

NWCG Program Management Office



National Wildland Fire Enterprise Architecture

Repository Overview and Use

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INTRODUCTION

The National Wildland Fire Enterprise Architecture (NWFEA) Repository is the authoritative source for consolidated agency and national interagency wildland fire enterprise architecture (EA) artifacts. The artifacts document relationships between the business, data, applications, and technology of the enterprise. The repository supports the efforts of the NWFEA Blueprint, which recommends changes to the national interagency wildland fire business community that are intended to result in continually improving interagency cooperation, management efficiencies, and support to field operations.

PURPOSE

The purpose of this guidance is to provide the national interagency wildland fire business community with the basic information needed to understand the operational environment of the repository and the EA services available from the information stored in the repository.

BACKGROUND

The NWFEA Project was chartered in October 2005 to establish a national interagency wildland fire EA program. The NWFEA Repository is a component of the program.

In collaboration with the Department of Interior (DOI) and the US Forest Service (FS), an analysis was initiated to determine a “best-fit” repository solution for the NWFEA program. The analysis was limited to the Department Enterprise Architecture Repository (DEAR)/Telelogic System Architect toolset hosted by the DOI and the Enterprise Architecture Repository (EAR)/Adaptive toolset hosted by the FS.

Specific selection rating criteria were developed by the National Wildfire Coordinating Group (NWCG) Program Management Office (PMO) for a repository/toolset solution. The criteria were then reviewed and approved by the NWFEA Steering Group. The criteria represented the fundamental business requirements necessary to support and maintain EA services for the national interagency wildland fire community.

Following an in-depth presentation and a question and answer period from each solution candidate, the DEAR/Telelogic System Architect solution was recommended and approved by NWCG as the standard for its architecture and business modeling toolset. Both DEAR and FS investments are populated into the NWFEA Repository for analysis and use. While there are some State investments represented in the repository, it is not inclusive of all States. The NWFEA Repository was stood up June 2006.

EA REPOSITORY SERVICES

OVERVIEW

EA repository services are the activities consisting of the operations and maintenance of the repository platform, population of the repository, maintenance of the accuracy and currency of its information, and the ongoing analysis needed to satisfy the needs of the consumers of its information.

REPOSITORY PLATFORM

The NWFEA repository platform component is provided to NWCG through an agreement with the Department of Interior Enterprise Architecture Program (IEA). The DEAR application is based on Telelogic System Architect (SA) version 10.8, an enterprise metadata repository and modeling tool. The encyclopedia of model artifacts resides in a Microsoft SQL Server database. The DOI has a main physical encyclopedia while each DOI Bureau has access to their data within a virtual encyclopedia within the single physical encyclopedia. The NWFEA Repository has access to its data via the same method as the DOI Bureaus. The governance structures around the configuration of DEAR and the detail of these structures can be located on the DEAR website.

<http://www.doi.gov/ocio/architecture/guidance/dearpol.htm>

A Service Level Agreement (SLA) is in place between the National Business Center (NBC) in Denver, Colorado, DOI and the DOI – Office of the Chief Information Officer (DOI-OCIO) to provide for hosting services relating to hardware, software, the telecommunications environment, and hours of operation provided by the Information Technology (IT) Division of the NBC with regard to providing IT systems and support for the DEAR. NWFEA is included in this agreement.

DOI is developing a Request for Information (RFI) requirements document for EA tools, with possible release of a Request for Proposal (RFP) for a new set of tools to replace DEAR. The NWFEA Program will not be requested to bear a portion of the cost for a DEAR replacement.

REPOSITORY MAINTENANCE

The initial data loading of the NWFEA repository incorporated the current state of architectural information from both the DOI and the FS as it existed when the repository was stood up. The NWFEA project team analyzed the initial state of the data quality and initiated a data collection and validation effort so that all NWFEA applications had complete architectural information. This was done because a complete and accurate system inventory is a necessary pre-requisite for a modernization effort to begin.

The NWFEA Repository is a collection of enterprise architectural elements derived from a variety of organizational sources. These sources include:

- The IEA repository (an informational rollup of the DOI Bureaus and Offices repository elements)
- The FS Enterprise Architecture Repository (EAR)
- NWFEA specific components

The NWFEA Repository serves as the collection point of architectural information to be used by the stakeholders whose interests lie in the maintenance and modernization of the national interagency wildland fire enterprise. There is a unique challenge to make fundamental interagency business decisions based on accurate and complete interagency reporting components. The NWFEA repository assists this task by providing a common reporting mechanism to make insightful business and investment decisions in an interagency environment where changes to data and processes have the ability to impact policies, standards, and systems across the enterprise.

