U.S. Department of Energy

CAIS User Guide

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Summary of Changes

The following information is being used to control and track modifications made to this document.

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1.35	Ken Rowe	2.20	
		2211	Have the tabs for the IU list for Deficiencies, Adders, Cumulative Adders and Attachments include a checkbox when there is data present. New figure 15. Updated figure 49. Updated text in section 1.4.5.
		2215	Create an Archived IU Summary Report in CAIS that works the same way as the IU Complete (Abbreviated) Report. New figure 93. Updated text in section 4.3.
		2216	Add filtering by Area to the Projects filtering screen. Updated figures 109 and 110. Updated text in section 4.3.
		2217	Include the Condition Code in the FY Baseline module. Updated figures: 49, 92, 94 and 140.
		2218	Add the mission code from FIMS to the following IU Level Reports: IU Complete, IU Abbreviated, Complete Survey Detail, Abbreviated Survey Detail. Updated table 10. Updated text in section 9.1.
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		2209	Create a System Level Report for the entire site so that all system level data can be reviewed at the same time. Updated Figure 144 added new text below figure 144 to explain how to run the reports.
		2210	Change the text for the 'Photo' tab to 'Attachments' on the IU and Asset areas of CAIS. Changed name of section 2.5.10. Updated figures and figure label for figures 49 and 50. Updated figures: 9,10,13, 14, 20, 36, 39, 41, 42, 45, 46, 47, 48, 65, 72, 133, and 138.

Revision # & Date	Author	Release/ Enhancement #	Summary of Changes
		2212	Make the filter field smaller so that the field name is visible in the Ad Hoc Report Filter screen. Updated figure 150.

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1. Overview

This guide provides an overview of the Department of Energy (DOE) Condition Assessment Information System (CAIS) Web application. It is designed for experienced engineers and technicians familiar with facility and infrastructure inspection procedures and terminology. This User Guide will instruct the inspectors on the use of system protocols and the procedures for loading and reporting data in CAIS. It will not cover inspection techniques.

Note that there is a separate document titled "DOE FM Terminology" that may be downloaded from the CAS website.

The following subsections provide a brief history and description of the Condition Assessment Survey (CAS) and CAIS processes; their objectives; drivers; and evolution to CAIS on the Web.

Condition Assessment Survey (CAS)

The CAS is a systematic inspection process to determine asset conditions. The assets can be buildings, trailers or other structure and facilities or infrastructure systems. The process covers all real property owned by the Department. The CAS primary objective is to assist all DOE sites in assessing the condition of their assets. CAS is based on a set of consensus standards, methods, and technologies to conduct the surveys, and to collect and disseminate the survey and inspection information. CAS information is assembled in a database that provides basic information necessary for the maintenance and asset management programs. The CAS program development was started when the Capital Asset Management Program (CAMP) got underway in 1991. CAS was required at all sites during its early stages of implementation. When Life Cycle Asset Management (LCAM) order replaced CAMP, sites used contractors, their own condition assessment programs or did nothing. The Real Property Asset Management Order (RPAM) issued in 2003, required condition assessments to be performed on all real property at least once during any 5 year period using inspection methods based on industry standards. The cost of deficiencies identified in the assessment must be estimated using the CAIS database or a nationally recognized cost estimating system.

Condition Assessment Information System (CAIS)

The CAIS is designed for experienced engineers or technicians familiar with facility and infrastructure inspection procedures and terminology. CAIS is a deficiency database with standardized reports for reporting deficiencies and deferred maintenance costs to the Facility Information Management System (FIMS) database. Its cost estimates rely on RS Means cost data, over 54,000 line items, which are updated annually. These costs provide funding justifications for facility repair and replacement. The CAIS facility condition indexes use the system-generated deferred maintenance costs and the DOE version of the RS Means CostWorks software program.

Because FIMS is the Real Property database of record for DOE, whenever property information is changed in FIMS, these updates need to be reflected in CAIS. One particularly important scenario is when the Replacement Plant Value (RPV) values are updated annually in FIMS. In

addition to these updates, new property records entered into FIMS (as well as properties which are archived in FIMS) need to be reflected in CAIS.

Updating CAIS when FIMS is updated is accomplished via a database trigger in FIMS which automatically updates CAIS. The CAIS administrator can easily keep track of FIMS updates that have affected the CAIS database via the Asset List Updated by FIMS Report.

1.1 Background

DOE directives mandate a constant awareness of the condition of facilities throughout the complex. Sites have conducted facility assessments using a variety of tools and techniques, resulting in a great variance in the level of analysis. Some sites report in exhaustive detail, whereas others provide only high-level summary information. DOE has sponsored the development of CAS/CAIS since 1991 to provide the sites with an agency-wide standard for reporting site assessments. The versions of CAIS since 1991, Site CAIS, CAIS 5.3 and now CAIS Web, support DOE inspection methodologies and provide the sites with a reliable, consistent approach to gathering and reporting deficiencies. The CAIS application provides automated assistance for the CAS program.

CAIS is used to capture condition assessment data from DOE facilities located throughout the U.S. CAIS users can apply costing functions to assessment data to determine estimated costs to repair the deficiencies. CAIS can accommodate locally defined supplemental costs for completing the repair and can make adjustments to compensate for variations in local labor and material costs. CAIS reports provide funding justifications for facility repair and replacement projects.

CAIS consists of the following modules that support inspection, costing, and reporting:

- Inspection
- Costing
- Reporting
- Projects
- Interfaces
- Table Maintenance
- Special Features

1.2 CAIS

The ability to manage the life cycle of site assets has been requested by the Condition Assessment Survey (CAS) user community and CAIS provides the foundation for this activity. CAIS uses a central Oracle database that is hosted at the DOE Germantown Computer Operations Center. CAIS offers functionality similar to that found in the previous non-web client-server version of CAIS.

Some features to note are:

- Site data can not be viewed or updated by any other site;
- Site-specific data (cost adjusters, etc.), unique to each site, will continue to exist and no other site may view or update that data;
- New CAIS users will continue to have their site asset information preloaded in CAIS. New users should review all their asset data, to add information that is necessary for inspections and condition assessment reports.

1.3 Introduction

The following subsections describe each major process in the CAIS application, in the order of the steps required to start up and use the system.

An overview of each process has been provided. The overviews are followed by explanations of each step in the process; including instructions for operating the CAIS application menus, reports, table maintenance and data transfers to FIMS and from CostWorks. The goal of this guide is to familiarize the user with the screen layouts and how the most common tasks can be performed.

Since CAS/CAIS processes have been utilized since 1994, we assume that users are skilled in the CAS process. Additional information about CAS/CAIS can be found at the publicly available website http://caisinfo.doe.gov/.

The CAIS User Guide is organized in the following sequence.

Getting Started: describes what is needed to gain access to the system, including how to log in, how to log out, CAIS navigation techniques and who to contact for support and to answer CAS and CAIS related questions. Also included is a system initialization sub-section that describes where to set up new users, user roles, and how to build certain data tables used to support the CAIS application.

Inspection: provides a brief overview of how to prepare for an inspection. It includes a Field Data Collection Sheet, minimum data needs for an inspection and how to enter assessment information in CAIS. It also describes how and where to transfer survey/inspection data from the collection sheets to the Site-CAIS screens and how to enter, filter, and edit inspection data.

Costing: describes how to perform the evaluation of survey deficiencies and translate them into repair/replacement costs.

Reports: identifies and describes the standard reports available in CAIS.

Projects: presents how the cost of repairs, replacements and rehab and improvement costs can be assembled into projects for future funding.

Interfaces: describes how CAIS imports data from the RS Means CostWorks program and exports deferred maintenance costs, facility condition index and deficient component/systems data to FIMS.

Table Maintenance: details how the various site, area and asset tables and lookup tables are maintained and customized for site use.

Special Features/Products: deals with the Yearly Cost Update, the FY Baseline and, the System Level Deferred Maintenance approach for assessing asset conditions.

Ad Hoc Reporting Module: show how custom IU level reports may be created, saved and generated in Excel format.

1.4 Getting Started

These subsections describe what is needed to gain access to the system, including how to set up new users, how to log in, how to log out, and CAIS navigation techniques and who to contact if problems arise.

1.4.1. Obtaining a User Account

User account for the CAIS administrator can be obtained by calling the CAIS Hotline at (301) 903-8644. Once an account has been set up for the CAIS Administrator for a site, all new user accounts and password resets are the responsibility of the CAIS Administrator for the site. Access to CAIS is restricted to users within the DOE network, or users connected via the DOE Virtual Private Network (VPN).

1.4.2. System Requirements

The CAIS database application is designed to run on a personal computer with a screen resolution set to 1024 x 768 or higher. The computer must have the following software items installed and configured:

- Microsoft Windows XP, Microsoft Windows XP Professional, Microsoft Windows 2000, Microsoft Vista, or Windows 7 operating system.
- Microsoft Internet Explorer Web Brower, version 5.5. or higher
- Adobe Acrobat 6.0 or higher software

1.4.3. Logging In

Access from an approved DOE site or network can be obtained by typing the following URL into a web browser.

Test area https://caisweb.doe.gov/CAISTEST/

Production area https://caisweb.doe.gov/CAS/

The login screen will then appear as shown below

Getting into CAIS requires both a User ID and a password. Both are provided by the site CAIS administrator.

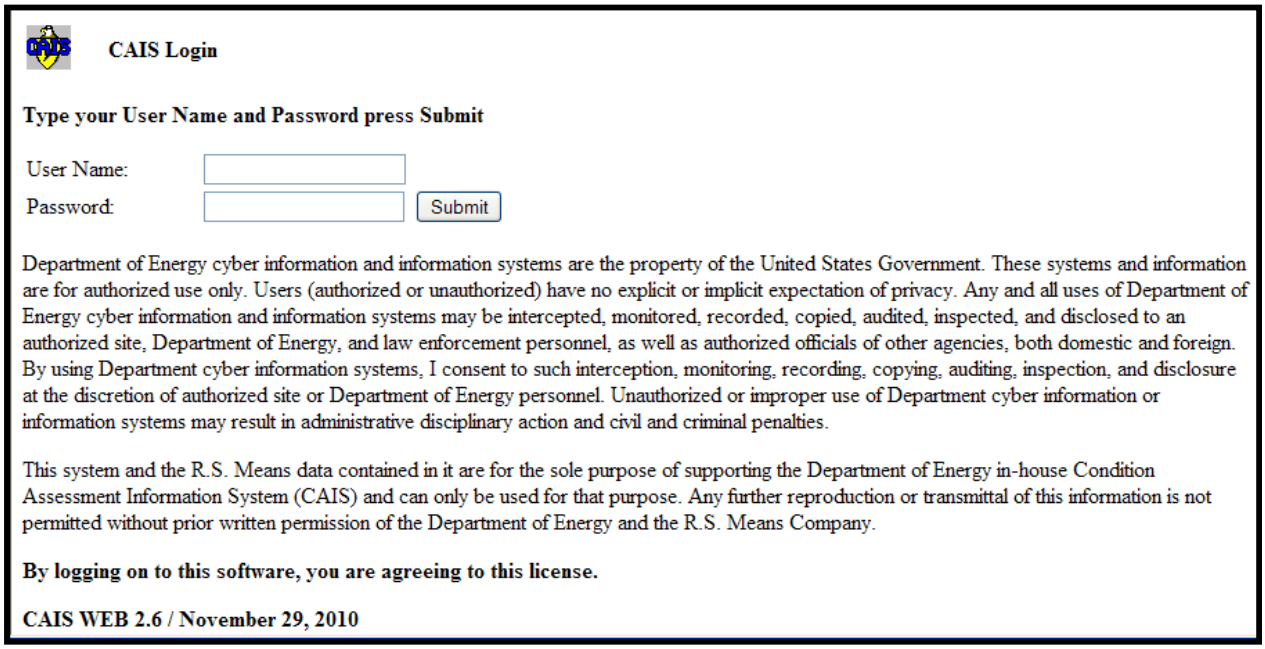

Figure 1. Login Screen

The version of CAIS, and the date that it was released, is provided in the lower left corner of the screen.

Figure 2. CAIS Home Page appears after a successful login. Note that a link to the latest release notes is posted on this page. Also, note that the number of days until your password will expire is also displayed. Passwords expire every 90 days in the production database.

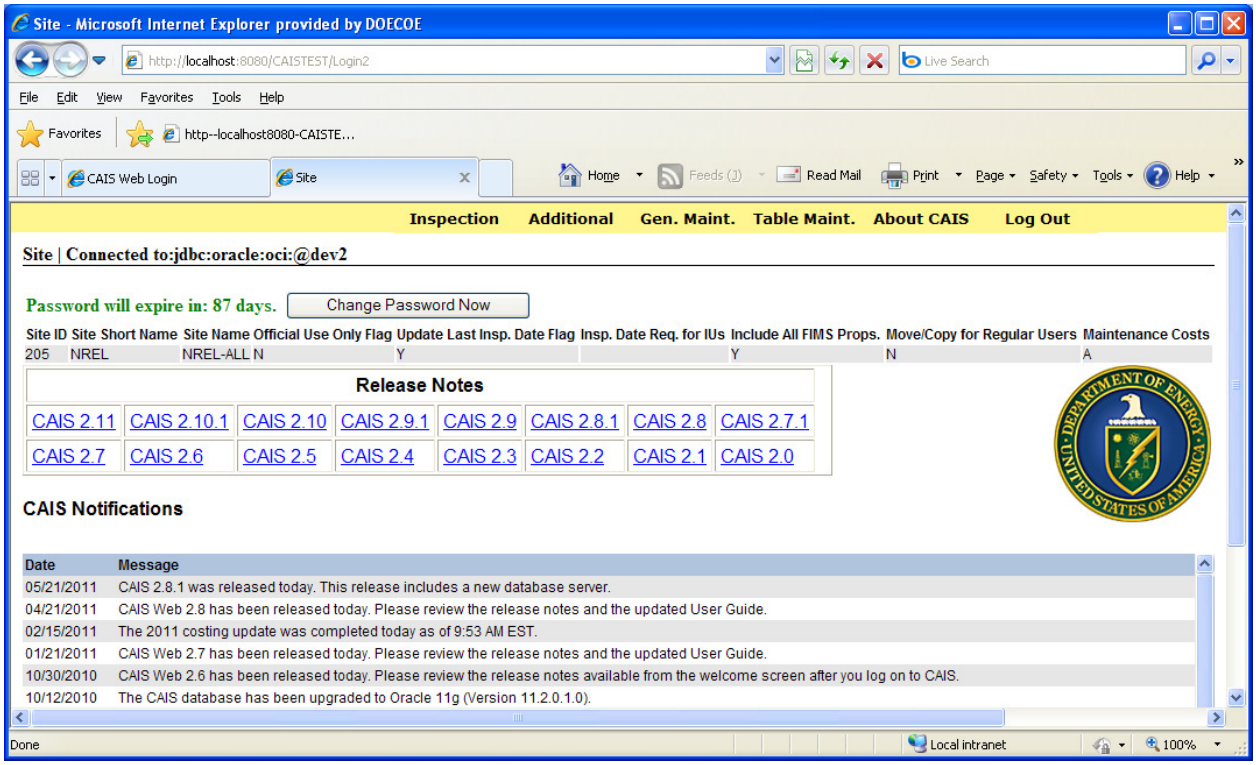

Figure 2. CAIS Home Page

1.4.4. Menu Navigation

The following terms are used for identification of the different option bars.

Figure 3. Microsoft Internet Explorer Toolbar is part of the Microsoft Internet Explorer application. The Web Tool Bar follows the web conventions that are commonly in use.

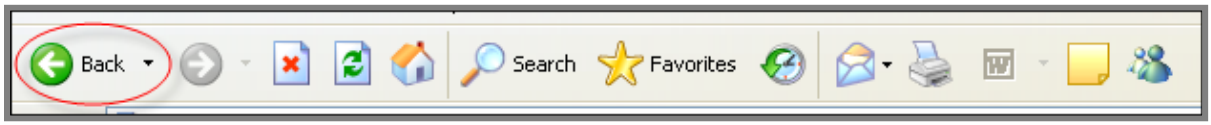

Figure 3. Microsoft Internet Explorer Toolbar

IMPORTANT NOTE: the Back button on the browser's Tool Bar should NOT be used while working in CAIS. Your data could be old data if the Back button is used.

Figure 4. CAIS Menu Bar, show below, is used for selection of major options in CAIS.

Figure 4. CAIS Menu Bar

Navigation is done from one or more screens under the Menu Bar starting with a Menu Bar Dropdown List. The figure below shows all the available CAIS menu dropdown lists. Only one dropdown list can be displayed at a time.

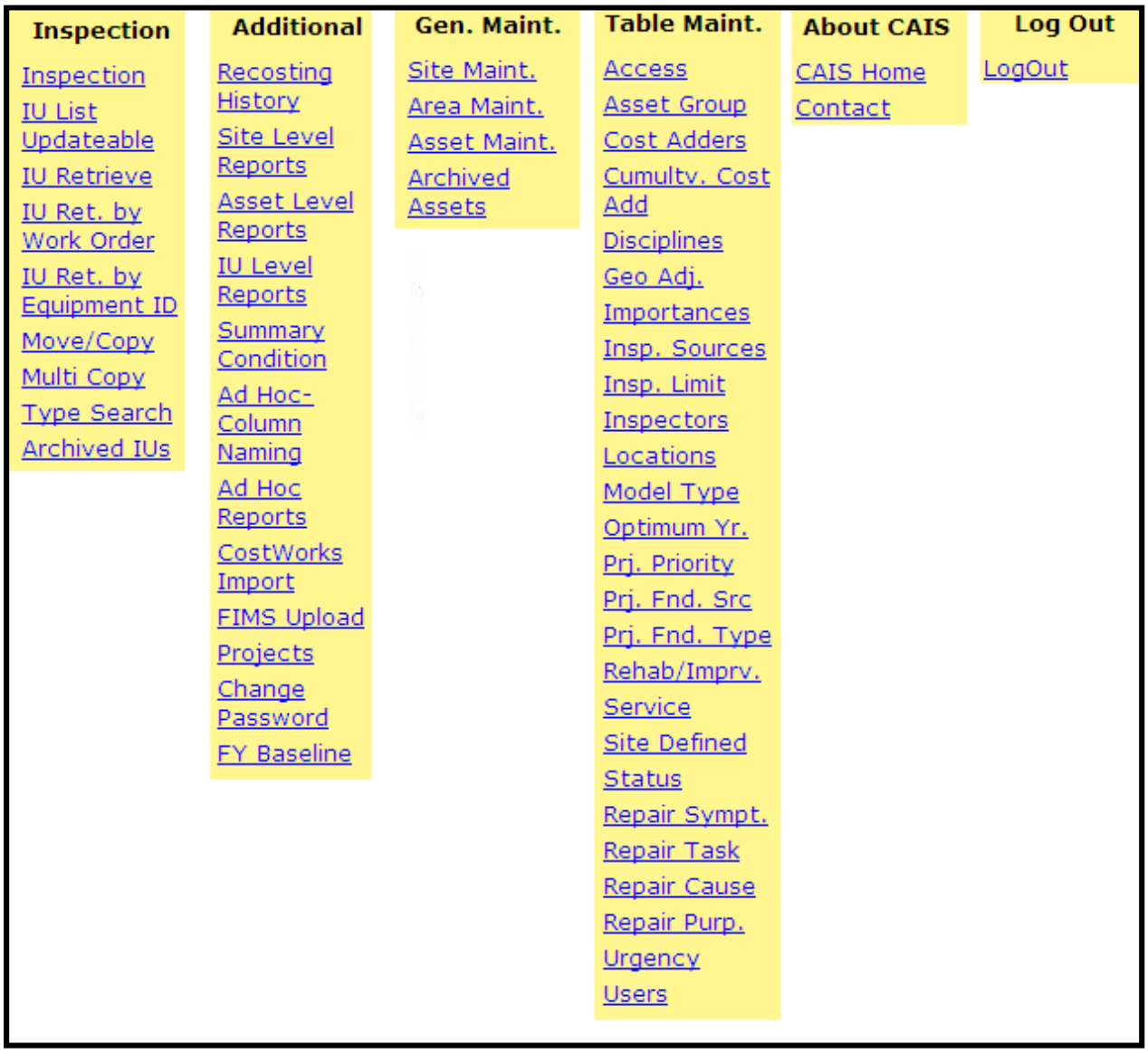

Figure 5. All Menu Dropdown Selections

The Inspection option is used for accessing IU Screens and also for accessing the Move/Copy and the Type Search screens. The Additional option includes reporting, the Projects Module, CostWorks Import and Change Password. The General Maintenance option includes Site, Area and Asset Maintenance activities. The Table Maintenance option includes a large number of screens that are used to maintain various list boxes and other user-customizable information. The Contact option opens up a page with CAIS contacts and related web page links. The Log Out option logs you out of the system.

1.4.5. Main Menu

CAIS options are selected by clicking on any one of the six titles in the Menu Bar (shown in *Figure 6. CAIS Home Page with Menu Bar*).

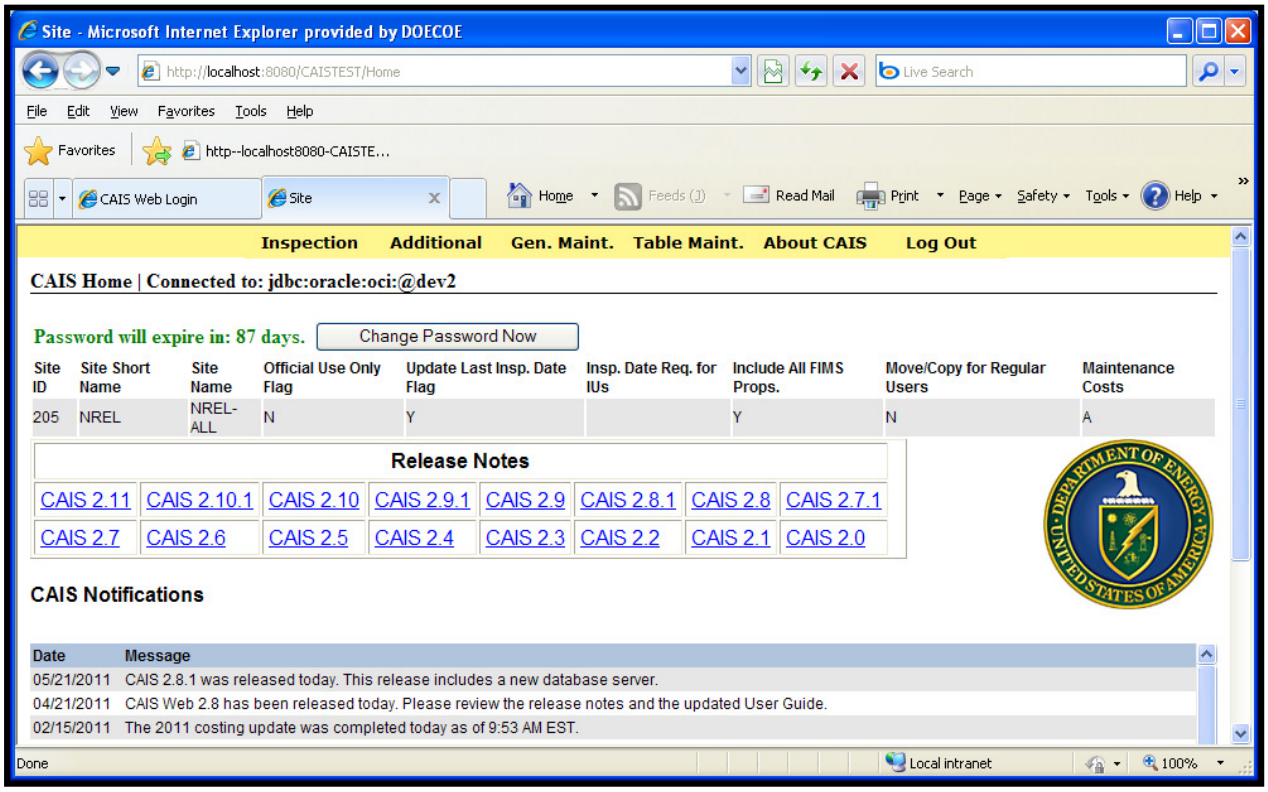

Figure 6. CAIS Home Page with Menu Bar

From the CAIS Menu Bar on the Home Page, select the Inspection option, shown in *Figure 7. Inspection Dropdown List Options*.

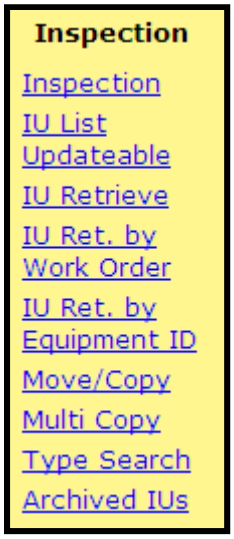

Figure 7. Inspection Dropdown List Options

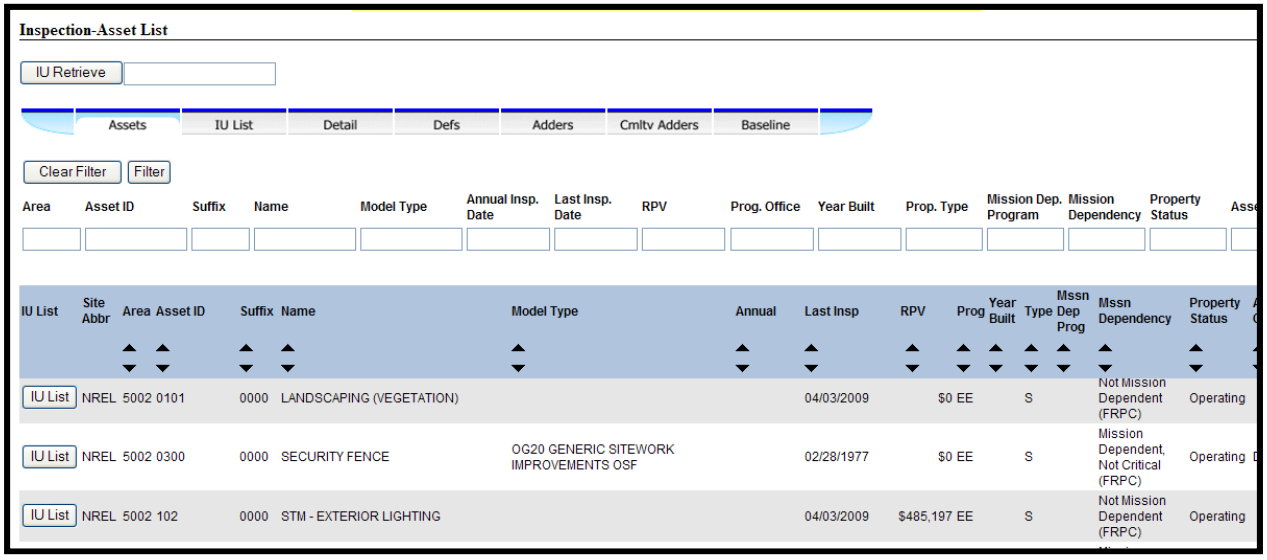

Figure 8. Inspection Asset List

The row is highlighted as you move your cursor from one row to the next for all screens.

At this point, the navigation bar options are shaded grey indicating they are not available as shown in *Figure 9. Inspection Asset List Screen*.

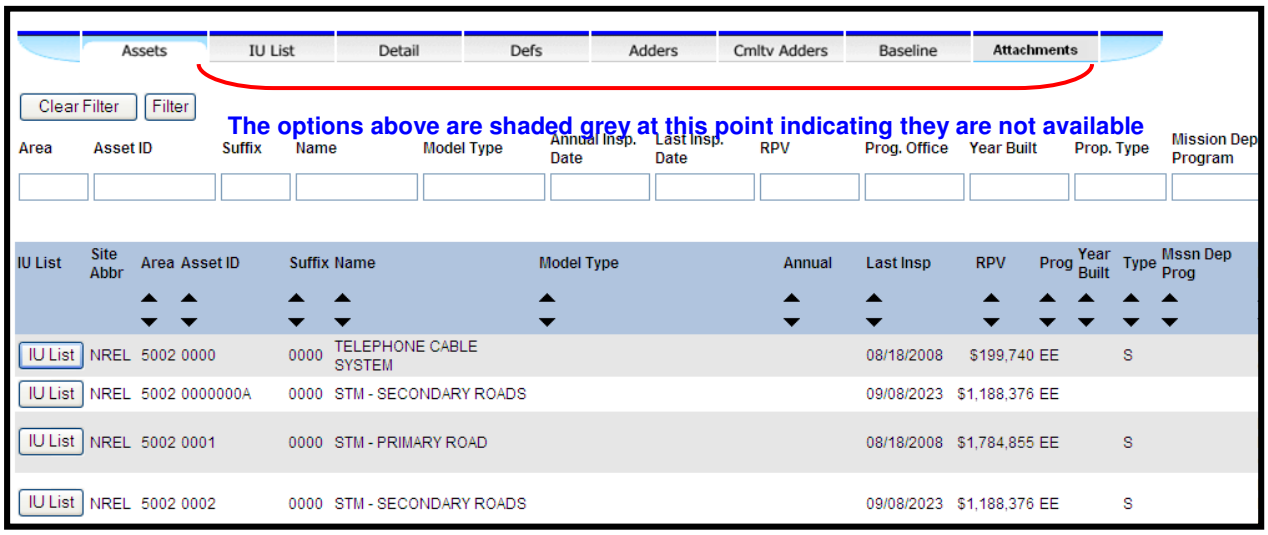

Figure 9. Inspection Asset List Screen

By selecting the IU List button in the left column of the list of assets, the Inspection Unit list is displayed as shown in *Figure 10. IU List*. Sorting can then be done by ascending or descending order by selecting the up or down arrow under the column headers.

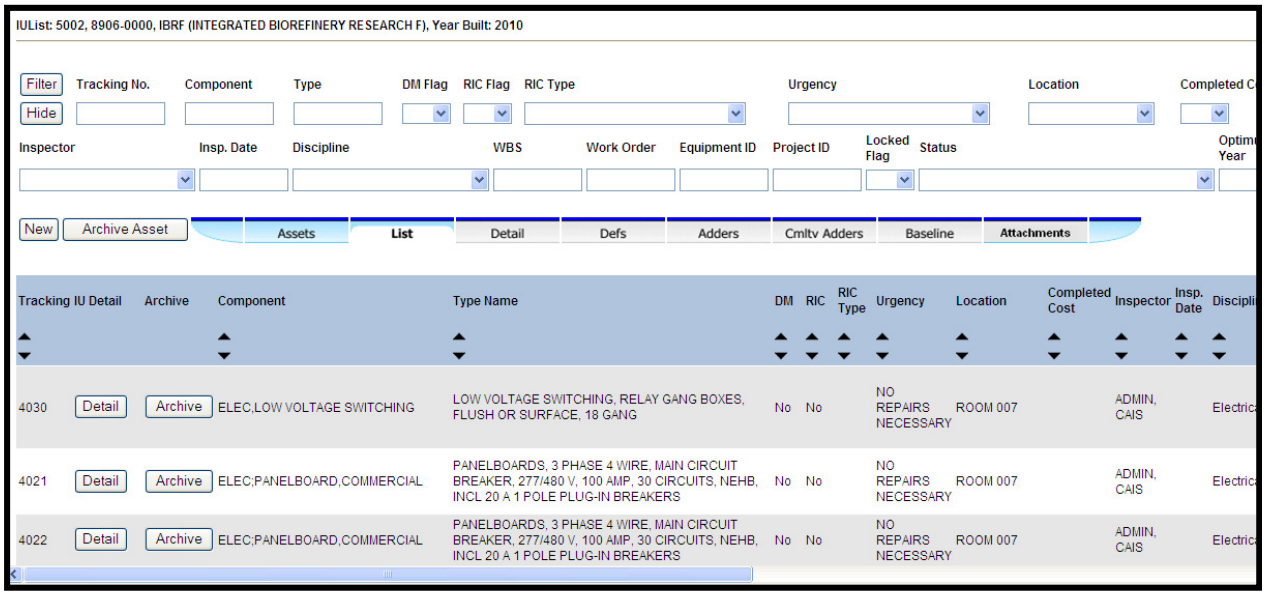

Figure 10. IU List Left Side

The Archive button on the IU List allows the CAIS administrator to Archive the specified inspection unit. After pressing the "Archive" button, the following warning message box appears.

The Archive Asset Button to the left of the navigation toolbar, allows the CAIS Administrator to archive the asset.

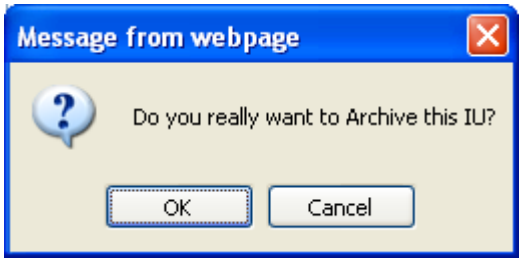

Figure 11. IU Archive Warning

Note that the detail button is now available on the far right side of the IU list as well.

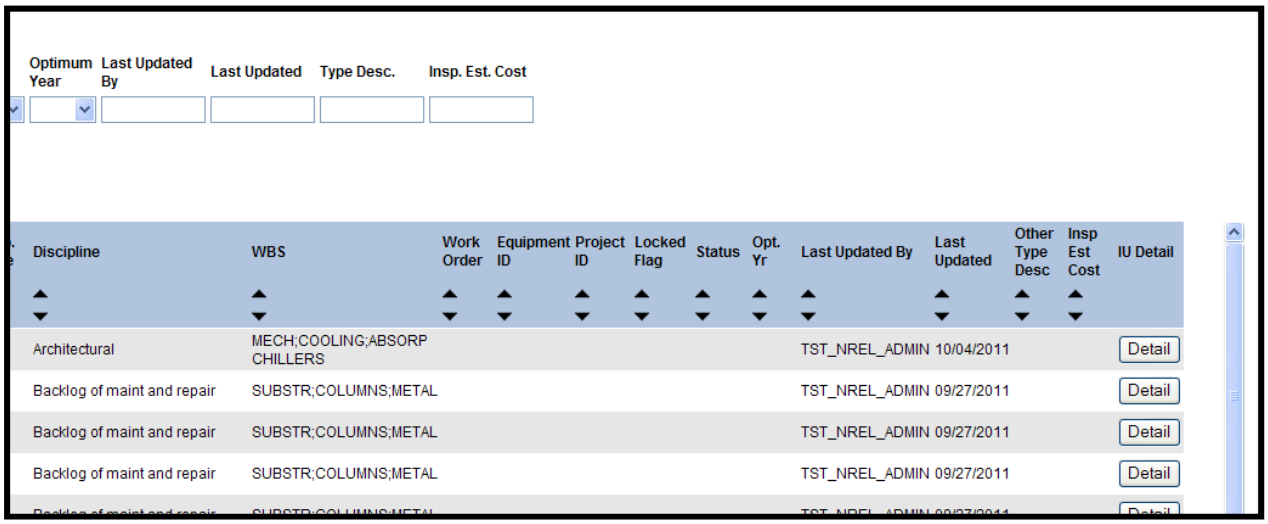

Figure 12. Right Side of IU List

Note the 'Detail' button on the far right side of the IU List. This button was added to make it easier to select the IU without needing to scroll back to the left side to access the other 'Detail' button.

Select the Inspection Unit that you want to see by clicking on the Detail button. The IU Detail Screen will appear as shown in below.

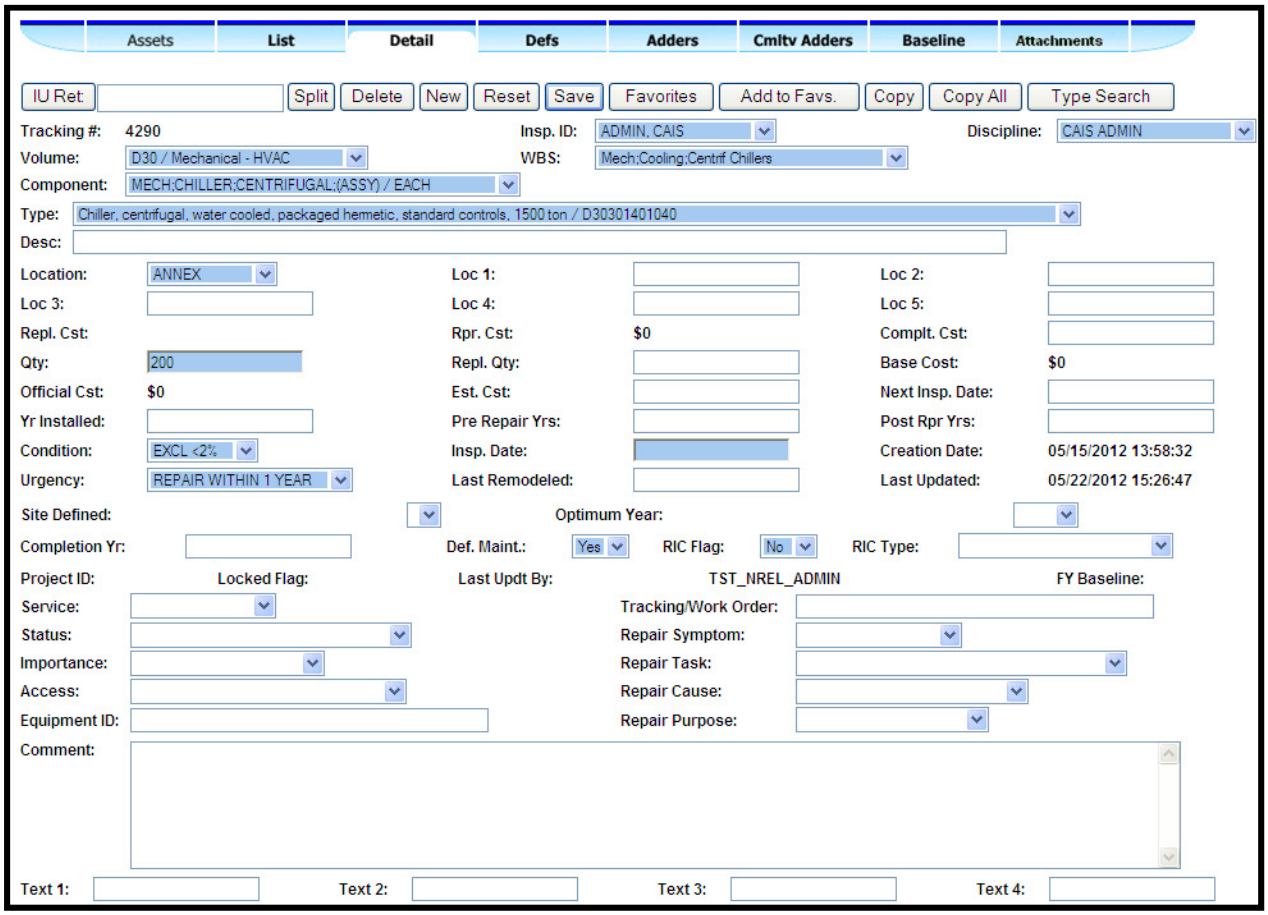

Figure 13. IU Detail Screen

The Creation Date and Last Updated dates are generated from the East coast standard time.

