<access_limitation> <ouossi/> <access_limitation> <access_limitation_other>other access lim<access_limitation_other>
OUOPROT (Protected Data – CRADA or Other)	Information produced in the performance of a CRADA that is marked as being Protected CRADA Information by a party to the agreement and that would have been proprietary information had it been obtained from a non-Federal entity. It may be	Example: <access_limitation> <ouoprot protected_data_crada='Y' access_limitation_rel_date='01/21/2011'/> </access_limitation>

	protected for a period up to 5 years from the date it was produced, except as expressly provided for in the CRADA.	
Required Attributes of <access_limitation/> if Access Limitation is Protected Data (OUOPROT)		
Protected Data CRADA	protected_data_crada	Allowed values: "Y" or "N"
Protected Data Other	protected_data_desc	Required if Access Limitation equals Protected Data (OUOPROT) and protected_data_crada = 'N'
Access Limitation Release Date (mm/dd/yyyy)	access_limitation_rel_date	
PDOUO Exemption Number	exemption_number	
OUOPAT (Patent Pending)	Federal agencies are authorized to withhold from public disclosure any invention in which the Government owns or may own a right, title, or interest, for a reasonable length of time so that a patent application can be filed.	<access_limitation> <ouopat/> </access_limitation>
OUOLRD (Limited Rights Data (Proprietary/Trade Secret))	Information that embodies trade secrets or is commercial or financial and confidential or privileged, to the extent that such data pertain to items, components, or processes developed at private (not government) expense, including minor modifications.	<access_limitation> <ouolrd/> </access_limitation>
OUOAT (Applied Technology)	Unclassified category established by NE to preserve the foreign trade value of certain NE-funded progress and topical reports containing engineering,	<access_limitation> <ouoat/> </access_limitation>

	development, design, construction, and operation information pertaining to particular programs.	
OUOPDOUO (Program Determined Official Use Only)	This type of OUO is based on approved guidance as reflected in DOE Order 471.3, Identifying and Protecting Official Use Only Information.	Examples: <access_limitation><ouopdouo exemption_number='2'>/> <access_limitation> <ouopdouo exemption_number='7'>/> <access_limitation> <access_limitation_other>other access lim</access_limitation_other>
Required/Needed Attributes of <access_limitation/> if Access Limitation is Program Determined Official Use Only (OUOPDOUO) Access Limitation Release Date (mm/dd/yyyy) access_limitation_rel_date PDOUO Exemption Number exemption_number		
NNPI (Naval Nuclear Propulsion Info)	Unclassified information related to any aspect of propulsion plants of naval nuclear-powered ships and prototypes, including the associated shipboard and shore-based nuclear support facilities. See Chief of Naval Operations Instruction N9210.3, Safeguarding of Naval Nuclear Propulsion Information.	Example: <access_limitation> <nnpi/> </access_limitation>

3.3 AN 241.1 Optional Fields

The following is a list of optional fields for the AN 241.6 STI Announcement Web Service. Inclusion of some of these fields, such as the Abstract/Description, is highly encouraged, however.

OPTIONAL

	Field Name	XML Tag	Comments
1	Author(s) Email Address(es)	<author_emails/>	Admin info only; it will not be displayed in public databases.
2	Related Document Information	<related_doc_info>	Provide additional useful information related to the STI Product that should be included in the published announcement notice, but does not fit elsewhere.