The NWFEA Repository is a multi-purpose platform which is

- the data store of integrated enterprise architectural data of the wildland fire community,
- an enterprise modeling tool that allows multiple methodologies and emphasizes data integration and enterprise object reuse, and
- a reporting site that facilitates the access and presentation of the collected architectural information according to the stakeholder viewpoint.

Agencies are required under Office of Management and Budget (OMB) Circular A-11, the Clinger-Cohen Act, and the Government Performance and Results Act (GPRA) to establish performance goals for information technology (IT) and to link such goals to strategic plans. The E-Government Act builds on this process, requiring agencies to develop performance measures for e-government that are both citizen and productivity-related. These performance measures must be linked with the agency's Annual Performance Plan and the agency's Strategic Plan and used to meet agency objectives, strategic goals, and statutory mandates in E-Government and IT.

NWCG represents the cross-agency perspective of the national interagency wildland fire enterprise and isn't designated as a 'Department' or 'Agency'. Therefore, OMB upward reporting requirements are addressed through the respective Departments and Agencies.

For DOI, the DEAR has been the authoritative source for tracking all information systems across the Department and Bureaus since 2004. In 2006, DEAR became the authoritative source for tracking C&A boundaries and relationships to the system inventory.

For the FS, the USDA EAR is the authoritative source for FS major investments. Capital Planning & Investment Control (CPIC) information and Earned Value Management is reported out of the Capital Investment Management Repository (CIMR). Security information is reported out of the Automated Security Self-Evaluation and Remediation Tracking System (ASSERT).

The following criterion determined which IT investments were included in the current NWFEA repository.

- wildland fire systems derived from the FS EAR,
- wildland fire DOI systems where FS was not the managing partner, or
- a system assessment was completed via the NWFEA Blueprint effort.

In addition to the IT investment inventory, the Wildland Fire Business Reference Model, Wildland Fire Enterprise Data Model, the Wildland Fire Leadership Council (WFLC) National Fire Plan (10-Year Implementation Plan), and the NWCG Strategic Plan are stored in the repository.

The repository is the authoritative source for the consolidated view of the national interagency wildland fire system inventory. It is the role of the NWCG architects to present that consolidated view.

REPOSITORY CONTENT MAINTENANCE

Repository content maintenance is provided by the NWCG architects and Knowledge Manager. Responsibilities related to the repository contents are:

Business Architect

- Maintain business solution service artifacts
- Maintain business focus area reference models

Data Architect

- Maintain data models

Technical Architect

- Maintain technology and system solution service artifacts
- Maintain technical models

Knowledge Manager

- Coordinate repository activities with the DEAR System Manager, the Forest Service Enterprise Architecture Office, and the architects

- Accept National Interagency Wildland Fire project deliverables intended to be loaded into the NWFEA Repository
- Assistance to management and architects in repository report generation
- Facilitate user access
- Facilitate repository change requests

NWFEA REPOSITORY SERVICES (DATA ENTRY, REPORTING)

Data Entry:

The NWFEA enterprise architects utilize data-entry wizards to add and edit the IT systems, business reference model, and the data model in the NWFEA repository.

Reports:

NWFEA reports are available via the DEAR Reporting website. Reports are compiled that extract pre-formatted information from the repository.

NWFEA business reference model and data model reports are available upon request from the architects.

OPERATIONAL ENVIRONMENT

ACCESS

A DEAR user account must be obtained to access the NWFEA Repository. Access to DEAR is managed by the National Operations Center, (NOC) in Denver, CO. To obtain a user account, enter or select the following URL to get to the DEAR Home page. Select the highlighted link, 'Get and activate a DEAR Account'. Access to the DEAR home page should originate from the DOI network otherwise remote access to the DOI hosting environment will be necessary.

