22 SETTING UP A LICENSING SUPPORT NETWORK PARTICIPANT REPOSITORY

22.1 Purpose

The purpose of this document is to assist potential parties to the high-level waste proceeding in developing a web site to participate in the Licensing Support Network (LSN) as required by 10 C.F.R. 2, Subpart J. This document should be used by cognizant web site and/or computer professionals.

22.2 Background

22.2.1 What is the Licensing Support Network?

The LSN responds to a congressional mandate that the Nuclear Regulatory Commission (NRC) reach a determination on the Department of Energy's (DOE's) application for construction authorization for a high-level radioactive waste repository at Yucca Mountain, Nevada, in a three-year time frame. To shorten the time spent on the exchange of documents that may be used as evidence in the NRC licensing proceeding, the parties and potential parties to the proceeding on the DOE license application will make their documents available via the LSN before the DOE application is submitted to the NRC. The LSN provides a single place where the parties and potential parties to the licensing proceeding can search for documents from any/all of those collections in a uniform way.

22.2.2 Components of the Licensing Support Network

The LSN was designed using three major components:

- The LSN Spider System: The spider operates using the baseline concepts of a web crawler. Specifically, it looks for files stored on a registered participant web site, collects the bibliographic header information about each document, and gleans the content of each related document, and creates a searchable index.
- The LSN Auditing System: Once a document is placed on the participant web site, it may not be modified or removed without notifying the LSN Administrator (LSNA). The LSN Auditing System validates the header and document file information accumulated through the spidering process with the current files stored on the participant web site. Each document in the searchable index is audited on an equal basis with no preference given to the owner.
- The LSN Site Polling System: The site poller checks the status of each participant's web site on a regular basis to ensure the LSNA is notified of outages and other problems.

22.2.3 Repositories

22.2.3.1 Participant Repositories

Participant repositories, or web sites with their respective document collections, are created, populated, and maintained by each party, potential party, or interested governmental participant involved with the licensing proceeding. Each participant, according to 10 C.F.R. 2, Subpart J, is required to provide documentary material that may be used in the licensing proceeding.

Although a participant only needs one physical server, it must support a pair of logical servers in order to accomplish the required tasks.

- The fetch server is utilized by the LSN system components to gain access to the complete repository structure.
- The web server is a public interface by which everyone can view the documents.

22.2.3.2 The LSN Repository

The LSN Repository, via the LSN spider, collects the bibliographic headers and document text from each participant's web site and creates the searchable index. The LSN web site, http://www.lsnnet.gov, provides the search interface for the repository. The LSN Repository does not contain physical copies of the documents. It merely stores the search terms and bibliographic header information required to support the search mechanisms. Once a search has been executed, the web site user is redirected to the document located on the associated Participant Repository's web server.

22.2.4 How Does the LSN Work?

22.2.4.1 The LSN Spider System

The LSN Spider conducts the following steps in order to synchronize the searchable index with the contents of a participant fetch repository:

- The spider conducts a scan of the directory structure of the Participant Repository using the header and document root directories. All directories and files entries are stored in the LSN database.
- Any header that has been flagged as added or modified is downloaded and parsed to update the bibliographic header information in the LSN database.
- Any document that has been flagged as added or modified is downloaded and sent through a content extraction process.
- Any added or modified header or document combination is updated in the searchable index.
- Any added or modified header or document combination is then updated in the public viewing area.
- Any headers and/or documents that have been marked as changed or removed are tracked and reported to the LSNA.

The LSN spider will run Monday through Saturday mornings, commencing between 00:00 and 01:00 Eastern Time (ET). The spider will not run between 12:00 ET (noon) on Saturday and 00:00 ET on Monday (midnight Sunday), to allow the LSN to conduct complete backups and maintenance.

The spidering process actually consists of multiple spiders (one or more for each participant) and can take up to eight hours to fully execute. During initial loading of large participant repositories (e.g., DOE) the spider may run up to 16 hours.

22.2.4.2 The LSN Auditing System

The LSN Auditing System is a multi-channeled process that compares the directory and file information stored in the LSN database with the actual files located on the repository server. This process is used to ensure submitted documents have not been changed or removed without prior notification to the LSNA.

During the spidering process, the system retrieves the combined header/document file information from the LSN database, checks the date-time stamp and file sizes, and then downloads copies of each of those files from the repository fetch server. Hash values are calculated for each of the downloaded files. The system validates all three items (date-time stamp, file size, and hash) against previous values.

The hash value comparison is capable of detecting a one (1)-bit change within the files.

The LSN Auditor runs whenever the spidering process is dormant, which is usually Monday through Saturday 08:00 ET through 23:30 ET.

22.2.4.3 The LSN Site Polling System

The LSN site poller runs continually, 24 hours a day, seven days a week. At intervals specified by the LSNA, the site poller will connect and disconnect from the participant fetch and web servers to ascertain the availability of each server. The information is stored in the LSN database for reporting purposes for the LSNA.

22.3 Setting up a Participant Repository

The following sections provide the basic information for setting up a Participant Repository server. This information is based on the LSN system requirements for interfacing the LSN Repository with the participant repositories.

Having both a fetch and a web server allows the LSN to spider through the fetch server then provide hyperlinks to the documents via the web server. The web server will provide higher throughput while serving the documents, plus accommodates a wider range of client environments.

22.3.1 File System

Although the LSNA cannot mandate how files are stored on a participant's server, the following directory structure has been found to provide the most flexibility for the LSN and Participant Repository administrators:

- Create an LSN root directory on the server (i.e., D:\LSNRoot)
- Create two (2) directories under the LSN root directory:
  - headers (i.e., D:\LSNRoot\headers)

    This directory will contain the bibliographic header files (see Section 22.4.1). Only those headers which have been released for public use should reside in this directory. Do not place any other files in this directory, as they will generate error conditions in the LSN Spider, which will be reported to the LSNA.

    Multi-level directories (i.e., subdirectories) are permitted if it is desired to organize the documents by date-range, topic, or other categorization. The LSN Spider will traverse the directory structure.

  - documents (i.e., D:\LSNRoot\documents)

    This directory will contain the actual documents (i.e., PDF, HTML, etc.) and any supporting image files (i.e., TIF, JPG, etc.). Do not place any other files in this directory, as they will generate error conditions in the LSN Spider, which will be reported to the LSNA.

    The documents stored here must match the textual or image Uniform Resource Locator (URL) entries in the header files (see Section 22.4.1.3 for more information on the header files and the URL entries within the header file).

    Multi-level directories (i.e., subdirectories) are permitted if it is desired to organize the documents by date-range, topic, or other categorization. The LSN Spider will traverse the directory structure.

- If the participant organization desires to have its own web or search pages, place them in the LSN root directory, or any subfolder not previously specified. The LSN processes do not look for or access any directories other than those three listed above.
- It is highly recommended that a default web page be placed in the LSN root directory to assist the LSN Site Polling process. This helps the site poller to connect to the web server using the http://www.participant.org format.

22.3.2 Participant Fetch Server

The participant fetch server provides the interface by which the LSN Spider and LSN Auditor access the Participant Repository.

The supported protocols for the participant fetch server include:

- File Transfer Protocol (FTP)
- File Transfer Protocol Secure (FTPS) (FTP rolled into Secure Sockets Layer (SSL))
- Secure FTP (SFTP) under Unix-based Secure Shell

These protocols are used because they have the capability of scanning the directory structure using recursive directory listings.

Configure the fetch server's root directory to point to the LSN root directory created in accord with Section 22.3.1.

The following list provides the recommendations for configuring the web server:

- Ensure that external access to the fetch server, including that of the LSN processes, is read-only.
- Use user IDs and passwords for access to this server.
- If possible, use a secure protocol (FTPS or SFTP).

22.3.3 Participant Web Server

The participant web server provides the interface by which the users of the LSN access the Participant Repository.

The supported protocol for the web server is HTTP.

Configure the web server's root directory to point to the LSN root directory created in accord with Section 22.3.1.

The following list provides the recommendations for configuring the web server:

- Header directory: No access
- Documents directory: Read-only permission
- Do not allow directory browsing
- Place a default web page in the root directory.
- Ensure that a process of patching the web server is in place to prevent denial of service, worm, and virus attacks.

22.3.4 Firewalls

To provide security for the Participant Repository servers, it is recommended that firewall rules be set up.

Access to the fetch server should be limited to the LSN production and test facilities. These facilities have fixed Internet Protocol (IP) addresses and include the following ranges:

Description	IP Range and Mask	Starting Address	Ending Address
LSN (Ashburn) Production Site	63.240.196.96/27	63.240.196.103	63.240.196.109
AT&T Test Facility	199.89.158.128/29	199.89.158.128	199.89.158.135

Only open those ports that are required for the selected protocol.