Once you have gone to the IU Detail Screen, all the options on the Navigation Bar are now active. The Navigation Bar will no longer be gray, but blue as shown in Figure 13. So now you can select options from the Navigation Bar.

Figure 14. IU Detail Options after Selecting Detail

Note that a green check will be present when there is data for the associated tabs for the selected IU. See the screenshot of the toolbar below.

Figure 15. IU Detail Options with Data Present

1.4.6. Logging Out

Exiting CAIS is done by selecting the Log Out option on the Main Menu, as illustrated below.

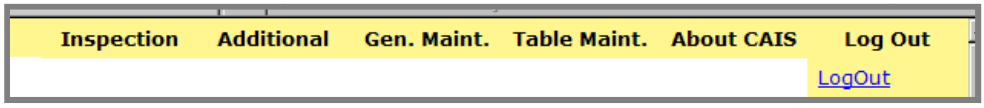

Figure 16. Log Out Menu

This option will log you out of CAIS and close out your connection to the database as shown below.

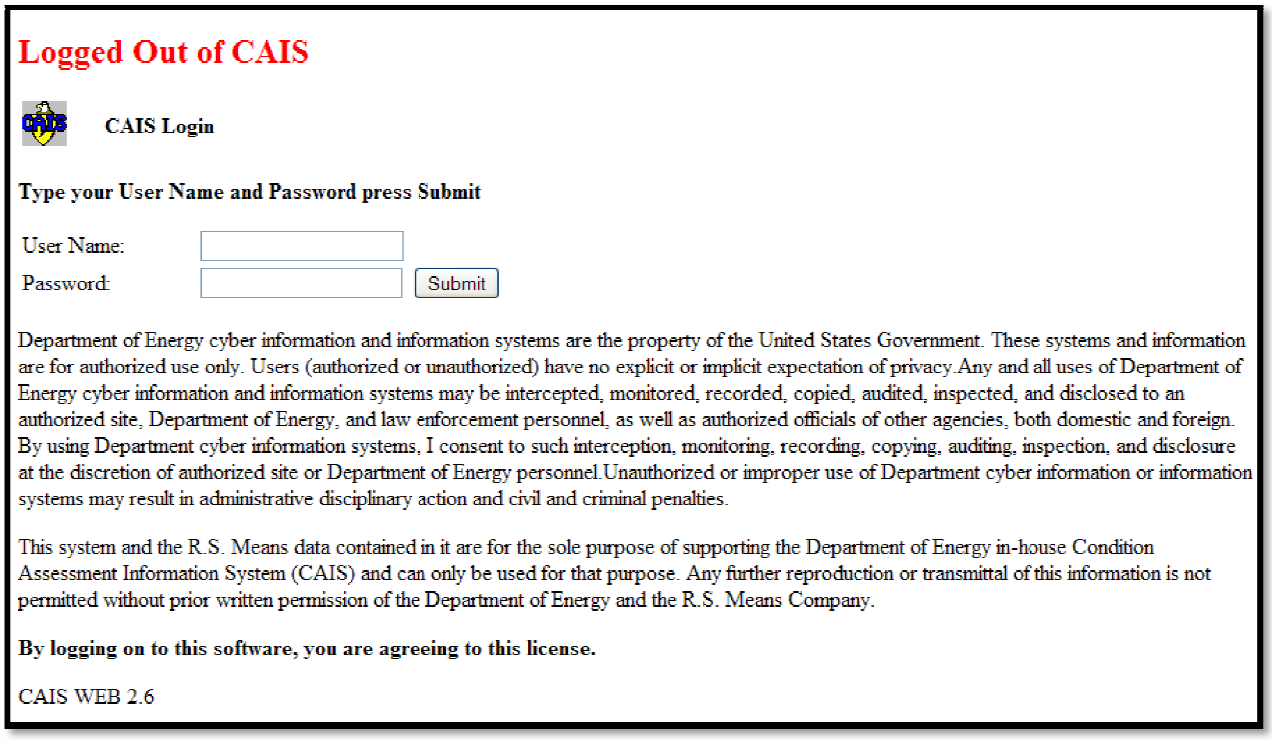

Figure 17. Log Out Screen

1.4.7. About CAIS

The About CAIS menu options shown below provide contact information and access to the release notes from the current and previous versions of CAIS.

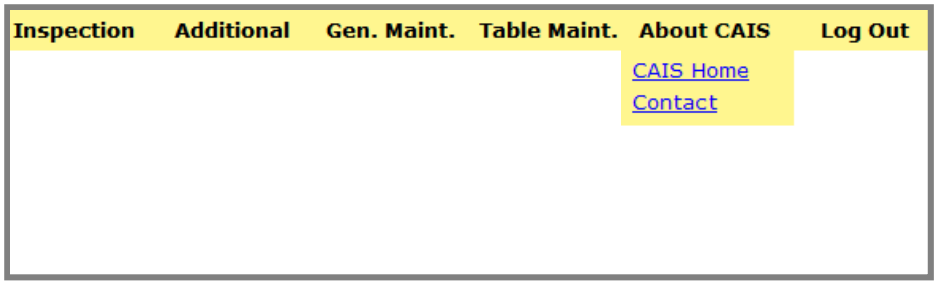

Figure 18. About CAIS Options

Selecting the CAIS Home option opens the CAIS Home Page as described in Section 1.4.3, Figure 2. The figure below shows the Contact option. This window provides the names of support personnel who can be contacted during normal business hours (Eastern Standard Time) when questions arise regarding CAIS. It also provides links to the public CAS/CAIS Home Page and to the FIMS Home Page.

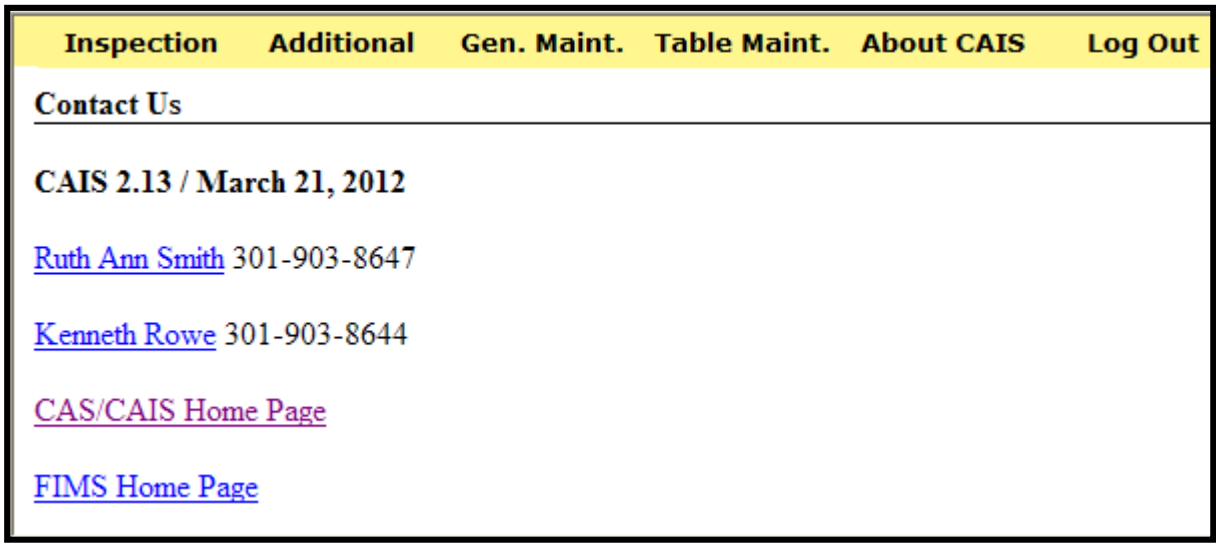

Figure 19. Contact Screen

1.4.8. Changing Your Password

To change your password, select Change Password in the Additional menu shown below. One may also access the change password screen via the change password button on the CAIS home screen. You will be prompted to enter a new password and confirm the password. When done, select the Save Button to save the new password. Password guidelines are detailed in section 1.5.1.

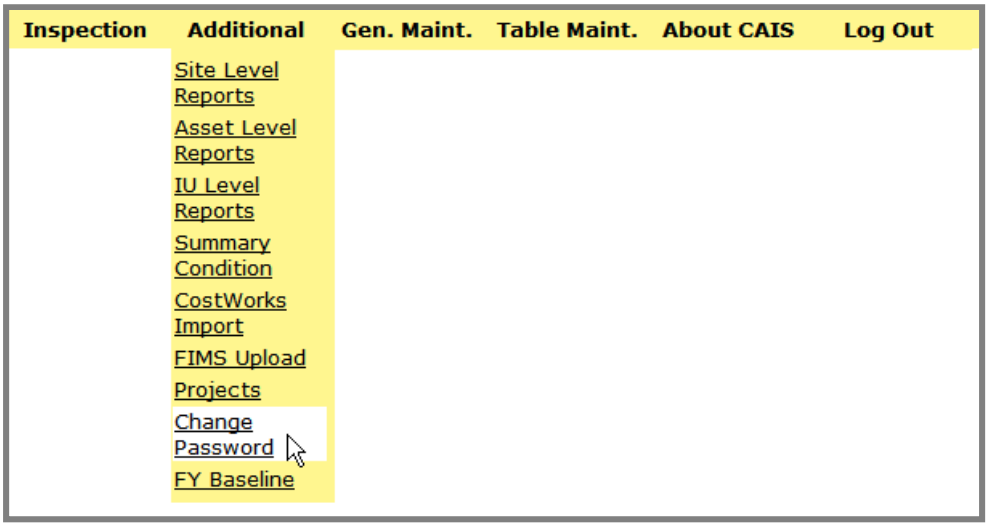

Figure 20. Change Password Menu Selection

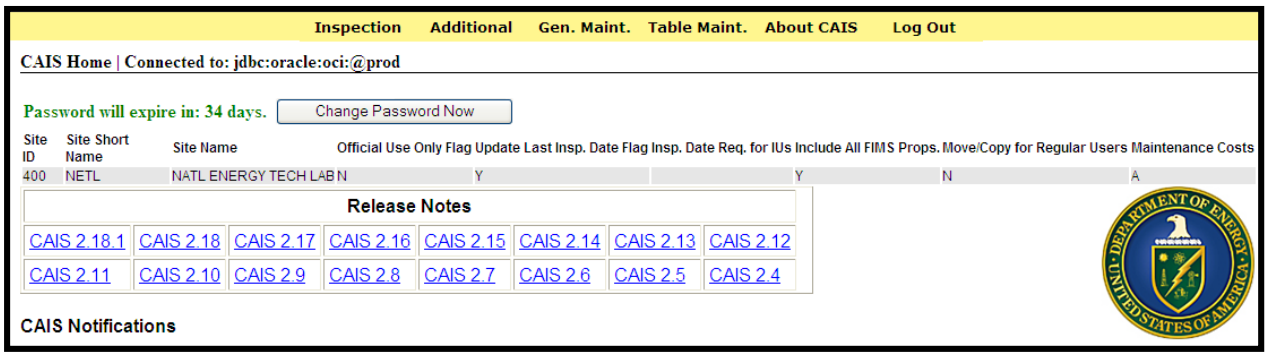

Figure 21. Change Password Button on CAIS Home Page

1.4.9. Data Change Messages

When you save new data or changes to existing data, a message appears at the top of the screen confirming that the save has occurred. This message consists of a green check graphic and text with a green background. This message has been applied to all screens including move/copy. Examples of the messages include:

- Success. *Item Name* has been created.
- Update was successful.
- Success. *Item Name* has been moved.
- Success. Move All has been completed successfully.

All CAIS screens will warn you if you attempt to leave them with unsaved changes when you are editing an existing record as shown in the figure shown below. This feature does not apply to new records. This feature does not apply to the System Level Deferred Maintenance Screen.

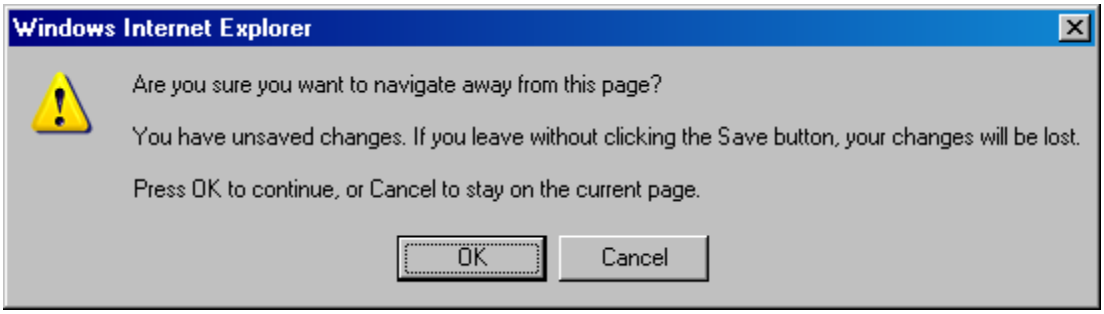

Figure 22. Save Changes Message

1.5 System Initialization

This section describes what must be done to prepare for using the system; the roles of the CAIS Administrator, inspectors and data entry personnel, and view only rights.

Included are descriptions of where to set up new users and how to build certain data tables used to support the Web application.

Before CAIS can be used, certain actions must be taken by the site CAIS administrator to customize CAIS to serve the needs of the individual site. Most of the security and firewall issues will have already been performed upon initialization of CAIS by the CAIS support contractor. However, a site may occasionally need to perform certain security and initialization tasks. You must have at least one inspector in order to create an inspection unit.

This section identifies the steps needed to set up CAIS and customization of some tables so the system can identify all users. New users will obtain this information directly from an import of FIMS information. This is normally accomplished by the CAIS support contractor. The CAIS contractor creates the first administrator for each site. The site administrator must maintain and create additional roles.

1.5.1. User Roles

All CAIS users are identified by a user ID logon and password. It is recommended you adopt the DOE Guidance for passwords detailed below.

Password Standards When creating your password for CAIS, DOE Guidance requires that the following password-generation method be utilized. In those cases where the user selects his/her own password (regardless of whether said password is verified by password verification software), the user should ensure that the selected password is consistent with those security features listed below that would be appropriate for a given site.

(1) Password contains at least eight non-blank characters, provided such passwords are allowed by the operating system or application.
(2) Password contains a combination of letters (preferably a mixture of upper and lowercase), numbers, and at least one special character within the first seven positions, provided such passwords are allowed by the operating system or application.
(3) Password contains a nonnumeric in the first and last position.
(4) Password does not contain the user ID.
(5) Password does not include the user's own or, to the best of his/her knowledge, close friends—or relatives—names, employee serial number, Social Security number, birth date, phone number, or any information about him/her that the user believes could be readily learned or guessed.
(6) Password does not, to the best of the user's knowledge, include common words that would be in an English dictionary, or from another language with which the user has familiarity.
(7) Password does not, to the best of the user's knowledge, employ commonly used proper names, including the name of any fictional character or place.
(8) Password does not contain any simple pattern of letters or numbers, such as "qwertyxx" or "xyz123xx."

(9) Password employed by the user on his/her unclassified systems is different than the passwords employed on his/her classified systems.

If you choose an invalid character when creating a new user, you receive an error message.

If you try to create a user that already exists, you receive an error message.

If you use an invalid character in the password you get an error message.

Three invalid attempts to log in with the wrong password will "lock" your account.

Figure 19 shows the generic error message you receive when you are unable to log on.

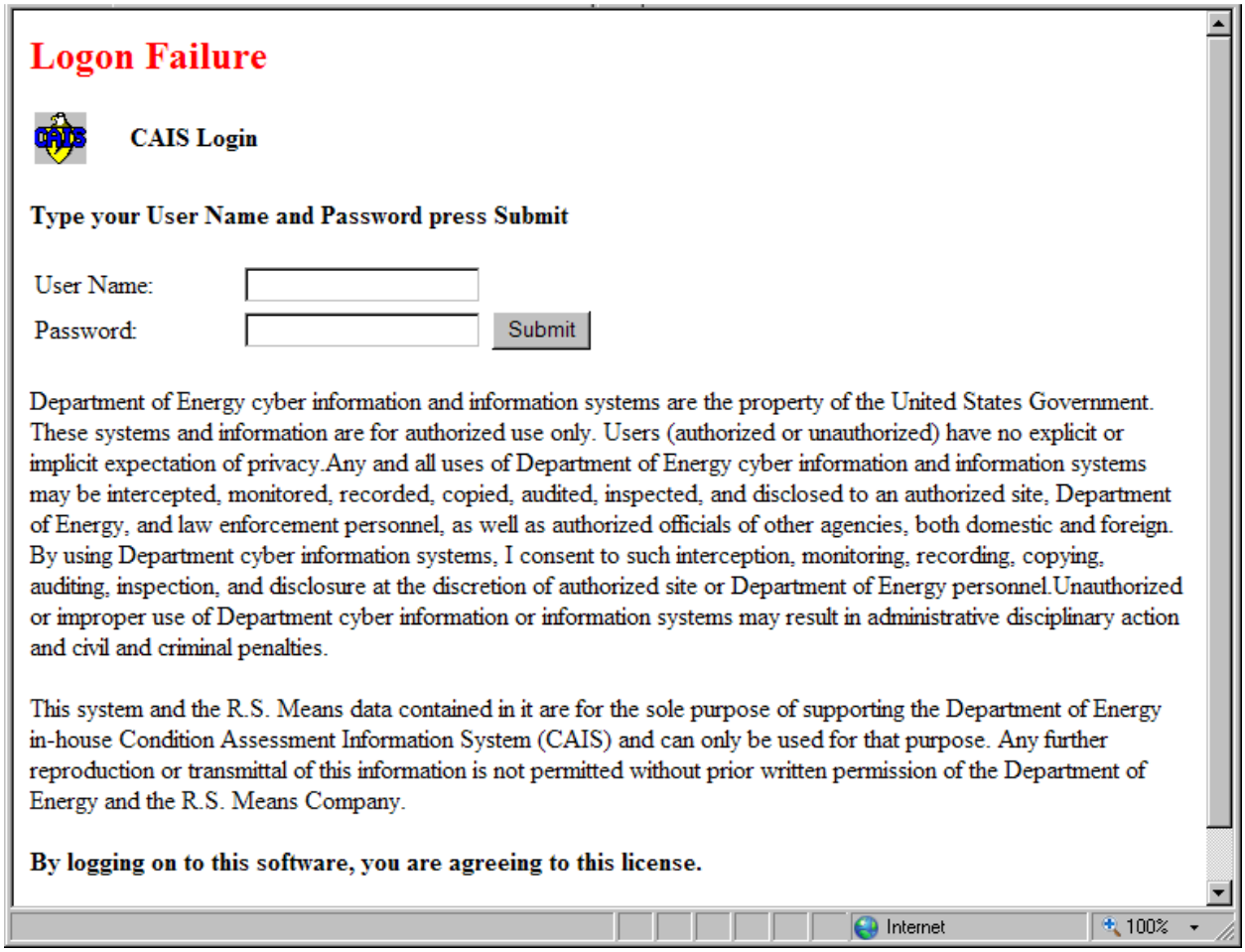

Figure 23. Logon Failure Message

You must change your password every 90 days, otherwise the password will expire as shown in the figure below and CAIS will automatically lock your user account. Your site's Admin User can unlock your account under the User Maintenance option. Ken Rowe (301-903-8644) or Bill Fox (301-903-8825) can also unlock your account.

Figure 24. Password has Expired

Account status is shown on the User Detail screen below. The status can be Open, Expired, or Locked.

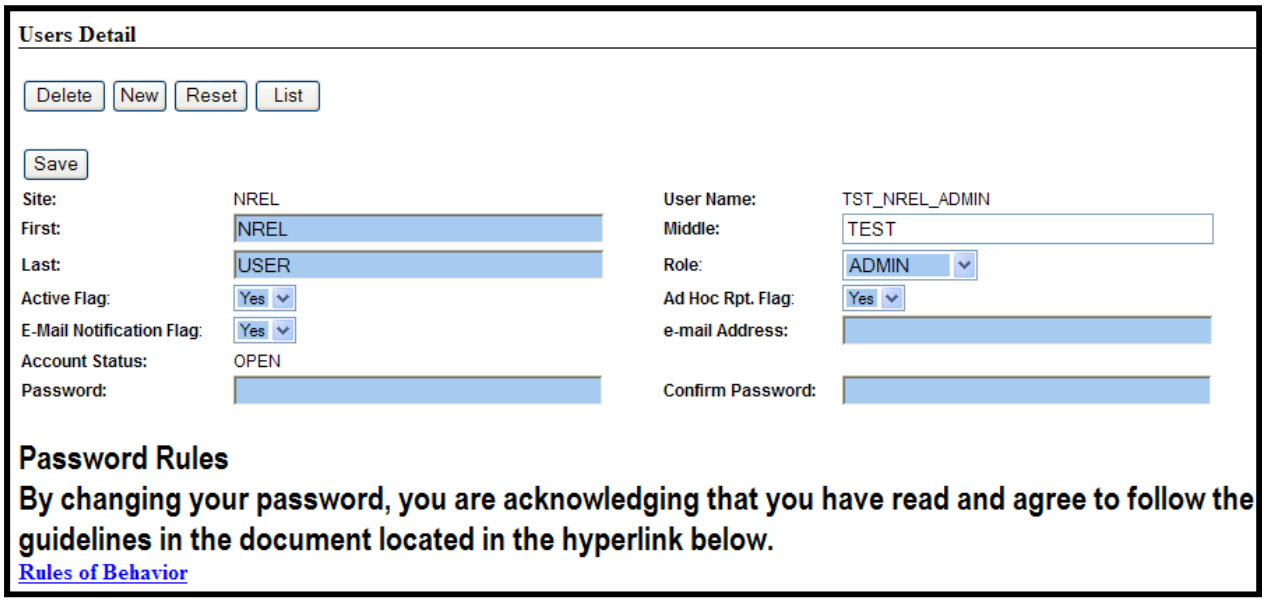

Figure 25. User Detail Screen

Users may be assigned one role within CAIS: Administrator, Regular, View Only. The list of roles in CAIS, along with their related functions, appears below.

The CAIS Administrator is the central point of contact for the operation and maintenance of the CAS/CAIS program who manages the day to day operations of the CAS/CAIS. This role includes adding inspectors, report creation and editing, inspection scheduling and quality control, ensuring data calls are met, ensuring the inspection staff consists of the appropriate discipline and staff level, table maintenance, and validating inspection data sheets.

Regular (Inspectors, Data Entry) conduct the condition assessment of the DOE real properties. People in this group usually come from the shops or trades offices within the facilities or plant management departments and should be highly skilled in their trades. They complete the Field Data Collection Sheets and may enter the data into CAIS. They do the pre-inspection planning and conduct the inspection. Inspectors also have to be added as users if you want them to be able to update information in CAIS.

View roles have CAIS "View Only" rights. This group can generate reports but cannot change report data. This role is normally reserved for facility managers and project developers.

CAIS users are subject to the following Rules of Behavior for CAIS:

Access to the CAIS Software, and any associated applications, is granted to you based on certain expectations. These are:

1) Information obtained from CAIS is to be used for official DOE business purposes only.
2) Any information obtained from CAIS, whether in the form of printed reports or electronic files, is to be protected by you against any purposeful or incidental distribution to anyone not authorized access to such data.
3) In the event that you no longer require access to CAIS, or you leave the employment of DOE or its' authorized contractor organizations, you will notify the CAIS system administration staff to terminate the user ID.
4) In regards to your **Password** for application-access, you agree to follow the following guidelines when changing your Password:
    a. Password contains between 8 and 20 non-blank characters.
    b. Password contains at least one number.
    c. Password contains at least one special character within the first seven positions.
    d. Password must start and end with a letter.
    e. Password must contain at least one special character and can only be: # _ $
    f. Password does not contain the user ID.
    g. Password does not include the user's own or, to the best of his/her knowledge, close friends or relatives names, employee serial number, Social Security number, birth date, phone number, or any information about him/her that the user believes could be readily learned or guessed.
    h. Password does not, to the best of the user's knowledge, include common words that would be in an English dictionary, or from another language with which the user has familiarity.
    i. Password does not, to the best of the user's knowledge, employ commonly used proper names, including the name of any fictional character or place.
    j. Password does not contain any simple pattern of letters or numbers, such as "qwertyxx" or "xyz123xx."

k. Password employed by the user on his/her unclassified systems is different than the Passwords employed on his/her classified systems.

5) Additionally, you agree to protect your Password in the following manner:

a. Individuals must not share Passwords except in emergency circumstances or when there is an overriding operational necessity

b. Individuals must not leave clear-text Passwords in a location accessible to others or secured in a location whose protection is less than that required for protecting the information that can be accessed using the Password

c. Individuals must not enable applications to retain Passwords for subsequent reuse.

d. Passwords must be changed:

- At least every 90 days
- Immediately after sharing
- As soon as possible, but within 1 business day after a Password has been compromised, or after one suspects that a Password has been compromised
- On direction from management.

6) Protection of Personally Identifiable Information (PII)

- Any remote access to the DOE network to access data in this system must be made through a VPN using two-factor authentication if the data you are accessing is other than your own. Two-factor authentication is where one of the factors is provided by a device separate from the computer gaining access. *Headquarters users need to contact the OCIO to be set up for VPN and two-factor authentication*.
- All PII media other than your own (i.e., hard copy reports, information loaded to a CD, thumb drive, or any other removable electronic media) that is transported (see definition below) will be encrypted using FIPS 140-2 or greater compliant software. *ICE is the approved encryption software supplied by the OCIO for Headquarters users*.

  Transported, in addition to this and/or other electronic transmissions and physical removal, includes sending the information via e-mail and/or accessing the information from your home PC/laptop or DOE laptop or contractor provided PC/laptop from home or any other location not defined as Headquarters (see definition above). Keep in mind that if you view the information from your home or other location, this is considered to be a download and removed from the physical protected Headquarters DOE facility. This would also apply to transporting PII information between DOE protected facilities such as between Germantown and Forrestal.
- Any and all files that contain PII that are sent via e-mail will be encrypted using Entrust.
- PII that is stored on Laptops or removable media or at a remote location must be deleted within 90 days or when no longer needed for official DOE business purposes.

7) RS Means Costing Data and Replacement Plant Value Models are DOE and RS Means proprietary information and may not be shared with external engineering firms or with other software vendors.

8) Department of Energy cyber information and information systems are the property of the United States Government. These systems and information are for authorized use only. Users (authorized or unauthorized) have no explicit or implicit expectation of privacy. Any and all uses of Department of Energy cyber information and information systems may be intercepted, monitored, recorded, copied, audited, inspected, and disclosed to an authorized site, Department of Energy, and law enforcement personnel, as well as authorized officials of other agencies, both domestic and foreign. By using Department cyber information systems, I consent to such interception, monitoring, recording, copying, auditing, inspection, and disclosure at the discretion of authorized

site or Department of Energy personnel. Unauthorized or improper use of Department cyber information or information systems may result in administrative disciplinary action and civil and criminal penalties.

This system and the R.S. Means data contained in it are for the sole purpose of supporting the Department of Energy in-house Condition Assessment Information System (CAIS) and can only be used for that purpose. Any further reproduction or transmittal of this information is not permitted without prior written permission of the Department of Energy and the R.S. Means Company.

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1.5.2. Setting Up New Users

In order to set up new users, go to the Table Maintenance option, select Users from the dropdown list shown below.

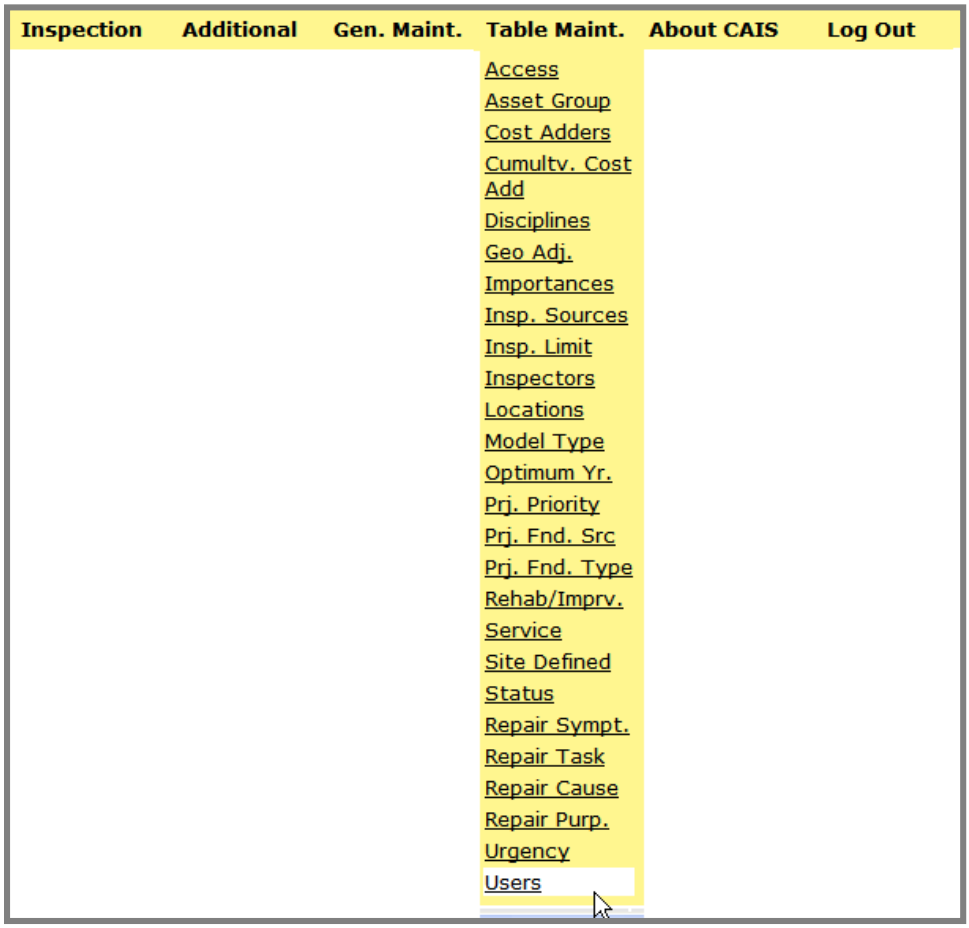


Figure 26. Table Maintenance User List Selection Screen

The User List, below, and User Detail, bottom of the page, provide important information on the user names, ID, passwords and roles (administrator, regular or read-only) assigned in CAIS.

The user list identifies all authorized users in the database, along with their assigned roles (Administrative (ADMIN), Regular, or View Only).

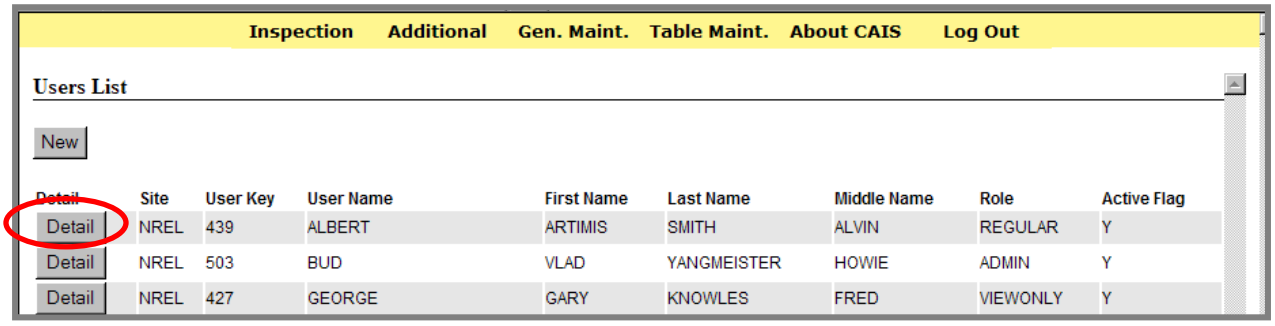


Figure 27. Table Maintenance User List Screen

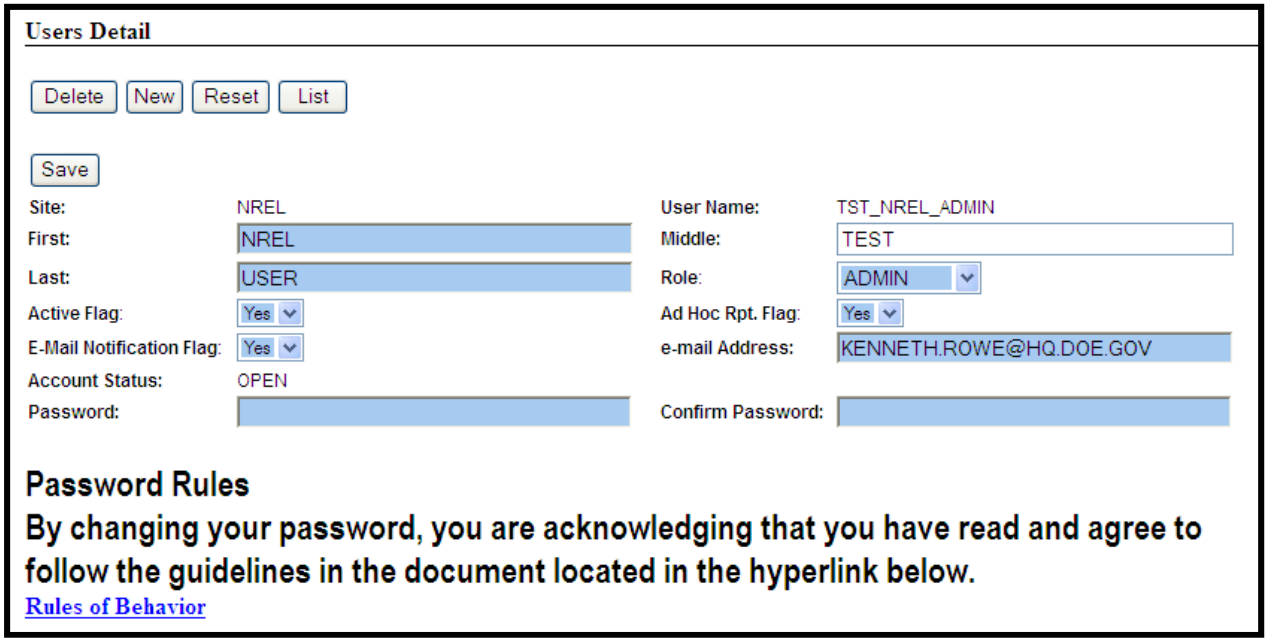


Figure 28. Maintenance User Details

Important Points:

- If you choose an invalid character when creating a new user, you receive an error message.
- If you try to create a user that already exists, you receive an error message.
- If you use an invalid character in the password you get an error message.
- **The Ad Hoc Rpt. Flag** determines if the user has access to the Ad Hoc Reports module built into CAIS.

- **The e-mail Notification Flag and e-mail Address** determine if the specified CAIS user receives an e-mail notification whenever a FIMS Asset related to CAIS gets created or archived.

NOTE: When new users are created and the Administrator changes a user's password, the password is **expired** and the user must change it the first time that he/she logs on.

1.5.3. Building Data Tables-Inspector Maintenance

The Table Maintenance Menu has various selections. The Inspectors list, below and related Inspector Detail list, bottom of page, defines each inspector. Information in each form must be completed so that the required field drop-down fields on the IU Screen are populated.

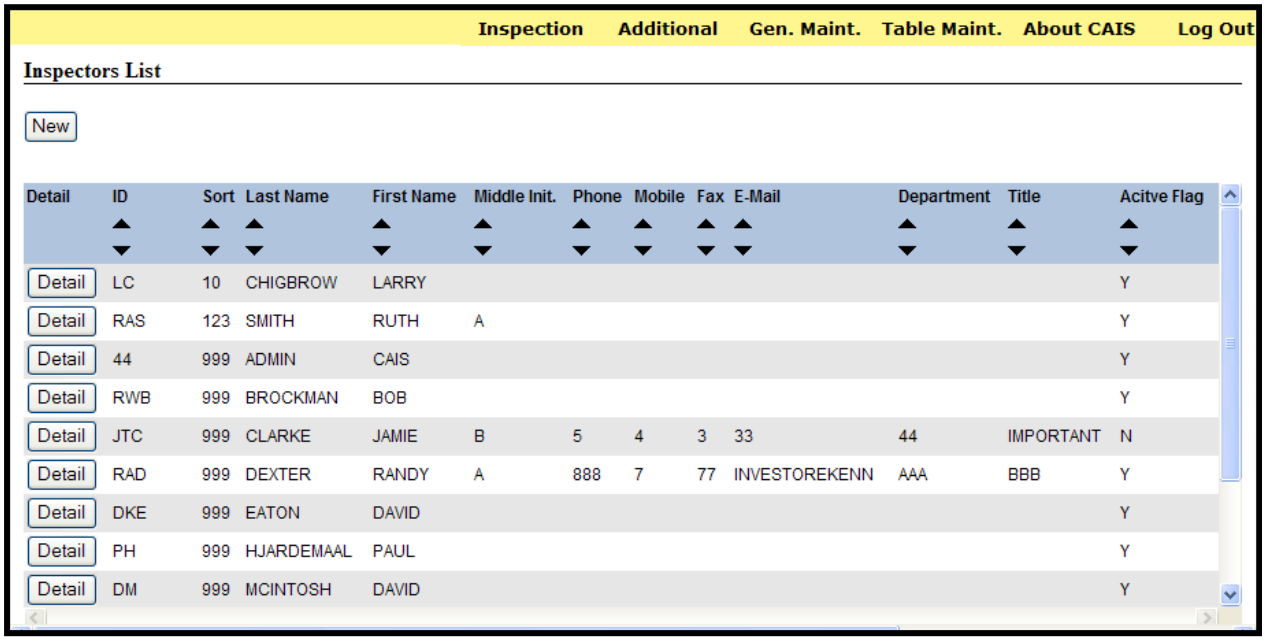


Figure 29. Table Maintenance Inspectors List

Note that the list and detail screenshots have the 'Active Flag' as their last field. If an inspector is no longer active but has Inspection Unit records assigned to his ID, it is not possible to delete the entry for him. In these cases, setting the 'Active Flag' to 'No' will remove this inspector from the drop down list of inspectors on the IU Detail Screen.