<http://www.doi.gov/ocio/architecture/dear.htm>

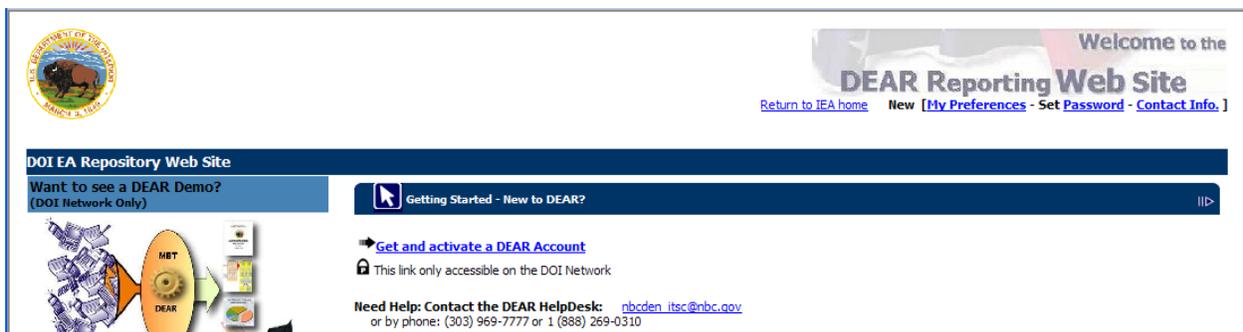


Figure 1 DEAR Home page

Complete the NBC LAN & E-Mail Access Request Form DEN-NBC-IT-20 and follow the instructions as indicated on the 'Getting Access to DEAR' page to get a user account. If you already have access to the DEAR, you need only be added as a Reporting User to the NWFEA group. Assistance is available from the NWCG PMO.



Figure 2 Getting Access to DEAR page

There are two roles available for the customers of the NWFEA Repository.

The first is a 'Reporting User'. This user has read only access to the repository. An example of this type of user is someone such as a blueprint team member or project team member that may want to run NWFEA reports or view the business reference model or the data models.

The second is a 'Regular User'. This user is responsible for maintaining and modeling the NWFEA information in the repository. In addition, this role includes all of the rights of a reporting user.

ENCYCLOPEDIAS

This documentation is specific to the NWFEA Repository and is not intended to repeat the comprehensive logical and physical DEAR environment details available in the Operational Concept Description (OCD) and Configuration Management for DEAR v5.05. The DEAR OCD is located at the following website.

<https://dear.nbc.gov/reports/documents/training/admin/>

The NWFEA Work in Progress (WIP) encyclopedia is the NWFEA environment within the DOI System Architect (SA) repository. The NWFEA blueprint encyclopedia is the NWFEA project environment. The SA Catalog Manager manages the user access to the encyclopedias.