3	Availability	<availability/>	Normally used to provide the name of an organization, a division within a lab, a specific employee's title, etc. to which a request for further information may be made.
4	R&D Project ID(s)	<rd_project_ids>	Enter the unique and permanent Project ID assigned to the project itself by the DOE Field Office, Program Office, lab, or other installation to identify a particular research project. Separate multiples with a semicolon and a space. Sample formats: P/ORNL--2533; TTP/RL439005
5	Work Proposal Number	<work_proposal_number>	Enter the unique seven-character identifier specific to the document that was used for proposing work to the program office. Multiple numbers are separated with a semicolon and a space.
6	Work Proposal Revision Number	<proposal_revision_number>	If the initial proposal is changed, enter the assigned sequential number of the work proposal revision.
7	Work Authorization Number	<work_authorization_number>	Enter the unique, standardized seven-character identifier assigned by the issuing organization, specific to the work authorization. The standard format is two characters identifying the issuing DOE organizational code, four-digit sequential number assigned by the issuing organization, and one digit signifying the last digit of fiscal year. Multiple numbers are separated with a semicolon and a space.
8	Work Authorization Revision Number	<authorization_revision_number>	If the initial authorization is changed, enter the assigned sequential number of the work authorization revision.
9	Other Identifying Numbers(s)	<other_identifying_nos/>	Any other numbers that users might wish to retrieve on or need to recognize. If there are multiple values in this field, separate them with a semicolon followed by a space.
10	Subject Categories	<subject_categories_code/>	Use the complete value (numerical code and spelled-out category title) as shown in the Subject Category Authority at https://www.osti.gov/mlink/authorities.jsp . As many multiples as needed are allowed in this tag set; separate them with a semicolon and a space. List the primary subject category first.
11	Keywords	<keywords/>	
12	Description/ Abstract	<description/> 4000 character limit	Though not required, this field is highly encouraged. Including it will greatly enhance the retrieval of the STI Product.
13	DOI	<doi/>	Sites may include the DOI of a journal article in their metadata or may leave this information out. If it is left out, OSTI will query CrossRef for the correct DOI and

			insert it into the record. This latter approach is recommended.
14	Product Size	<product_size>	Provide information that gives an indication of the size of the STI Product. (i.e., 3500 kilobytes; 100 pages; etc.)
15	Publisher Name and Location	<publisher_information>	Provide the publisher name and location when the originating research organization is not the organization that issued the document for dissemination.

3.4 Examples of XML 241.1 Metadata Records

Here is an example of a 241.1 dataset record as it would come to OSTI's 241.1 web service. Immediately following it is what the xml response from web service back to the submitting service would be in case of a successful submission and what you would see if the submission failed. POST SUBMISSION SAMPLE:

```

<records>
<record>
<new/>
<site_input_code>PNNL</site_input_code>
<product_type>TR</product_type>
<title>This is a test record</title>
<author>Test, R.A.</author>
<report_nos>PNL-17991</report_nos>
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(US)</originating_research_org>
<publication_date>10/31/2008</publication_date>
<language>English</language>
<country_publication_code>US</country_publication_code>
<sponsor_org>USDOE Office of Environmental Management</sponsor_org>
<keywords>Emergent Sandbar Habitat; Missouri River; Least Tern; Piping Plover; adaptive
management; EIS</keywords>
<description>The goal of the Emergent Sandbar Habitat (ESH) program is to provide sufficient
habitat throughout the Missouri River system to allow self-sustaining populations of Interior
Least Tern (Sternula antillarum) and Piping Plover (Charadrius melodus). The adaptive
management (AM) strategy described herein establishes the process, understanding and tools
necessary to adaptively manage the ESH element of the response to the 2003 Biological Opinion
for the next 10-15 years. The AM strategy is intended to assist the Corps of Engineers, U.S. Fish
and Wildlife Service and their stakeholders in making decisions regarding how to best improve
populations of tern and plover through habitat creation. This AM strategy is guided by the
framework and principles described in Adaptive Management, the U.S. Department of the
Interior Technical Guide.</description>
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<released_by_email>tester@osti.gov.gov</released_by_email>
<released_by_phone>(865)576-9999</released_by_phone>
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POST SUCCESSFUL – SAMPLE RETURN MESSAGE

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<contract_nos>AC00-79RL00000</contract_nos>
<status>SUCCESS</status>
<status_message></status_message>
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POST FAILURE – SAMPLE RETURN MESSAGE

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<?xml version="1.0" encoding="UTF-8"?>
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<title>This is a test record</title>
<contract_nos>AC00-76RL00000</contract_nos>
<status>FAILURE</status>
<status_message>Data too long, maximum number of characters for country code is
2</status_message>
</record>
</records>
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The “FAILURE” tells the submitting organization that no record was loaded into E-Link in this instance; that’s why the OSTI ID number is 0. The status message identifies the error that made the POST submission fail. In this case, if the submitted record had had a five letter code in the dataset_type field instead of the correct 2 character US, this would have been the error.

It is the submitting site’s responsibility to review the returned messages, correct any errors, and resubmit the failed records.