Pressing on the sort icons above the column headings will re-sort the list in ascending or descending order.

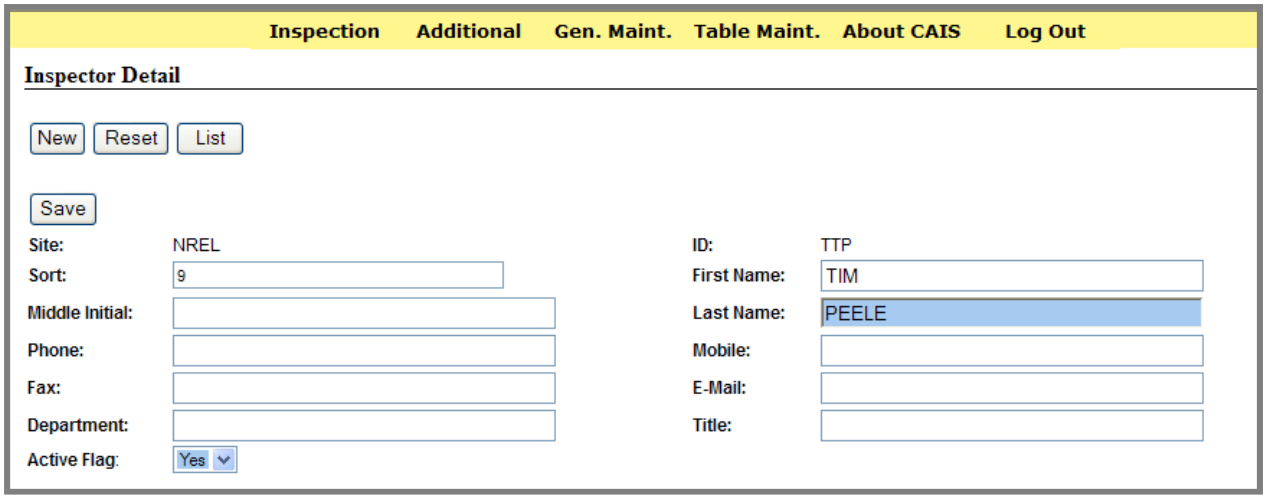


Figure 30. Table Maintenance Inspector Details

The Inspector Estimate list, shown below, is a similar table that sets the cost limit that an inspector can estimate. For costs above this limit, administrators must use RS Means Cost Tables or CAIS costing algorithms to estimate deficiencies.

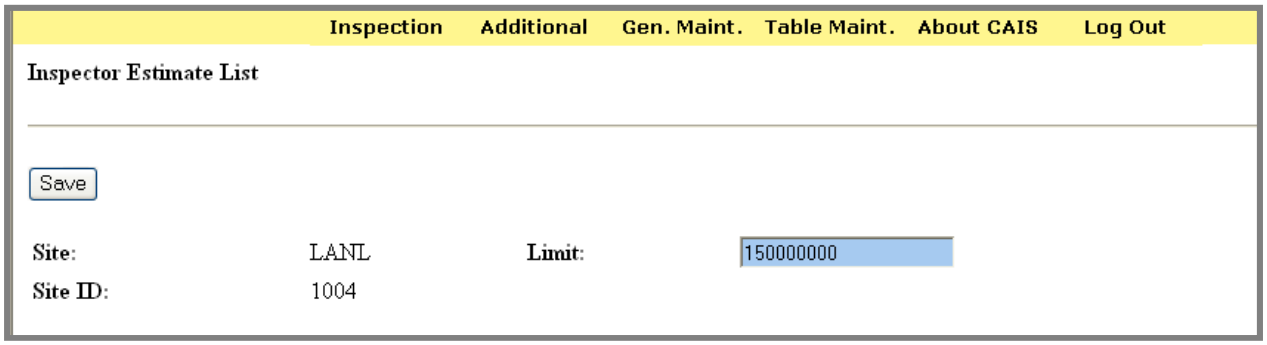


Figure 31. Table Maintenance Inspector Estimate List

2. Inspection

Information in this section describes "how to prepare for an inspection" and includes descriptions of the Field Data Survey Collection Sheet; minimum data needs for an inspection; and how to enter, move/copy, and search for assessment information in CAIS.

2.1 Overview

This section provides a brief overview of the inspection preparation process necessary to determine "what is the condition of assets." DOE has developed a two-day course on condition assessment inspector training, and one of the major elements of this course deals with preparation for the inspection. If you are interested we urge you to attend this course. This course is centered around inspection planning and CAIS data entry and reporting. The course is not a course on how to become an inspector. It assumes you are already skilled in your inspection discipline.

New users of the CAIS software have their system FIMS information populated by the CAIS support contractor. FIMS is DOE's corporate database for real property and includes information on buildings, trailers, and other structures and facilities. The CAIS application uses information from this database to populate property identity, specification, and condition fields. CAIS and FIMS share the same computer hardware, operating system software and Oracle database instance, located in the DOE Germantown Computer Center. Table 1 lists the FIMS fields used in CAIS.

Table 1 - FIMS Fields Used in CAIS

CAIS/FIMS Fields	FIMS DEFINITION
Added by FIMS Date	Tracks entry of new assets into CAIS from FIMS. The date in CAIS is set to the system date. This read-only field is displayed on the Asset Detail Screen.
Archived in FIMS Date	Tracks when a property is archived from FIMS. The date in CAIS is set to the system date. This read-only field is displayed on the Asset Detail Screen.
Updated by FIMS Date	Tracks updates to CAIS from FIMS updates. The date in CAIS is set to the system date. This read-only field is displayed on the Asset Detail Screen.
Area	Is a name that is assigned by the Field Office to identify an administrative subdivision of a site. An area is identified by a three-digit number.
Asset or Property ID	Is a unique control number assigned to a property.
Building Status	Is the status of the building that reflects programmatic intentions as well as the physical/operational status of the building. (FIMS)
Deferred Maintenance	As defined in the Statement of Federal Financial Standards #6 is "maintenance that was not preformed when it should have been or was scheduled to be and which, therefore is put off or delayed for a future period. For maintenance costs that are excluded see the FIMS Data Dictionary at http://fims.doe.gov.
Deficiency System	Indicates the deficient subsystems/work breakdown structure for a building, trailer or OSF. Up to 5 systems can be selected. The systems are identified in the order of seriousness or facility condition index (FCI). The system facility condition indexes are not reported in FIMS.

CAIS/FIMS Fields	FIMS DEFINITION
Excess Flag or Excess Indicator (Property)	Indicates (yes/no) that the Field Office/Site has designated the property as Excess now or will be Excess in the future.
Gross SF	The gross square footage or total floor area of an owned building/trailer in square feet (exterior wall to exterior wall).
Model Type or RPV Model	The number and name of the RS Means square foot model that is being used to estimate the replacement cost. It is taken from a pick list of standard model types based on the construction and use of the asset. The Model type is used to generate the summary condition or facility condition index for the major building systems or WBS categories.
Property Name	The name assigned to a specific property.
Replacement Cost or Building RPV	Is the current cost to replace an existing building with a new building. This value does not include the cost of the underlying land, personal property (furnishings) within the building site work; D&D cost, demolition, contamination and any production equipment. RPV is dependent on a standardized building model based on RS Means CostWorks square foot building models
Responsible HQ PO or HQ Program Office	The DOE headquarters program office responsible for building, trailer, land or OSF and its operations (SC, EM, etc.).
Site	The name assigned to a geographic location that is a subdivision of the Field Office.
Usage or Use Code	A numeric code that designates the predominant current use of a real property asset. It is a view only field that reflects the value stored in FIMS.
Year Built	For DOE construction, the fiscal year that a building/trailer is accepted for beneficial occupancy. If acquiring an existing building/trailer, it is the fiscal year that a building/trailer was constructed (best estimate if unknown).

The following subsections illustrate where the FIMS site, area, and asset information is entered in CAIS.

FIMS data is entered on the three screens under the General Maintenance option in the Menu Bar. See Figure 30.

The Site, Area, and Asset Maintenance can be selected from the General Maintenance menu as shown in Figure 30.

Figure 32. General Maintenance Menu Options

2.2 General Maintenance

The General Maintenance menu option includes Site Maintenance, Area Maintenance, Asset Maintenance and Archived Assets menu options. The site list is shown below.

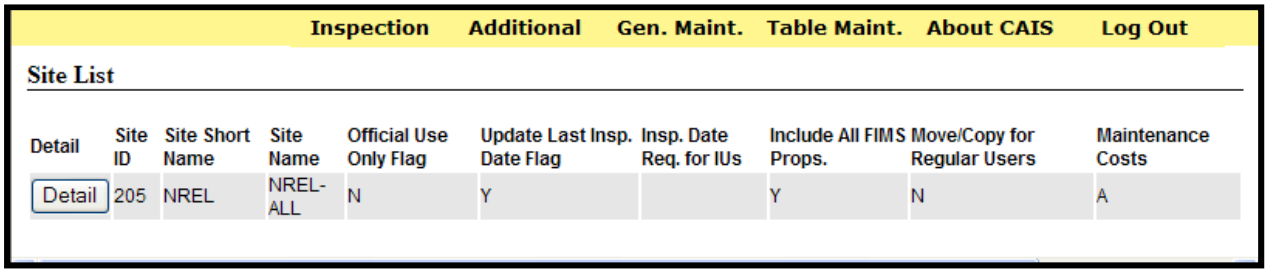


Figure 33. General Maintenance Site List

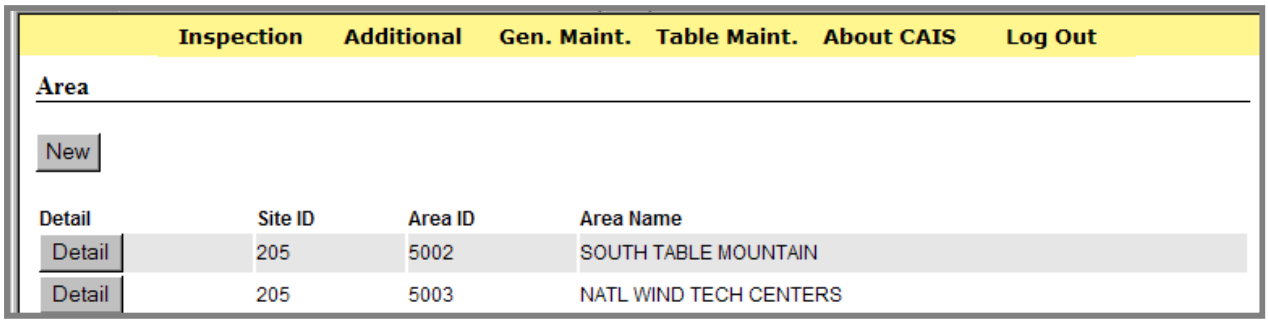


Figure 34. General Maintenance Area List

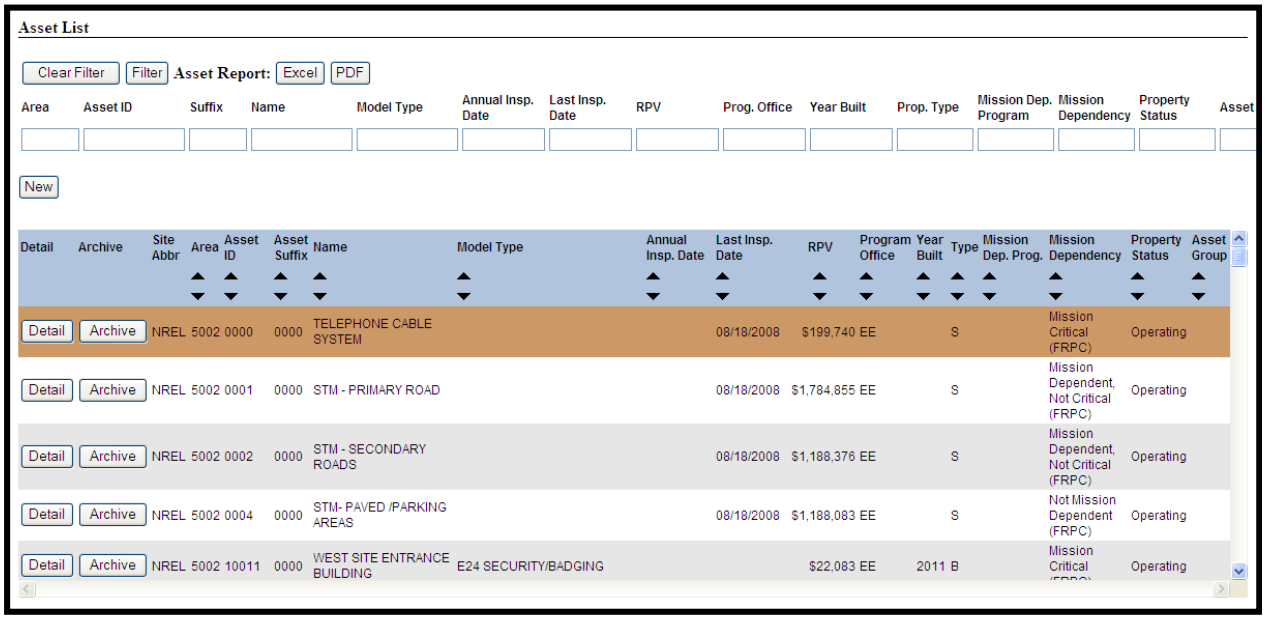
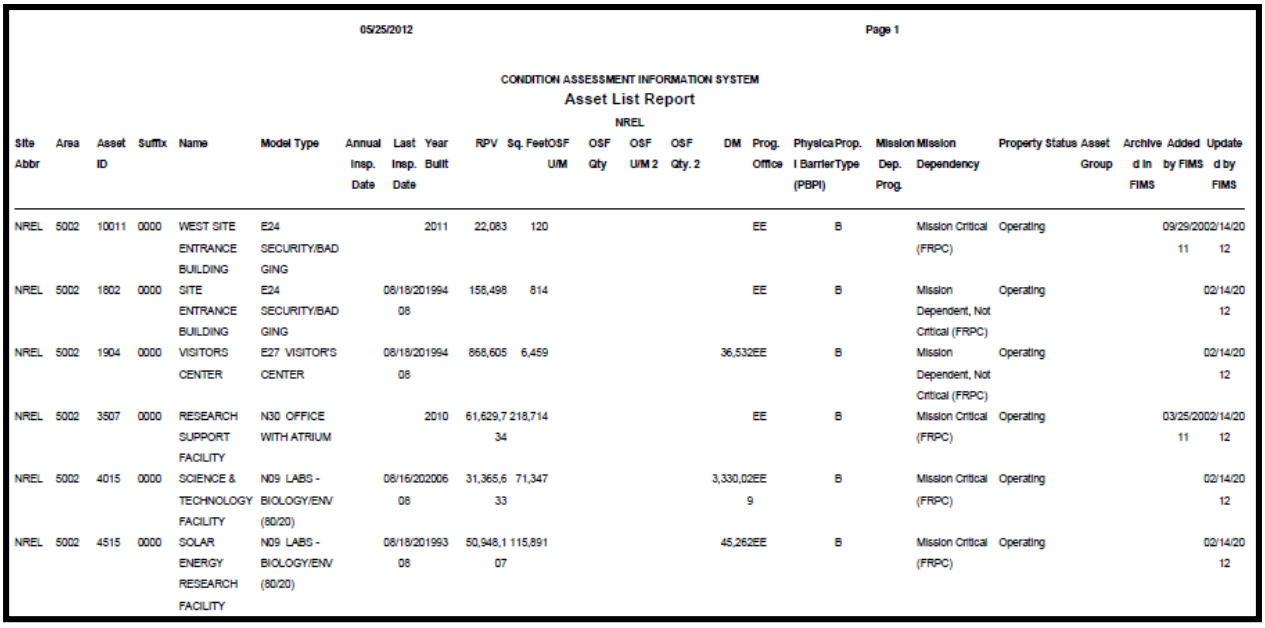


Figure 35. General Maintenance Asset List

The General Maintenance Asset List Screen has seven buttons.

- Clear Filter: Clears the Filter fields.
- Filter: Filters the asset list.

- Asset Report Excel: Prints the assets displayed on the asset list to Excel format. Note that if the list of assets has been filtered only those assets that meet the filter conditions will be included.
- Asset Report PDF: Prints the assets displayed on the asset list to PDF format. Note that if the list of assets has been filtered only those assets that meet the filter conditions will be included.
- New: for creating a new Asset. This button may only be accessed by a user with the CAIS Administrator Role.
- Archive: used to archive the asset and its associated cost adders and Inspection Units. This button is may only be accessed by a user with the CAIS Administrator Role.



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CONDITION ASSESSMENT INFORMATION SYSTEM

Asset List Report

NREL

Site Abbr	Area	Asset ID	Suffix	Name	Model Type	Annual Insp. Date	Last Insp. Date	Year Built	RPV	Sq. Feet	OSF U/M	OSF Qty	OSF U/M 2	OSF Qty. 2	DM	Prog. Office	Physical Barrier (PBPI)	Prop. Type	Mission Dep. Prog.	Mission Dependency	Property Status	Asset Group	Archived in FIMS	Added by FIMS	Updated by FIMS
NREL	5002	10011	0000	WEST SITE ENTRANCE BUILDING	E24 SECURITY/BADGING			2011	22,083	120						EE		B		Mission Critical (FRPC)	Operating			09/29/2011	02/14/2012
NREL	5002	1802	0000	SITE ENTRANCE BUILDING	E24 SECURITY/BADGING		08/18/2008	1994	158,498	814						EE		B		Mission Dependent, Not Critical (FRPC)	Operating				02/14/2012
NREL	5002	1904	0000	VISITORS CENTER	E27 VISITOR'S CENTER		08/18/2008	1994	868,605	6,459					36,532	EE		B		Mission Dependent, Not Critical (FRPC)	Operating				02/14/2012
NREL	5002	3507	0000	RESEARCH SUPPORT FACILITY	N30 OFFICE WITH ATRIUM			2010	61,629,734	218,714						EE		B		Mission Critical (FRPC)	Operating			03/25/2011	02/14/2012
NREL	5002	4015	0000	SCIENCE & TECHNOLOGY FACILITY	N09 LABS - BIOLOGY/ENV (80/20)		08/16/2008	2006	31,365,633	71,347					3,330,029	EE		B		Mission Critical (FRPC)	Operating				02/14/2012
NREL	5002	4515	0000	SOLAR ENERGY RESEARCH FACILITY	N09 LABS - BIOLOGY/ENV (80/20)		08/18/2008	1993	50,948,107	115,891					45,262	EE		B		Mission Critical (FRPC)	Operating				02/14/2012

Figure 36. Asset List Report Filtered by Property Type 'B'

The General Maintenance Asset Detail Screen, shown below, contains the FIMS fields and condition assessment information pertinent to that asset. Blue fields on the screen indicate that the data is mandatory, white fields indicate the data is optional, and green fields indicate the data is used for computations.

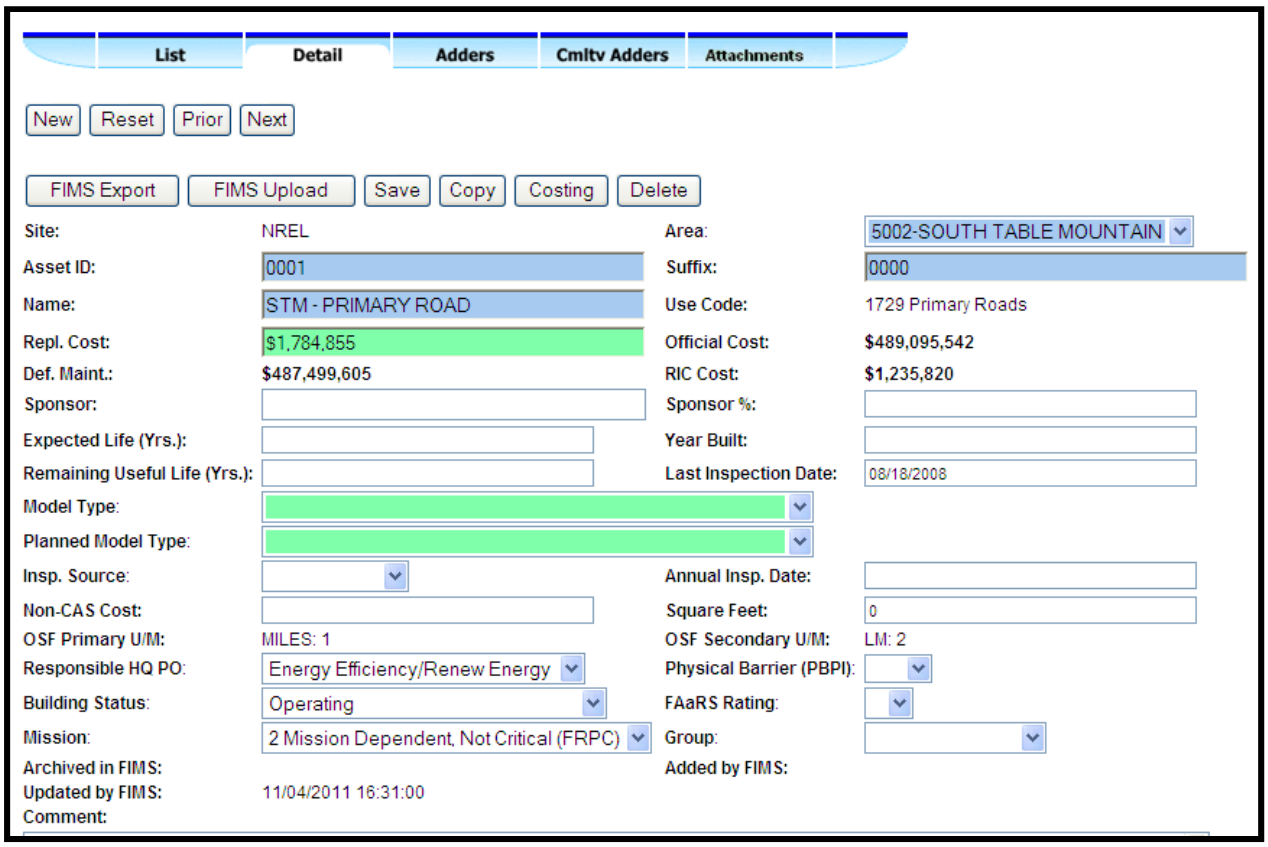


Figure 37. Maintenance Asset Detail Screen

2.3 Pre-Inspection Planning

Pre-inspection planning involves review of inspection schedules for building and equipment assignments. Who is responsible for what equipment in the building? What are the requirements for conducting the inspections? This may include notification of the building manager, wearing the proper safety equipment. Review any information pertaining to the equipment or system you are inspecting. Are their previous problems, outages of the systems? Who do I call or contact to conduct the inspection?

2.4 Conduct the Inspection

All inspections must follow site procedures and follow all safety requirements. The proper notification must be made if hazardous situations are encountered.

2.4.1. The Four Basic Steps of Data Collection

There are four basic steps or questions an inspector must answer to properly conduct a condition assessment. They are the following:

1. **Who are you?** The inspector must provide their name and discipline in order to answer any inquiries regarding the condition assessment.

2. **Where are you?** The inspector must identify the asset; i.e., building, trailer OSF name and property ID, the location of the asset (area) and where in the asset the inspection is taking place.

3. **What are you looking at?** The identification of what you are looking at follows the DOE Inspection Methods and Deficiency Standards hierarchy, which states that an asset (building, road system, bridge) contains Work Breakdown Structures (WBS - roofing, electrical systems, mechanical systems) that contain Components (roof-membrane, flashing, insulation, chillers) that are of specific Types (2-4 ply non-insulated roof membrane, centrifugal chiller). The figure below provides a Hierarchy Diagram.

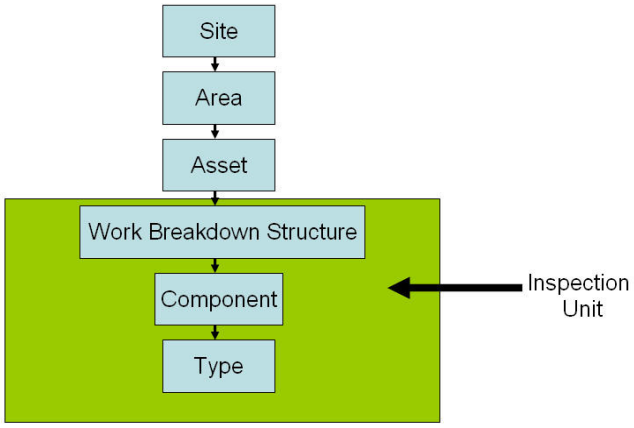


Figure 38. Hierarchy Diagram

4. **What's wrong with it?** The CAS inspections are visual inspections and follow non-invasive and non-destructive procedures. Identify the deficiency or condition that could lead to the failure of the inspection unit. Estimate the severity of the deficiency; i.e.,

light, moderate, severe or failure. State the urgency of the repairs; i.e., no repairs, 3-5 years, 1-2 years, less than 1 year or repair immediately. Inspectors should state why the repairs are necessary for example code violation, safety, end of useful life.

Hierarchy Definitions

- **Site** – See Table 1 for the FIMS definition.

- **Area** – See Table 1 for the FIMS definition.

- **Asset –** In FIMS, real and related personal property are represented by four major property types. They include Buildings (real), Other Structures and Facilities (real), Land (real) and Trailers/Modular Containers (personal, sometimes real). CAS inspections are conducted only on real property.

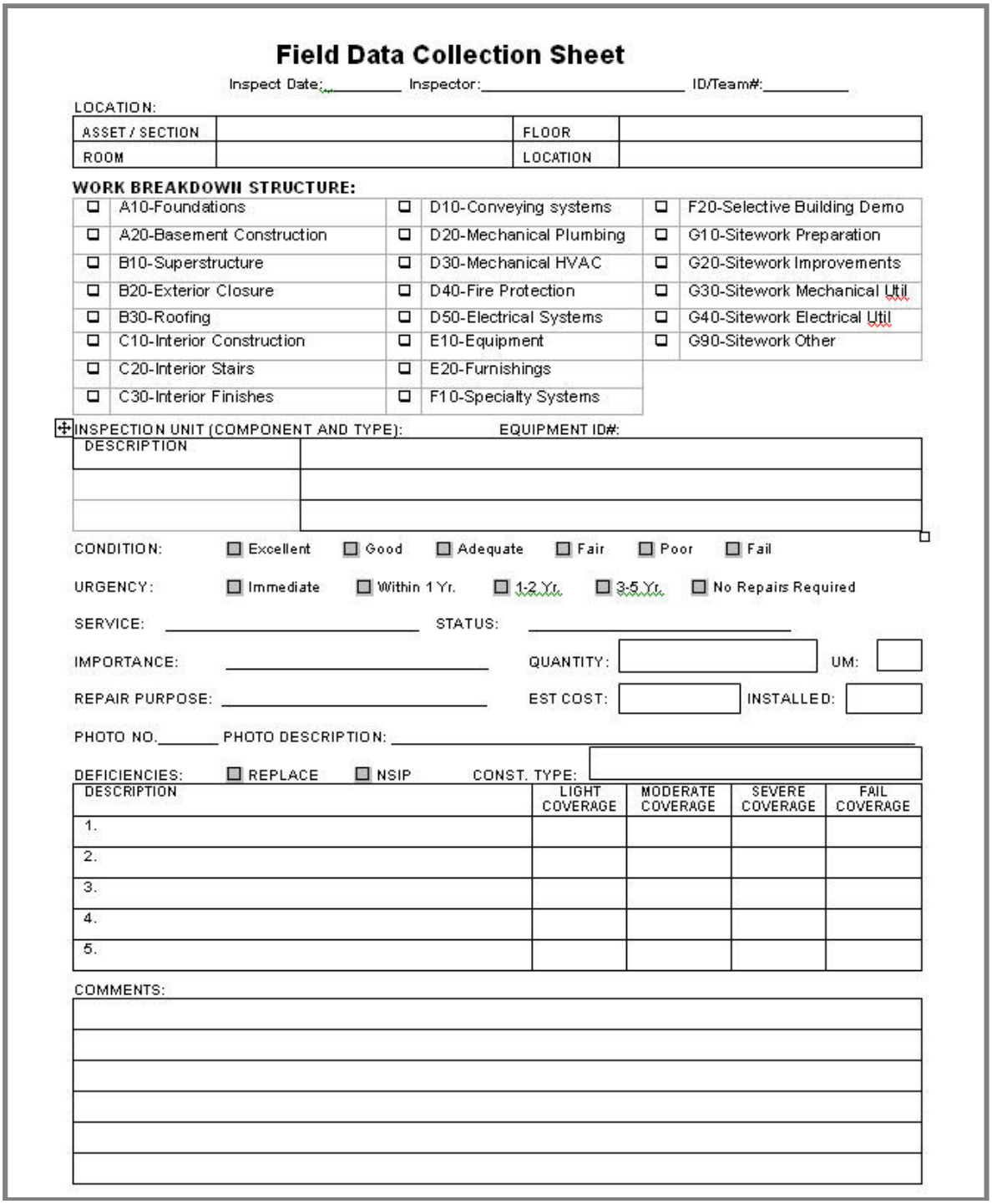
- **Work Breakdown Structure (WBS)** - a hierarchical, industry standard, classification method of defining systems and sub-systems within an asset. For example, the high-level system ROOFING contains 10 sub-systems including "BUILT-UP MEMBRANE," "SINGLE-PLY MEMBRANE," "METAL ROOFING SYSTEMS".

- **Component** - a subdivision of the WBS that provides increasing detail. For example, the components of a roof's "BUILT-UP MEMBRANE" WBS might include "FLASHING," "MEMBRANE," or "INSULATION." CAIS supports the recording of deficiencies at the component level (for example, *torn* FLASHING, *punctured* MEMBRANE.).

- **Type** - Components can contain additional information that usually specifies material or construction detail (i.e., *copper* FLASHING). The types also have attached costing information.

- **Inspection Unit** - An IU is a data composite that is utilized by CAIS to support costing and other functions. RS Means publishes annual CAIS compatible costing data that is defined by the IU. This data is utilized by CAIS in its costing algorithms.

This information may be entered on the Field Data Collection Sheet, show below, before the administrator can enter the asset deficiencies in CAIS to estimate the repair/replacement of those deficiencies. The Field Data Collection Sheet show below is a sample. Many sites customize them. For example, some sites have different Field Data Collection Sheets for each discipline.



Field Data Collection Sheet

Inspect Date:_____ Inspector:_____ ID/Team#:_____

LOCATION:

ASSET / SECTION		FLOOR	
ROOM		LOCATION	

WORK BREAKDOWN STRUCTURE:

☐	A10-Foundations	☐	D10-Conveying systems	☐	F20-Selective Building Demo
☐	A20-Basement Construction	☐	D20-Mechanical Plumbing	☐	G10-Sitework Preparation
☐	B10-Superstructure	☐	D30-Mechanical HVAC	☐	G20-Sitework Improvements
☐	B20-Exterior Closure	☐	D40-Fire Protection	☐	G30-Sitework Mechanical Util
☐	B30-Roofing	☐	D50-Electrical Systems	☐	G40-Sitework Electrical Util
☐	C10-Interior Construction	☐	E10-Equipment	☐	G90-Sitework Other
☐	C20-Interior Stairs	☐	E20-Furnishings		
☐	C30-Interior Finishes	☐	F10-Specialty Systems		

INSPECTION UNIT (COMPONENT AND TYPE): EQUIPMENT ID#:

DESCRIPTION	

CONDITION: ☐ Excellent ☐ Good ☐ Adequate ☐ Fair ☐ Poor ☐ Fail

URGENCY: ☐ Immediate ☐ Within 1 Yr. ☐ 1-2 Yr. ☐ 3-5 Yr. ☐ No Repairs Required

SERVICE: _____ STATUS: _____

IMPORTANCE: _____ QUANTITY: _____ UM: _____

REPAIR PURPOSE: _____ EST COST: _____ INSTALLED: _____

PHOTO NO._____ PHOTO DESCRIPTION: _____

DEFICIENCIES: ☐ REPLACE ☐ NSIP CONST. TYPE: _____

DESCRIPTION	LIGHT COVERAGE	MODERATE COVERAGE	SEVERE COVERAGE	FAIL COVERAGE
1.				
2.				
3.				
4.				
5.				

COMMENTS:

Figure 39. Field Data Collection Sheet

2.5 Entering Survey/Inspection Data

This section describes how and where to transfer survey/inspection data from the collection sheets to the CAIS screens and how to enter, filter, and edit inspection data.

Deficiency information is linked to a specific asset (building, trailer or OSF) at a site and area.

With the exception of the **Asset Suffix, Annual** and **Last Inspection Date,** all data show below is populated through the FIMS import done by the CAIS support contractor. The fields are kept up to date via a database trigger.

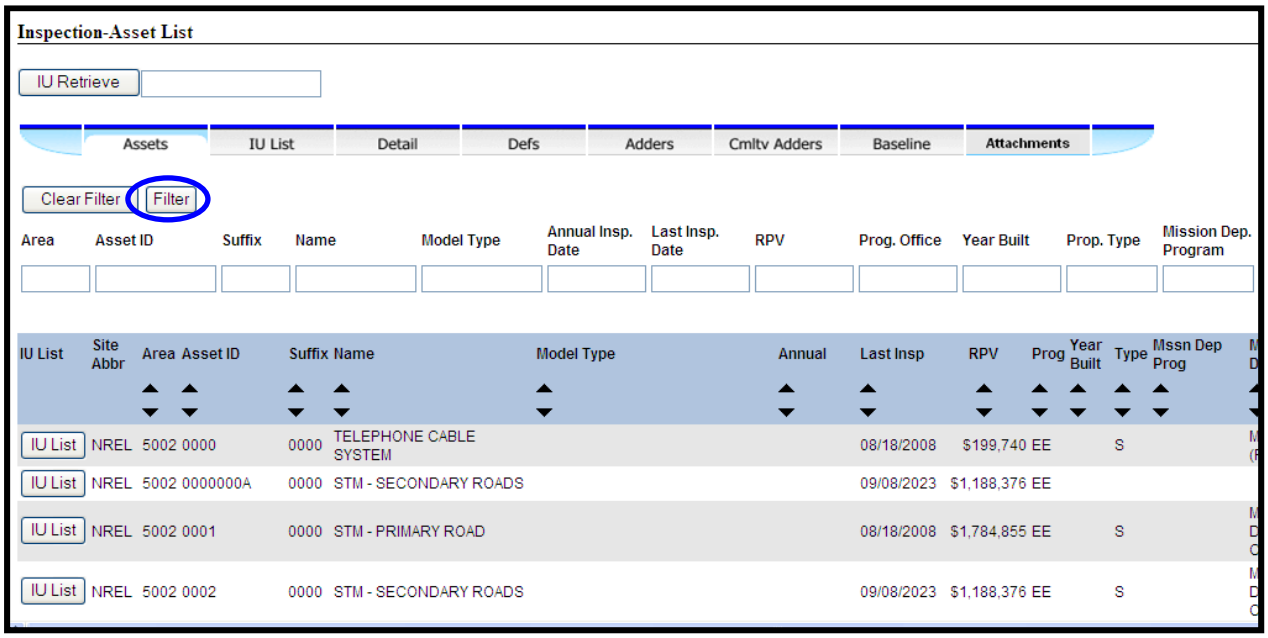


Figure 40. Inspection Asset List Screen

The Filter section provides the opportunity to shorten the Asset List displayed. Enter the desired parameter and then click the Filter button. The data will now display only the desired assets. Then select the IU List button for the appropriate asset.

When there are hundreds of IUs for a single asset, the updateable IU List can have problems displaying the information. To address this problem, the IU List is now a view only screen. By removing the drop down lists, the display problem has been eliminated. In order to keep the IU List update capability, a menu choice, IU List Updateable, is available (see below).

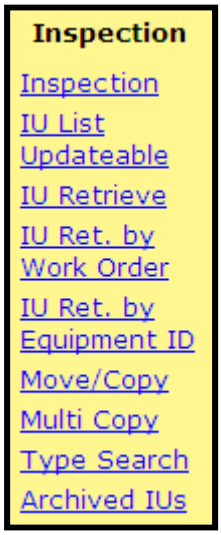


Figure 41. IU List Updateable Option

Select IU List Updateable on the Inspection menu. The Inspection-Asset Updateable List opens.

Click on the appropriate IU List button to open the Updateable IU List screen shown below. At this point, the navigation bar options are shaded grey indicating they are not available.