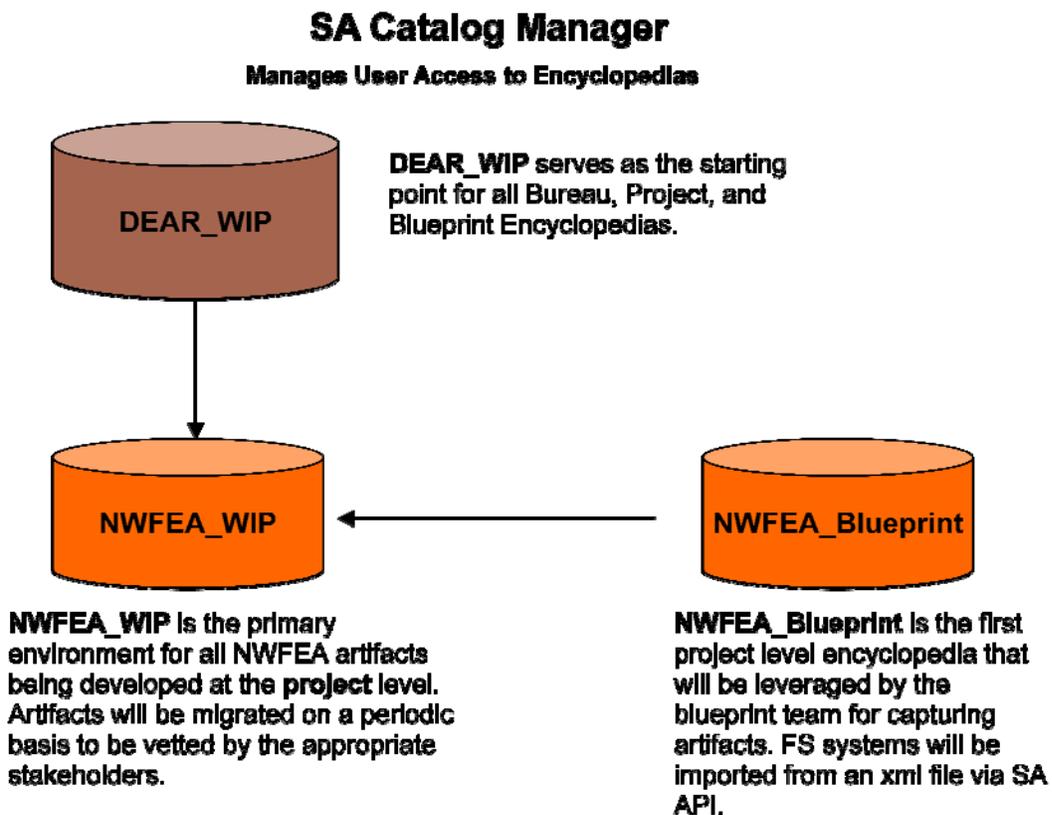


Figure 3 Encyclopedia Depiction

NWFEA WORK IN PROGRESS (WIP)

The NWFEA WIP is the encyclopedia for NWFEA artifacts. It is at this level where DEAR_WIP and NWFEA_BLUEPRINT can be merged for synchronizing new information.

The following process provides the most recent information from the DOI and FS by synchronizing the DEAR_WIP and NWFEA_WIP. Process for updating data within the NWFEA repository is documented and maintained by the DEAR Administrators.

- a) Merge DEAR_WIP onto NWFEA_WIP using the "most recent" from either encyclopedia using SA
 - b) Run macro to import any FS systems into NWFEA_BLUEPRINT
 - c) Merge NWFEA_BLUEPRINT onto NWFEA_WIP
- Administrators and architects able to update.
 - Source for SA canned reports.

REPORTS SCHEDULE

Reports are generated from the NWFEA WIP encyclopedia on a monthly basis. Changes are infrequent.

NWFEA BLUEPRINT

- The first project level encyclopedia created to begin to capture the blueprint artifacts
- Update point for adding USDA/FS systems
- Used to merge blueprint and FS systems into NWFEA_WIP
- Available to all NWFEA users for update

REPORTS SCHEDULE

Reports are generated from the NWFEA blueprint encyclopedia on a weekly basis. Changes are dependent on repository usage.

DEAR / NWFEA INTERACTION

Figure 4 depicts the consolidated view of the interaction needed to produce the NWFEA WIP and NWFEA blueprint encyclopedias.

DEAR / NWFEA Interaction

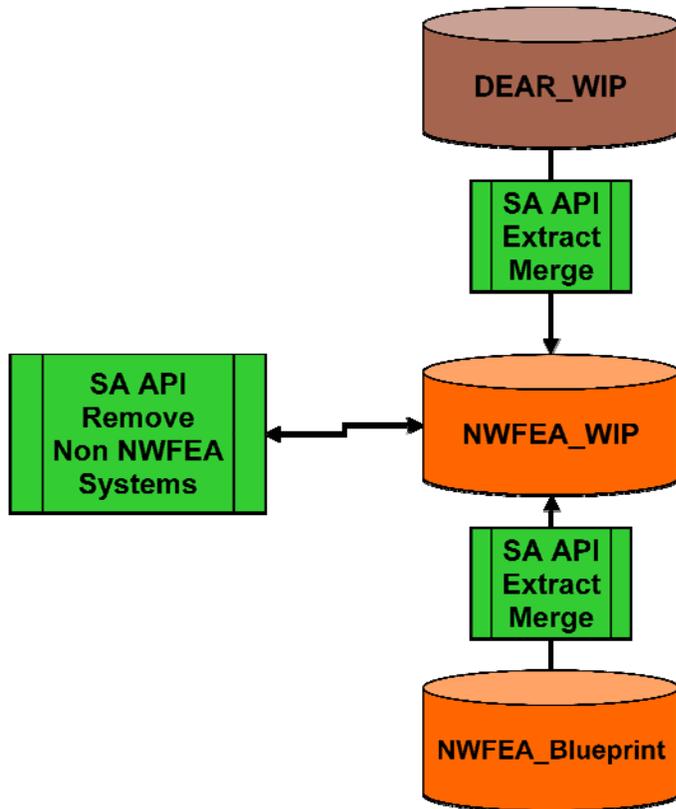


Figure 4 DEAR / NWFEA Interaction

FS / NWFEA INTERACTION

- Application updates are based on an XML file provided by the FS. The XML file is parsed and imported into SA utilizing the SA API.
- The frequency of information sharing is determined by the stakeholders.
- There is no automated interface currently developed for providing information back to the FS. SA generated reports may be manually provided by contacting the NWCG Technical Architect.