Access to the web server must be from all addresses on the public Internet.

22.4 Populating the Participant Repository

22.4.1 Headers

Bibliographic headers are one mechanism by which search information is provided for the documents (the text within a document can also be searched). The headers are formatted using standard Extensible Markup Language (XML). Use of a common format will facilitate the exchange of data between the central LSN Repository and LSN participants.

All generated headers should be placed in the headers directory created in accord with Section 22.3.1 of this Guideline.

All of the associated documents should be placed in the documents directory at the same time.

22.4.1.1 Using the LSN Header Management System

Upon request, each participant will be provided a copy of the LSN Header Management System by the LSN staff. This Windows application was designed to assist participants in creating and managing their headers. The application will automatically generate properly validated and formatted XML files, which can be used to promote headers to the Participant Repository.

22.4.1.2 Generating XML Files Through Another Process

If the participant organization maintains a large collection of documents, or currently maintains their documents in a document management system, they may utilize an automated process for generating the headers. The resulting headers must follow the format prescribed in the next section.

22.4.1.3 XML Bibliographic Header Description

This section describes the XML format that will be used to structure the LSN document bibliographic header data in a canonical form. It also provides guidance on how the data is stored in a file. The LSN Baselined Design Requirements describe the use and values of the fields.

This information is being presented in a way that can be understood by those not familiar with XML. For an additional overview and introduction to XML, please follow the link below:

http://www.ed.gov/databases/ERIC_Digests/ed437941.html

22.4.1.3.1 XML Structure Overview

The basic structure of XML is as follows:

```
<?xml version="1.0" ?>
    <Headers>
        <Header>
                .....
        </Header>
    </Headers>
```

The LSN format uses mixed case tags, e.g., <DocumentNum>. Furthermore, the XML tags are case-sensitive. Therefore, <DOCUMENTNUM> and <documentnum> are not the same as <DocumentNum>.

Some of the fields in the bibliographic header can contain multiple values. Tags that could contain multiple entries are plural (except for the structure listed above for "headers"). For example, "Authors" indicates that any given document has the potential for more than one author. When a document has more than one author, the tagging scheme remains the same. For example, if a document has two authors it is tagged as follows:

```
<Authors>
    <Author Org="SNL">Smith JR</Author>
    <Author Org="SNL">George JT</Author>
</Authors>
```

The "Authors" and "/Authors" tags are not required, but they help segment the XML data for better readability.

Refer to the LSN Baselined Design Requirements (in NRC's Agencywide Documents Access and Management System (ADAMS), accession number ML011590614) for a listing of which attributes are multi-valued.

22.4.1.3.2 Special Characters

Five characters cannot be present in XML data without special handling. They are: & < > ' ". There are two ways to handle data containing any of these special characters. The first method is to "escape" the character. The second method is to mark up sections with Character Data (CDATA).

For example, assume the title of the document is "Jack & Jill." If the ampersand in the title is left as is, XML will generate an error:

```
<Title>Jack & Jill</Title>
```

As noted above, one method to easily correct this is to "escape" the character. Using escape to correctly handle the ampersand, the correct title is:

<Title>Jack & Jill</Title>

When the results of a search in the LSN are displayed, the title will appear correctly as "Jack & Jill."

The escape codes for the five characters are provided in the following table:

Character	Escape Code
&	&amp;
<	<
>	>
'	'
"	"

An example of an escape code being applied to the Author Organization "AT&T" is:

<Author Org="AT&T"/>

The second method of handling data containing the five special characters is to use the CDATA sections. The term CDATA is inherited from SGML (Standard Generalized Markup Language). CDATA encapsulates all characters in a value and tells the XML parser to accept them as is, with no special character processing. When the CDATA section is used, the five special characters do not need to be escaped. An example using CDATA is:

<Title><**![CDATA[Jack & Jill]]**</Title>

The CDATA section can only be used for XML elements. An XML element is text between a starting tag (e.g., <TITLE>) and an ending tag (e.g., </TITLE>). The CDATA section cannot be used to encode special characters in element attributes (the text within an attribute). For format purposes, an element attribute is an assignment statement within the starting tag of an element.

The discussion above detailed how the special character ampersand is handled. The same methodology is followed for the remaining special characters < > ' ". When a special character occurs in the text between the starting and ending tags, it must be escaped with an escape sequence or with a CDATA section. When these characters occur in an attribute value, they must be handled with an escape sequence.

22.4.1.3.3 Sample XML Bibliographic Header Layout

The following is a sample XML bibliographic header layout for LSN participants. The data is provided as a technical example and does not represent an actual document. The data represented in the XML bibliographic headers is analogous to the following catalog format example:

Access Control Information:
Addressee Name:
Addressee Organization:
Author Name:
Author Organization:
Comments:
Descriptors:
Document Date:
Document Number(s):
Document Type:
Image URL:
Non-Digital Media Indicator:
Number of Images:
Package Identifier:
Participant Accession Number:
QA Record Indicator:
Related Record Code:
Related Record Number:
Text URL:
Title [Created Title]:
Traceability Code and Number:
Version:

The example below is the format for an LSN XML encoded bibliographic header. All of the bibliographic header fields defined in the LSN Baselined Design Requirements are presented. However, not all attributes are required; some are optional. Please refer to the LSN Baselined Design Requirements for a listing of which attributes are optional. If a tag is optional, omitting it will make the bibliographic header file smaller. Note also that some elements contain multiple values (i.e., Authors). The indentations convey structure and some lines wrap due to their length. When a line appears to be improperly indented, it is because of wrapping from the line above it.

URL paths do not need to be fully qualified; they can be relative. The application will navigate relative paths to generate the final URL.

```
<?xml version="1.0" ?>
<Headers>
    <Header>
        <ParticipantAccNum>MOL.19961111.0013</ParticipantAccNum>
        <DocDate>19960603</DocDate>
        <NonDigitalMedia> </NonDigitalMedia>
        <NumOfImages>1</NumOfImages>
        <QARecInd>Y</QARecInd>
        <Title>Change FINAL PUBLISHED DOCUMENT FOR SAND94 2322, BENCH SCALE
EXPERIMENTAL DETERMINATION OF THE THERMAL DIFFUSIVITY OF CRUSHED TUFF,
JUNE 1, 1996 (C)</Title>
```

```
        <Descriptors>EXPERIMENTAL TURF</Descriptors>
        <Comment>This document is a sample of the DOE1.XML file to be used only for LSN
testing/development. The DOE does not certify the content, adequacy or technical accuracy of
the material.</Comment>
        <URLs>
            <URL Type="T" Page="0">http://nrc/MOL199611110011EX1.HTM</URL>
            <URL Type="I" Page="1">/images/MOL199611110011P00001.TIF</URL>
        </URLs>
        <Authors>
            <Author Org="SNL"><![CDATA[O'Reilly RE]]></Author>
            <Author Org="SNL">George JT</Author>
        </Authors>
        <Addressees>
            <Addressee Org="NRC">Turner JX</Addressee>
        </Addressees>
        <Traceabilities>
            <Traceability>1.2.1.5</Traceability>
        </Traceabilities>
        <AccCtrls>
            <AccCtrl>PRV</AccCtrl>
        </AccCtrls>
        <DocumentNums>
            <DocumentNum>SAND94 2322</DocumentNum>
        </DocumentNums>
        <DocumentTypes>
            <DocumentType>Publication</DocumentType>
        </DocumentTypes>
        <RelatedRecs>
            <RelatedRec Code="AMR">MOL.20000113.0488</RelatedRec>
        </RelatedRecs>
        <Versions>
            <Version>1</Version>
        </Versions>
        <PackageIds>
            <PackageId>MOY 961126 34 02</PackageId>
        </PackageIds>
    </Header>
</Headers>
```

22.4.1.3.4 LSN Accession Number Assignment

Participants do not assign the master accession number that will be used by the LSN software. The first time a Participant Accession Number is encountered by the LSN Spider and the document is successfully indexed by the LSN software, an LSN Accession Number is assigned. The LSN Accession Number is retained only on the LSN Repository and it does not have to be stored locally, appended to, or otherwise linked to by the participants on their servers. The LSN

Repository will maintain the originally assigned LSN Accession Number. Even if an item is subsequently removed from a participant LSN site, the LSNA will maintain a "transactions" log on the LSN Repository so that participants can review and account for all used LSN Accession Numbers.

22.4.1.3.5 Additional Guidance

The URLs in the headers are case insensitive but all filename and paths must be unique regardless of case. For example, .../documents/doc1.pdf and .../documents/DOC1.pdf would NOT be unique.