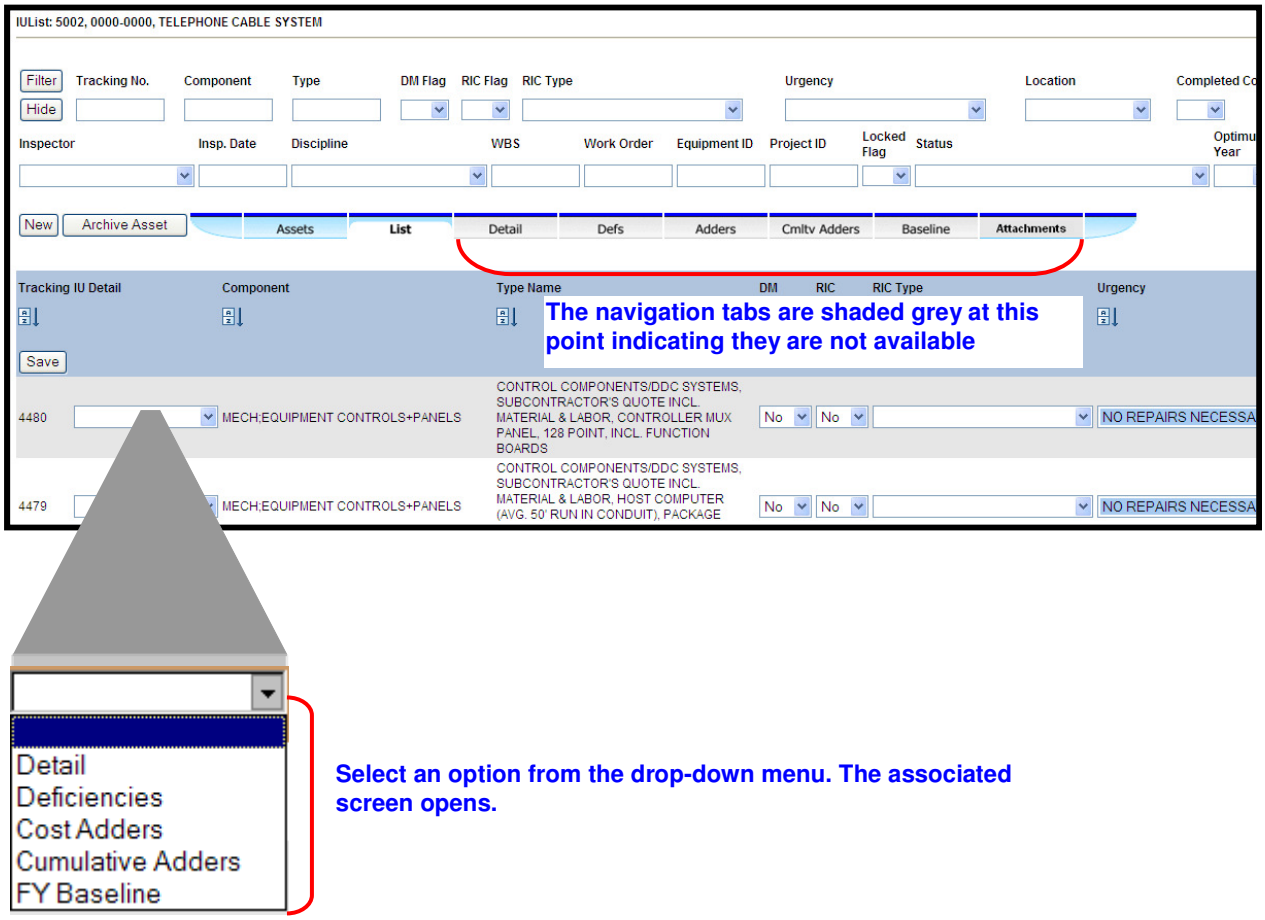


Figure 42. Updateable IU List Screen

Table 2, shown below, describes the IU list fields.

Table 2 - Inspection Unit List Fields

Inspection Unit List Fields	Description
Component	The subsystem that makes up the IU.
Deferred Maintenance Flag	Indicates whether the repair/replacement cost is considered deferred maintenance. Defined in the RPAM order deferred maintenance is "maintenance that was not performed when it should have been or was scheduled to be and which, therefore, is put off or delayed for a future period.
Discipline	The inspector's line of work/expertise.
Equipment ID	The identification number of the IU.
Inspection Date	The date the inspection occurred.
Inspector	Who performed the inspection?
Inspector Estimated Cost	The dollar value that the inspector estimates the repair/replacement for the Inspection Unit will cost.
Last Updated	A system generated date field that logs the date and time an IU was edited.
Last Updated By	Displays the individual who last updated the IU deficiency data in CAIS.
Location	Where the IU can be found.
Locked Flag	No/Yes flag associated with projects that lock all values when an IU is part of a project.
Optimum Year	The date when the IU is expected to fail.
Other Type Description	The free form text field where one may input additional information describing the type selected for the inspection unit.
Project ID	The identification number of the repair or replacement project that fixes the deficiencies.
RIC Flag	Specifies if this deficiency falls under the Rehab and Improvement Cost, where RIC is the cost to rehab/improve/modernize a general purpose/conventional property to support current/planned mission activities as documented in the Ten Year Site Plan. RIC is not deferred maintenance.
RIC Type	The type of Rehab and Improvement Cost.
Status	A list that defines the status of the Repairs or Replacement for the IU.
Tracking Number	A system generated unique number for the Inspection Unit identified. This unique number can be used to track the IU unit until it is corrected. This field is locked and cannot be edited.
Type	A pick list selection based on the component selected. The Type and Component define the Inspection Unit or the item being inspected. The type also links to the cost tables.
Urgency	When the repairs or replacement identified should be performed.
WBS	The major system that the IU falls under. See WBS Uniformat II chart which may be downloaded from this address: http://caisinfo.doe.gov/documents/caswbsII.pdf

Select an option from the IU Detail column drop-down list. The window associated with your selection opens. (In the figure below, for example, Detail was selected; therefore, the IU Detail screen opened.)

Blue data indicates mandatory data, white fields indicate optional data, and green fields indicate data required for computations. This screen is the most important screen in CAIS because all the inspection data is entered here. Additional fields provide costing, project information, and repair data. The Comments field is limited to 2,000 characters.

Once you have gone to the IU Detail Screen, all the options on the Navigation Bar are now active, so now you can select any of the options from the Navigation Bar.

Note that if there is data for the Deficiencies, Adders, Cumulative Adders, FY Baseline or Attachments, a green checkbox will be present for the corresponding toolbar option. See **Figure 15. IU Detail Options with Data Present** to see what this looks like.

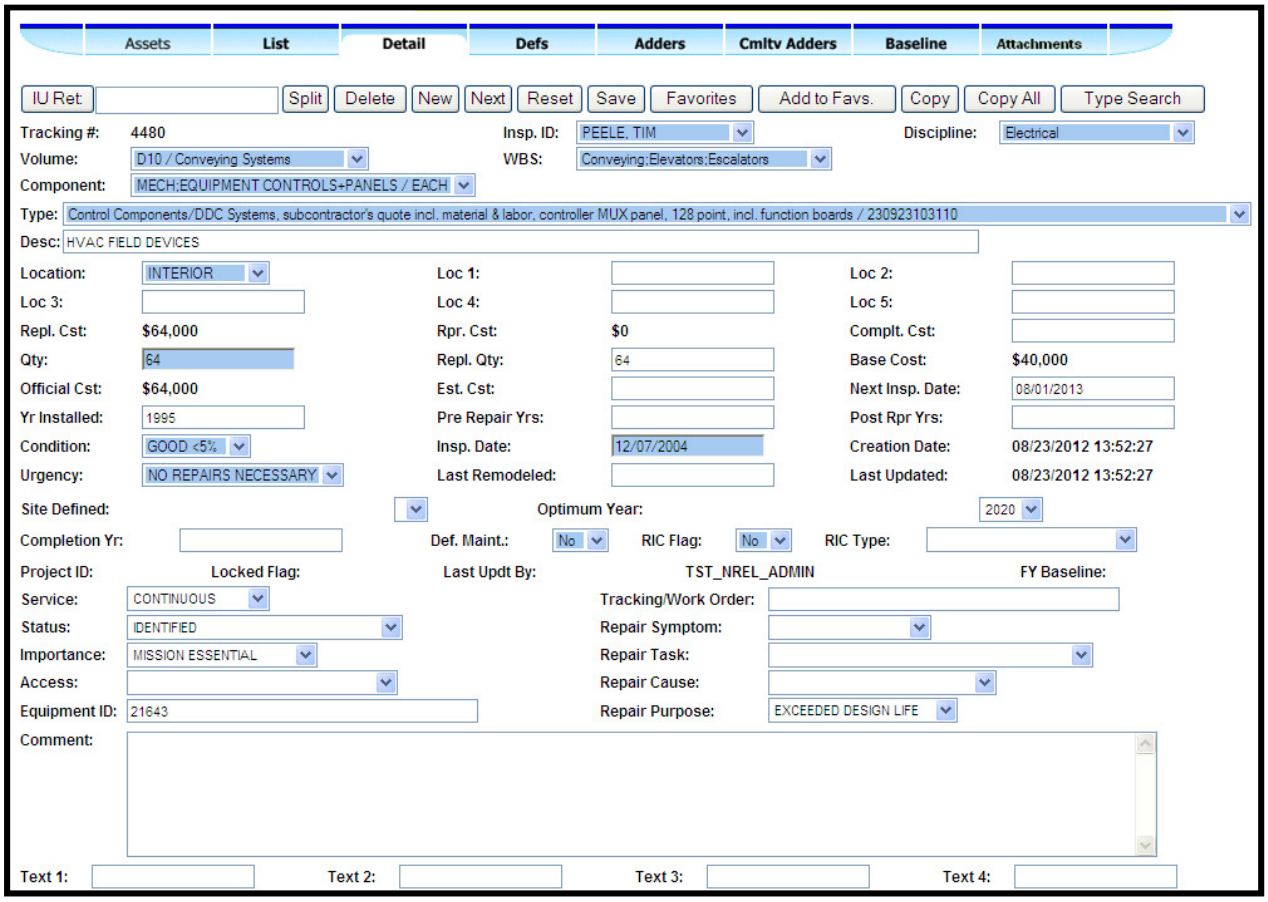


Figure 43. Inspection Unit (IU) Detail Screen

The options available for the IU Detail Screen show on the previous page are described below.

- **IU Retrieve –** Enter an IU value in the blank field following the IU Retrieve button and then click on the IU Retrieve button.
- **Split –** Split the IU into two IUs: the base IU and a split-out IU. All associated IU data is replicated including the deficiencies, the adders and the cumulative adders. Any baseline data is broken out proportionally. See IU Split section 2.4.2 for additional details.
- **Delete –** Deletes the current IU.
- **New** - Click this button to enter new inspection data. The Inspection-IUDetailNew screen will appear. This is a blank detail entry form with only your site filled in.
- **Next** - Click this button to retrieve the next IU on the IU List Screen. This button is only visible if there are additional IUs on the IU List.
- **Previous** - Click this button to retrieve the prior IU on the IU List Screen. This button is only visible if there are previous IUs on the IU List.
- **Reset** – Clicking erases all data fields, allowing you to go back to the original retrieved detail after you have made changes which you decided you didn't want to save. This can only be done before you select save.
- **Save – S**aves any changes to the IU Detail Screen.
- **Favorites –** Permits easy searches of the most common or most deficient component/ types i.e., Roofing/Built Up Membrane/SQ. roofs.
- **Add to Favorites** – Adds this WBS/Component/Type from the existing IU to the favorites list so that it may be used for creating IUs for similar deficiencies in the futures.
- **Copy** – Click to copy these fields from the current IU to use as the basis for a new IU: Inspector ID, Discipline, Volume, WBS, Component, Location, Type and Desc.
- **Copy All** – Click to copy all the current or existing IU data to use as basis for a new IU. The Creation Date and Last Updated fields are updated to the current date in the new IU when 'copy all' is used. All deficiencies and cost adders associated with the IU are copied as well.
- **Type Search –** Click and the Type Search window will appear. Use the various dropdown lists and text field to find the Types from the CAIS database. The following fields may be specified for searches: Volume, WBS, Component and Type field, RS Means Line Number, Text Field One, Text Field Two. See Section 2.6 for a complete description of how this feature works.

2.5.1. Retrieving IUs

There are several ways to retrieve an Inspection Unit in order to update it. The most basic way to retrieve the IU is by using the menu choice of Inspection and then Inspection again. Then, select the Asset with the IUs to be edited and they will be displayed. Additionally, the Inspection Unit Asset List may be filtered first before selecting the IUs to be edited. Finally, when the IU List is displayed, it may be sorted and filtered as well.

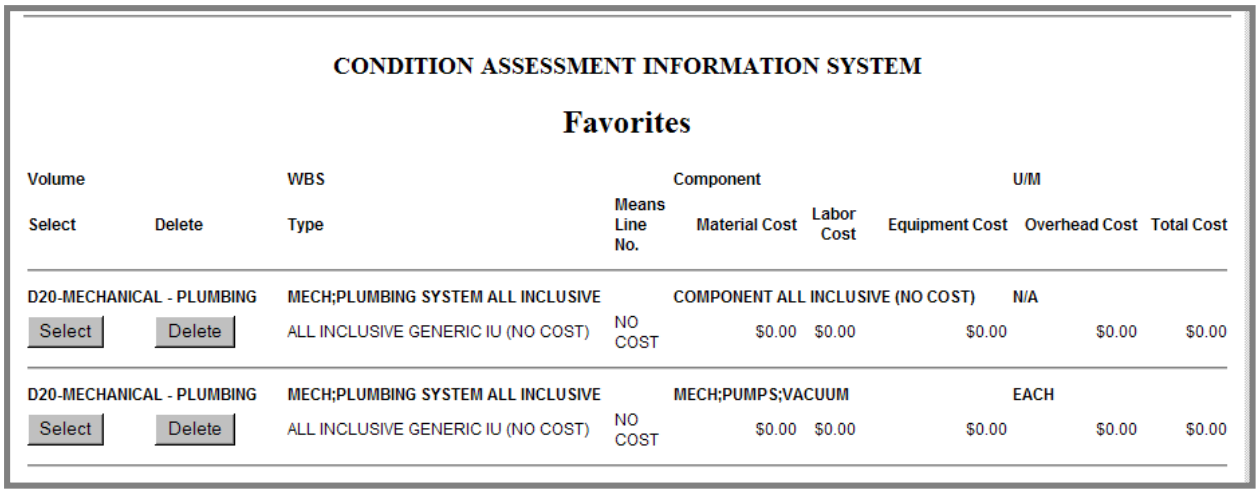
In addition to this approach, there are three other ways to retrieve IUs by using the inspection menu by typing in one of three kinds of information:

- **Tracking Number** accessed via **IU Retrieve**
- **Work Order** accessed via the **IU Ret. by Work Order**
- **Equipment ID** accessed **IU Ret. by Equipment ID**

Using these shortcuts can save time and make updating IU records more efficient.

2.5.2. Favorites

In order to make data entry of common deficiencies more efficient, the Favorites feature is available. The IU Detail Screen has two buttons: Favorites and Add to Favorites. 'Favorites' brings up the Favorites list and 'Add to Favorites' adds the current Volume, WBS, Component, Type for the Inspection Unit to the list of Favorites. The Favorites list is shown below:



CONDITION ASSESSMENT INFORMATION SYSTEM

Favorites

Volume		WBS		Component			U/M	
Select	Delete	Type	Means Line No.	Material Cost	Labor Cost	Equipment Cost	Overhead Cost	Total Cost
D20-MECHANICAL - PLUMBING		MECH;PLUMBING SYSTEM ALL INCLUSIVE		COMPONENT ALL INCLUSIVE (NO COST)			N/A	
Select	Delete	ALL INCLUSIVE GENERIC IU (NO COST)	NO COST	$0.00	$0.00	$0.00	$0.00	$0.00
D20-MECHANICAL - PLUMBING		MECH;PLUMBING SYSTEM ALL INCLUSIVE		MECH;PUMPS;VACUUM			EACH	
Select	Delete	ALL INCLUSIVE GENERIC IU (NO COST)	NO COST	$0.00	$0.00	$0.00	$0.00	$0.00

Figure 44. Favorites

2.5.3. IU Split

Splitting an IU allows for the FY Baseline data to be allocated between the base IU and the split out IU. See the figure below for a screenshot of the IU Split Window. The Original Quantity and Original Replacement Quantity are input on this screen. The split out IU's quantities will be calculated by subtracting the updated quantity from the original quantity.

After the Save button is pressed the split out IU will be retrieved. The comment field of both the original and split out IU will have the following information appended to it:

- The associated IU.
- The date the split out occurred.

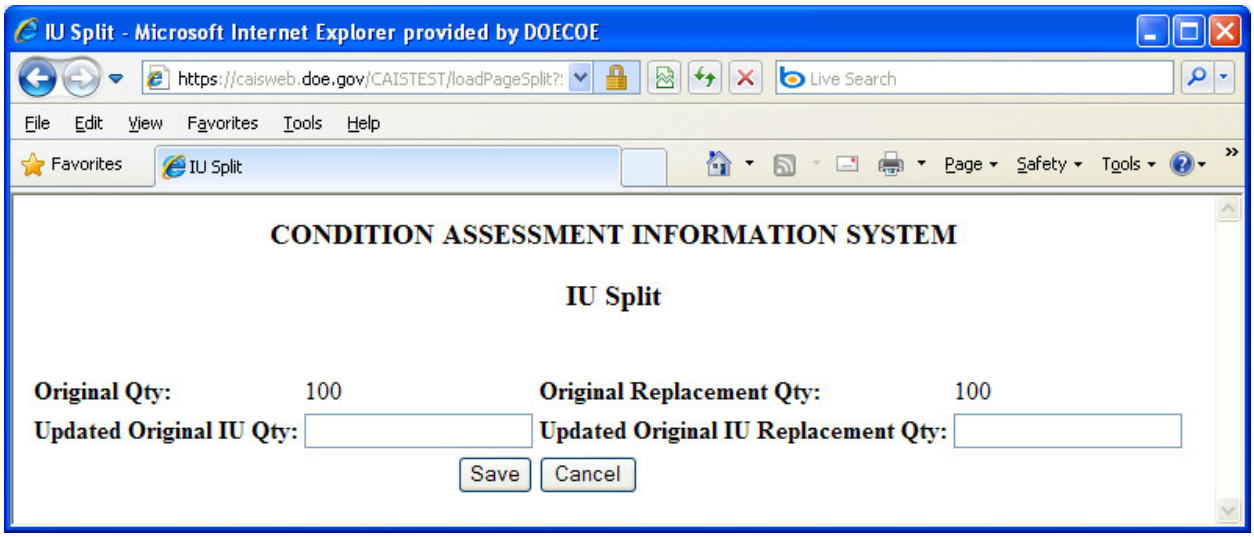


Figure 45. IU Split Screen

2.5.4. IU Detail Fields

The fields for documenting deficiencies are listed in Table 3.

Table 3 - Fields for Documenting Deficiencies

Inspection Unit (IU) Detail Fields	Definition
Access	A list that defines the access requirements for the IU.
Base Cost	This is a locked field that shows the base cost to repair or replace the IU identified based on the information entered. Base costs do not include any cost adders.
Comment	A free form field for the user to enter additional descriptive information related to the inspection details.
Completed Cost (Complt Cst)	Actual cost to complete the repairs, replacement of the deficiency.
Completion Yr.	The year the work was actually performed.
Component	A pick list selection based on the WBS selected. The component defines major system or assemblies of the selected WBS.
Condition	A list that identifies the general shape of the IU under inspection.
Creation Date	A system-generated field that logs the date and time of IU creation. The time is Eastern Time.
Deferred Maintenance Flag	An indicator (Y/N) that indicates whether the repair/replacement cost is considered deferred maintenance.
Description (Desc)	A free-form data field for entering a description of the IU that further defines what the inspector is looking at.
Discipline	A pick-list selection defining the discipline of the inspector or type of inspection being performed.
Equipment ID	The identification number of the IU being inspected.
Estimated (Est) Cost	This is a numeric field where the inspector can enter an estimated cost for the repairs or replacements identified. The default value is $5,000 and can be set by the site to any desired value.
FY Baseline	This is a report that provides the deferred maintenance, rehab and improvement cost or both and the official costs to repair or replace the deficiencies of an inspection unit.
Importance	This list defines the operational importance of an IU; i.e., primary, mission essential.
Inspection (Insp) Date	The date the IU was last inspected.
Inspector ID	A pick-list selection of the available inspectors. Selecting an inspector identifies who entered or performed the inspection. This list is displayed by last name, first name format and is sorted by the sort order and then by the inspector's last name.
Last Remodeled Date	The date the IU was last remodeled.
Last Updated	A system-generated date field that logs the date and time an IU was

Inspection Unit (IU) Detail Fields	Definition
	edited. The time is Eastern Time.
Last Updated (Updt) By	The individual who edited the assessment data.
Location	A pick-list selection defining the location of the IU. Up to five free form location fields may be used to define the whereabouts of this deficiency.
Locked Flag	If the IU Locked Flag is Yes indicates IUs cannot be changed; if No means IUs can be changed.
Next Inspection Date	The date of the next scheduled inspection for the IU.
Official Cost (Cst)	This is a locked field that shows the official cost to repair or replace the IU identified based on the information entered.
Optimum Year	The time in the life cycle of an asset when maintenance actions should be accomplished to preserve and maximize the useful life of the asset. The determination is based on engineering/maintenance analysis and is independent of funding availability or other resource implications.
Post Repair Years	The estimated years of life remaining for the identified IU after the repairs or replacements have been performed.
Pre Repair Years	The estimated years of life remaining for the identified IU before the repairs or replacements have been performed.
Project ID	A number that identifies the project that has been created to repair or replace the deficient systems or components.
Quantity	The quantity; i.e., linear feet, sq feet, and cubic feet, for entering the quantity of the item identified.
Repair (Rpr) Cost	This is a locked field that shows the cost to repair the IU.
Repair Cause	A list of probable causes for the deficiencies.
Repair Purpose	A list that identifies the purpose for correcting the deficiencies; i.e., efficiency, code violation.
Repair Symptom	A list of common repair or replacement symptoms.
Repair Task	A list of standard tasks required to correct deficiencies; i.e., patch, resurface.
Replacement (Repl) Cost	A locked field that shows the cost to replace the replacement quantity selected.
Replacement Quantity	A numeric field for entering the quantity of the IU to be replaced.
RIC Flag	Specifies if this deficiency falls under the Rehab and Improvement Cost where RIC is the cost to rehab/improve/modernize a general purpose/conventional property to support current/planned mission activities as documented in the Ten Year Site Plan. RIC is not deferred maintenance.
RIC Type	A list that identifies the type of RIC cost; i.e., fire safety, upgrade, seismic.

Inspection Unit (IU) Detail Fields	Definition
Service	A list of IU service requirements; i.e., intermittent, continuous, stand-by.
Site Defined	A user-defined field lookup list customized to the conditions of the particular site.
Status	A list that defines the status of the inspection unit.
Tracking #	A system generated unique number for the Inspection Unit identified. This unique number can be used to track the IU unit until it is corrected. This field is locked and cannot be edited.
Type	A pick list selection based on the component selected. The Type and Component define the Inspection Unit or the item being inspected. The type also links to the cost tables.
Text 1/2/3/4	Free-form text fields that allow entry of site-specific requirements.
Urgency	A list or predefined time periods when the repairs or replacements should be made.
Tracking Work Order	The maintenance mgmt system work order number that is associated with the IU.
Volume	A standard pick-list selection based on the 12-building system from RS Means. Selecting a volume filters the WBS selections.
Work Breakdown Structure (WBS)	A pick-list selection, the Work Breakdown Structure is a defined list of the major inspection areas.
Year (Yr) Installed	The date the IU was first installed.

2.5.5. Inspection Unit Status Field

There is a special process for automating the closing out of an inspection unit. If the status is changed from a previous value to Completed, Sale, Excess or Demolished then, if the DM Flag or RIC Flag were "Yes", the flag will be set to "No". Additionally, the Completed Cost and the Completion Year will be updated provided these fields do not already have an existing value. When the status is set to Cancelled using a code of 'CNCL' as defined in the status code table, the DM Flag and RIC Flag will be automatically changed to 'No' after updating the IU.

2.5.6. Inspection Unit Deficiencies

The figure below displays the deficiencies associated with an IU. Enter the appropriate coverage data on the severity of the deficiency and then click Save to keep the data you entered**.** Ensure that the coverage percentage does not exceed 100% for each deficiency description. The deferred maintenance cost is estimated using a deficiency coverage percentage algorithm.

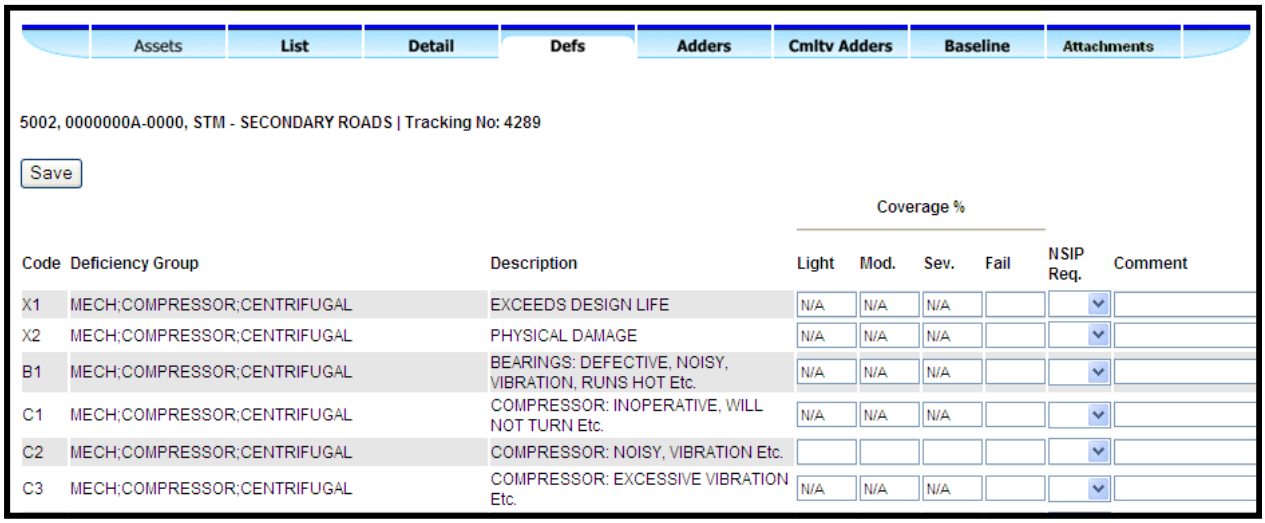


Figure 46. Inspection Unit Deficiencies Screen

Table 4 describes the deficiency coverage fields related to this screen.

Table 4 - Deficiencies Fields

Deficiencies Window Fields	Definitions
Code	A pick-list selection of the available deficiencies related to the IU selected.
Coverage %	Under the coverage field are four degrees of severity (Light, Moderate, Severe, and Fail). The Inspector indicates the percentage of coverage for the selected deficiency under the appropriate severity. Each deficiency can not exceed 100% coverage. Multiple deficiencies are possible.
Deficiency Group	This is a field describing the deficiency assigned grouping.
Description	This is a description of the deficiency.
NSIP Required	Non-standard inspection is required. This involves non-visual analysis.
Comment	A free form field where additional inspection information can be entered.

2.5.7. Inspection Unit Cost Adders

The figure shown below displays the cost adders associated with the IU. If there are any cost adders that have been applied to the Site, Area or Asset for the IU, they are displayed as view-only fields on the top portion of the screen. Regular cost adders are displayed in the lower portion of the screen.

For additional information see Section 3. Costing.

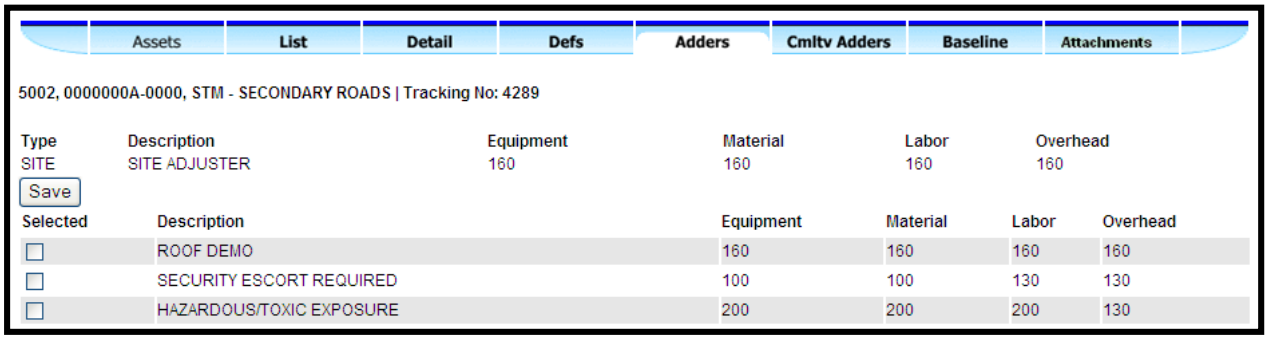


Figure 47: IU Cost Adders

2.5.8. Inspection Unit Cumulative Cost Adders

The figure shown below displays the cumulative cost adders associated with the IU. If there are any cumulative cost adders that have been applied to the Site, Area or Asset for the IU, they are displayed as view-only fields on the top portion of the screen. Regular cost adders are displayed in the lower portion of the screen.

For additional information see Section 3. Costing.

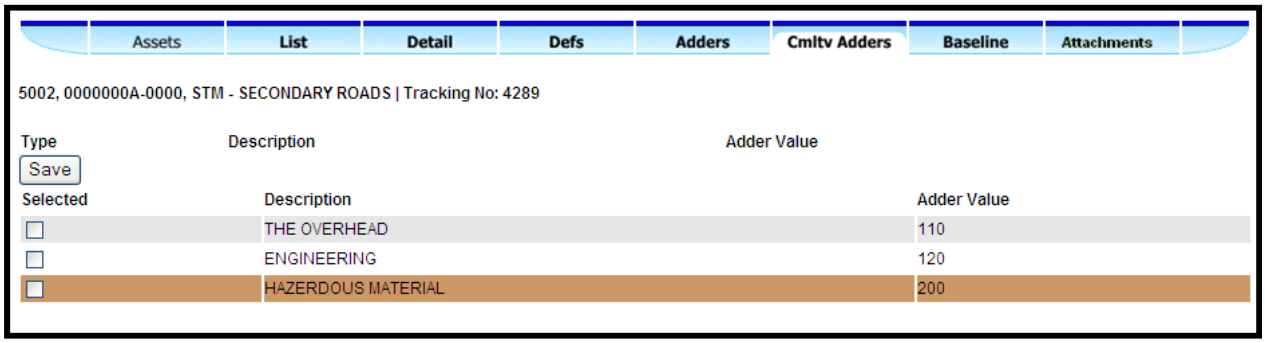


Figure 48: IU Cumulative Cost Adders

2.5.9. Inspection Unit Baseline

The figure below displays the baseline data associated with an IU. This is a view only screen. See section 8.2 for additional information on the FY Baseline feature.

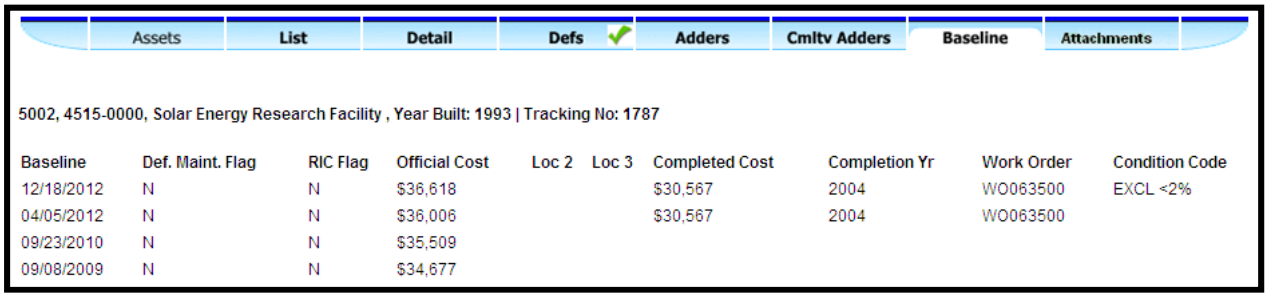


Figure 49: IU FY Baseline

The following fields are included with this feature: Baseline Date, Deferred Maintenance Flag, RIC Flag, Official Cost, Loc 2, Loc 3, Completed Cost, Completion Year, Work Order, and Condition Code.

2.5.10. Inspection Unit Attachments

The figure below shows the IU Attachments screen.

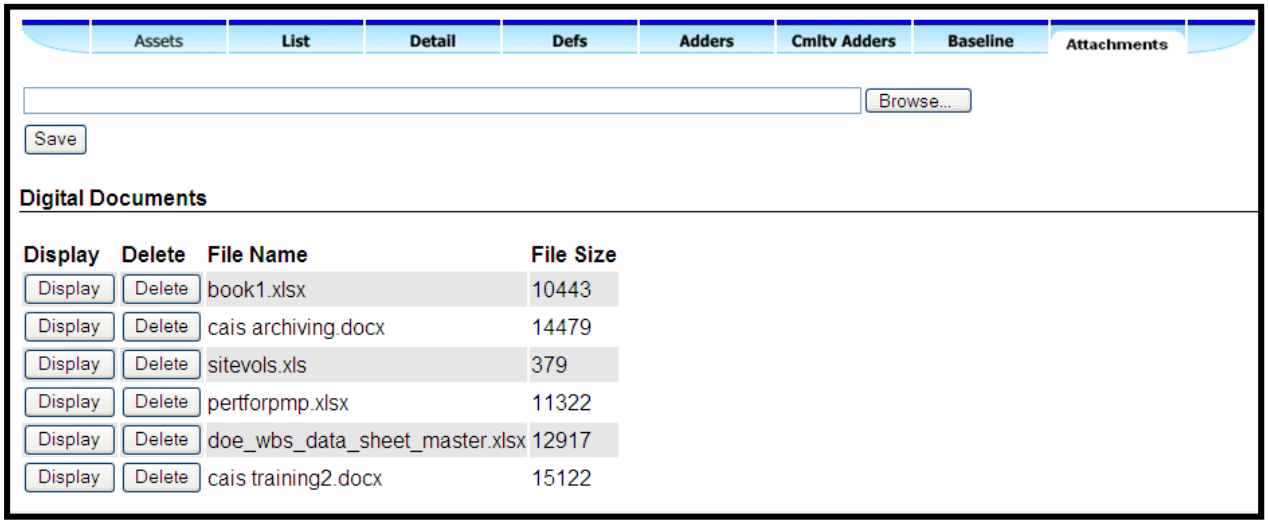


Figure 50. IU Attachments Screen

Note that documents of the following types may be stored, displayed and printed: jpg, .jpeg, MS Word, MS Excel and Acrobat PDF.

After the document is opened, it may be printed.

To delete a digital document, press the Delete button.

Note that the software checks for duplicate file names. If you attempt to save a duplicate file name the warning message below is generated. Pressing the 'Save Duplicate File Name' button allows you to override the warning and save duplicate file names if desired. After pressing the 'Save Duplicate File Name' button the file will need to be re-selected prior to hitting the 'Save' button.

Figure 51. IU Attachments Duplicate File Name Warning

2.6 Move/Copy Inspection Units

There are many instances where assets share identical IUs. The Move/Copy Inspection Units screen enables the user to copy or move identical IUs or all the IUs between assets. Start this process by selecting the Move/Copy option on the Inspection dropdown menu shown below.

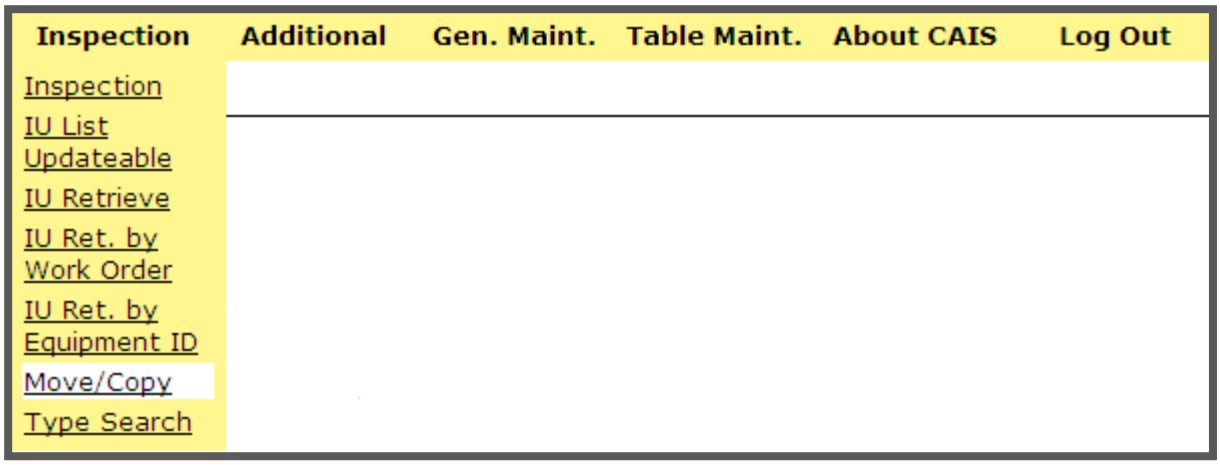


Figure 52. Inspection Move/Copy Menu Selection

The Move/Copy Inspection Units screen opens as shown below.