Figure 5 FS / NWFEA Interaction

SYSTEM ARCHITECT

System Architect is the tool used by the architects to provide support for all areas of modeling, including Business Process Modeling (BPM), component and object modeling, data modeling, and structured analysis and design, including maintenance of the NWFEA business reference model and data models. SA is accessed from the DEAR Reporting Website as a DEAR Regular User.

<https://www.doi.gov/ocio/architecture/dear.htm>

CHANGE CONTROL

The DOI, Interior Architecture Working Group (IAWG) is the change control board for the DEAR. The IAWG is chaired by the DOI Chief Architect and is comprised of the DOI Chief Architect and the chief/lead enterprise architects in the DOI bureaus and offices. Changes are considered from a global DEAR perspective.

Change proposals for NWFEA are tracked by the Knowledge Manager and available on the NWFEA website. <http://www.nwfcg.gov/nwfea/links.html>

Changes to the Repository Metamodel:

The IEA have several governance teams that control the configuration of the metamodel as it evolves with the development of architectural best practices. The interests of the national interagency wildland fire community are intended to be represented by the active NWFEA participation in these governance board functions.

There is not a formal process currently in place outside of the IAWG to request metamodel extensions or updates, although one is being put into place. NWFEA can extend or update the metamodel, but must provide funding for any maintenance and support that result if those changes requested are not considered and approved by the IAWG.

New Reports or Changes to Pre-Defined Reports:

If new pre-defined reports are requested to be created and maintained via the DEAR Reporting Website, the report would be required to be approved by the IAWG and subsequently incorporated into the DEAR infrastructure.

The IAWG supports the DEAR Report Working Group (DRWG). The NWCG Knowledge Manager is invited to participate as a partner of the DRWG.

Customized Reports:

The NWCG architects are able to develop and maintain its own customized reports utilizing the SA toolset as needed. Those reports would not be displayed via the DEAR Reporting Website.

APPENDIX A NWFEA REPORT EXAMPLES

The following report examples are intended to display the types of information available within the NWFEA repository.

Managing Organization	Parent Organization	Organization	System Inventory	System Inventory ID	Managing Partner	Additional Names	URL	Inventory Status	Inventory Type
FED	FED	NOAA	Advanced Weather Interactive Processing System	FED_NOAA_2	NOAA			Current	External
FED	FED	OTHER	Aeroplanner	OTHER_NA_6	OTHER	Aeroplanner	http://www.aeroplanner.com/	Current	External
FED	USDA	FS	Automated Flight Following System	USDA_FS_49	FS	Automated Flight Following System		Current	External
FED	USDA	FS	Automated Lightning Management System (FS)	USDA_FS_36	FS			Current	External
BLM	BLM	BLMOF&A	Automated Storage Conversion and Distribution System	DOI_BLM_8	BLMOF&A			Current	Department
FED	USDA	FS	Automated Weather Information Processing System	USDA_FS_3	FS	Automated Weather Information Processing System	http://www.weather.gov/geodata/	Current	External
FED	USDA	FS	Automated Weather Stations	USDA_FS_4	FS			Current	External