The URL field in the headers may be entered in two manners:

1. Absolute Path:http://server/documents/filename.ext
2. Relative Path: /documents/filename.ext

22.4.2 Documents

The purpose of the LSN Repository is to provide a searchable index for any document that may be used in the licensing proceeding. Any document that a participant feels necessary to support their argument or contention must be available within the LSN Repository during the discovery phase.

The daily indexing capacity is 30,000 documents per day.[1] Documents thus should be placed on a participant server in accord with Section 22.3 of this guideline in groups no larger than 30,000 per day if a participant wishes to load daily. A participant may also load documents on a less frequent basis, as long as the LSN spider is not exposed to crawling more than its daily or weekly capacity (30,000 or 150,000 documents, respectively). For example, a participant could stage documents on hidden directories. After the spider has completed crawling the first "exposed" directory, and is ready to crawl another, the participant would "unhide" the next directory. Technical alternatives developed by a participant must be proposed in advance to the LSNA and validated in testing.

Bulk loading, i.e., loading more documents into a single directory or subdirectory area than can be handled by the spider prior to the scheduled backup, is not a viable option.[2]

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[1]The September 13, 2003, letter to LSNARP members from the LSNA stated the threshold was 20,000 documents per day, but the speed of the spidering process subsequently has been increased.

[2]Nor is it acceptable to provide a document index in lieu of having the LSN spider a participant's documents. The LSN spidering software establishes a baseline snapshot of each document. That baseline is not established until such time as the software that is under LSN operational control has parsed the document collection to provide an independent audit/quality control capability, which is necessary for the LSNA to fulfill his responsibilities regarding documentary material integrity pursuant to 10 C.F.R. § 2.1001(c)(4). See June 27, 2003 Letter to J.D. Ziegler from D.J. Graser.

All associated headers should be placed in the headers directory at the same time that the documents are loaded.

For header only documents (e.g., proprietary documents, non-document-based material), the participant must place only the header on their server, with no associated document. Information should be placed into the comments field as appropriate to discuss why this is a header only document.

Documents types should be widely known. This means that users who need to view the documents should not need to purchase proprietary formatted document software to view the documents in the LSN Repository. Adobe Portable Document Format (PDF) is probably the most widely accepted format available. The reader can be downloaded for free.

If desired, a hierarchical structure may be used to simplify the storage of the documents on the fetch server. The LSN Spider will traverse the directory structure. You must ensure that the path to the documents matches the URL specified in the header.

APPENDIX 22.A - PARTICIPANT REPOSITORY REGISTRATION FORM

LSN Participant	

FETCH (SPIDER) SERVER INFORMATION		
Fetch Address		#.#.#.# or www.xyz.gov
Fetch Port		
Fetch Protocol	□ FTP □ FTPS, or □ SFTP	Please select one
Fetch User ID		
Fetch Password		
Fetch Path (Headers)		i.e., /headers/
Fetch Path (Docs / Images)		i.e., /documents/

WEB SERVER INFORMATION		
Web Authority		i.e., www.xyz.gov
Web Server Type		i.e., Apache, IIS, etc.
Web Server Port		Should be 80

DOCUMENT INFORMATION		
Est. # of Documents		
Text Document Types		i.e., PDF, HTML, Word, WordPerfect, etc. List all applicable
Image Types		i.e., TIF, GIF, JPG, etc.

POINTS OF CONTACT		
Administrative / User Registration	Name	
	Telephone	
	Fax	
	Email Address	
Technical	Name	
	Telephone	
	Fax	
	Email Address	
To obtain image versions of documents	Name	
	Telephone	
	Fax	
	Email Address	
If users have problems using documents found on-line	Name	
	Telephone	
	Fax	
	Email Address	

Please return to Matt Schmit at MRS3@NRC.GOV

APPENDIX 22.B - USING THE LSN HEADER MANAGEMENT SYSTEM

The LSN Header Management System is a Windows-based tool designed to assist LSN participant organizations in managing and generating the bibliographic headers required to satisfy the generation of a Participant Repository in accordance with 10 C.F.R. 2, Subpart J.

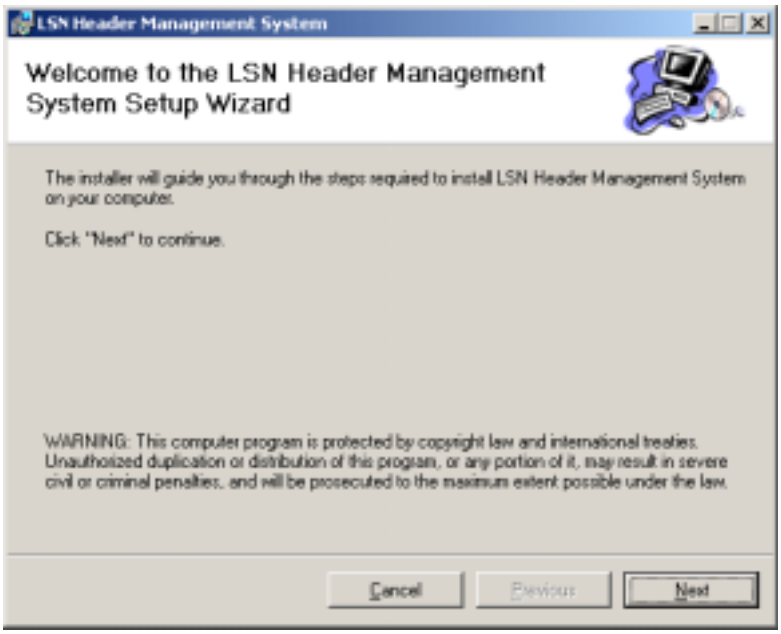
22.B.1 Installing the LSN Header Management System

Note: For the purposes of this documentation, it is assumed that the Compact Disc (CD) drive is assigned drive D:

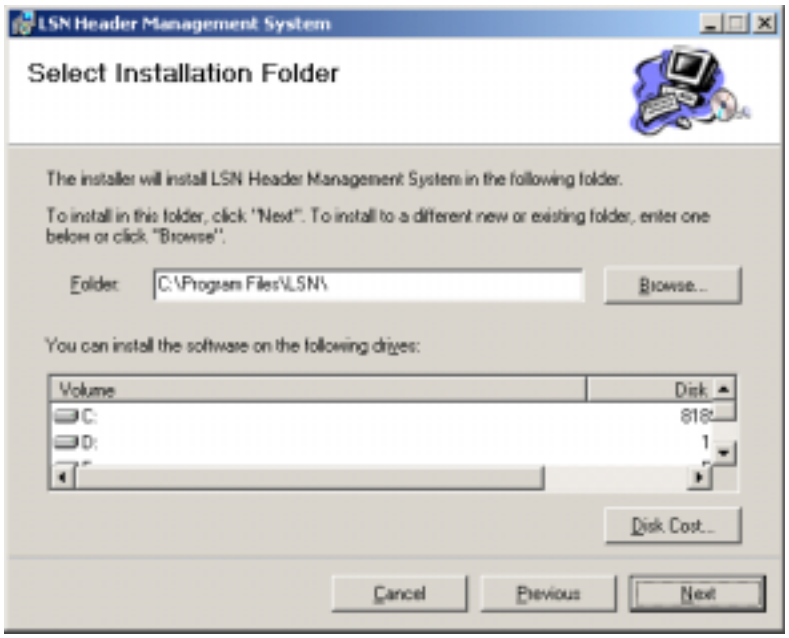
If you are running a previous version of the Header Management System, you need to uninstall it first via the Add/Remove Programs located in your Microsoft Windows Control Panel. If you want to retain the headers you have already entered, copy the LSNHeaders.MDB file located in the previous installation directory to another location before uninstalling.

Insert the supplied Compact Disc (CD) in your CD drive (D:). If the setup program does not run automatically, open the D: drive through Microsoft Explorer, and double click the Setup.Exe file.