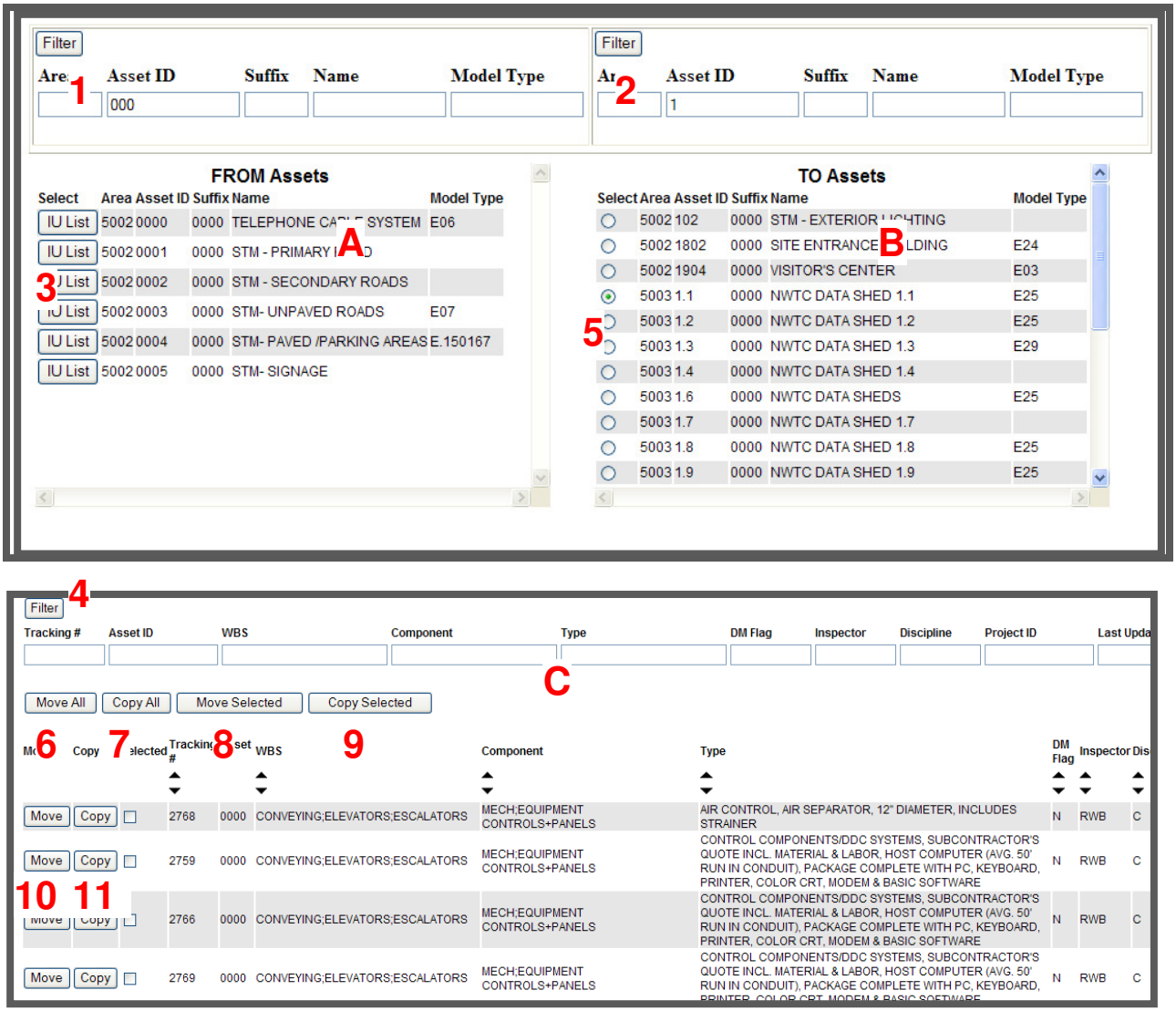


Figure 53. Move/Copy Inspection Units Screen

To move or copy an IU:

1. Filter the assets for the FROM assets in section A.
2. Filter the assets for the TO assets in section B.
3. Select the IU List button for the asset in the FROM assets, section A, you will be copying or moving.
4. The assets that are available to move or copy will appear in section C. You can filter this list by selecting the Filter button labeled with a 4. The asset's associated IUs appear in section C.

5. Select the radio button for the asset into which you are moving or copying IUs. You can move or copy individual IUs or all listed IUs.
6. To move all IUs, click on Move All labeled number 6.
7. To copy all IUs, click on Copy All labeled number 7.
8. To move the SELECTED IUs, click on Move Selected labeled number 8.
9. To copy the SELECTED IUs, click on Copy Selected labeled number 9.
10. To move one IU, click on Move button labeled number 10.
11. To copy one IU, click on Copy button labeled number 11.

IMPORTANT NOTE: The move all and copy all buttons will copy all IUs associated with an asset and will disregard any filter which is in effect.

TIP: After completing a single move or copy action, the selected "TO" asset's radio button remains selected.

TIP: The IU list columns may be sorted. For example, to bring the newest IU to the top, sort by tracking number in descending order.

2.7 Multi Copy Inspection Units

There are many instances where assets share IUs consisting of the same Volume/WBS/ Component/Type. For example, a site with 100's of monitoring wells could have very similar deficiencies for each of the monitoring wells. The Multi Copy Inspection Units screen enables the user to copy IUs to multiple assets.

Start this process by selecting the Multi Copy option on the Inspection dropdown menu shown below.

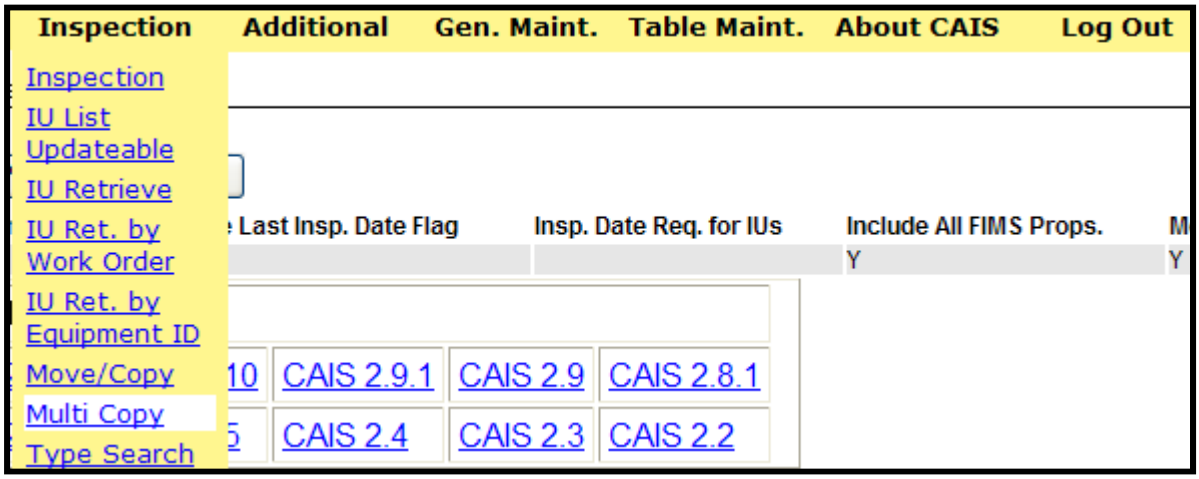


Figure 54. Inspection Multi Copy Menu Selection

The Multi Copy Inspection Units screen opens as shown below.

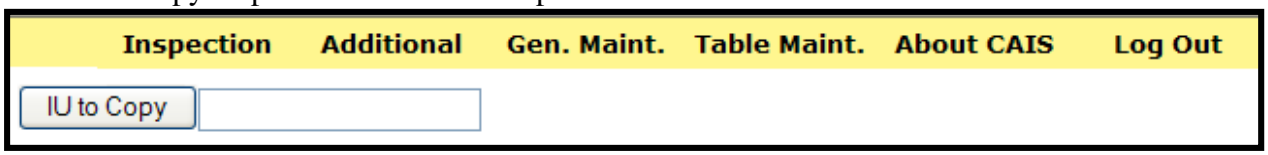


Figure 55. Multi Copy Opening Screen

After inputting the tracking number and pressing the 'IU to Copy' Button, the IU is retrieved and the following screen is displayed.

NOTE: Prior to going to this screen, the IU Key Sequence or Tracking Number must be identified.

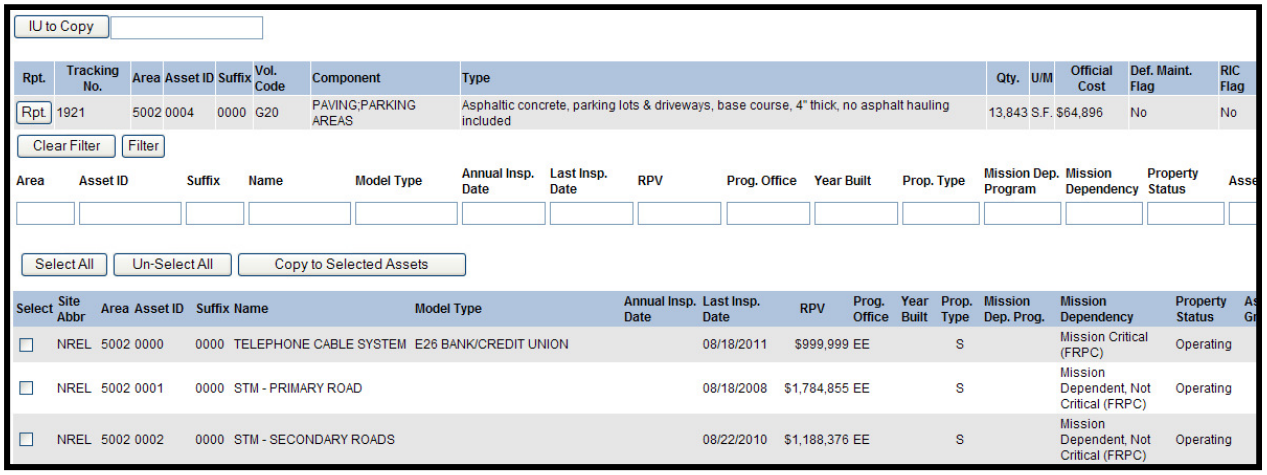


Figure 56. Multi Copy IU with IU Specified

At this point the 'Rpt.' button may be pressed to view the IU Detail (Complete) report for the IU. Additionally, the Asset List may be filtered. Simply check off the assets that the selected IU is to be copied to. Then press the 'Copy to Selected Assets' button. After the copy action is completed, the result screen is show below.

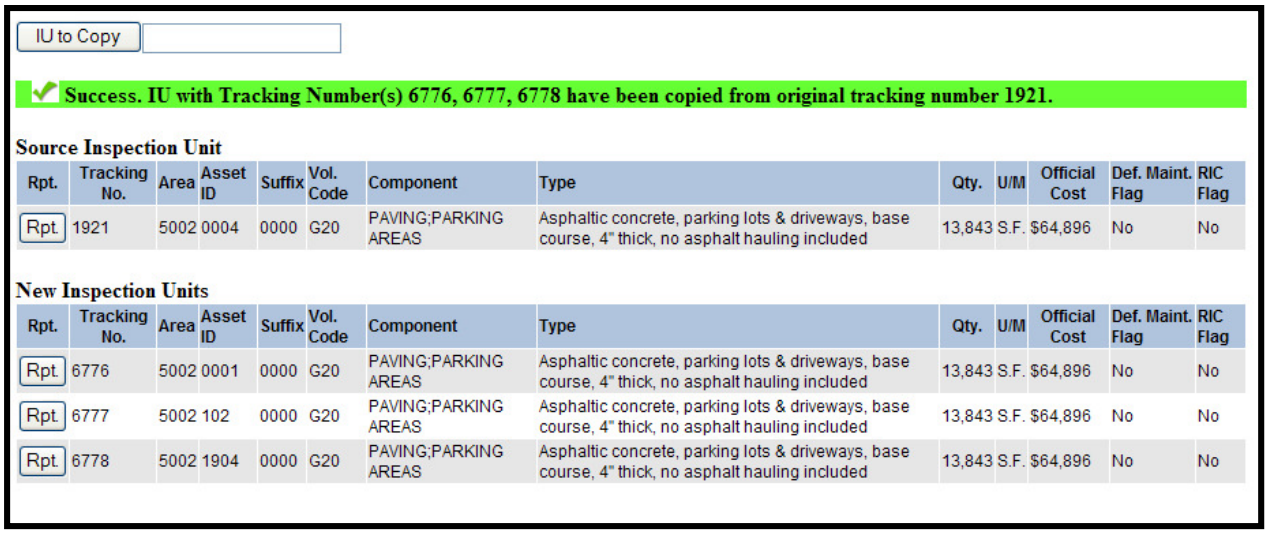


Figure 57. Multi Copy - After the Copy Action

Note that the IU Detail Complete report may be run for the source or copied IUs after the successful copy action. To initiate another Copy action, input the tracking number of the source IU to the right of the 'IU to Copy Button' and press Enter.

2.8 Type Search

The Type Search window enables you to query the asset for data pertaining to a specific type. To perform a general search of RS Means line item data, start by selecting the Type Search option on the Inspection dropdown option on the Menu Bar (shown below).

This screen may be accessed in two different ways.

- From the Inspection / Type Search Menu
- From the IU Detail Screen

Note the material, equipment, overhead and total labor costs are displayed for each item.

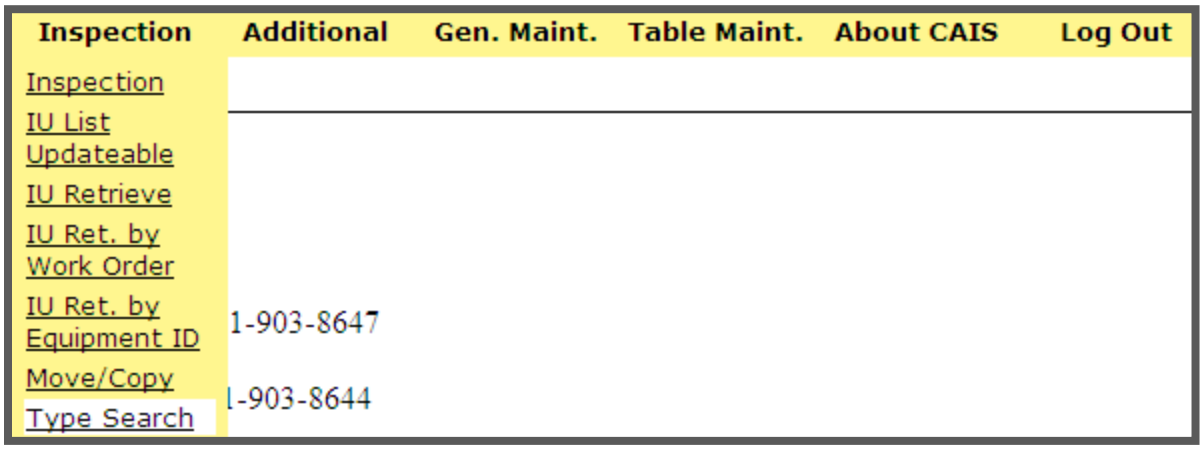


Figure 58. Type Search Selection

Accessing the type search screen via the menu is for research purposes only.

To use the type search window to locate and use costing items, the screen must be accessed from the Type Search button circled in red on the IU Detail Screen shown below**.**

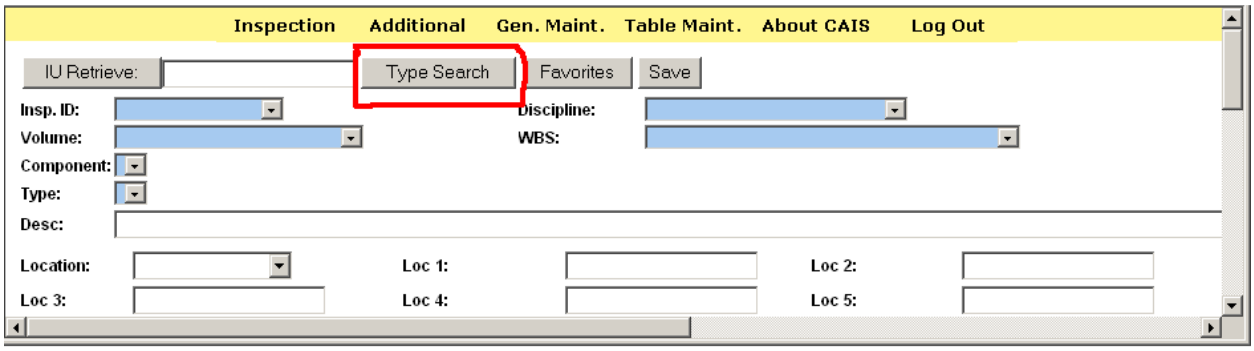


Figure 59. Type Search Button on IU Detail Screen

The Inspection Type Search screen will appear as shown below.

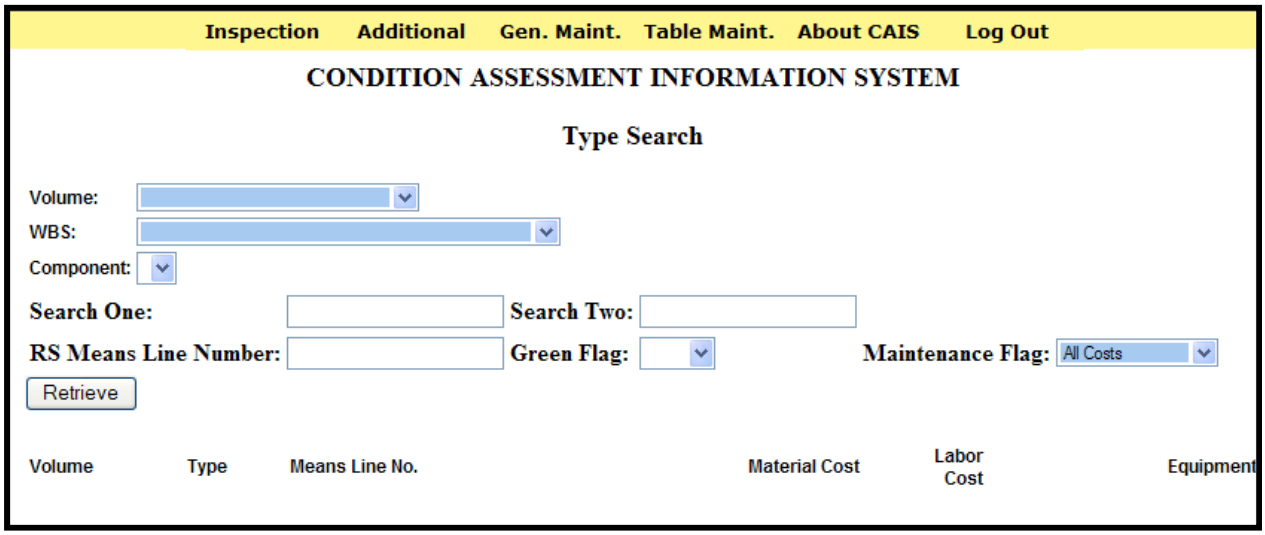


Figure 60. Inspection Type Search Screen

To perform the Type Search, select from the dropdown selections list the Volume, WBS, Component, Green Flag, and Maintenance Flag. One may also type in the search fields including Search One, Search Two, and RS Means Line Number. Click on the Retrieve button and the data appears in the lower third of the screen as shown below. This is read-only information.

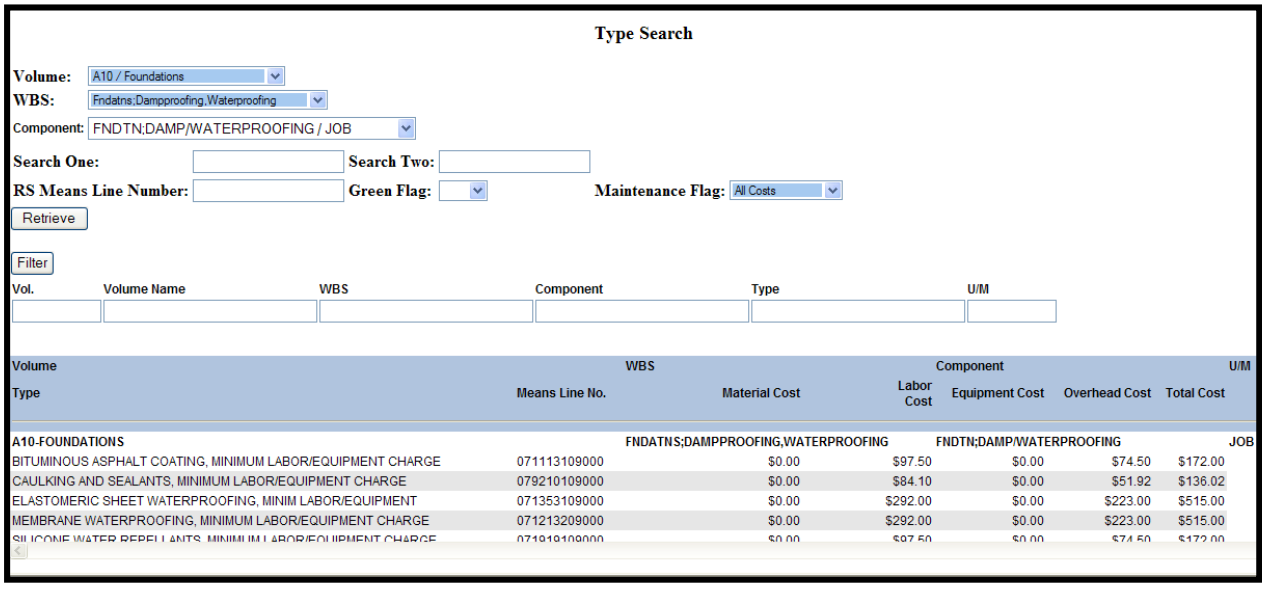
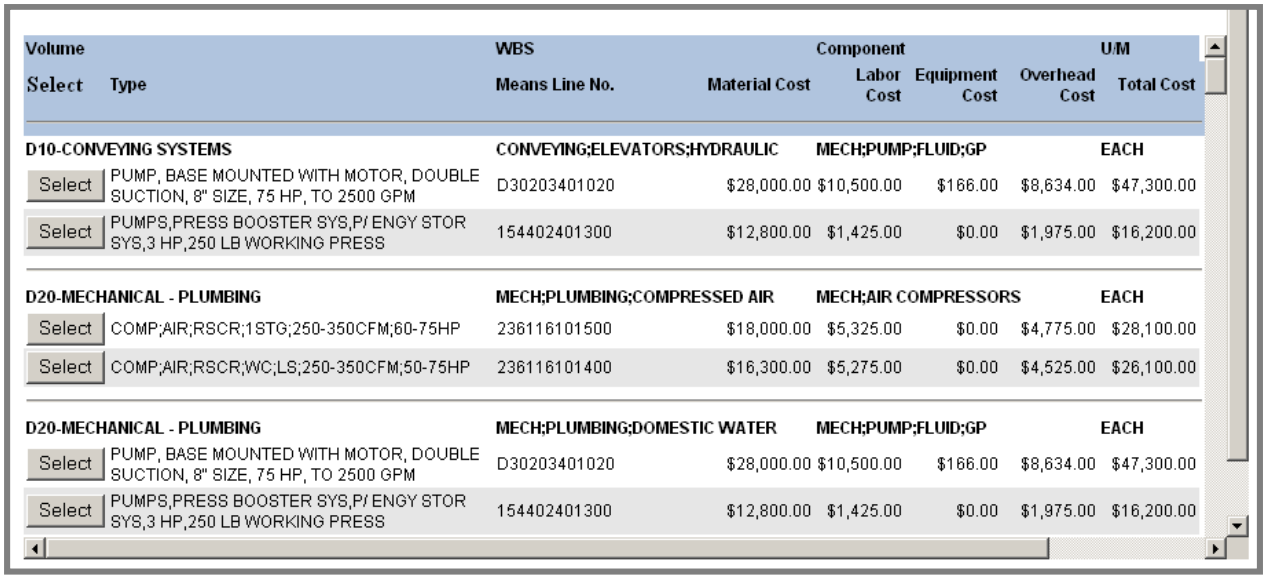


Figure 61. Inspection Type Search Screen after Data Retrieval

To import search results in the IU Detail window, you must access the Type Search through the Inspection – IU Detail Window. Click on the Type Search button in the IU Detail window to open the Inspection Type Search window. Select a Type and the data you selected will be transferred to the Volume, WBS, and Component and Type fields on the IU Detail screen. Note the **Select** Buttons which are present when this screen is accessed via the IU Detail Screen shown below.



Volume		WBS	Component				U/M
Select	Type	Means Line No.	Material Cost	Labor Cost	Equipment Cost	Overhead Cost	Total Cost
D10-CONVEYING SYSTEMS		CONVEYING;ELEVATORS;HYDRAULIC		MECH;PUMP;FLUID;GP			EACH
Select	PUMP, BASE MOUNTED WITH MOTOR, DOUBLE SUCTION, 8" SIZE, 75 HP, TO 2500 GPM	D30203401020	$28,000.00	$10,500.00	$166.00	$8,634.00	$47,300.00
Select	PUMPS,PRESS BOOSTER SYS,P/ ENGY STOR SYS,3 HP,250 LB WORKING PRESS	154402401300	$12,800.00	$1,425.00	$0.00	$1,975.00	$16,200.00
D20-MECHANICAL - PLUMBING		MECH;PLUMBING;COMPRESSED AIR		MECH;AIR COMPRESSORS			EACH
Select	COMP;AIR;RSCR;1STG;250-350CFM;60-75HP	236116101500	$18,000.00	$5,325.00	$0.00	$4,775.00	$28,100.00
Select	COMP;AIR;RSCR;WC;LS;250-350CFM;50-75HP	236116101400	$16,300.00	$5,275.00	$0.00	$4,525.00	$26,100.00
D20-MECHANICAL - PLUMBING		MECH;PLUMBING;DOMESTIC WATER		MECH;PUMP;FLUID;GP			EACH
Select	PUMP, BASE MOUNTED WITH MOTOR, DOUBLE SUCTION, 8" SIZE, 75 HP, TO 2500 GPM	D30203401020	$28,000.00	$10,500.00	$166.00	$8,634.00	$47,300.00
Select	PUMPS,PRESS BOOSTER SYS,P/ ENGY STOR SYS,3 HP,250 LB WORKING PRESS	154402401300	$12,800.00	$1,425.00	$0.00	$1,975.00	$16,200.00

Figure 62. Type Search Window Accessed Via IU Detail Screen

2.9 Archived Inspection Units

To display the archived IUs, select the Archived IUs menu selection under Inspection. A screenshot is shown below.

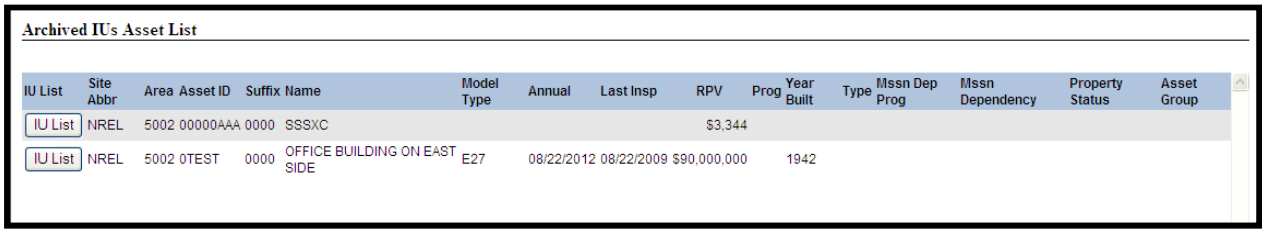


Figure 63. Archived IUs Asset List

After selecting the IU List button shown above, the list of Archived IUs is displayed as shown below:

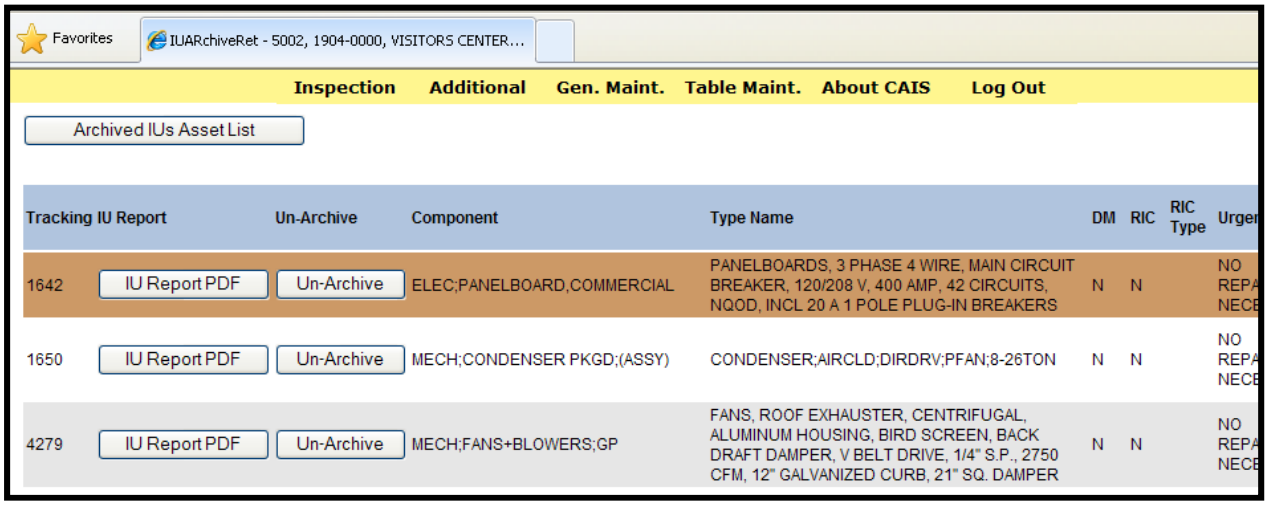


Figure 64. Archived IUs List

Note that only users with the CAIS administrator role may un-archive IUs. Also note that IUs that are associated with Assets that have been archived may not be un-archived individually. If this case exists, the un-archive button will not appear in the archived IUs list as shown in the figure below.

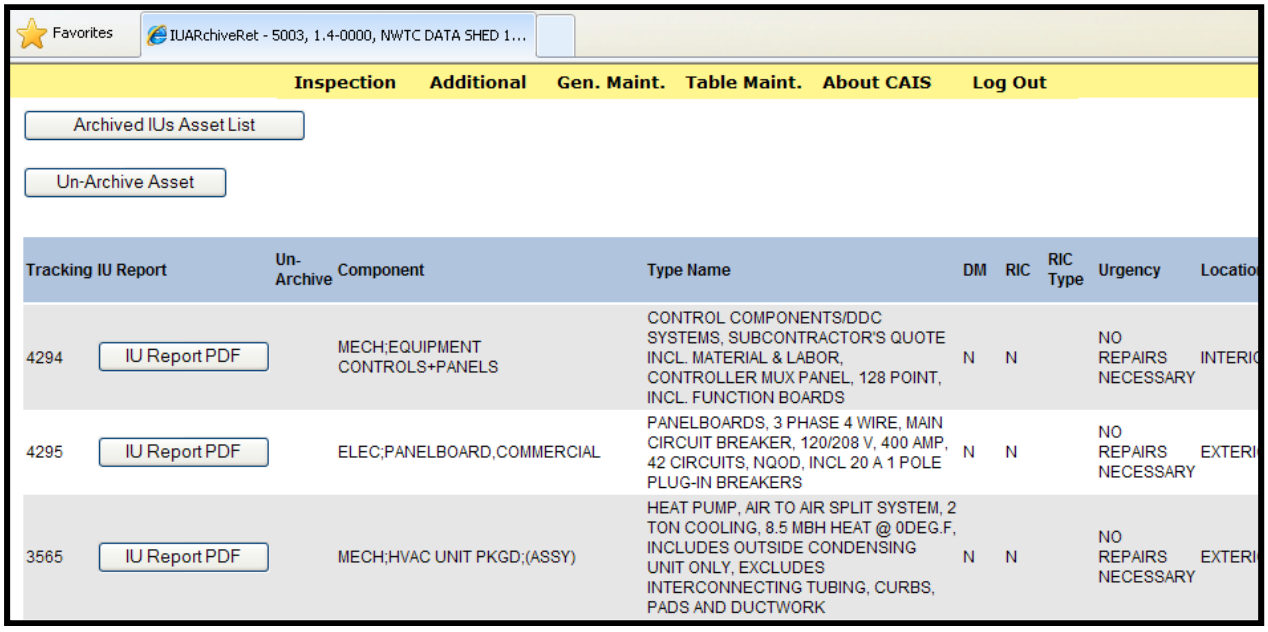


Figure 65. Archived IU List for an Archived Asset

3. Costing

This section describes how to perform the evaluation of survey/inspection deficiencies and how to develop repair/replacement costs from them.

3.1 CAIS Costing Overview

CAIS costing is based on RS Means Assembly and Facilities Construction Cost data. The costs are applied to the component type and quantity specified for the IU. Costs are broken down by equipment, material, labor, and overhead type. Costing multipliers based on geographical locations as well as site, area, asset, and IU costs can be applied to the RS Means cost. The Official Cost is computed from, in order of importance, the Estimated Cost, the Replacement Cost, and the Repair Cost fields.

- Estimated Cost is used if it is less than the inspector limit set by the system administrator. The default value is $5,000, but it can be changed by the site. Once the limit is surpassed, the estimated cost is no longer the official cost. The administrator can set or change the limit by going to Table Maintenance/Inspector Estimate List and adjust the cost limit.
- Replacement Cost is computed if there is a replacement quantity specified in the IU window. This cost equals the replacement quantity times the RS Means Unit cost of the IU.
- Repair Cost is based on the deficiencies selected and the severity coverage of the deficiencies. It is used as the official cost if there is no inspector-estimated cost within the user-defined limit and there is no specified replacement quantity. The cost is based on algorithms developed by Parson Brinckerhoff.

All of the above costs can be considered deferred maintenance costs or rehab and improvement costs (RIC). RIC allows IUs to be classified as energy efficiency, modernization, ADA (Americans with Disabilities Act), or seismic upgrades costs, etc., instead of deferred maintenance.

When you recost an individual asset and when you recost the site, the same fields get updated. The difference is that all of the assets get recosted when you recost the site and only one asset gets updated when you recost an individual asset.

When an asset is recosted all of the inspection units get recosted. After they have been recosted the following fields in the cais_site_assets table get updated:

as_official_cost
as_def_maint_cost
as_modernize_cost

On the level of the cais_site_inpsected_ius table, when an IU is re-costed, the following fields get updated:

iiu_official_cost
base_cost
geog_adj_cost
site_adj_cost
def_maint_cost
modernize_cost
replace_cost
repair_cost

The figure below displays some of these various costing methods. The Deferred Maintenance Cost matches the Official Cost; but only those IUs that are flagged yes in the Deferred Maintenance box are included. When the Status Field on the IU window is set to Completed, the Costed IU/Deferred Maintenance flag is automatically set to No, and the Repair Cost is no longer considered as Deferred Maintenance.

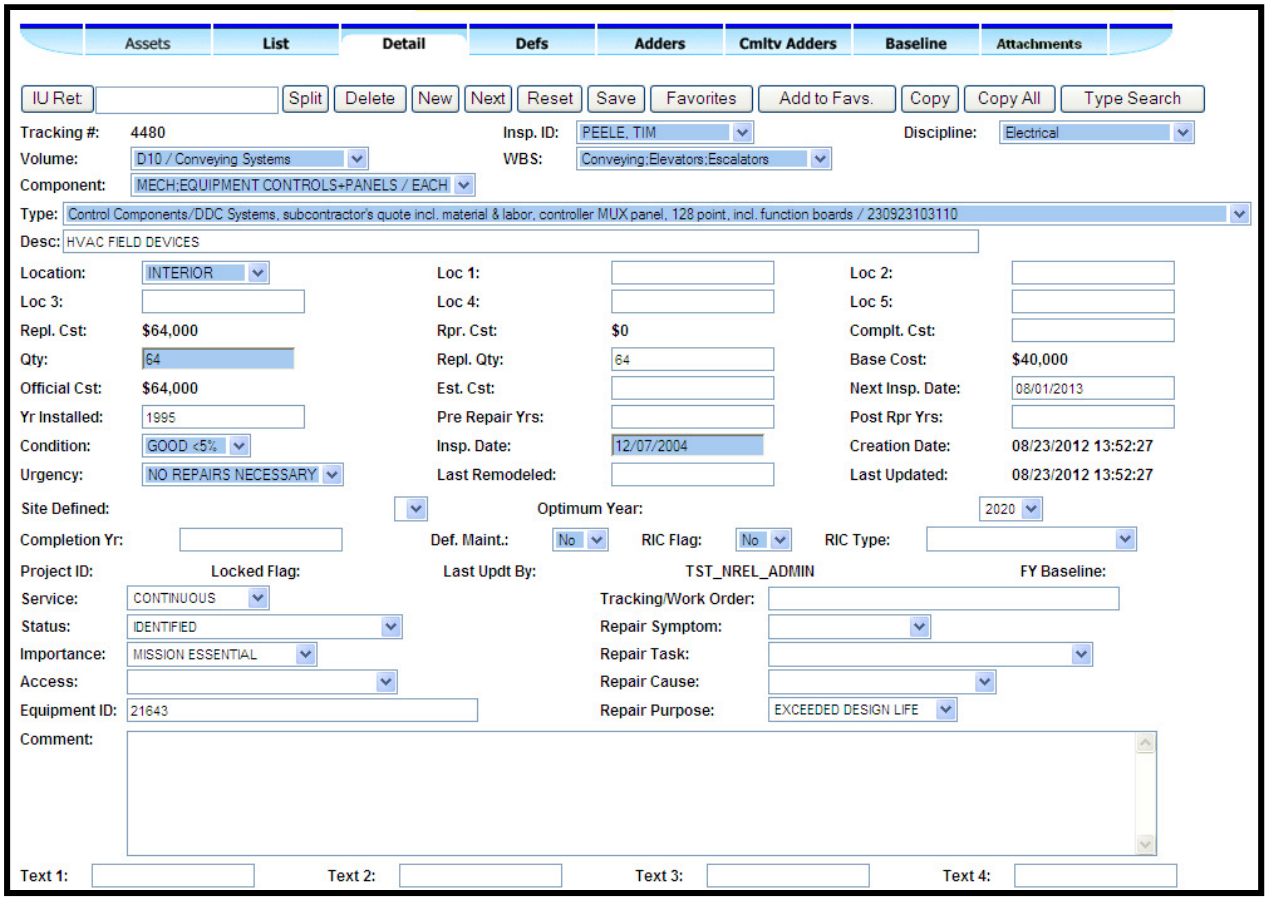


Figure 66. Inspection IU Detail Window

Cost data appears in Reports and on the Inspection Unit Detail, Asset Detail, and Summary Condition windows. Sites are required to report their annual deferred maintenance costs at the end of each fiscal year to OPAM, MA-652, to satisfy a Government-wide reporting requirement.

3.2 Re-Costing History

When the Recosting History option is selected under the Additional Menu choice, Recosting History screen is displayed as shown below.