Figure 6 Report examples 1

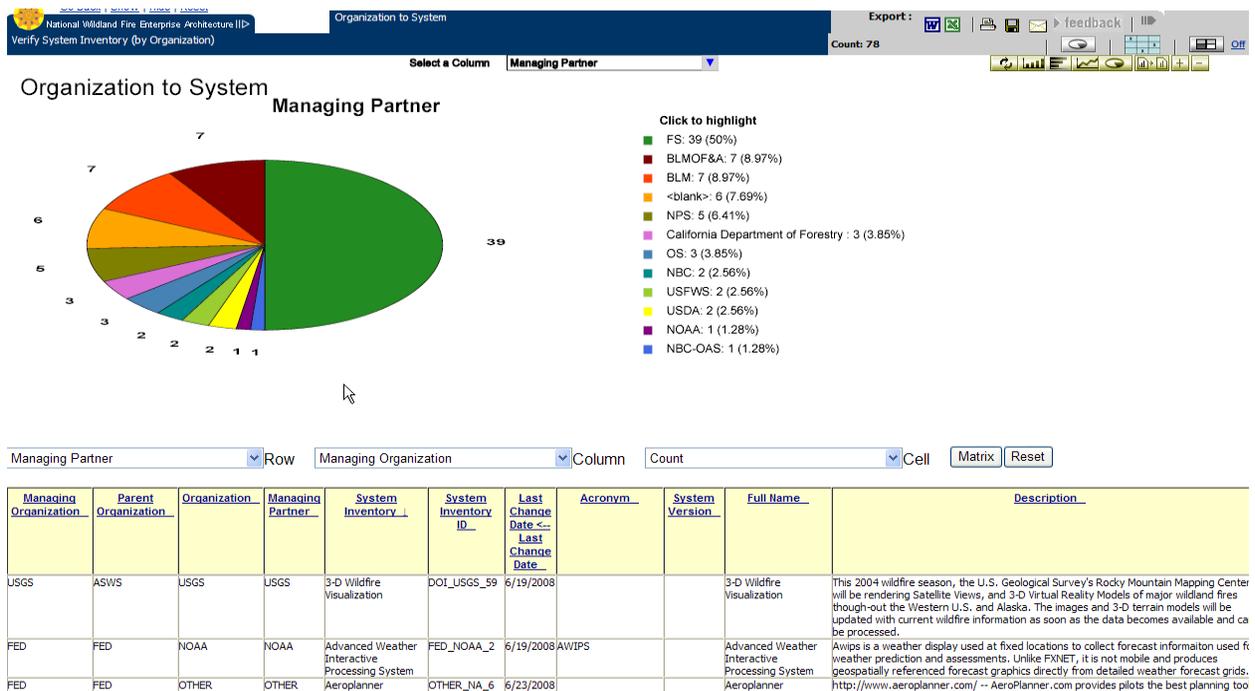


Figure 7 Report examples 2

APPENDIX B NWFEA REPORTS

The types of pre-defined reports that are available from the DEAR Reporting Site are categorized by the following scenarios as identified on the Main Menu; OCIO Function Reports, Business/Data Transformation Reports, and Architecture Detail Reports. Data must meet specified report criteria in order to output a report. If data is not available to output a report, the user will receive a HTTP Error 404 – File Not Found.

The screenshot shows the main menu of the DEAR Reporting Web Site. At the top left is the U.S. Department of the Interior logo. To its right is a navigation bar with a 'Home >' link and a 'National Wildland Fire Enterprise Architecture ||>' dropdown menu. On the right side, there is a 'Welcome to the DEAR Reporting Web Site' banner with links for 'New [My Preferences - Set Password - Contact Info.]'. Below the banner is a horizontal menu with tabs: 'DEAR Reporting Site v2.1', 'By Organization', 'By Blueprint', 'Enterprise-Wide', 'EA Program', 'Reference Models', and 'My Preferences'. A 'Choose your scenario' dropdown menu is open, displaying three columns of report categories: 'OCIO Function Reports', 'Business/Data Transformation Reports', and 'Architecture Detail Reports'. Each category lists several report options as blue underlined links. At the bottom right of the menu, there are controls for 'Open All', 'Close All', and 'Load Executive Charts (Future)'.

U.S. DEPARTMENT OF THE INTERIOR
NATIONAL WILDLAND FIRE ENTERPRISE ARCHITECTURE

Home > National Wildland Fire Enterprise Architecture ||>

Welcome to the
DEAR Reporting Web Site
New [My Preferences - Set Password - Contact Info.]

DEAR Reporting Site v2.1 | By Organization | By Blueprint | Enterprise-Wide | EA Program | Reference Models | My Preferences

Choose your scenario ||>

<u>OCIO Function Reports</u>	<u>Business/Data Transformation Reports</u>	<u>Architecture Detail Reports</u>
Review System Inventory	Analyze Performance Objectives	Review my System Architecture Detail
Review Security Relationships	Analyze Business Functions	Analyze Services
Review CPIC Relationships	Review Stakeholder Input	Analyze Technologies
Review Privacy Information	Review Data to System Mappings	Review Deployment Information
Review Contact Information		Review System Interfaces
Review DEAR Data Quality Input Reports		Review Audit Log

Open All | Close All | Load Executive Charts (Future)

Figure 1 NWFEA Main Menu Reporting Site