Once the setup system initializes, you will see:

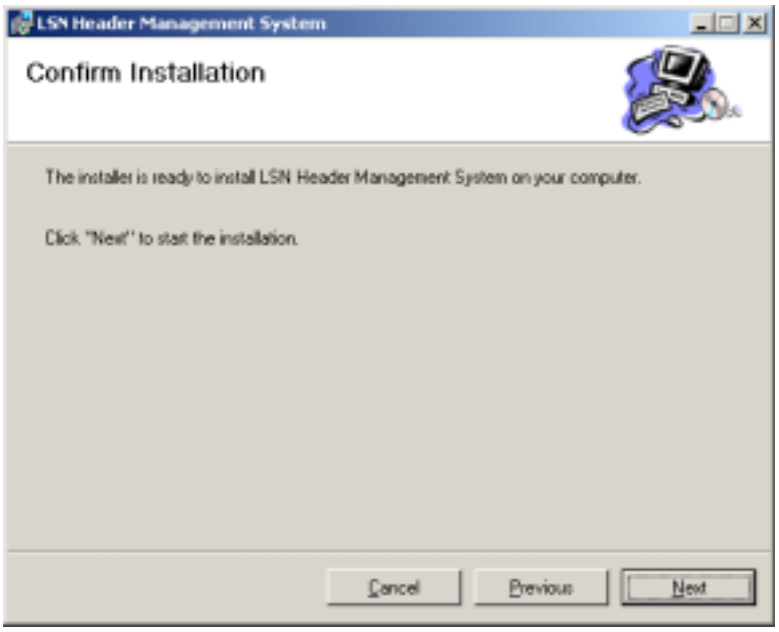


Click the next button. You will then be prompted with the following screen to determine the installation location:

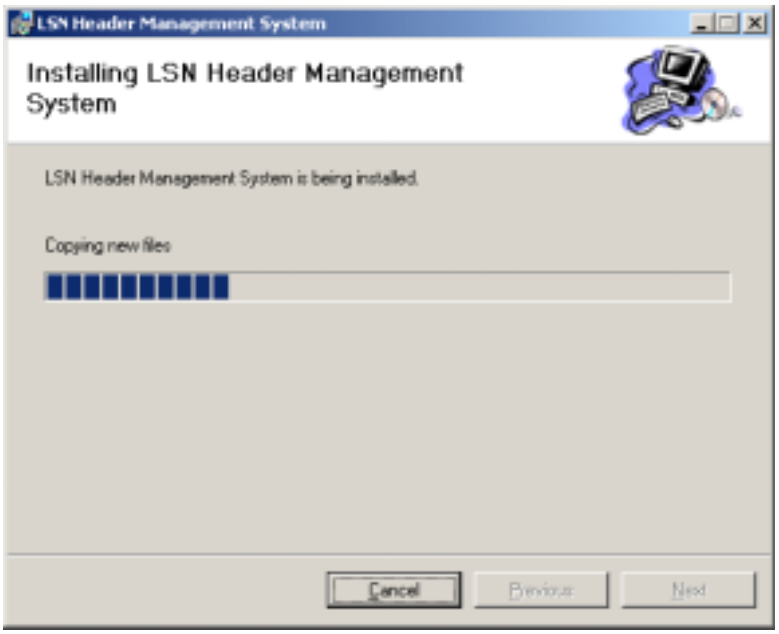


Most users should accept the default. If a different location is desired or required, enter the path in the Folder text box, or select the location via the Browse button. When satisfied with the installation location, click the Next button.

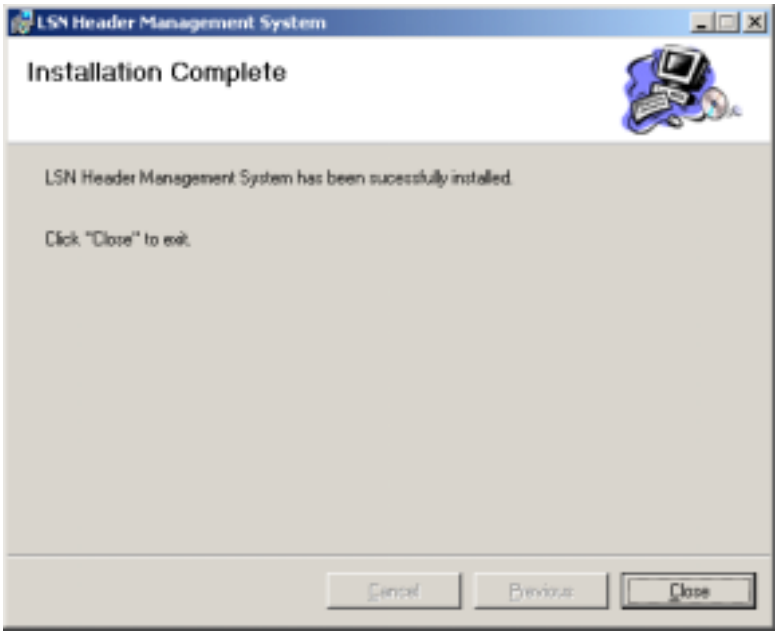
The next screen confirms that you really want to complete the installation process:



During the installation process, you will see the following progress screen:



Once the installation process has completed, the final screen will appear:



Click the Close button to exit the installation process.

22.B.2 Running the LSN Header Management System

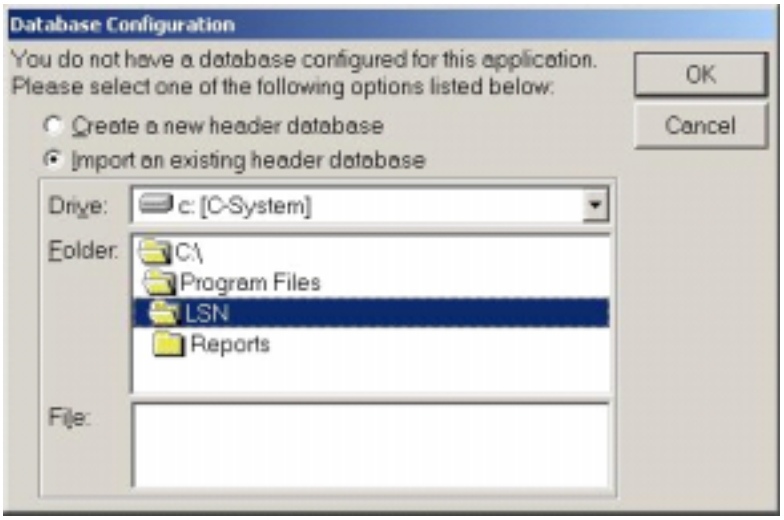
There are two methods of starting the LSN Header Management System:

1. Double click the LSN Header Management System shortcut ( ) located on your Windows desktop.
2. Open your Start menu and left-click the LSN Header Management System menu item.

Whenever the Header Management System starts, it checks for the existence of its supporting database. If a database does not exist, you will be prompted with the following dialog:

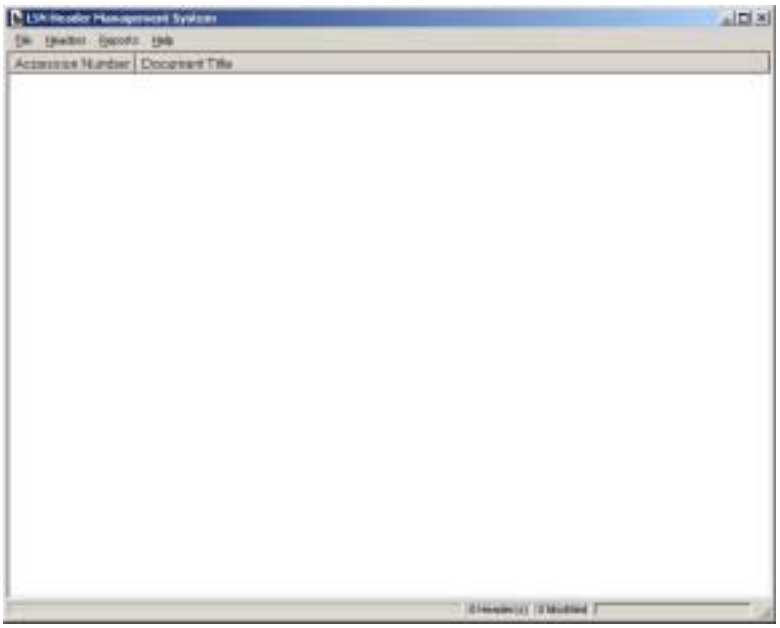
If this is the first time you've run the system, select **Create a new header database** option (the default selection), and click the OK button. The database will be automatically generated.

If you have used a previous version of the Header Management System, you may import the database from that version. Select **Import an existing header database**:



Select the location of the header database file. Once you have selected the database to import, click the OK button.

The LSN Header Management System's main screen will then appear. The main window uses a standard windows interface, presenting commands via the four menus located near the top of the window, along with a list of the current headers stored in the database.