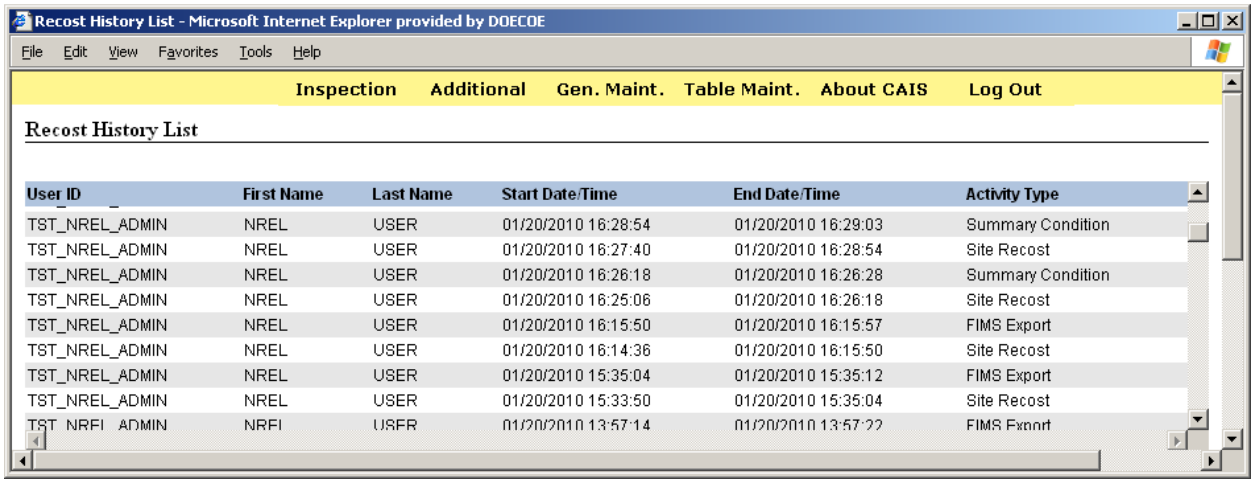


Figure 67. CAIS Recosting History

This screen shows the start and end date/time as well as the user who initiated the recosting process. There are four possible Activity Types that may be displayed:

- **Site Recost**: The recosting of all of the Inspection Units and the updating of the DM values for all of the assets for the site.
- **FIMS Export**: The generation of the CAIS data to be exported to FIMS for the end-of-year DM reporting.
- **FIMS Upload**: The upload of the CAIS data to FIMS for the end-of-year DM reporting.
- **Summary Condition**: The calculation of the roll-ups of DM for the 22 systems (i.e. HVAC, Plumbing, etc.) for all assets for the site. Running the following reports with Recost set to "Yes" will generate these entries:
  - ❖ Deferred Maintenance
  - ❖ Summary Condition Compilation

3.3 Cost Adders

DOE sites have many unique, hazardous, and secure environments. These unusual conditions necessitate unique procedures and materials to protect personnel. These special conditions add cost to the repair process and project development. The CAIS Cost Adders window enables the administrator to identify these conditions and detail these unique cost mark ups.

Before any costing can be accomplished, the site administrator should select Cost Adders from the Table Maintenance options and print the Table Maintenance Cost Adders List screen, and provide copies to the site cost estimators and project planners. The administrator will need their input on the actual costs multipliers used to estimate facility maintenance projects. The administrator should sit down with these individuals and get their data and insert the mark up details into this table. Using the site estimator's mark-ups will improve the accuracy of the CAIS estimates for deferred maintenance and rehab and improvement costs.

Cost adders are added to the base cost of the Inspection Unit. To increase the cost of a particular item by 5% one needs to enter an adder of 105%. To increase the cost by 100%, input an adder of 200%. If one were to input a cost adder of less than 100% the cost for the selected item would decrease. Blank cost adder entries are ignored.

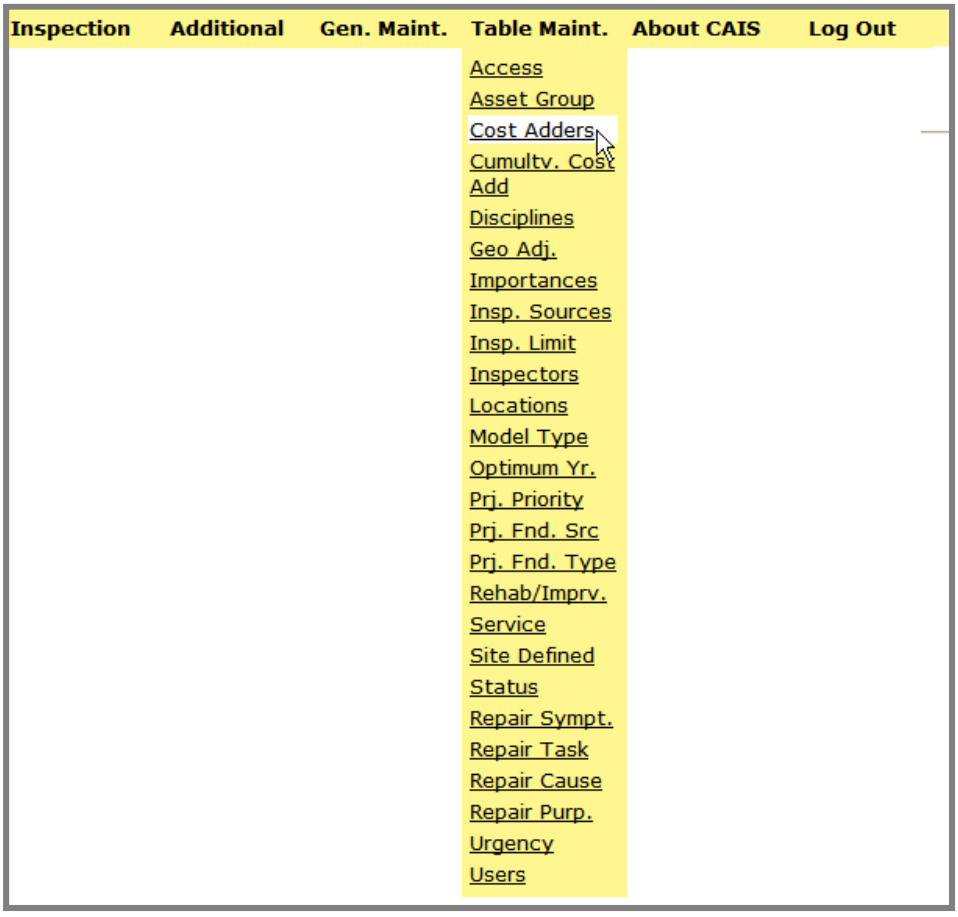
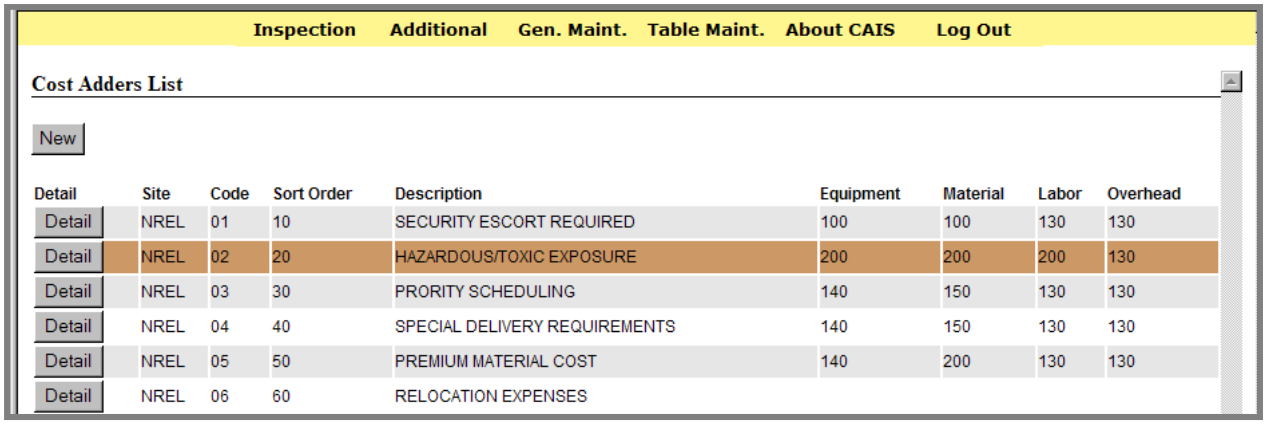


Figure 68. Table Maintenance Cost Adders Menu Choice

The Table Maintenance Cost Adders List screen is shown below.



Detail	Site	Code	Sort Order	Description	Equipment	Material	Labor	Overhead
Detail	NREL	01	10	SECURITY ESCORT REQUIRED	100	100	130	130
Detail	NREL	02	20	HAZARDOUS/TOXIC EXPOSURE	200	200	200	130
Detail	NREL	03	30	PRORITY SCHEDULING	140	150	130	130
Detail	NREL	04	40	SPECIAL DELIVERY REQUIREMENTS	140	150	130	130
Detail	NREL	05	50	PREMIUM MATERIAL COST	140	200	130	130
Detail	NREL	06	60	RELOCATION EXPENSES				

Figure 69. Table Maintenance Cost Adders List Screen

The Cost Adders List has eight columns. Each cost adder has four variables: Equipment, Material, Labor, and Overhead. Sites can change any of these variables to match their site cost conditions. Sites can also create new cost adders by clicking the "New" button and entering the appropriate information. The Cost Adders table comes preloaded with some generic cost adders that most sites use.

Click on the Detail button to open the Cost Adder Detail screen for an item as shown in the figure at the top of the following page. The Code represents a short reference to the cost adder description. The Sort Order is the order the cost adder appears on the list.

CAIS has a highly flexible cost adder capability. The regular and cumulative costs may be applied on four different levels:

- Site Level
- Area Level
- Asset Level
- Inspection Unit Level

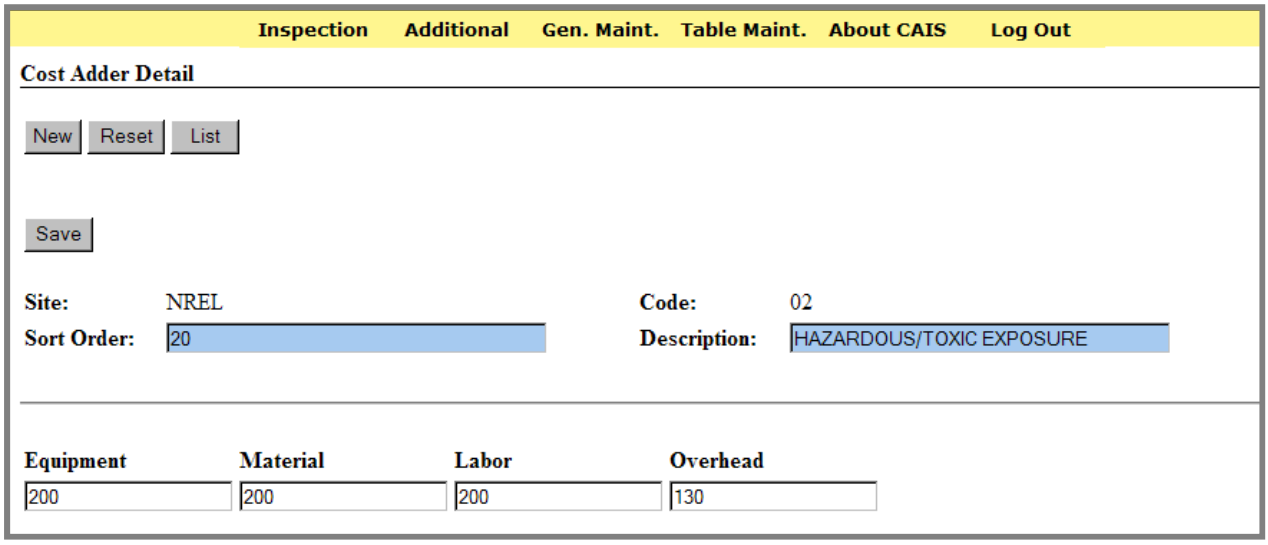


Figure 70. Table Maintenance Cost Adders Detail Screen

Costs shown are based on RS Means National Averages for materials and installation. CAIS automatically adjusts for the city or Zip Code location by applying a geographic or location adjuster.

CAIS also has a Cumulative Cost Adder table where sites can create cost adders that are not a function of equipment, material, labor, and overhead. Examples are quality control testing, special inspections to meet safety codes requirements. Data entry is the same as the cost adders table. The figures below display how these costs can be customized and applied.

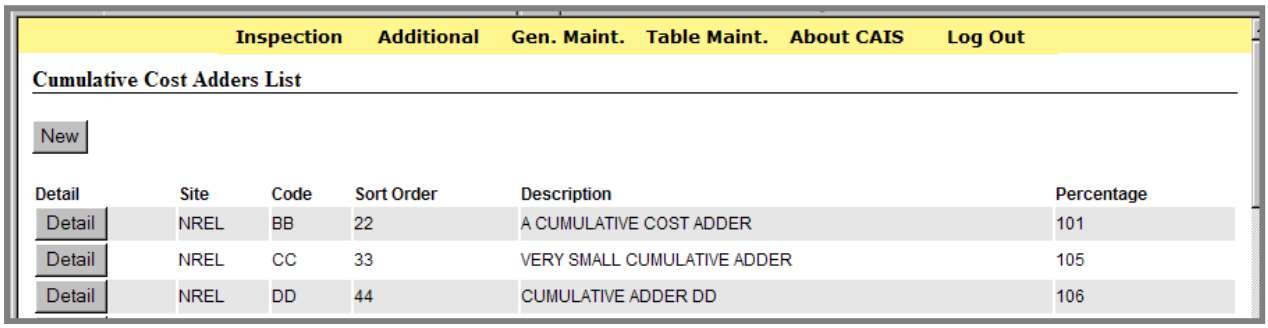


Figure 71. Table Maintenance Cumulative Cost Adder List Window

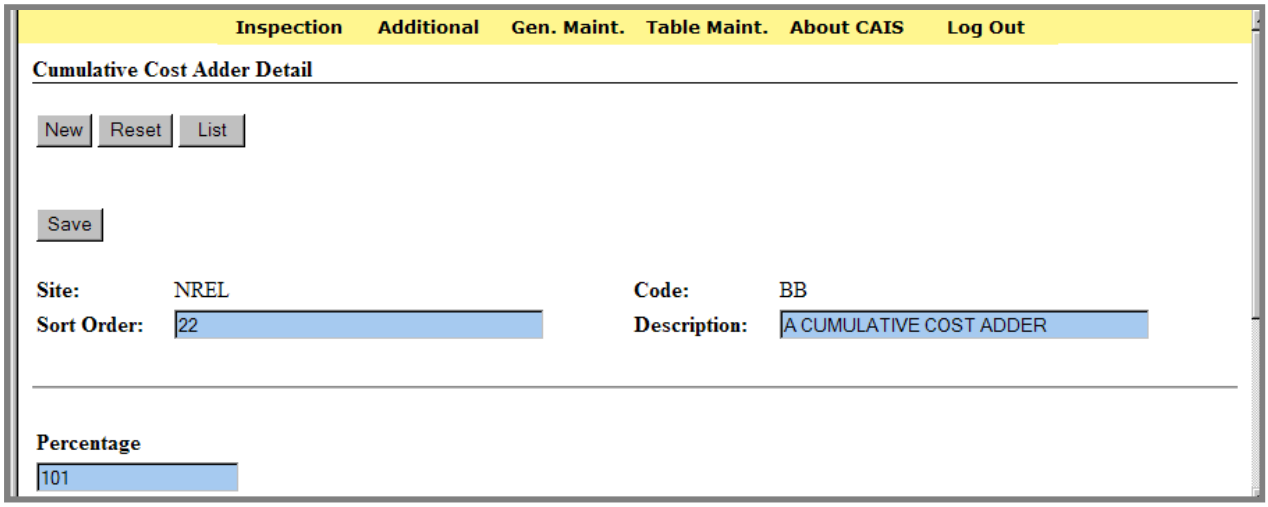


Figure 72. Table Maintenance Cumulative Cost Adder Detail Window

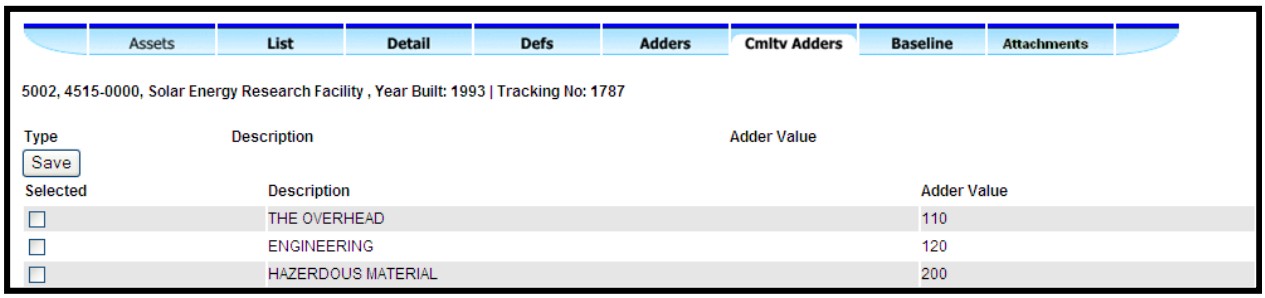


Figure 73. IU Cumulative Cost Adder Detail

4. Reports

All reports created by CAIS may be run in Excel and PDF formats.

To restrict report dissemination, the "Official Use Only" flag can be set by going to the General Maintenance option on the Menu Bar, selecting Site Maintenance from the dropdown menu and then clicking on Detail. You can then select "Yes" in the dropdown menu for the Official Use Only Flag. This will cause "Official Use Only" to be displayed in the header and footer of any report that is run. When "Last Inspection Date" on the Site Maintenance Detail screen is set to "Yes" the Last Inspection Date Input on the IU Detail Screen will automatically update the Last Inspection Date for the Asset provided that the last inspection date for the IU is more recent than the last inspection date that is already stored for the asset. The last inspection date for the asset is particularly important since this field is part of the FIMS export/upload.

When you select a report, you will be asked to re-cost the site/area. Re-costing is necessary if you add or modify IU data. The default setting is No. Re-costing the site can be very time consuming. It should probably be done at the beginning or end of the day.

This section describes the standard reports available in CAIS.

The Additional Menu has four categories of standard reports:

1. **Site Level** – These reports summarize all asset deficiency cost information into one detailed report by site or area.
2. **Asset Level** - These reports contain assessment information for an individual asset.
3. **IU Level** – The data in these reports is IU information, which is very detailed data used by site maintenance staff and project planning/estimator.
4. **Summary Condition** – This report provides summary deferred maintenance costs and facility condition indexes of WBS systems. Used by planners and Headquarters to review the condition of very important/mission essential facilities. This provides a good comparison of assets that have the same mission and various ages.

There are two menu selections for the ad hoc reports as well under the additional menu selection. See section 9 for more information on the ad hoc reporting capabilities.

4.1 Site Level Reports

The figure below shows the Additional dropdown menu options with the selection for Site Level Reports highlighted. Click on this option and the screen shown at the bottom of the page will appear.

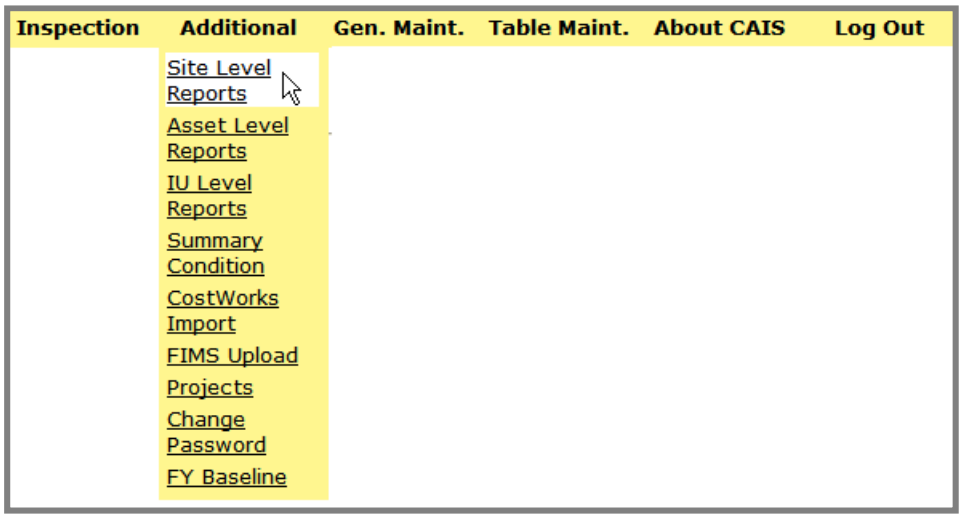


Figure 74. Additional Site Level Reports Menu Selection

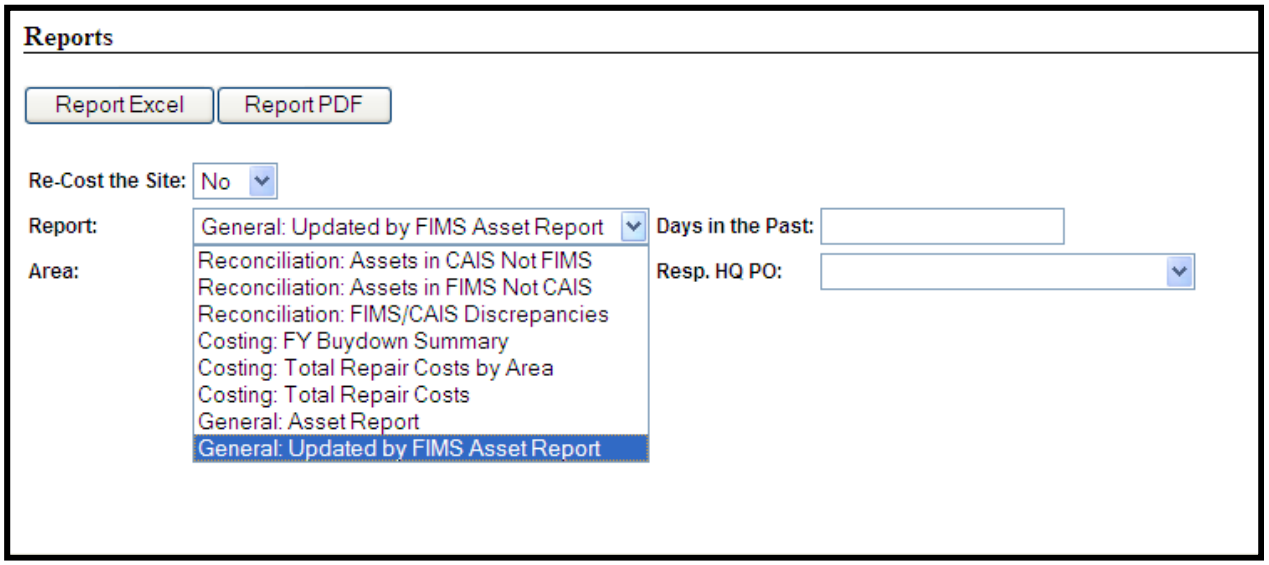


Figure 75. Site Level Reports List Selection Screen

Then, select the report in the dropdown box. There are eight reports available:

- Assets in CAIS Not FIMS
- Assets in FIMS Not CAIS
- FIMS/CAIS Discrepancies
- FY Buydown Summary
- Total Repair Costs by Area
- Total Repair Costs
- Asset
- Updated by FIMS Asset

The Total Repair Costs and Total **Repair Costs by Area** list the Volume, CAS WBS, the Base Deficiency Cost and the Deferred Maintenance Cost.

The data for these reports can be filtered by Area and the Responsible HQ Program Office.

Note that the CAIS/FIMS Common Field Discrepancy report can take up to 15 minutes to run.

The reports can be generated in Excel or PDF format by clicking on the appropriate button.

Samples of these reports are show below.

CONDITION ASSESSMENT INFORMATION SYSTEM

In CAIS and Not in FIMS Report

NREL

Area	FIMS Site	FIMS Area	Asset ID	Asset Suffix	Name	Model Type Code	RPV Value	Program Office
5002	05002	001	0003	0000	STM- UNPAVED ROADS		$5,994	EE
5002	05002	001	4317	0000	HISTORICAL BUNKER	N.010	$325,207	
5002	05002	001	4516	0000	TRANSFORMER		$0	EE
5002	05002	001	5703	0000	FTLB WEST PARKING LOT		$0	EE
5002	05002	001	5704	0000	FTLB EAST PKG LOT EXPANSION		$0	EE
5002	05002	001	5923	0000	FETA AMMO BUNKER	N.010	$304,144	
5002	05002	001	7117	0000	HIGH FLUX SOLAR FURNACE	E.250	$28,991	
5002	05002	001	7118	0000	HIGH FLUX SOLAR FURNACE	E.250	$20,438	
5002	05002	001	7205	0000	FETA SIDEWALKS		$0	EE
5002	05002	001	7315	0000	SOLAR RADIATION RESEARCH LAB	N.110	$248,357	EE
5002	05002	001	8129	0000	UTILITY SPINE		$0	EE
5002	05002	001	8400	0000	INFRASTRUCTURE DEVELOPMENT		$0	EE
5002	05002	001	8929	0000	PWR DISTRIBUTION		$321,075	EE
5002	05002	001	8939	0000	UNDERGROUND ELECTRICAL DISTRBUTION SYS.		$0	EE
5002	05002	001	9002	0000	WESTERN DRAIN DETENTION BASIN		$0	EE
5002	05002	001	9005	0000	EROSION CONTROL		$0	EE
5002	05002	001	ROBERT	0000	TELEPHONE CABLE SYSTEM		$0	EE
5002	05002	001	STM-1001	0000	STM SIDEWALKS INFRASTRUCTURE, CO510201		$0	EE
5002	05002	001	STM-1020	0000	STM PAVING RDS-'97 GPP TITLE 1/11 DESIGN		$0	EE
5003	05003	001	1.2	0000	NWTC DATA SHEDS	E.250	$11,108	
5003	05003	001	1.3	0000	NWTC DATA SHEDS	E.250	$11,108	
5003	05003	001	1.6	0000	NWTC DATA SHEDS	E.250	$11,108	
5003	05003	001	1.7	0000	NWTC DATA SHEDS		$0	
5003	05003	001	1.8	0000	NWTC DATA SHEDS	E.250	$11,108	
5003	05003	001	1.9	0000	NTWC DATA SHEDS	E.250	$11,108	
5003	05003	001	153	0000	PUMPHOUSE/STANDBYGENERATOR	E.250	$84,227	
5003	05003	001	248	0000	NWTC TRAILER	E.150	$205,651	
5003	05003	001	249	0000	NWTC TRAILER	E.150	$205,651	
5003	05003	001	251	0000	NWTC-ADMINISTRATION BUILDING	N.080	$7,830,722	EE
5003	05003	001	253	0000	NWTC BUILDING 253	E.250	$149,633	
5003	05003	001	257	0000	NWTC TRAILER	E.150	$205,651	
5003	05003	001	3.2	0000	NWTC DATA SHEDS	E.250	$20,882	
5003	05003	001	3.4	0000	NWTC DATA SHEDS	E.250	$20,882	
5003	05003	001	4.2	0000	NWTC DATA SHEDS	E.250	$11,108	
5003	05003	001	M1A	0000	NWTC BUILDING M1A	E.250	$11,108	
5003	05003	001	M1B	0000	NWTC BUILDING M1B	E.250	$5,554	
5003	05003	001	M1C	0000	NWTC BUILDING M1C	E.250	$11,108	
5003	05003	001	M2	0000	NWTC BUILDING M2	E.250	$11,108	
5003	05003	001	M3	0000	NWTC BUILDING M3	E.250	$22,215	

Count: 39

Figure 76. Assets in CAIS and Not in FIMS

CONDITION ASSESSMENT INFORMATION SYSTEM

In FIMS and Not in CAIS Report

NREL

Area	Property ID	Name	Type	Owned Ingrant	PO	Usage Code	Design Code	Model Type	Sq. Ft	RPV Value	Yr. Built	Acq. Cost	Excess Ind.	Excess Yr.
001	4015	Science & Technology Facility	B	O	EE	793		N09	71,347	26,214,029	2006	21,396,572	N	
001	STM-1070	S&TF Water Line Extension	S	O	EE	8129			0	89,796		89,796	N	
001	2506	STM Site Electrical Monitoring	S	O	EE	8909			0	87,772		87,772	N	
001	0005	STM- Signage	S	O	EE	7007			0	69,143		69,143	N	
001	STM-1060	STM Water Conservation Project	S	O	EE	2009			0	45,999		45,999	N	
001	7282	SERF 15KV Utility Upgrade -	S	O	EE	8909			0	33,190		33,190	N	
001	7283	SERF Nitrogen Supply Lines - Phase 1	S	O	EE	8359			0	231,362		213,362	N	
001	STM-1080	STM DDC Controls Upgrade	S	O	EE	7509			0	801,900		693,000	N	
001	1005-01	DER Gas Line Extension	S	O	EE	8329			0	56,415		56,415	N	
001	NWTC-1011-01	NWTC H2 Test Pads	S	O	EE	3009			0	314,117		314,117	N	

Figure 77. Assets in FIMS and Not in CAIS

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CONDITION ASSESSMENT INFORMATION SYSTEM

FIMS/CAIS Discrepancies Report

NREL

Mismatch	Area	Property ID	Type	Name	FIMS PO	CAIS PO	FIMS Model	CAIS Model	FIMS Sq Ft	CAIS Sq Ft	FIMS RPV	CAIS RPV	FIMS Yr Built	CAIS Yr Built	FIMS Status	CAIS Status	FIMS Mission	CAIS Mission
01-Prog	001	0000	S	Telephone Cable System	EE	RW		E29	0	45,000	199,740	2,500,000			1	12	1	S
01-Prog	001	1904	B	Visitor's Center	EE	PA	E27	N22	6,459	85,000	802,263	2,000,000	1994	1961	1	SP	2	C
02-Model	001	1904	B	Visitor's Center	EE	PA	E27	N22	6,459	85,000	802,263	2,000,000	1994	1961	1	SP	2	C
03-SqFt	001	1904	B	Visitor's Center	EE	PA	E27	N22	6,459	85,000	802,263	2,000,000	1994	1961	1	SP	2	C
04-RPV	001	0000	S	Telephone Cable System	EE	RW		E29	0	45,000	199,740	2,500,000			1	12	1	S
04-RPV	001	1904	B	Visitor's Center	EE	PA	E27	N22	6,459	85,000	802,263	2,000,000	1994	1961	1	SP	2	C
05-Yr Built	001	1904	B	Visitor's Center	EE	PA	E27	N22	6,459	85,000	802,263	2,000,000	1994	1961	1	SP	2	C
06-Status	001	0000	S	Telephone Cable System	EE	RW		E29	0	45,000	199,740	2,500,000			1	12	1	S
06-Status	001	1904	B	Visitor's Center	EE	PA	E27	N22	6,459	85,000	802,263	2,000,000	1994	1961	1	SP	2	C
07-Mission	001	0000	S	Telephone Cable System	EE	RW		E29	0	45,000	199,740	2,500,000			1	12	1	S
07-Mission	001	1904	B	Visitor's Center	EE	PA	E27	N22	6,459	85,000	802,263	2,000,000	1994	1961	1	SP	2	C

Count: 11

Figure 78. FIMS/CAIS Discrepancies

CONDITION ASSESSMENT INFORMATION SYSTEM

FY Buydown Summary Report

NREL

Baseline Date	Program Office	Buydown	Deferred Maintenance
Current	Energy Efficiency/Renew Energy	2,724	24,670,164
Program Office Totals:		**$2,724**	**$24,670,164**
Current	Not Specified	0	843,083
GRAND TOTALS:		**$2,724**	**$25,513,247**

Figure 79. FY Buydown Summary

CONDITION ASSESSMENT INFORMATION SYSTEM

Total Repair Costs by Area Report

Area: 5002 - SOUTH TABLE MOUNTAIN

Program Office: EE

Volume	CAS WBS	Base Cost	DM Cost
A10	Foundations	$388	$614
A20	Basement Construction	$1,190	$1,565
B10	Superstructure	$0	$0
B20	Exterior Closure	$16,453	$25,112
B30	Roofing	$63,360	$117,629
C10	Interior Construction	$0	$0
C20	Interior Stairs	$0	$0
C30	Interior Finishes	$13,872	$18,147
D10	Conveying Systems	$544,504	$287,228
D20	Mechanical - Plumbing	$330,311	$66,925
D30	Mechanical - HVAC	$563,630	$804,657
D40	Mechanical - Fire Protection	$36,250	$116,299
D50	Electrical Systems	$977,009	$543,275
E10	Equipment	$0	$0
E20	Furnishings	$0	$0
F10	Specialty Systems	$0	$0
F20	Selective Building Demo	$0	$0
G10	Sitework Preparation	$3,979	$1,601
G20	Sitework Improvements	$2,342,184	$452,417
G30	Sitework Mechanical Util.	$200,296	$0
G40	Sitework Electrical Util.	$0	$0
G90	Sitework Other	$714,117	$0
Area Totals:		$5,807,543	**$2,435,469**
Grand Totals:		**$5,807,543**	**$2,435,469**

Figure 80. Total Repair Cost Report

CONDITION ASSESSMENT INFORMATION SYSTEM

Total Repair Costs Report

Area: 5002

Program Office: EE

Volume	CAS WBS	Base Cost	DM Cost
A10	Foundations	$388	$614
A20	Basement Construction	$1,190	$1,565
B10	Superstructure	$0	$0
B20	Exterior Closure	$16,453	$25,112
B30	Roofing	$63,360	$117,629
C10	Interior Construction	$0	$0
C20	Interior Stairs	$0	$0
C30	Interior Finishes	$13,872	$18,147
D10	Conveying Systems	$544,504	$287,228
D20	Mechanical - Plumbing	$330,311	$66,925
D30	Mechanical - HVAC	$563,630	$804,657
D40	Mechanical - Fire Protection	$36,250	$116,299
D50	Electrical Systems	$977,009	$543,275
E10	Equipment	$0	$0
E20	Furnishings	$0	$0
F10	Specialty Systems	$0	$0
F20	Selective Building Demo	$0	$0
G10	Sitework Preparation	$3,979	$1,601
G20	Sitework Improvements	$2,342,184	$452,417
G30	Sitework Mechanical Util.	$200,296	$0
G40	Sitework Electrical Util.	$0	$0
G90	Sitework Other	$714,117	$0
		$5,807,543	**$2,435,469**

Figure 81. Total Repair Cost by Area Report

CONDITION ASSESSMENT INFORMATION SYSTEM

Asset List Updated by FIMS Report

NREL

Area	Asset ID	Suffix	Name	Model Type	Annual Insp. Date	Last Insp. Date	RPV	Sq. Feet	Prog. Office	Prop. Type	Mission Dep. Prog.	Mission Dependency	Asset Group	Archived in FIMS	Added by FIMS	Updated by FIMS
5002	8606	0000	ALTERNATIVE FUELS USER FACILITY	N09 LABS - BIOLOGY/ENV (80/20)		08/20/2003	$11,794,487	32,751	EE	B		Mission Critical (FRPC)				02/25/2009
5002	7119	0000	CONCENTRATED SOLAR FLUX FACILITY	N11 LABS - PHYSICS/COMPUTER (80/20)		08/20/2003	$268,214	1,074	EE	B		Mission Critical (FRPC)				02/25/2009
5002	4515	0000	SOLAR ENERGY RESEARCH FACILITY	N09 LABS - BIOLOGY/ENV (80/20)		08/18/2003	$42,580,208	115,892	EE	B		Mission Critical (FRPC)				02/25/2009
5002	8206	0000	THERMAL TEST FACILITY	N09 LABS - BIOLOGY/ENV (80/20)		08/18/2003	$3,[illegible]					[illegible]				02/25/2009
5002	0101	0000	LANDSCAPING (VEGETATION)												09/01/2008	09/01/2008
5002	0003	0000	STM- UNPAVED ROADS	E07 FIRE STATION		04/03/2009	$6,452	0	EE					08/25/2008		08/25/2008
5002	0002	0000	STM - SECONDARY ROADS			07/18/2008	$1,017,572	0	EE	S		Mission Dependent, Not Critical (FRPC)				08/24/2008
5002	0001	0000	DENVER WEST PKY_(PAVED RD)		01/01/2008	01/01/2008	$1,538,440	0	EE	S		Mission Dependent, Not Critical (FRPC)			08/23/2008	08/23/2008
5002	0000	0000	TELEPHONE CABLE SYSTEM	E06 CLASSROOM - MEDIUM	01/01/2008	05/06/2009	$90,000,000	0	EE	S		Mission Critical (FRPC)		08/22/2008		08/22/2008
5002	0300	0000	SECURITY FENCE	OG20 GENERIC SITEWORK IMPROVEMENTS OSF		02/28/1977	$0	0	EE	S		Mission Dependent, Not Critical (FRPC)	D			06/03/2007

Count: 10

Note that actions are listed in chronological order, with the most recent action at the top of the list.

Figure 82. Updated by FIMS Asset Report

CONDITION ASSESSMENT INFORMATION SYSTEM

Asset List Report

NREL

Area	Asset ID	Suffix	Name	Model Type	Annual Insp. Date	Last Insp. Date	RPV	Sq. Feet	Prog. Office	Prop. Type	Mission Dep. Prog.	Mission Dependency	Asset Group	Archived in FIMS	Added by FIMS	Updated by FIMS
5003	1.1	0000	NWTC DATA SHEDS	E25 WAREHOUSE/STORAGE-PRE-ENGRNED		08/20/2003	$8,165	100	EE	B		Mission Dependent, Not Critical (FRPC)			09/02/2008	09/02/2008
5003	1000	0000	NWTC SIDEWALKS			02/20/2008	$7,498	0	EE	S		Not Mission Dependent (FRPC)				
5003	1001	0000	NWTC - SEWER PIPE				$35,617	0	EE	S		Mission Critical (FRPC)				
5003	1002	0000	NWTC - FIRE WATER PIPE				$620,624	0	EE	S		Mission Critical (FRPC)				
5003	1003	0000	NWTC - POWER DISTRIBUTION				$1,132,259	0	EE	S		Mission Critical (FRPC)				
5003	1004	0000	NWTC-EXTERIOR LIGHTING				$35,829	0	EE	S		Not Mission Dependent (FRPC)				
5003	1005	0000	NWTC NATURAL GAS DISTRIBUTION				$0	0	EE	S		Mission Dependent, Not Critical (FRPC)				
5003	251	0000	NWTC-ADMINISTRATION BUILDING	N08 LABS - HARD ENGINEERED (80/20)		08/19/2003	$7,582,541	22,033	EE	B		Mission Critical (FRPC)				
[illegible]												Mission				

Figure 83. Asset Report

4.2 Asset Level Reports

The figure below depicts the Additional drop-down menu with Asset Level Reports highlighted.

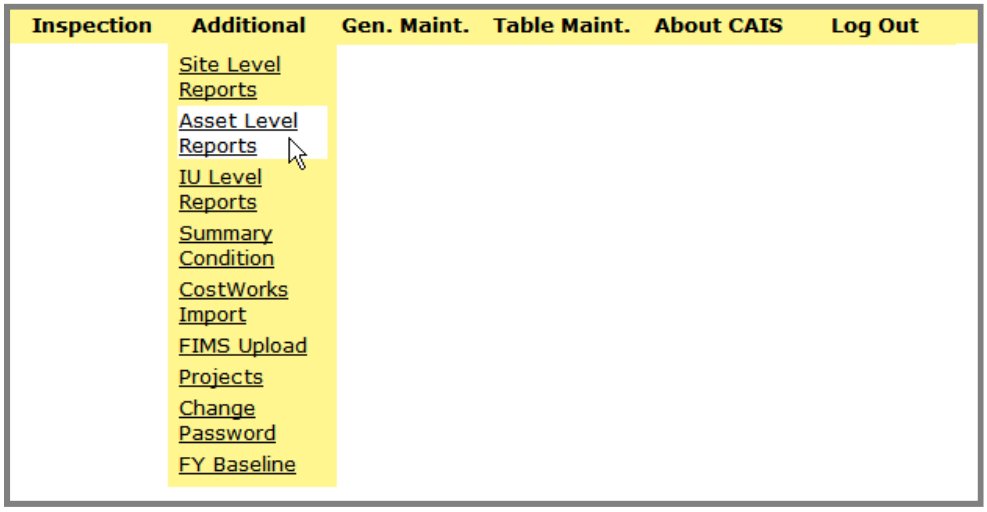


Figure 84. Asset Level Report Selection Menu

Click on this option and the screen shown below will appear.

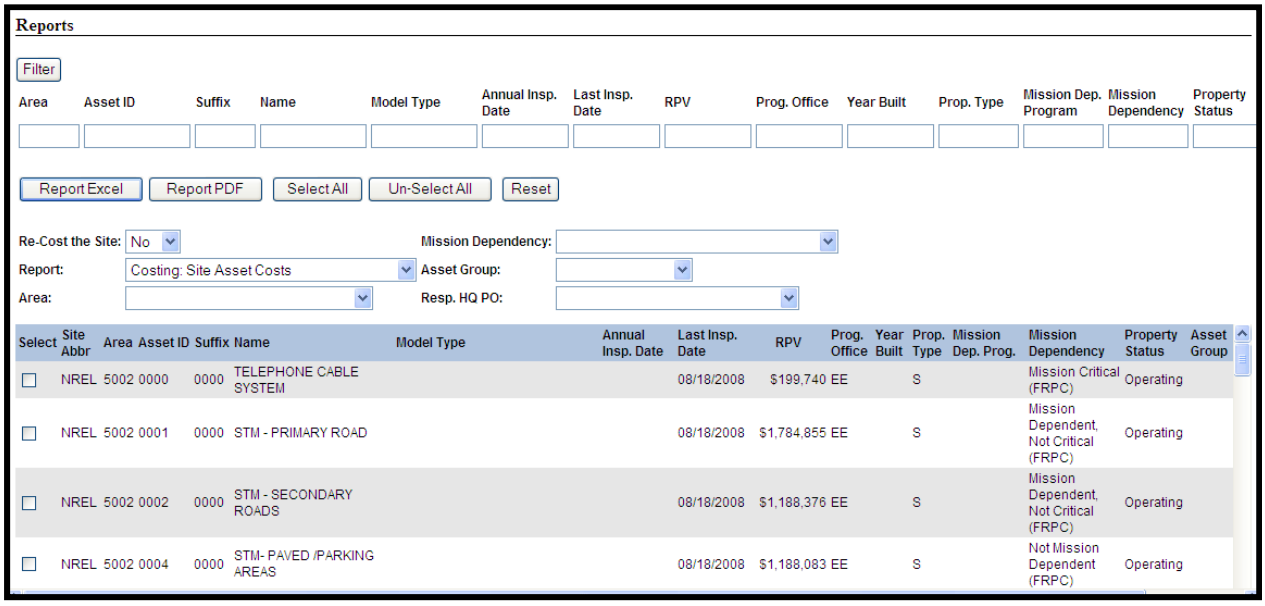


Figure 85. Asset Level Report Selection Screen

There are four asset level reports available:

- Deferred Maintenance
- Summary Condition Compilation
- Site Asset Costs by WBS
- Site Asset Costs

WARNING: The Select All button is intended only to be used after the list has been filtered. If Select All is used for lists of assets in excess of roughly 100 items, a SQL error will be generated and no report will be produced. To run a report for the entire site, SELECT NOTHING and run the report. To filter by Area, etc, use the drop-down options.

4.2.1. Asset Level Report Buttons

As shown in the figure on the previous page, there are five button controls available on this screen. The table below describes the function of each button.

Table 5 – Asset Level Reporting Buttons

Button	Functionality
Report Excel	Produces the selected report in Excel format.
Report PDF	Produces the selected report in PDF format.
Select All	After the list has been filtered to a manageable number of assets (under 100), this button makes it easy to run the report. See the warning above.
Unselect All	Unselects any assets that have been selected.
Reset	Resets the screen to its original state.

These reports offer options to find the asset you are looking for. The Filter tool can be used to locate your asset by Area, Asset ID, Suffix, Name, Model Type, Annual Inspection Date, Last Inspection Date, Replacement Plant Value (RPV), the Program Office responsible for the asset, Property Type, Mission Dependent Program, Mission Dependency, Property Status, and Asset Group. The Mission Dependency and Property Type come directly from FIMS. To run the report for a specific mission dependency such as mission critical, use the drop down. This will be faster and more efficient than filtering by mission dependency.

Select your report, the Area where the asset is located and the Responsible HQ PO. Click the format of the report and the report will appear.

4.2.2. Asset Level Report Drop-Down Selection Choices

When running the Asset Level Reports there are six different drop-down choices available.

Table 6 – Asset Level Reporting Drop-Down Options

Button	Functionality
Re-Cost the Site	Running any of the reports for the site this flag set to 'Yes' will re-cost the entire site. This process could take in the range of 30 minutes for some of the larger sites.
Mission Dependency	Allows reports to be filtered by this FIMS field.
Report	Used to specify the report to be run.
Asset Group	Used to filter the results by the Asset Group specified on the Asset Detail screen.
Area	Used to filter the results by the Area specified on the Asset Detail screen.
Resp. HQ PO	Used to filter the results by the Responsible Headquarters Program Office specified on the Asset Detail screen.

4.2.3. The Asset Level Report Examples

The figure below shows a sample Deferred Maintenance Report.

CONDITION ASSESSMENT INFORMATION SYSTEM

Deferred Maintenance Report

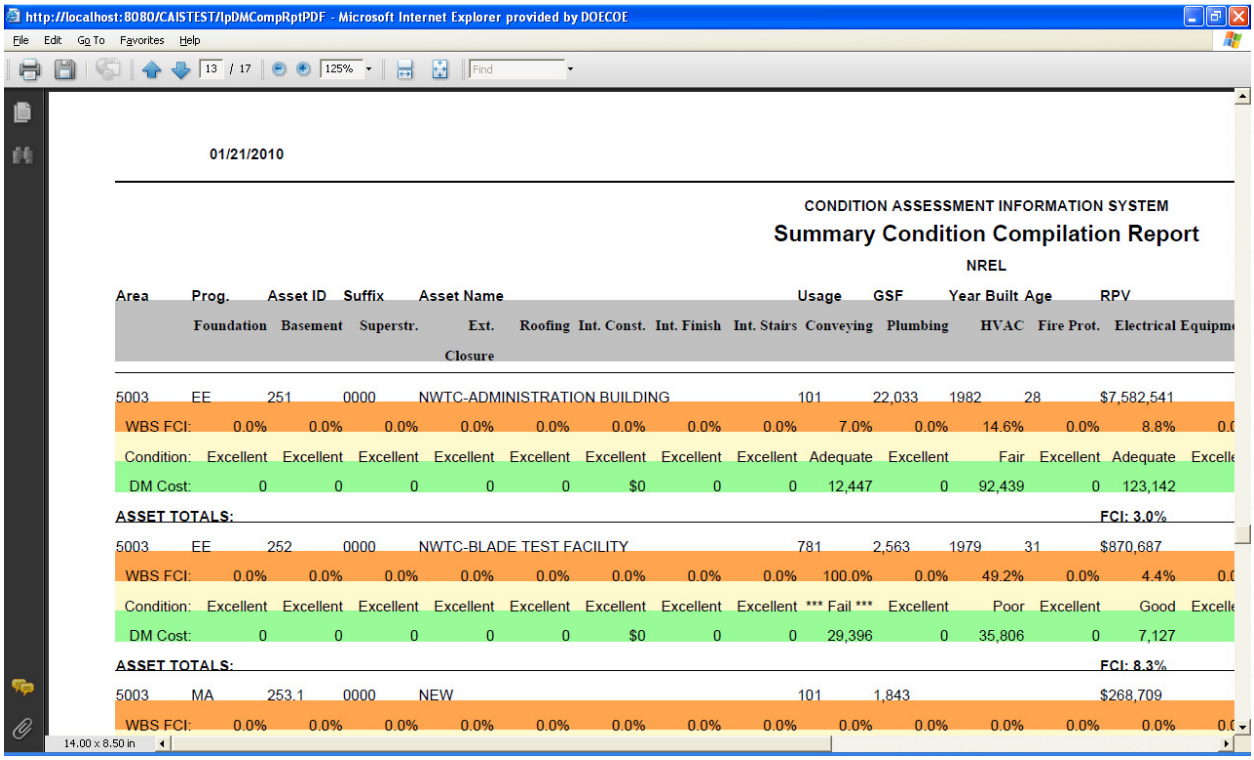
NREL

Site	Area	Prog. Office	Asset ID	Suffix	Asset Name	Asset Group	A10	A20	B10	B20	B30	C10	C20
NREL	5002	EE	0000	0000	TELEPHONE CABLE SYSTEM		0	0	0	1,444	0	0	0
NREL	5002	EE	0002	0000	STM - SECONDARY ROADS		0	0	0	0	0	0	0
NREL	5002	EE	0003	0000	STM- UNPAVED ROADS		0	0	0	0	0	0	0
NREL	5002	EE	0004	0000	STM- PAVED/PARKING AREAS		0	0	0	0	0	0	0
NREL	5002	EE	0300	0000	SECURITY FENCE		0	0	0	0	0	0	0
NREL	5002	EE	102	0000	STM - EXTERIOR LIGHTING		0	0	0	0	0	0	0
NREL	5002	EE	1802	0000	SITE ENTRANCE BUILDING		0	0	0	0	0	0	0
NREL	5002	EE	1904	0000	VISITOR		0	0	0	0	4,743	0	0
NREL	5002	EE	2501	0000	STORM WATER DRAIN SYSTEM		0	0	0	0	0	0	0
NREL	5002	EE	2502	0000	STM- SEWER PIPE		0	0	0	0	0	0	0
NREL	5002	EE	2503	0000	STM - DOMESTIC WATER PIPE		0	0	0	0	0	0	0
NREL	5002	EE	2505	0000	STM - FIRE WATER PIPE		0	0	0	0	0	0	0
NREL	5002		4317	0000	HISTORICAL BUNKER		0	0	0	0	0	0	0
NREL	5002	EE	4515	0000	SOLAR ENERGY RESEARCH FACILITY		0	0	0	0	0	0	0
NREL	5002	EE	4516	0000	TRANSFORMER		0	0	0	0	0	0	0
NREL	5002	EE	4703	0000	STONE FACE BUNKER - FETA		0	0	0	0	0	0	0
NREL	5002	EE	4716	0000	WASTE HANDLING FACILITY		0	0	0	0	0	0	0
NREL	5002	EE	5308	0000	FIELD TEST LAB BUILDING		614	1,565	0	14,606	110,679	0	0
NREL	5002	EE	5510	0000	FTLB FIRE LANE		0	0	0	0	0	0	0

Figure 86. Deferred Maintenance Report

The Deferred Maintenance Report, shown above, may be printed with good results in landscape on 11" x 17" paper. Because of the size of the report, it is easier to work with it if you save it to an Excel format. To get accurate results for this report, set the Recost the Site Flag to "Yes".

The figure below shows a sample Summary Condition Compilation Report. To get accurate results for this report, set the Recost the Site Flag to "Yes".



http://localhost:8080/CAISTEST/IpDMCompRptPDF - Microsoft Internet Explorer provided by DOECOE

File Edit Go To Favorites Help

13 / 17 125% Find

01/21/2010

CONDITION ASSESSMENT INFORMATION SYSTEM

Summary Condition Compilation Report

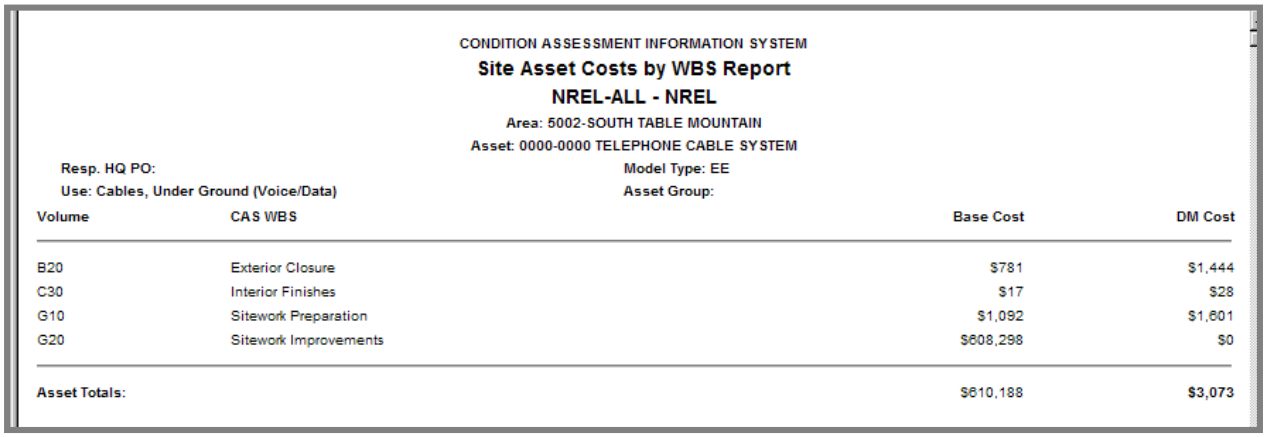
NREL

Area	Prog.	Asset ID	Suffix	Asset Name	Usage	GSF	Year Built	Age	RPV
	Foundation	Basement	Superstr.	Ext. Closure	Roofing	Int. Const.	Int. Finish	Int. Stairs	Conveying	Plumbing	HVAC	Fire Prot.	Electrical Equipm
5003	EE	251	0000	NWTC-ADMINISTRATION BUILDING	101	22,033	1982	28	$7,582,541
WBS FCI:	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.0%	0.0%	14.6%	0.0%	8.8%	0.0
Condition:	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Adequate	Excellent	Fair	Excellent	Adequate	Excell
DM Cost:	0	0	0	0	0	$0	0	0	12,447	0	92,439	0	123,142
ASSET TOTALS:													FCI: 3.0%
5003	EE	252	0000	NWTC-BLADE TEST FACILITY	781	2,563	1979	31	$870,687
WBS FCI:	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	49.2%	0.0%	4.4%	0.0
Condition:	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	*** Fail ***	Excellent	Poor	Excellent	Good	Excell
DM Cost:	0	0	0	0	0	$0	0	0	29,396	0	35,806	0	7,127
ASSET TOTALS:													FCI: 8.3%
5003	MA	253.1	0000	NEW	101	1,843	$268,709
WBS FCI:	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0

14.00 x 8.50 in

Figure 87. Summary Condition Compilation Report

The figure below shows a sample Site Asset Costs by WBS Report. To get accurate results for this report, set the Recost the Site Flag to "Yes".



CONDITION ASSESSMENT INFORMATION SYSTEM

Site Asset Costs by WBS Report

NREL-ALL - NREL

Area: 5002-SOUTH TABLE MOUNTAIN

Asset: 0000-0000 TELEPHONE CABLE SYSTEM

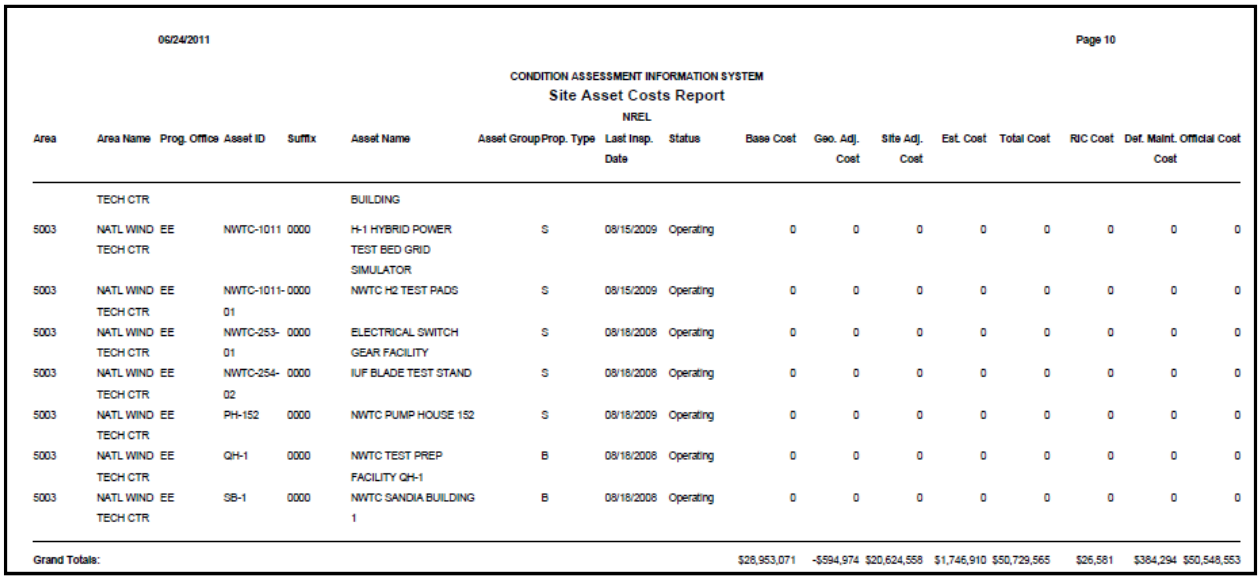
Resp. HQ PO: Model Type: EE

Use: Cables, Under Ground (Voice/Data) Asset Group:

Volume	CAS WBS	Base Cost	DM Cost
B20	Exterior Closure	$781	$1,444
C30	Interior Finishes	$17	$28
G10	Sitework Preparation	$1,092	$1,601
G20	Sitework Improvements	$608,298	$0
Asset Totals:		**$610,188**	**$3,073**

Figure 88. Site Asset Costs by WBS Report

A sample Site Asset Costs Report is shown below.



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CONDITION ASSESSMENT INFORMATION SYSTEM

Site Asset Costs Report

NREL

Area	Area Name	Prog. Office	Asset ID	Suffix	Asset Name	Asset Group	Prop. Type	Last Insp. Date	Status	Base Cost	Geo. Adj. Cost	Site Adj. Cost	Est. Cost	Total Cost	RIC Cost	Def. Maint. Cost	Official Cost
	TECH CTR				BUILDING												
5003	NATL WIND TECH CTR	EE	NWTC-1011	0000	H-1 HYBRID POWER TEST BED GRID SIMULATOR		S	08/15/2009	Operating	0	0	0	0	0	0	0	0
5003	NATL WIND TECH CTR	EE	NWTC-1011-01	0000	NWTC H2 TEST PADS		S	08/15/2009	Operating	0	0	0	0	0	0	0	0
5003	NATL WIND TECH CTR	EE	NWTC-253-01	0000	ELECTRICAL SWITCH GEAR FACILITY		S	08/18/2008	Operating	0	0	0	0	0	0	0	0
5003	NATL WIND TECH CTR	EE	NWTC-254-02	0000	IUF BLADE TEST STAND		S	08/18/2008	Operating	0	0	0	0	0	0	0	0
5003	NATL WIND TECH CTR	EE	PH-152	0000	NWTC PUMP HOUSE 152		S	08/18/2009	Operating	0	0	0	0	0	0	0	0
5003	NATL WIND TECH CTR	EE	QH-1	0000	NWTC TEST PREP FACILITY QH-1		B	08/18/2008	Operating	0	0	0	0	0	0	0	0
5003	NATL WIND TECH CTR	EE	SB-1	0000	NWTC SANDIA BUILDING 1		B	08/18/2008	Operating	0	0	0	0	0	0	0	0
Grand Totals:										$28,953,071	-$594,974	$20,624,558	$1,746,910	$50,729,565	$26,581	$364,294	$50,548,553

Figure 89. Site Asset Costs Report

4.3 IU Level Reports

Like all reports in CAIS, these reports may be created in PDF and Excel format. Some of the reports are especially useful in Excel format while other reports are less useful in Excel format.

The following reports produce one line per Inspection Unit and are particularly useful in Excel format since the dollar values can be added up and will match roll-ups for the records being selected:

- Survey: Abbreviated Survey Detail
- Survey: Inspection Unit (Abbreviated)
- Archive: Complete Archived Inspection Unit

All other IU-level reports can produce more than one line per Inspection Unit and may be misleading when run to Excel since the dollar values will not add up due to the multiple rows returned for single IU records.

The figure below depicts the IU Level Reports selection on the Additional drop-down menu.

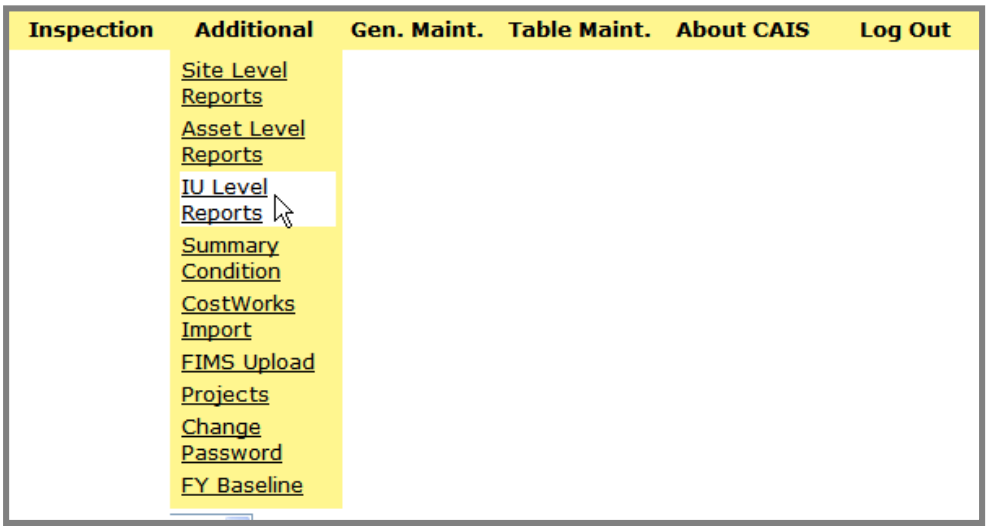

Figure 90. IU Level Report Selection Menu

There are nine IU level reports available:

- Complete Archived Inspection Unit

  This report displays the Inspection Units that have been archived. The PDF version of the report displays the deficiencies. The Excel version of the report includes a single line for each IU and does NOT include the deficiencies.

- FY Buydown
- FY Buydown by Date Input
- Repair Costs
- Complete Survey with Adders
- Abbreviated Survey Detail
- Complete Survey Detail
- Inspection Unit (Complete)
- Inspection Unit (Abbreviated) reports.

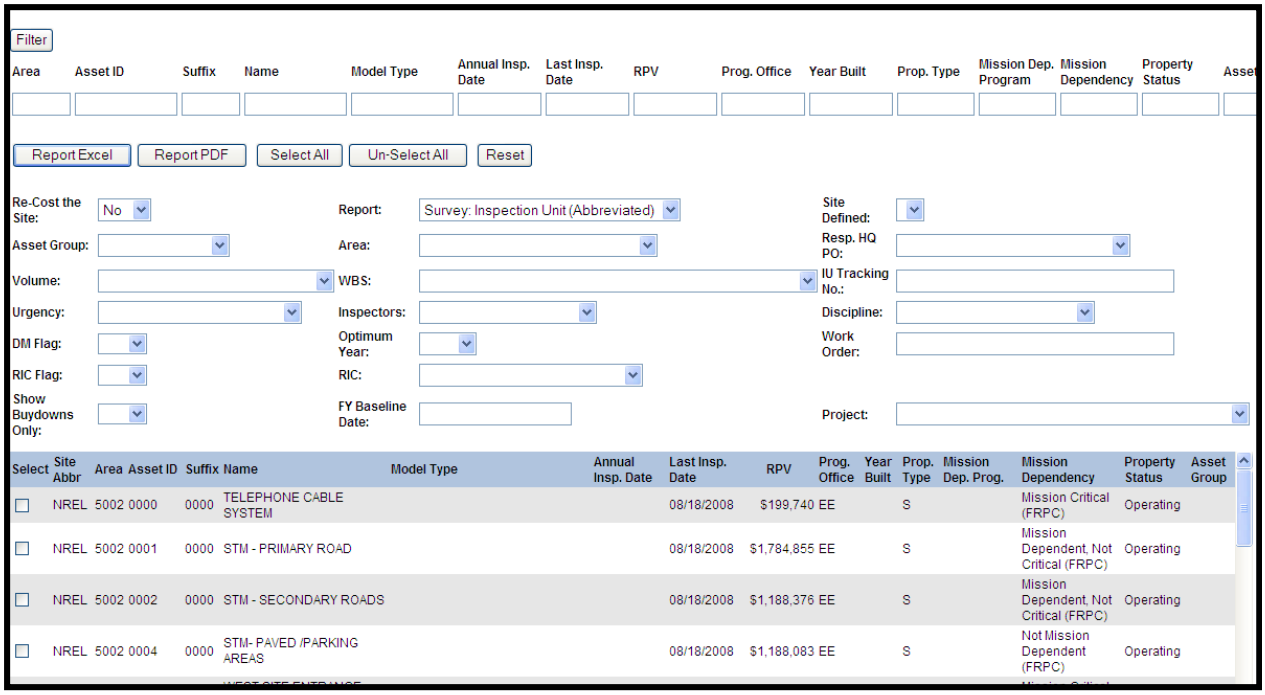

Figure 91. IU Level Report Selection Screen

See Table 5 under the Asset Level Reports section for a description of what each of the command buttons does.

4.3.1. IU Level Report Drop-Down and Text Input Selection Choices

When running the IU Level Reports there are eighteen different drop-down choices available.

Table 7– IU Level Reporting Drop-Down and Text Input Options

Field	Description		
	Text Field	**Yes/No Flag**	**Drop-Down Box**
Re-Cost the Site	X		
Note: Running any of the reports for the site when this flag is set to 'Yes' will re-cost the entire site. This process could take 30 or more minutes to run for some of the larger sites.			
Site Defined			X
Report			X
Asset Group			X
Area			X
Resp. HQ PO			X
Volume			X
WBS			X
IU Tracking No.	X		
Urgency			X
Inspectors			X
Discipline			X
DM Flag		X	
Optimum Year			X
Work Order	X		
RIC Flag		X	
RIC Type			X
Show Buydowns Only		X	
FY Baseline Date	X		
Project ID			X

4.3.2. The IU Level Report Examples

The figure below shows a sample Costing: FY Buydown Report.

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CONDITION ASSESSMENT INFORMATION SYSTEM

FY Buydown Report

NREL-ALL

Resp. HQ. PO: Area:

Asset Info: 1904

Tracking No.: 1927 **Proj. ID:** ROOFING PROJECT

Volume: D10 Conveying Systems **Baseline:**

WBS: Conveying;Elevators;Escalators

Component: MECH;EQUIPMENT CONTROLS+PANELS **Qty/Units:** 2 / EACH

Type: Control Components/DDC Systems, subcontractor's quote incl. material & labor, host computer (avg. 50' run in conduit), package complete with PC, keyboard, printer, color CRT, modem & basic software / 230923103282

DM Flag/Cost: NO $0 **Official Cost:** $9,224

RIC Flag/Cost: NO $0 **RIC Type:**

Baseline	Deferred Maint. Flag	Def. Maint. Cost	RIC Flag	RIC Cost	Official Cost	Buydown	Loc 2	Loc 3	Completed Cost	Cmplt Yr	Work Ord	Condition
Present	NO	$0	NO	$0	$9,224	$0			$0			FAIR <25%
12/18/2012	NO	$0	NO	$0	$9,224	$0			$0			GOOD <5%
04/05/2012	NO	$0	NO	$0	$2,800	$0			$0			
09/23/2010	NO	$0	NO	$0	$2,724	$0			$0			
09/08/2009	NO	$0	NO	$0	$2,724	$0			$0			

Asset Totals: **IU Count:** 1 **Buydown Cost:** $0

Figure 92. Costing: FY Buydown Report

CONDITION ASSESSMENT INFORMATION SYSTEM

Complete Archived Inspection Unit Report

NREL / NREL-ALL

Area: 5002 SOUTH TABLE MOUNTAIN Asset: 1802-0000 SITE ENTRANCE BUILDING

Resp. HQ PO: EE Asset Group: n/a Property Type: B Mission: Mission Dependent, Not Critical (FRPC)

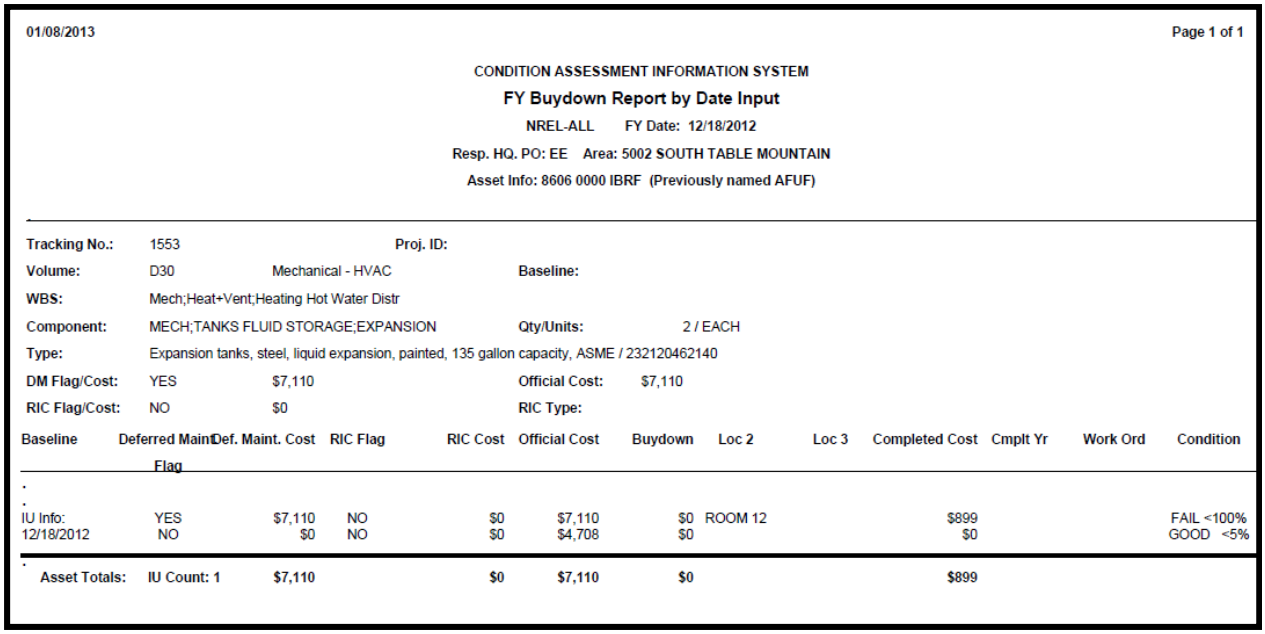
Tracking No.:	1639	**W/O#:**	WO065110
Archived By:	ALPHONSO, ALBERTO	**Archived Date:**	05/09/2012
Inspector:	DAVID VOGAN	**Proj. ID:**	
Volume:	B20 / Exterior Closure	**Discipline:**	Architectural
WBS:	Ext;Walls;Stucco	**Equipment ID:**	
Component:	EXT;WALLS;STUCCO COAT	**Unit/Measure:**	S.Y.
Type:	Stucco, 3 coats, on masonry construction, 1" thick, no mesh included		
Description:		**Repl. Qty:**	0
Qty@Loc:	25	**Repair Cost:**	$0
Official Cost:	$2,259	**Insp. Estimate Cost:**	$2,259
Base Cost:	$0	**Replace Cost:**	$0
Last Updated:	08/20/2008 16:18:28	**Last Updated by:**	CAROLINE WATKINS
Year Installed:	1994	**Pre Repair Years:**	
Completion Year:	2004	**Post Repair Years:**	
Site Def.:		**Optimum Yr.:**	
Location:	EXTERIOR	**Addl. Loc 1:**	
Addl. Loc 2:		**Addl. Loc 3:**	
Addl. Loc 4:		**Addl. Loc 5:**	
Def. Maint.:	No	**Def. Maint. Cost:**	$0
RIC Flag:	No	**RIC Type:**	
RIC Cost:	$0	**Completed Cost:**	$2,000
Condition:	ADQT <10%	**Urgency:**	NO REPAIRS NECESSARY
Insp. Date:	08/13/2003	**Last Remodeled Date:**	
Service:		**Creation Dt.:**	08/14/2003
Status:	COMPLETED	**Repair Symptom:**	
Importance:	MISSION ESSENTIAL	**Repair Task:**	
Access:		**Repair Cause:**	
FY Baseline:		**Repair Purpose:**	EXCEEDED DESIGN LIFE
Next Insp. Dt.:	08/01/2013		
Comment:	WORKED TO BE ACCOMPLISHED UNDER FY03 MINOR CONSTRUCTION PROJECTS. REPAIR EXISTING HOLES IN STUCCO CAUSED BY BIRDS BORING HOLES FOR NESTING.		

		Coverage %				
Deficiency Group	**Deficiency**	**Light**	**Moderate**	**Severe**	**Fail**	**NSIP Req.**

Asset Totals:	**IU Count:**	**1**	**Completed Cost:**	**$2,000**		
	Official Cost:	**$2,259**	**Def. Maint.:**	**$0**	**RIC:**	**$0**

Figure 93. Complete Archived Inspection Unit Report

The figure below shows a sample Costing: FY Buydown Report by Date Input.



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CONDITION ASSESSMENT INFORMATION SYSTEM

FY Buydown Report by Date Input

NREL-ALL FY Date: 12/18/2012

Resp. HQ. PO: EE Area: 5002 SOUTH TABLE MOUNTAIN

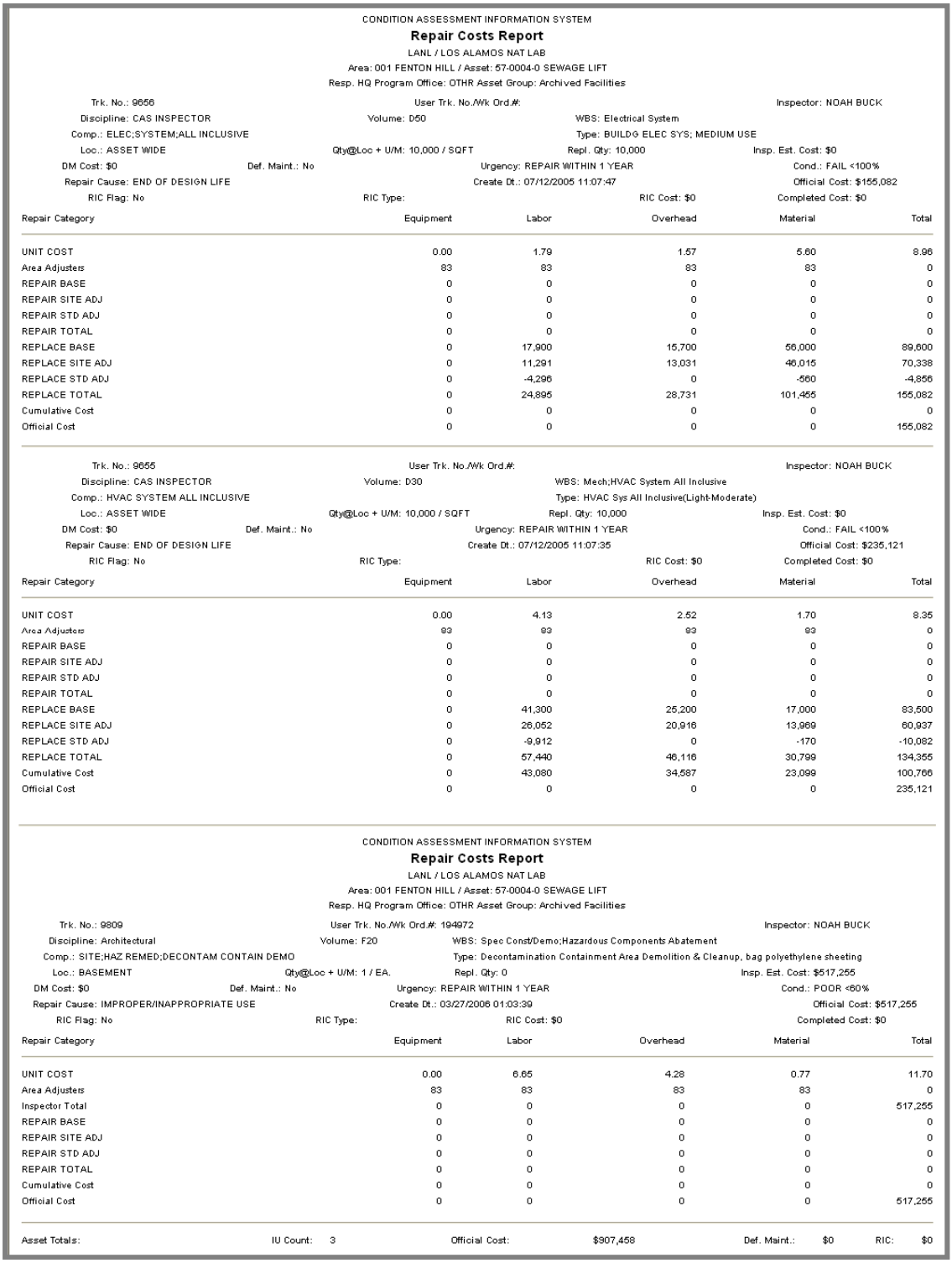
Asset Info: 8606 0000 IBRF (Previously named AFUF)

Tracking No.:	1553		**Proj. ID:**	
Volume:	D30	Mechanical - HVAC	**Baseline:**	
WBS:	Mech;Heat+Vent;Heating Hot Water Distr			
Component:	MECH;TANKS FLUID STORAGE;EXPANSION		**Qty/Units:**	2 / EACH
Type:	Expansion tanks, steel, liquid expansion, painted, 135 gallon capacity, ASME / 232120462140			
DM Flag/Cost:	YES	$7,110	**Official Cost:**	$7,110
RIC Flag/Cost:	NO	$0	**RIC Type:**	

Baseline	Deferred Maint Flag	Def. Maint. Cost	RIC Flag	RIC Cost	Official Cost	Buydown	Loc 2	Loc 3	Completed Cost	Cmplt Yr	Work Ord	Condition
IU Info:	YES	$7,110	NO	$0	$7,110	$0	ROOM 12		$899			FAIL <100%
12/18/2012	NO	$0	NO	$0	$4,708	$0			$0			GOOD <5%
Asset Totals:	**IU Count: 1**	**$7,110**		**$0**	**$7,110**	**$0**			**$899**			

Figure 94. Costing: FY Buydown Report by Date Input

The figure below shows a sample Repair Costs Report.