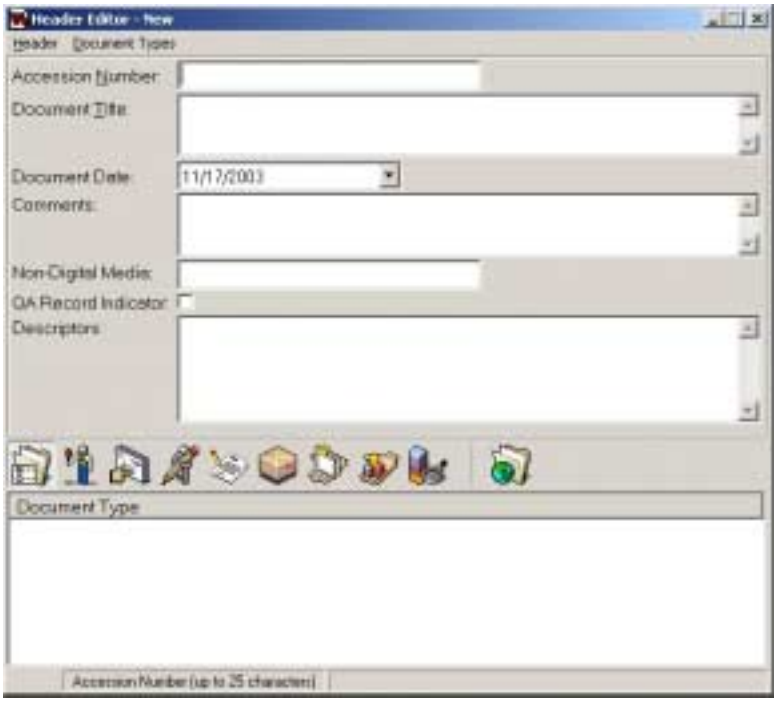


The status bar at the bottom of the window displays four sections (as applicable):

1. Current status messages
2. Total number of headers in the database
3. Number of currently modified headers
4. A progress indicator

22.B.3 Creating a New Header

To create a new header, select Headers, New Document Header. The Header Editor window will appear:



The upper portion of the Header Editor allows you to enter the following single value header fields:

Field Name	Required	Description
Participant Access Number	Yes	The unique identification for this document
Document Title	Yes	The title assigned to this document
Document Date	Yes	The date the document was last modified
Comments	No	Any general comments
Non-Digital Media	No	Any information concerning non-electronic formatted documents, such as rocks, photographs, exhibits, etc.
QA Record Indicator	No	Whether this record in recorded in a QA Record System
Descriptors	No	Words or phrases that represent the subject content of the document that can be used to assist the search engine users.

The lower portion of the Header Editor has a toolbar with a multi-tabbed display for multi-valued fields. These multi-valued fields include:

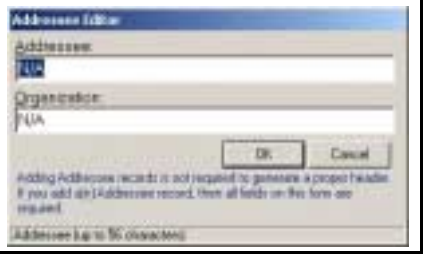
Image	Multi-Valued Field	Image	
	Document Types		Access Controls

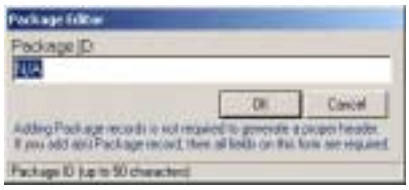
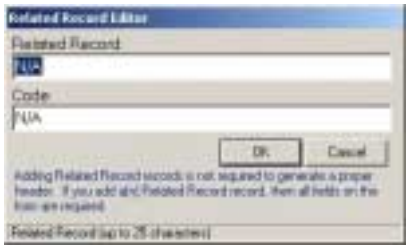
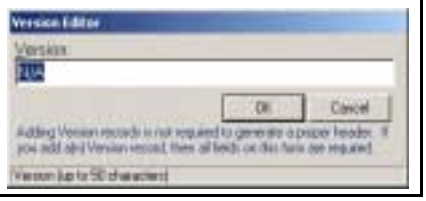
Image	Multi-Valued Field	Image	
	Addressees		Authors
	Document Numbers		Package IDs
	Related Records		Traceabilities
	Versions		

To switch between the multi-valued field modes, click on one of the images in the toolbar. Selecting one of these multi-valued field modes causes the entries of the specified type to be displayed in the multi-column list.

To add, edit, or remove an item from the multi-valued fields list, right click in the display list and select a command from the popup menu. To issue the edit or remove commands, you must right click on an existing entry.

When adding or editing a multi-valued field, one of the following editor windows will be displayed. One or more data entry fields may be required to complete the multi-valued field entry. The dialog appropriate to the multi-valued field will display information about the multi-valued field below the OK and Cancel buttons. The status bar displays information concerning the current data field on the dialog.

Multi-Valued Field	Editor Dialog
Document Types	
Access Controls	
Addresses	

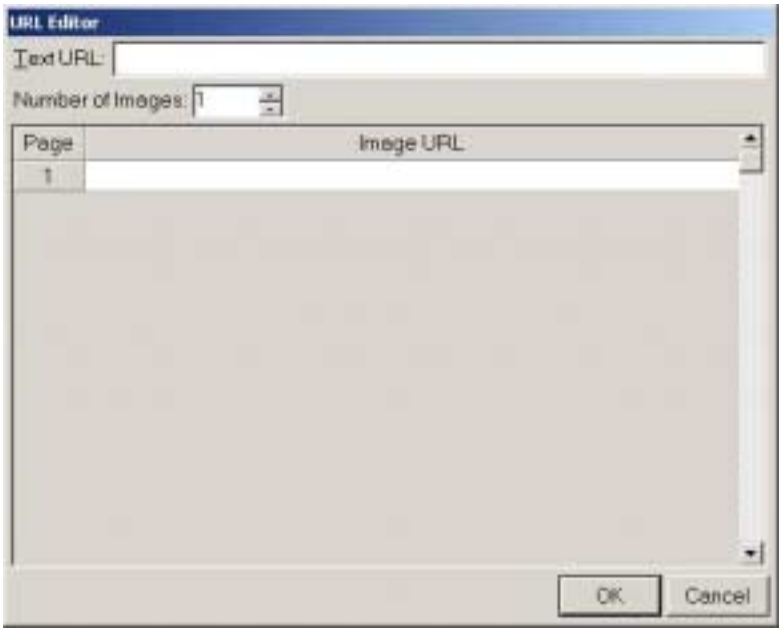
Multi-Valued Field	Editor Dialog
Authors	
Document Numbers	
Packages	
Related Records	
Traceabilities	
Versions	

Enter the required information in the data fields and then press the OK button to apply the changes and return to the Header Editor. To close the editor without applying the changes, click the Cancel button.

Pressing the OK or Cancel buttons does not cause the system to save the information to the database. It only updates the header information contained within the current Header Editor.

The last image on the toolbar () opens the URL editor.

The URL Editor handles the management of the web-based pointers to the textual document and any associated images.



In the Text URL field, enter the full URL (e.g., http://www.yourserver.org/documents/documentname.pdf).

If the document does not have any associated images, enter 0 in the number of images field.

If the document has associated images, enter the number of images and then add the full URL for each image (e.g., http://www.yourserver.org/documents/documentname.tif). For a multi-page image file, there will be only one URL.

When you have completed the entries for this dialog, click the OK button to apply the changes and close the dialog. To close the dialog without saving your changes, click the Cancel button.

To apply all of the additions, modifications, or deletions to the current Header Editor in to the Header Management System's database select the Save command from the Header Editor's Header menu. This option will only be available if modifications have been made.

22.B.4 Editing an Existing Header

In the list of existing headers provided on the Header Management System's main screen, select the header requiring editing. You may select either the Open Selected Document Header menu item from the Headers menu, or right click and select it from the popup menu.

The Header Editor behaves identically in the Edit mode as it does in the New Header mode, except that all existing data is pre-populated when the window opens. No changes are saved to the database until the Save command is given.

If you close the Header Editor while unsaved changes exist, you will be prompted as to whether the changes should be applied.

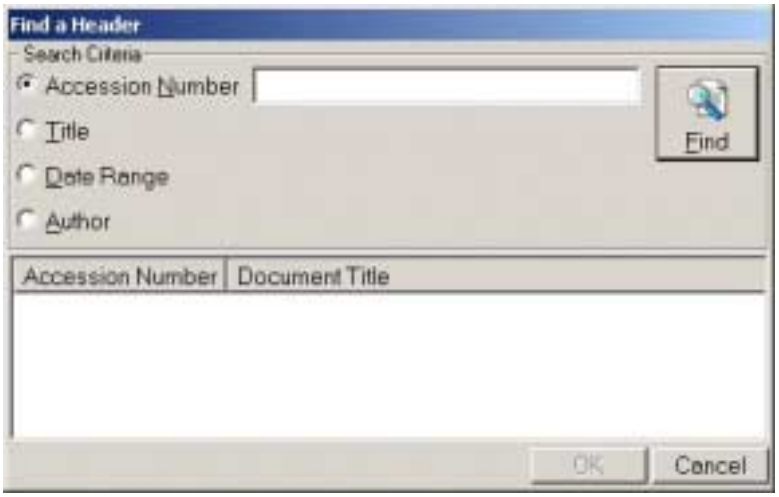
22.B.5 Finding an Existing Header

Once a substantial number of headers have been entered, it may become more difficult to remember on which header you are working. Because screen size is limited, all fields cannot be displayed in the main screen's header list.

To facilitate finding a header, a limited field search is provided. Select Headers, Find Document Header on the main screen and the Find a Header dialog will appear.

Select which field (Accession Number, Title, Date Range, or Author) on which to conduct the search using the radio buttons provided. Entry fields will appear based on the field selected.

For accession number searches, enter the desired accession number:



Similarly, for title searches, enter the desired title; for date range searches, enter the starting and ending dates of the range; and for author searches, enter the desired author.

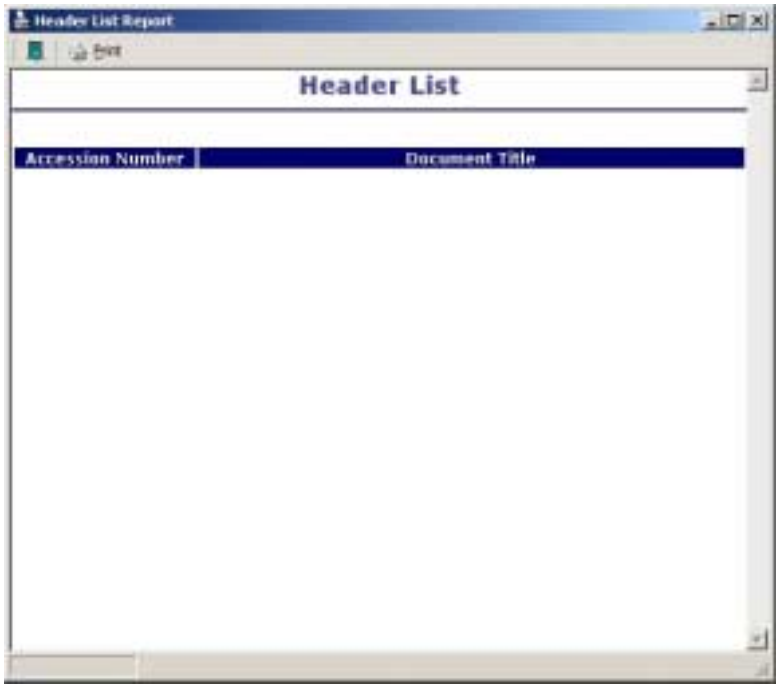
Once the search criterion has been entered, click the Find button. The search engine will display any resulting matches in the list provided. By selecting one of the resulting matches

and pressing the OK button, the header will be opened in the Header Editor. Clicking the Cancel button will return you to the main screen.

22.B.6 Generating Reports

The Header Management System provides several simple reports to help manage your headers. Selecting the report name from the Reports menu on the main screen activates an individual report.

All of the reports are displayed using the Report Viewing Window. The only differences are the headings and the columns appropriate to the report.



To exit from the report viewer, click the exit button (the door). To print the report, click the Print button.

The available reports include:

Report Name	Description
Header List	Displays a quick list of all headers currently managed by the system. Only the Accession Number and the Title of the document are displayed.
Detailed Header List Document Title	Displays a list of all headers currently managed by the system. All fields that contain information are displayed on the report.
Modified Headers List	Displays a list of those headers which have been modified but have not had new or updated Xml generated.

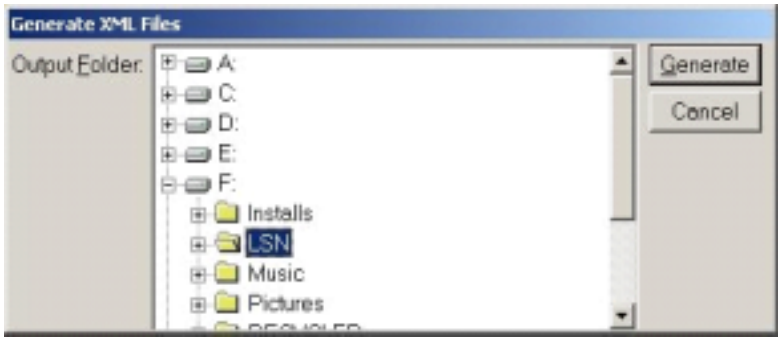
Report Name	Description
Header History	Displays the chronological history for each header.
Last Modification	Displays the accession number, document title, and last modification date for each header being managed.

22.B.7 Generating XML Files

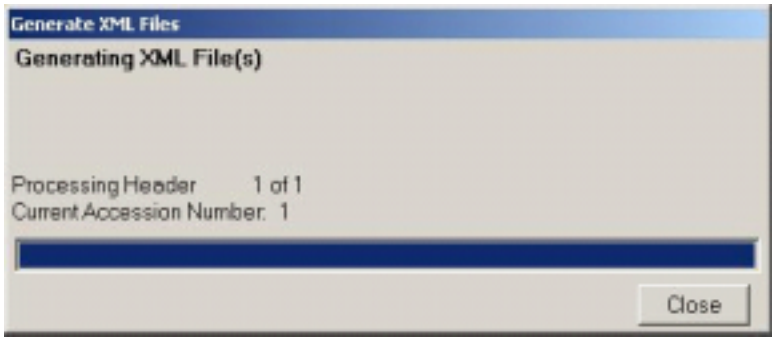
Any modified header can be written out to an XML file by selecting File, Generate XML Files from the Main Screen.

If no headers have been modified, the generation process will terminate immediately with a notification dialog.

If modified headers exist, you will be prompted for the Output folder. Using the tree, select the drive and the folder path in which the generator should place the files.



Once you have selected the destination directory, click the Generate button. The dialog will then show the generation progress as depicted below:

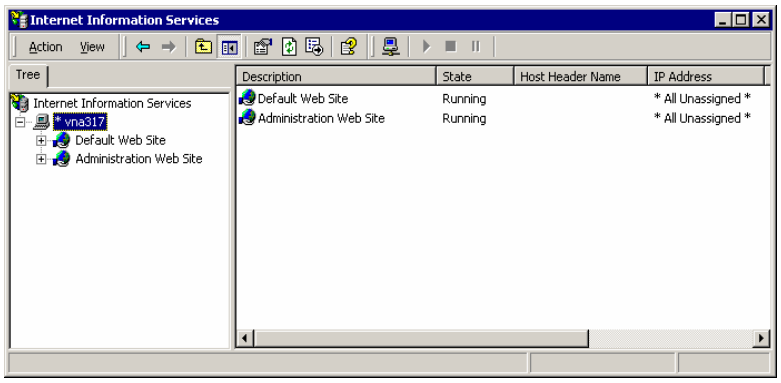


APPENDIX 22.C - SETTING UP A WS-FTP SERVER (FTP/FTPS)

Please contact Matt Schmit, US Nuclear Regulatory Commission, 301-415-7469, MRS3@NRC.GOV for information.

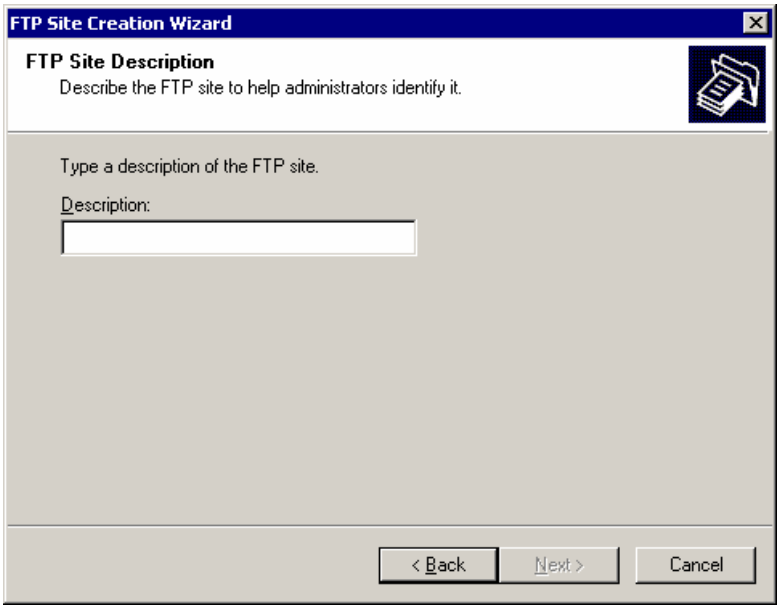
APPENDIX 22.D - SETTING UP A MICROSOFT INTERNET INFORMATION SERVER (FTP)

From the Start Menu, click Programs, Administrative Tools, and then Internet Services Manager. This will bring up the Internet Services Management window as depicted below:

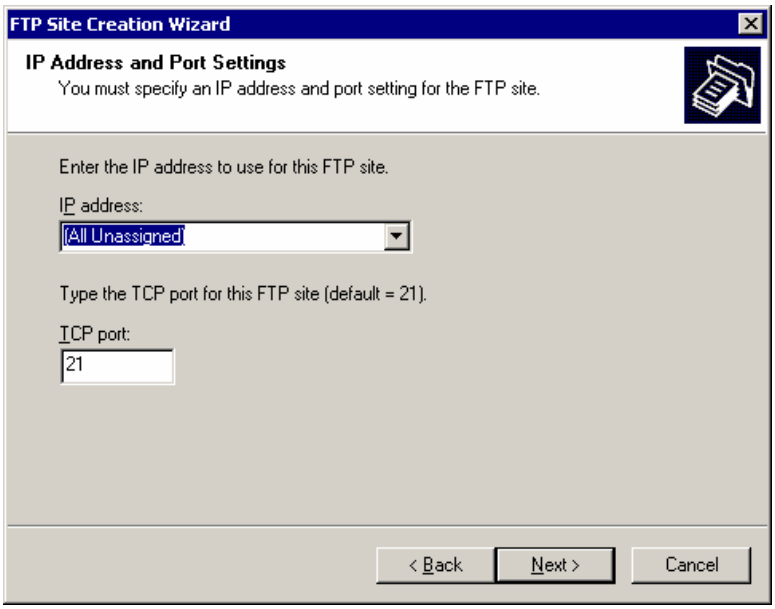


Right click the machine name (vna317 in this picture) and select New, then FTP site. This will start the FTP Site Creation Wizard.

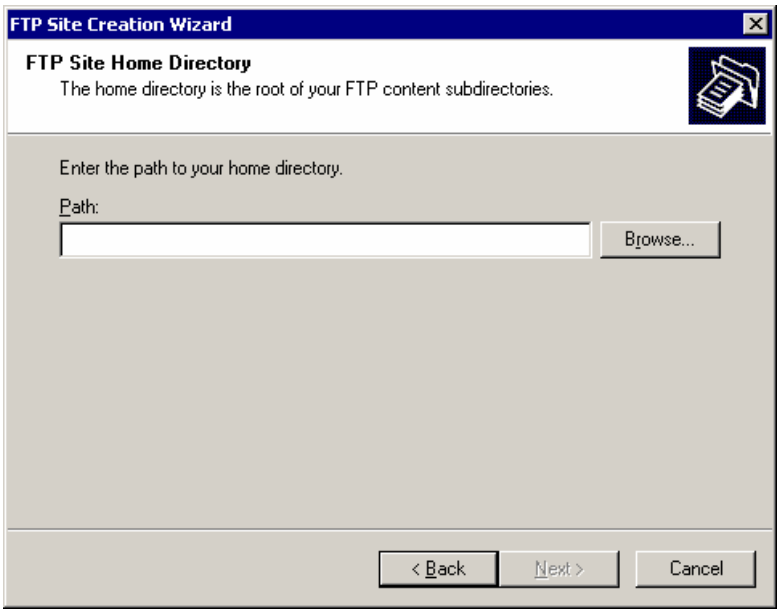
Click the Next button.



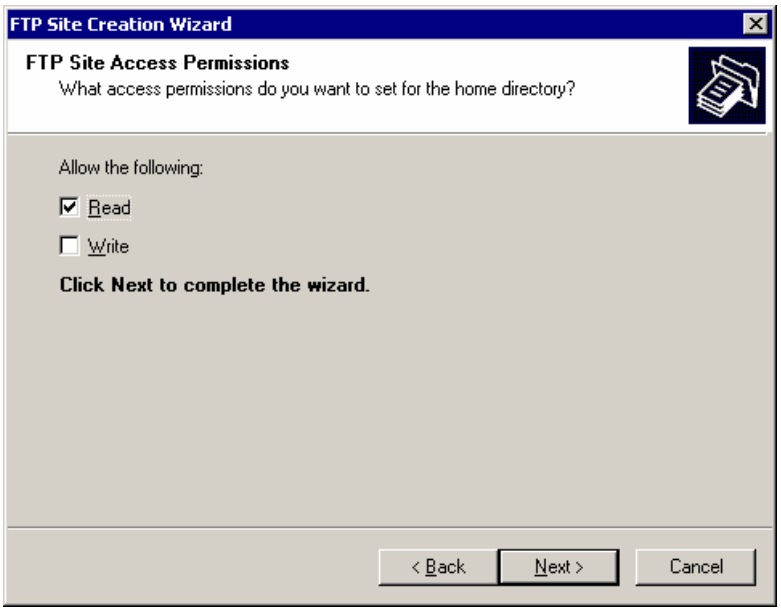
Enter the name of your FTP site. This is merely for management purposes within your server. This name is not publicized. When ready, click the Next button.



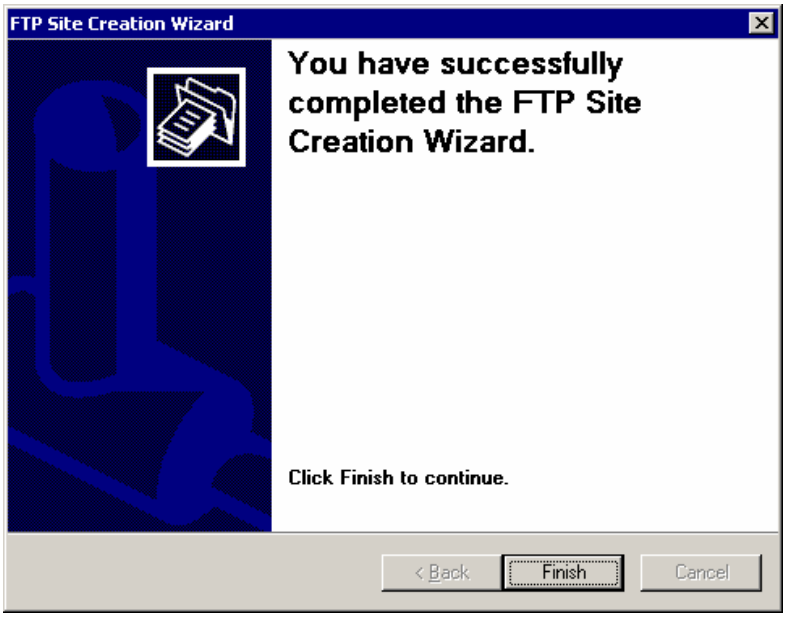
Enter or select the IP address to which the FTP server will respond. Enter the port to which the FTP server will respond (FTP is normally port 21). Click the Next button to continue the process.



Enter the path to the FTP home directory. This path must point to the LSN root directory you have previously created. Click the Next button to continue.



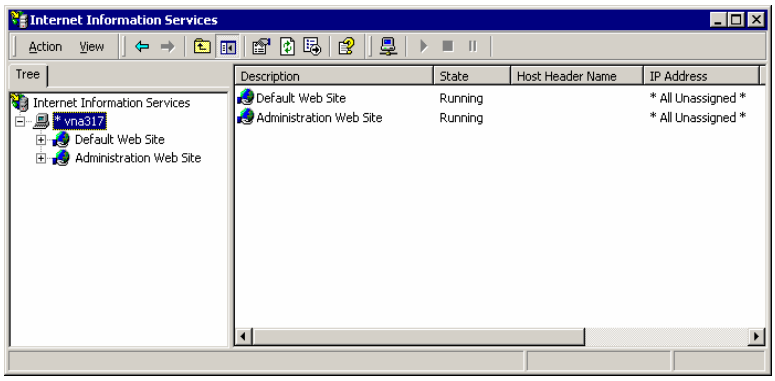
Set the permissions for the FTP server. Read access is required, but Write access is highly discouraged. Click the Next button to continue.



Click the Finish button to close the wizard.

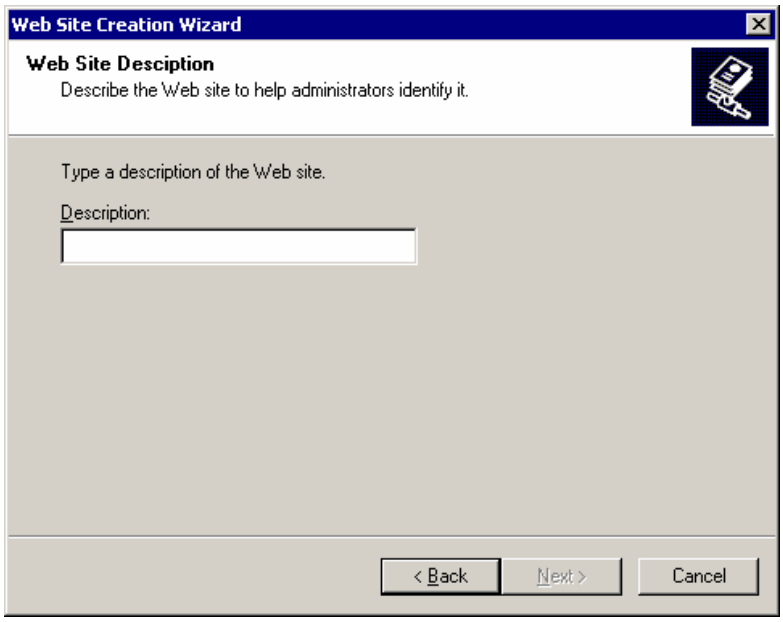
APPENDIX 22.E - SETTING UP A MICROSOFT INTERNET INFORMATION SERVER (WEB)

From the Start Menu, click Programs, Administrative Tools, and then Internet Services Manager. This will bring up the Internet Information Services window as depicted below:

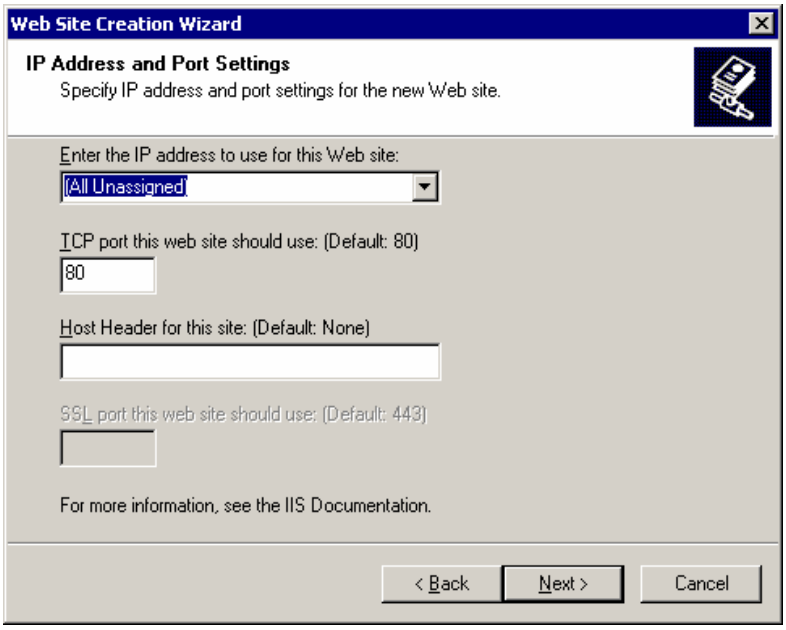


Right click the machine name (vna317 in this picture) and select New, then Web site. This will start the Web Site Creation Wizard.

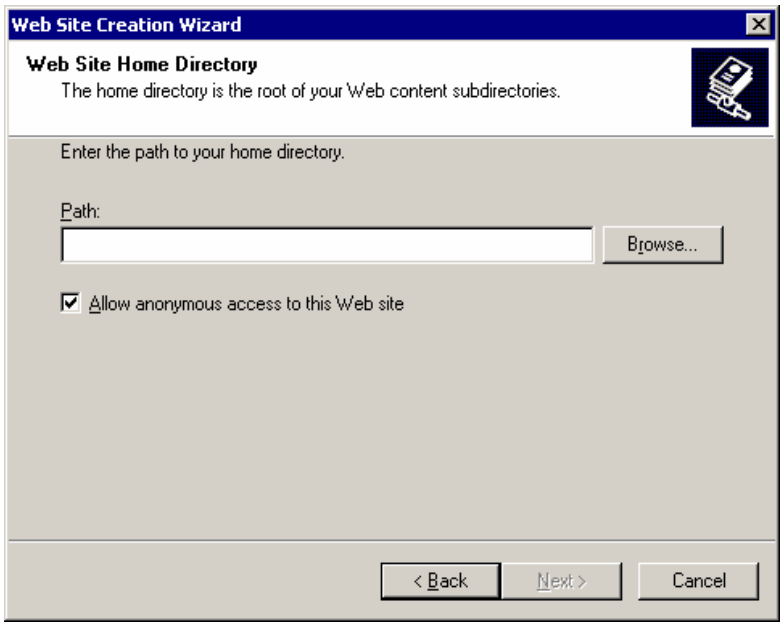
Click the Next button to start the process.



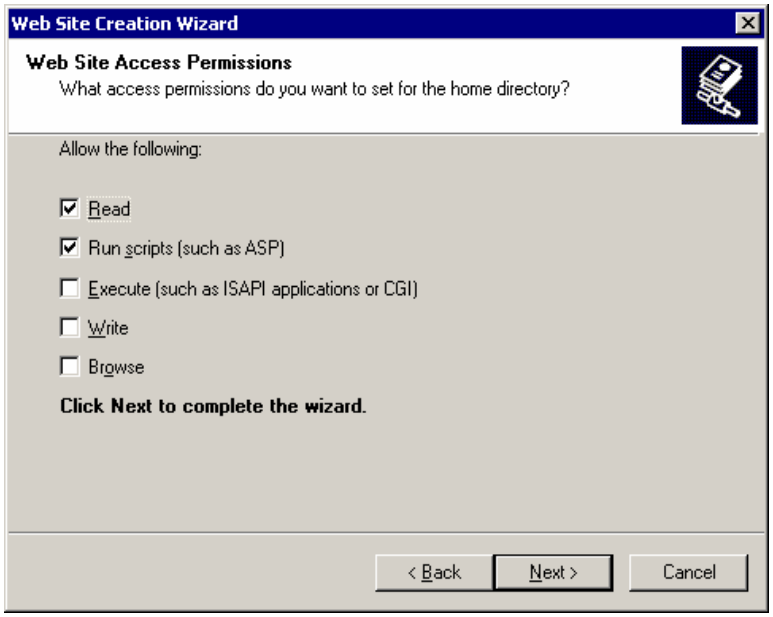
Enter a description for this web site. This is merely for management purposes within your server. This name is not publicized. When ready, click the Next button.



Enter the IP address to which the web server will respond. Enter the port number to which the web server will respond. Web sites normally use port 80. If you are running multiple web sites on this server and you want this site to only respond to a particular domain name (i.e., www.lsnnet.gov), enter the domain address. Click the Next button to continue.



Enter the path to the web site home directory. This path must point to the LSN root directory you have previously created. The check box for anonymous access should be checked. Click the Next button to continue.

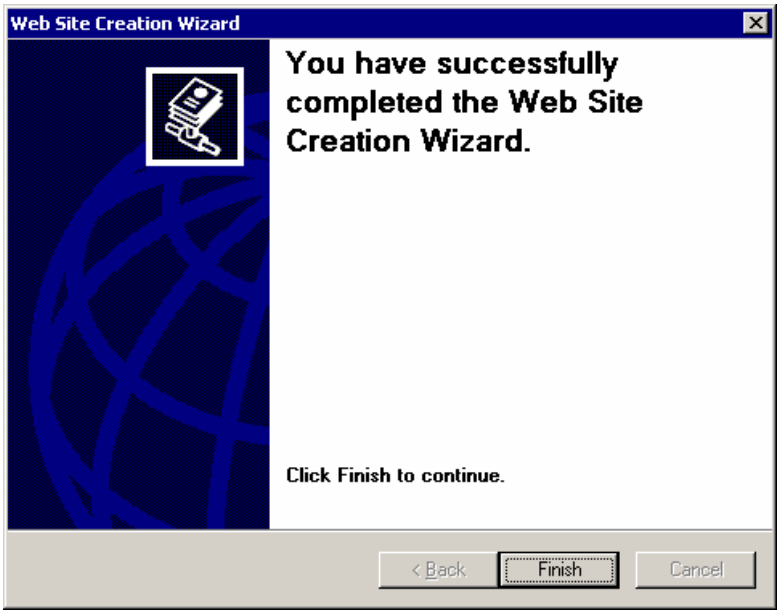


Set the web site permissions:

Read:	Checked
Run Scripts:	Checked if you have any script pages. (asp, etc.)
Execute:	Checked if you have a CGI scripts

Write: UNCHECKED
Browse: UNCHECKED

Click the Next button to continue.



Click the Finish button to close the wizard.