CONDITION ASSESSMENT INFORMATION SYSTEM

Repair Costs Report

LANL / LOS ALAMOS NAT LAB

Area: 001 FENTON HILL / Asset: 57-0004-0 SEWAGE LIFT

Resp. HQ Program Office: OTHR Asset Group: Archived Facilities

Trk. No.: 9656 | User Trk. No./Wk Ord.#: | Inspector: NOAH BUCK

Discipline: CAS INSPECTOR | Volume: D50 | WBS: Electrical System

Comp.: ELEC;SYSTEM;ALL INCLUSIVE | Type: BUILDG ELEC SYS; MEDIUM USE

Loc.: ASSET WIDE | Qty@Loc + U/M: 10,000 / SQFT | Repl. Qty: 10,000 | Insp. Est. Cost: $0

DM Cost: $0 | Def. Maint.: No | Urgency: REPAIR WITHIN 1 YEAR | Cond.: FAIL <100%

Repair Cause: END OF DESIGN LIFE | Create Dt.: 07/12/2005 11:07:47 | Official Cost: $155,082

RIC Flag: No | RIC Type: | RIC Cost: $0 | Completed Cost: $0

Repair Category	Equipment	Labor	Overhead	Material	Total
UNIT COST	0.00	1.79	1.57	5.60	8.96
Area Adjusters	83	83	83	83	0
REPAIR BASE	0	0	0	0	0
REPAIR SITE ADJ	0	0	0	0	0
REPAIR STD ADJ	0	0	0	0	0
REPAIR TOTAL	0	0	0	0	0
REPLACE BASE	0	17,900	15,700	56,000	89,600
REPLACE SITE ADJ	0	11,291	13,031	46,015	70,338
REPLACE STD ADJ	0	-4,296	0	-560	-4,856
REPLACE TOTAL	0	24,895	28,731	101,455	155,082
Cumulative Cost	0	0	0	0	0
Official Cost	0	0	0	0	155,082

Trk. No.: 9655 | User Trk. No./Wk Ord.#: | Inspector: NOAH BUCK

Discipline: CAS INSPECTOR | Volume: D30 | WBS: Mech;HVAC System All Inclusive

Comp.: HVAC SYSTEM ALL INCLUSIVE | Type: HVAC Sys All Inclusive(Light-Moderate)

Loc.: ASSET WIDE | Qty@Loc + U/M: 10,000 / SQFT | Repl. Qty: 10,000 | Insp. Est. Cost: $0

DM Cost: $0 | Def. Maint.: No | Urgency: REPAIR WITHIN 1 YEAR | Cond.: FAIL <100%

Repair Cause: END OF DESIGN LIFE | Create Dt.: 07/12/2005 11:07:35 | Official Cost: $235,121

RIC Flag: No | RIC Type: | RIC Cost: $0 | Completed Cost: $0

Repair Category	Equipment	Labor	Overhead	Material	Total
UNIT COST	0.00	4.13	2.52	1.70	8.35
Area Adjusters	83	83	83	83	0
REPAIR BASE	0	0	0	0	0
REPAIR SITE ADJ	0	0	0	0	0
REPAIR STD ADJ	0	0	0	0	0
REPAIR TOTAL	0	0	0	0	0
REPLACE BASE	0	41,300	25,200	17,000	83,500
REPLACE SITE ADJ	0	26,052	20,916	13,969	60,937
REPLACE STD ADJ	0	-9,912	0	-170	-10,082
REPLACE TOTAL	0	57,440	46,116	30,799	134,355
Cumulative Cost	0	43,080	34,587	23,099	100,766
Official Cost	0	0	0	0	235,121

CONDITION ASSESSMENT INFORMATION SYSTEM

Repair Costs Report

LANL / LOS ALAMOS NAT LAB

Area: 001 FENTON HILL / Asset: 57-0004-0 SEWAGE LIFT

Resp. HQ Program Office: OTHR Asset Group: Archived Facilities

Trk. No.: 9809 | User Trk. No./Wk Ord.#: 194972 | Inspector: NOAH BUCK

Discipline: Architectural | Volume: F20 | WBS: Spec Const/Demo;Hazardous Components Abatement

Comp.: SITE;HAZ REMED;DECONTAM CONTAIN DEMO | Type: Decontamination Containment Area Demolition & Cleanup, bag polyethylene sheeting

Loc.: BASEMENT | Qty@Loc + U/M: 1 / EA. | Repl. Qty: 0 | Insp. Est. Cost: $517,255

DM Cost: $0 | Def. Maint.: No | Urgency: REPAIR WITHIN 1 YEAR | Cond.: POOR <60%

Repair Cause: IMPROPER/INAPPROPRIATE USE | Create Dt.: 03/27/2006 01:03:39 | Official Cost: $517,255

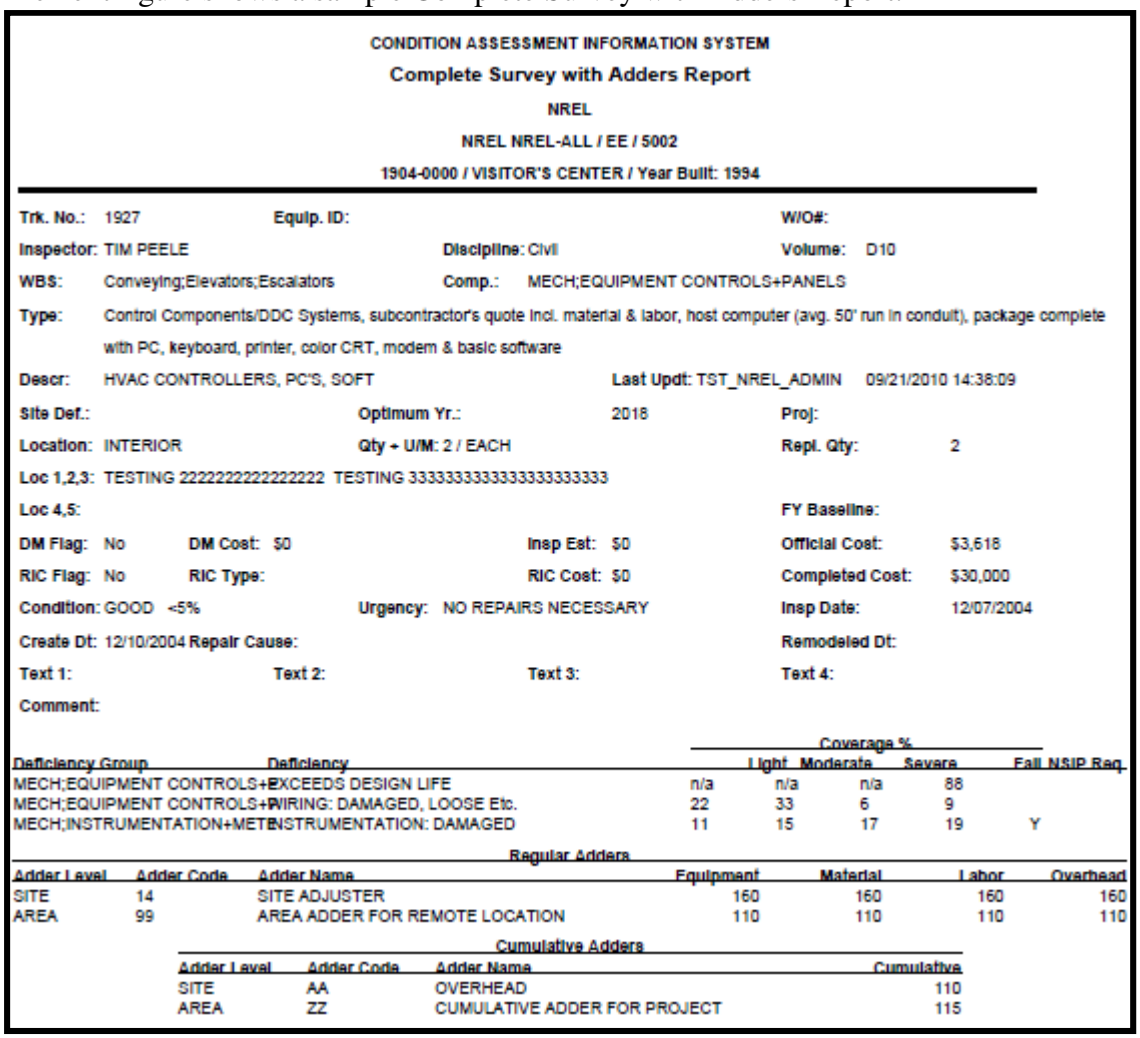
RIC Flag: No | RIC Type: | RIC Cost: $0 | Completed Cost: $0

Repair Category	Equipment	Labor	Overhead	Material	Total
UNIT COST	0.00	6.65	4.28	0.77	11.70
Area Adjusters	83	83	83	83	0
Inspector Total	0	0	0	0	517,255
REPAIR BASE	0	0	0	0	0
REPAIR SITE ADJ	0	0	0	0	0
REPAIR STD ADJ	0	0	0	0	0
REPAIR TOTAL	0	0	0	0	0
Cumulative Cost	0	0	0	0	0
Official Cost	0	0	0	0	517,255

Asset Totals: | IU Count: 3 | Official Cost: $907,458 | Def. Maint.: $0 | RIC: $0

Figure 95. Repair Costs Report

The next figure shows a sample Complete Survey with Adders Report.



CONDITION ASSESSMENT INFORMATION SYSTEM

Complete Survey with Adders Report

NREL

NREL NREL-ALL / EE / 5002

1904-0000 / VISITOR'S CENTER / Year Built: 1994

Trk. No.: 1927 **Equip. ID:** **W/O#:**

Inspector: TIM PEELE **Discipline:** Civil **Volume:** D10

WBS: Conveying;Elevators;Escalators **Comp.:** MECH;EQUIPMENT CONTROLS+PANELS

Type: Control Components/DDC Systems, subcontractor's quote incl. material & labor, host computer (avg. 50' run in conduit), package complete with PC, keyboard, printer, color CRT, modem & basic software

Descr: HVAC CONTROLLERS, PC'S, SOFT **Last Updt:** TST_NREL_ADMIN 09/21/2010 14:38:09

Site Def.: **Optimum Yr.:** 2018 **Proj:**

Location: INTERIOR **Qty + U/M:** 2 / EACH **Repl. Qty:** 2

Loc 1,2,3: TESTING 2222222222222222 TESTING 333333333333333333333

Loc 4,5: **FY Baseline:**

DM Flag: No **DM Cost:** $0 **Insp Est:** $0 **Official Cost:** $3,618

RIC Flag: No **RIC Type:** **RIC Cost:** $0 **Completed Cost:** $30,000

Condition: GOOD <5% **Urgency:** NO REPAIRS NECESSARY **Insp Date:** 12/07/2004

Create Dt: 12/10/2004 **Repair Cause:** **Remodeled Dt:**

Text 1: **Text 2:** **Text 3:** **Text 4:**

Comment:

		Coverage %				
Deficiency Group	Deficiency	Light	Moderate	Severe	Fail	NSIP Req
MECH;EQUIPMENT CONTROLS+P	EXCEEDS DESIGN LIFE	n/a	n/a	n/a	88	
MECH;EQUIPMENT CONTROLS+P	WIRING: DAMAGED, LOOSE Etc.	22	33	6	9	
MECH;INSTRUMENTATION+METE	INSTRUMENTATION: DAMAGED	11	15	17	19	Y

Regular Adders

Adder Level	Adder Code	Adder Name	Equipment	Material	Labor	Overhead
SITE	14	SITE ADJUSTER	160	160	160	160
AREA	99	AREA ADDER FOR REMOTE LOCATION	110	110	110	110

Cumulative Adders

Adder Level	Adder Code	Adder Name	Cumulative
SITE	AA	OVERHEAD	110
AREA	ZZ	CUMULATIVE ADDER FOR PROJECT	115

Figure 96. Complete Survey with Adders Report

Note that this report shows very valuable information not found in any of the other CAIS reports including:

- Each cost adder applied at the Site, Area, Asset and IU Level.
- Each cumulative cost adder applied at the Site, Area, Asset and IU Level.

This report also shows the deficiencies for the IU and most of the data elements specified on the IU Screen. This report is similar to the Complete Survey Detail Report with the cost adders included.

The next figure shows a sample Abbreviated Survey Detail Report.

CONDITION ASSESSMENT INFORMATION SYSTEM

Abbreviated Survey Detail Report

NREL / NREL-ALL Area: 5002 SOUTH TABLE MOUNTAIN

Resp. HQ PO: EE / Asset: 1904-0000 VISITORS CENTER

Asset Group: n/a Property Type: B Mission: Mission Dependent, Not Critical (FRPC)

Trk. No.: 3401 **Equip. ID:** 20598 **W/O#:**

Inspector: PAUL HJARDEMAAL **Discipline:** Mechanical **Volume:** D20

WBS: Mech;Plumbing;Domestic Water **Comp.:** MECH;VALVES;BACKFLOW PREVENTION **Proj:**

Type: Backflow preventer, double check principle, corrosion resistant, automatic operation, OS&Y valves, flanged, 2" pipe size, includes valves and four test cocks / 221119421378

Descr: FEBCO 2" FOR BOILER **Last Updt:** RDEXTER 05/10/2011 16:34:51

Site Def.: **Optimum Yr.:**

Location: ROOM **Qty + U/M:** 1 / EACH **Repl. Qty:** 1

Loc 1,2,3: 125

Loc 4,5: **FY Baseline:**

DM Flag: No **DM Cost:** $0 **Insp Est:** $0 **Official Cost:** $3,322

RIC Flag: No **RIC Type:** **RIC Cost:** $0 **Completed Cost:** $0

Condition: GOOD <5% **Urgency:** NO REPAIRS NECESSARY **Insp. Date:**

Create Dt: 01/13/2011 **Repair Cause:** **Remodeled Dt:**

Comment:

Trk. No.: 3403 **Equip. ID:** 20600 **W/O#:**

Inspector: PAUL HJARDEMAAL **Discipline:** Mechanical **Volume:** D20

WBS: Mech;Plumbing;Domestic Water **Comp.:** MECH;VALVES;BACKFLOW PREVENTION **Proj:**

Type: Backflow preventer, double check principle, corrosion resistant, automatic operation, OS&Y valves, flanged, 2" pipe size, includes valves and four test cocks / 221119421378

Descr: FEBCO 4" R.P. FOR FIRE SPRINKLER **Last Updt:** RDEXTER 05/10/2011 16:35:25

Site Def.: **Optimum Yr.:**

Location: ROOM **Qty + U/M:** 1 / EACH **Repl. Qty:** 1

Loc 1,2,3: 127

Loc 4,5: **FY Baseline:**

DM Flag: No **DM Cost:** $0 **Insp Est:** $0 **Official Cost:** $3,322

RIC Flag: No **RIC Type:** **RIC Cost:** $0 **Completed Cost:** $0

Condition: GOOD <5% **Urgency:** NO REPAIRS NECESSARY **Insp. Date:**

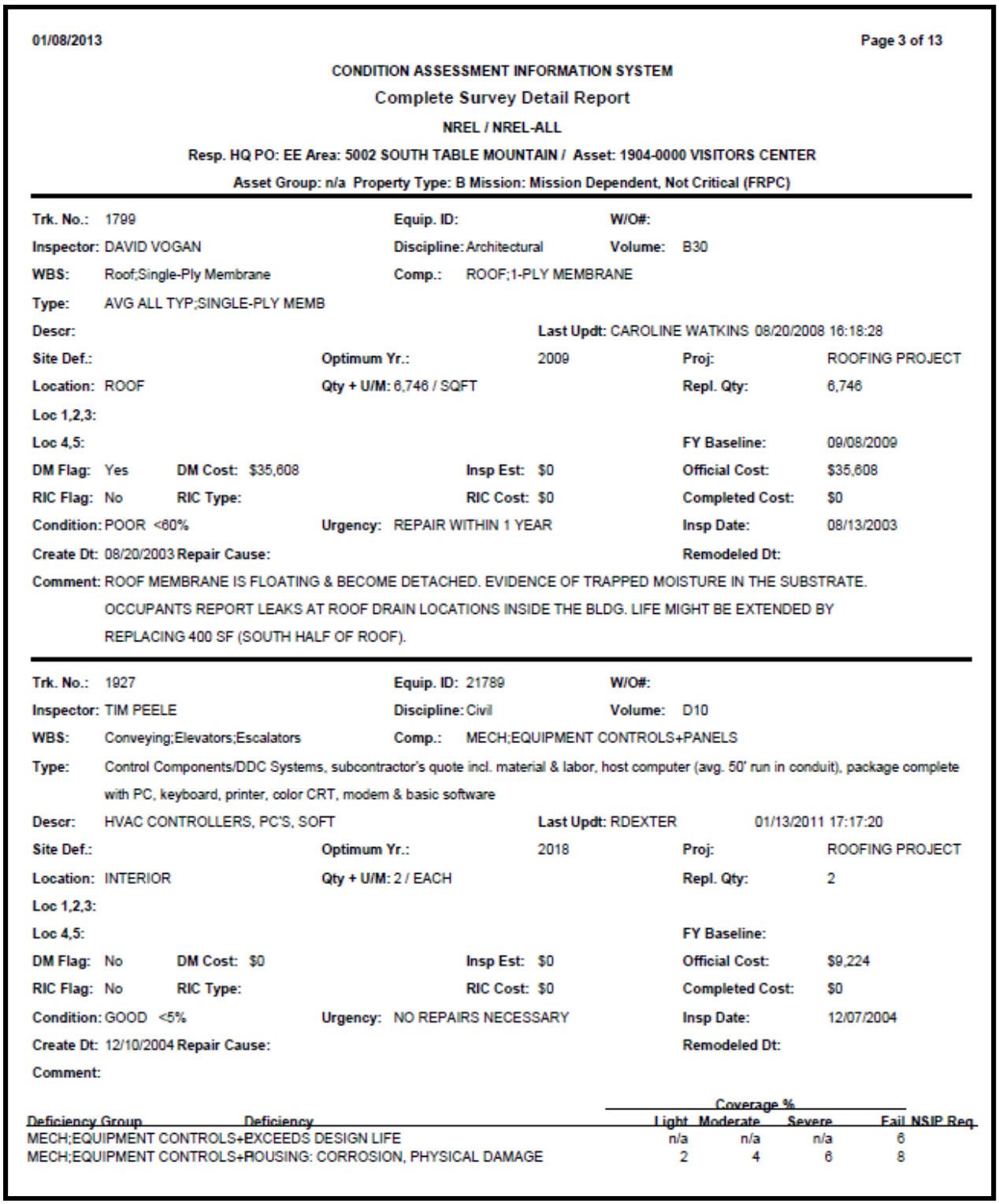
Create Dt: 01/13/2011 **Repair Cause:** **Remodeled Dt:**

Comment:

Asset Totals: **IU Count:** 26 **Official Cost:** $212,533 **Def. Maint.:** $41,516 **RIC:** $0

Figure 97. Abbreviated Survey Detail Report

The next figure shows a sample Complete Survey Detail Report.



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CONDITION ASSESSMENT INFORMATION SYSTEM

Complete Survey Detail Report

NREL / NREL-ALL

Resp. HQ PO: EE Area: 5002 SOUTH TABLE MOUNTAIN / Asset: 1904-0000 VISITORS CENTER

Asset Group: n/a Property Type: B Mission: Mission Dependent, Not Critical (FRPC)

Trk. No.: 1799 Equip. ID: W/O#:

Inspector: DAVID VOGAN Discipline: Architectural Volume: B30

WBS: Roof;Single-Ply Membrane Comp.: ROOF;1-PLY MEMBRANE

Type: AVG ALL TYP;SINGLE-PLY MEMB

Descr: Last Updt: CAROLINE WATKINS 08/20/2008 16:18:28

Site Def.: Optimum Yr.: 2009 Proj: ROOFING PROJECT

Location: ROOF Qty + U/M: 6,746 / SQFT Repl. Qty: 6,746

Loc 1,2,3:

Loc 4,5: FY Baseline: 09/08/2009

DM Flag: Yes DM Cost: $35,608 Insp Est: $0 Official Cost: $35,608

RIC Flag: No RIC Type: RIC Cost: $0 Completed Cost: $0

Condition: POOR <60% Urgency: REPAIR WITHIN 1 YEAR Insp Date: 08/13/2003

Create Dt: 08/20/2003 Repair Cause: Remodeled Dt:

Comment: ROOF MEMBRANE IS FLOATING & BECOME DETACHED. EVIDENCE OF TRAPPED MOISTURE IN THE SUBSTRATE. OCCUPANTS REPORT LEAKS AT ROOF DRAIN LOCATIONS INSIDE THE BLDG. LIFE MIGHT BE EXTENDED BY REPLACING 400 SF (SOUTH HALF OF ROOF).

Trk. No.: 1927 Equip. ID: 21789 W/O#:

Inspector: TIM PEELE Discipline: Civil Volume: D10

WBS: Conveying;Elevators;Escalators Comp.: MECH;EQUIPMENT CONTROLS+PANELS

Type: Control Components/DDC Systems, subcontractor's quote incl. material & labor, host computer (avg. 50' run in conduit), package complete with PC, keyboard, printer, color CRT, modem & basic software

Descr: HVAC CONTROLLERS, PC'S, SOFT Last Updt: RDEXTER 01/13/2011 17:17:20

Site Def.: Optimum Yr.: 2018 Proj: ROOFING PROJECT

Location: INTERIOR Qty + U/M: 2 / EACH Repl. Qty: 2

Loc 1,2,3:

Loc 4,5: FY Baseline:

DM Flag: No DM Cost: $0 Insp Est: $0 Official Cost: $9,224

RIC Flag: No RIC Type: RIC Cost: $0 Completed Cost: $0

Condition: GOOD <5% Urgency: NO REPAIRS NECESSARY Insp Date: 12/07/2004

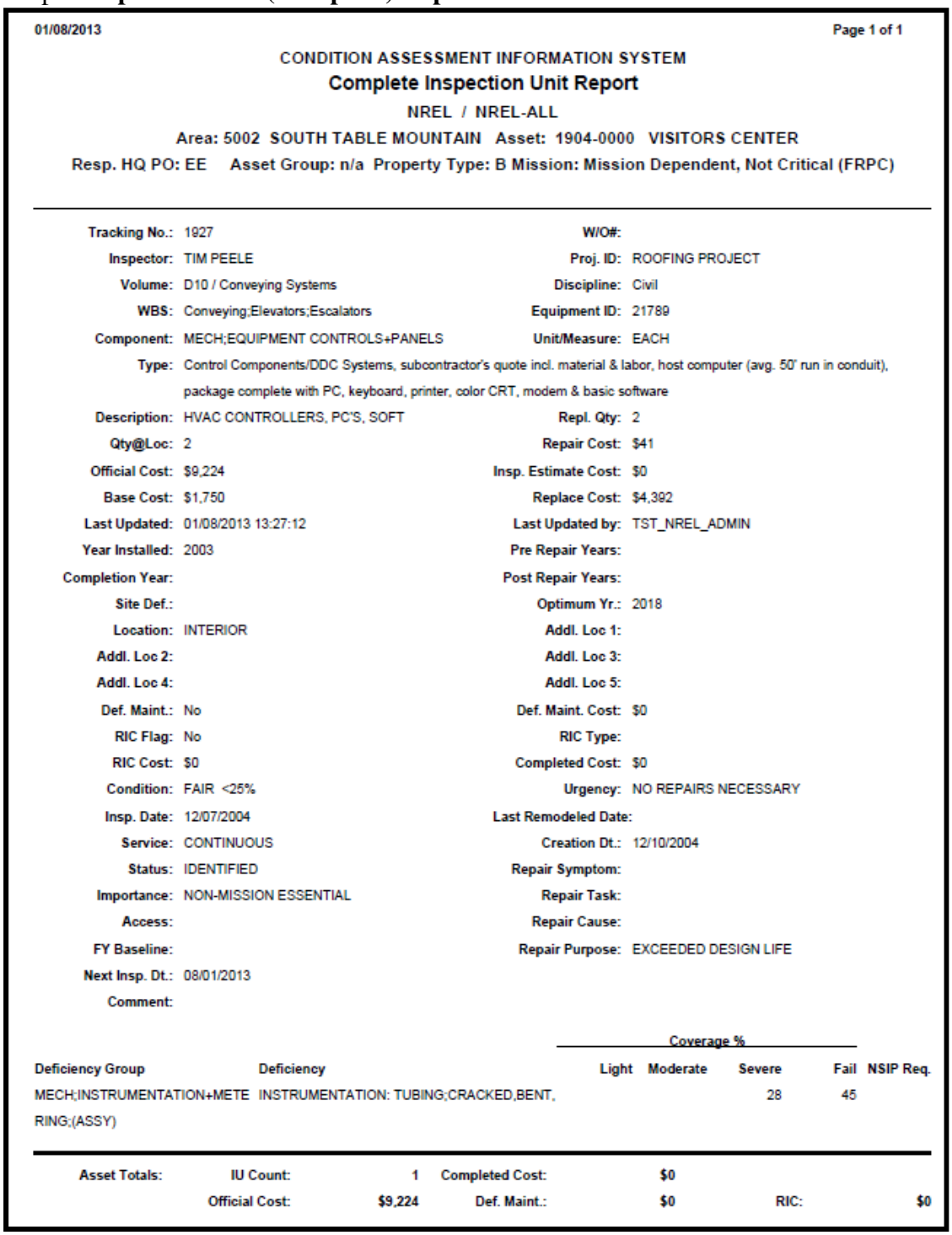
Create Dt: 12/10/2004 Repair Cause: Remodeled Dt:

Comment:

Deficiency Group	Deficiency	Coverage % Light	Moderate	Severe	Fail	NSIP Req
MECH;EQUIPMENT CONTROLS+	EXCEEDS DESIGN LIFE	n/a	n/a	n/a	6	
MECH;EQUIPMENT CONTROLS+	HOUSING: CORROSION, PHYSICAL DAMAGE	2	4	6	8	

Figure 98. Complete Survey Detail Report

The difference between the Inspection Unit (Complete) and the Inspection Unit (Abbreviated) reports is that the Complete version includes the deficiencies for each Inspection Unit whereas the Abbreviated version does not display the deficiencies. Hence, the Abbreviated version of the report gives only one line per IU when the report is run to Excel. The figure below displays a sample **Inspection Unit (Complete) Report**.



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CONDITION ASSESSMENT INFORMATION SYSTEM

Complete Inspection Unit Report

NREL / NREL-ALL

Area: 5002 SOUTH TABLE MOUNTAIN Asset: 1904-0000 VISITORS CENTER

Resp. HQ PO: EE Asset Group: n/a Property Type: B Mission: Mission Dependent, Not Critical (FRPC)

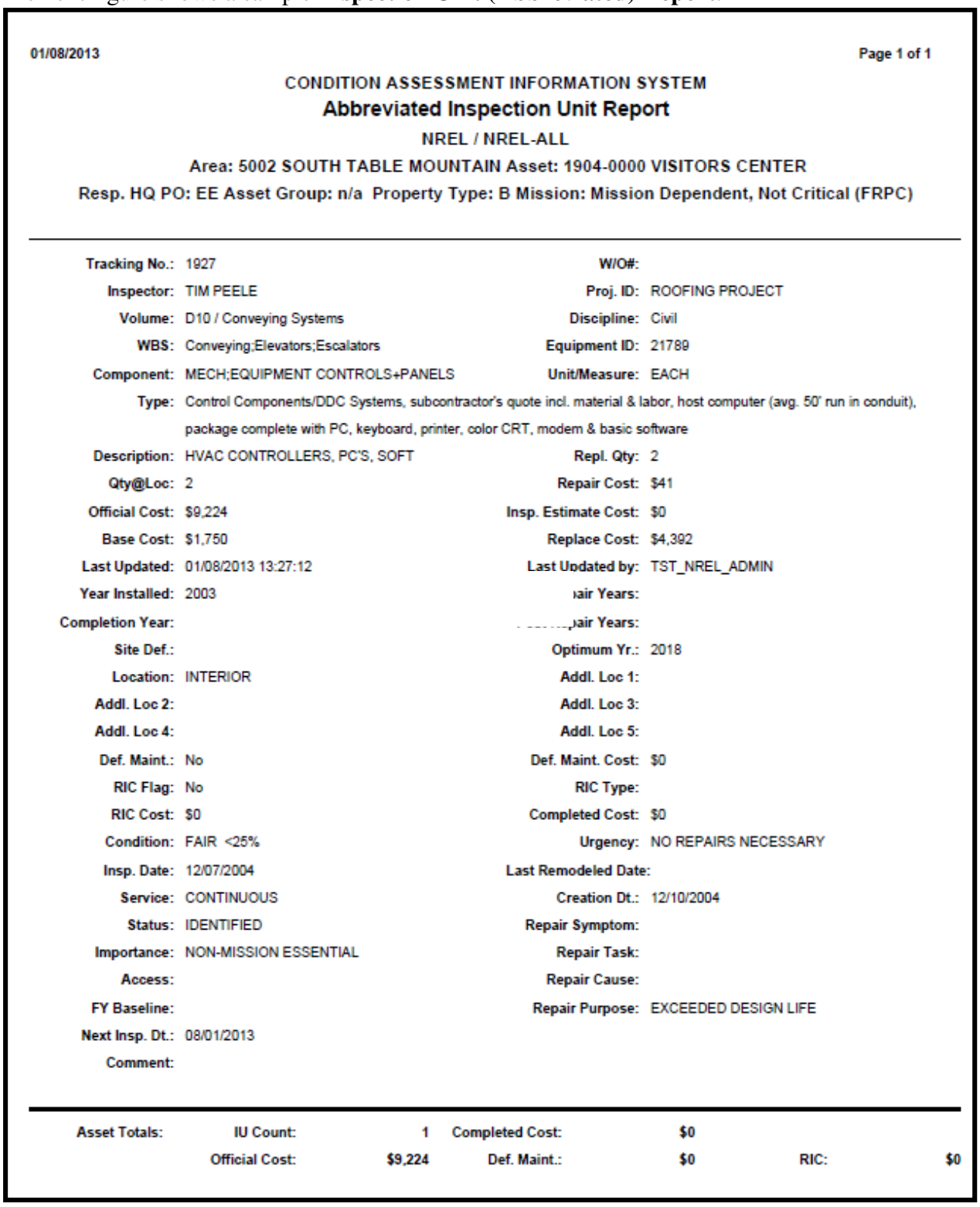
Tracking No.:	1927	W/O#:	
Inspector:	TIM PEELE	Proj. ID:	ROOFING PROJECT
Volume:	D10 / Conveying Systems	Discipline:	Civil
WBS:	Conveying;Elevators;Escalators	Equipment ID:	21789
Component:	MECH;EQUIPMENT CONTROLS+PANELS	Unit/Measure:	EACH
Type:	Control Components/DDC Systems, subcontractor's quote incl. material & labor, host computer (avg. 50' run in conduit), package complete with PC, keyboard, printer, color CRT, modem & basic software		
Description:	HVAC CONTROLLERS, PC'S, SOFT	Repl. Qty:	2
Qty@Loc:	2	Repair Cost:	$41
Official Cost:	$9,224	Insp. Estimate Cost:	$0
Base Cost:	$1,750	Replace Cost:	$4,392
Last Updated:	01/08/2013 13:27:12	Last Updated by:	TST_NREL_ADMIN
Year Installed:	2003	Pre Repair Years:	
Completion Year:		Post Repair Years:	
Site Def.:		Optimum Yr.:	2018
Location:	INTERIOR	Addl. Loc 1:	
Addl. Loc 2:		Addl. Loc 3:	
Addl. Loc 4:		Addl. Loc 5:	
Def. Maint.:	No	Def. Maint. Cost:	$0
RIC Flag:	No	RIC Type:	
RIC Cost:	$0	Completed Cost:	$0
Condition:	FAIR <25%	Urgency:	NO REPAIRS NECESSARY
Insp. Date:	12/07/2004	Last Remodeled Date:	
Service:	CONTINUOUS	Creation Dt.:	12/10/2004
Status:	IDENTIFIED	Repair Symptom:	
Importance:	NON-MISSION ESSENTIAL	Repair Task:	
Access:		Repair Cause:	
FY Baseline:		Repair Purpose:	EXCEEDED DESIGN LIFE
Next Insp. Dt.:	08/01/2013		
Comment:			

		Coverage %				
Deficiency Group	Deficiency	Light	Moderate	Severe	Fail	NSIP Req.
MECH;INSTRUMENTATION+METE RING;(ASSY)	INSTRUMENTATION: TUBING;CRACKED,BENT,			28	45	

Asset Totals:	IU Count:	1	Completed Cost:	$0		
	Official Cost:	$9,224	Def. Maint.:	$0	RIC:	$0

Figure 99. Inspection Unit (Complete) Report

The next figure shows a sample **Inspection Unit (Abbreviated) Report**.



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CONDITION ASSESSMENT INFORMATION SYSTEM

Abbreviated Inspection Unit Report

NREL / NREL-ALL

Area: 5002 SOUTH TABLE MOUNTAIN Asset: 1904-0000 VISITORS CENTER

Resp. HQ PO: EE Asset Group: n/a Property Type: B Mission: Mission Dependent, Not Critical (FRPC)

Tracking No.:	1927	**W/O#:**	
Inspector:	TIM PEELE	**Proj. ID:**	ROOFING PROJECT
Volume:	D10 / Conveying Systems	**Discipline:**	Civil
WBS:	Conveying;Elevators;Escalators	**Equipment ID:**	21789
Component:	MECH;EQUIPMENT CONTROLS+PANELS	**Unit/Measure:**	EACH
Type:	Control Components/DDC Systems, subcontractor's quote incl. material & labor, host computer (avg. 50' run in conduit), package complete with PC, keyboard, printer, color CRT, modem & basic software		
Description:	HVAC CONTROLLERS, PC'S, SOFT	**Repl. Qty:**	2
Qty@Loc:	2	**Repair Cost:**	$41
Official Cost:	$9,224	**Insp. Estimate Cost:**	$0
Base Cost:	$1,750	**Replace Cost:**	$4,392
Last Updated:	01/08/2013 13:27:12	**Last Updated by:**	TST_NREL_ADMIN
Year Installed:	2003	**[illegible]air Years:**	
Completion Year:		**[illegible]air Years:**	
Site Def.:		**Optimum Yr.:**	2018
Location:	INTERIOR	**Addl. Loc 1:**	
Addl. Loc 2:		**Addl. Loc 3:**	
Addl. Loc 4:		**Addl. Loc 5:**	
Def. Maint.:	No	**Def. Maint. Cost:**	$0
RIC Flag:	No	**RIC Type:**	
RIC Cost:	$0	**Completed Cost:**	$0
Condition:	FAIR <25%	**Urgency:**	NO REPAIRS NECESSARY
Insp. Date:	12/07/2004	**Last Remodeled Date:**	
Service:	CONTINUOUS	**Creation Dt.:**	12/10/2004
Status:	IDENTIFIED	**Repair Symptom:**	
Importance:	NON-MISSION ESSENTIAL	**Repair Task:**	
Access:		**Repair Cause:**	
FY Baseline:		**Repair Purpose:**	EXCEEDED DESIGN LIFE
Next Insp. Dt.:	08/01/2013		
Comment:			

Asset Totals:	**IU Count:**	**1**	**Completed Cost:**	**$0**		
	Official Cost:	**$9,224**	**Def. Maint.:**	**$0**	**RIC:**	**$0**

Figure 100. Inspection Unit (Abbreviated) Report

The difference between the Inspection Unit (Complete) and the Inspection Unit (Abbreviated) reports is that the Complete version includes the deficiencies for each Inspection Unit whereas the Abbreviated version does not display the deficiencies. Hence, the Abbreviated version of the report gives only one line per IU when the report is run to Excel.

4.4 Summary Condition Report

This report gives a comprehensive overview of each major system for the asset selected. This report was the first report that we are aware of that used the RS Means general/generic models available at that time to estimate a condition index for the asset and the asset WBS systems. The condition codes used in this report became the guide for the current condition codes in FIMS. The RS Means generic models indicated that DOE needed custom-designed replacement plant values (RPV) models to improve on the quality of its RPV and facility condition indexes estimates; hence, the development of the FIMS models and the more flexible DOE CostWorks Square Foot Models.

The option to select the report is in the Additional Menu as shown below.

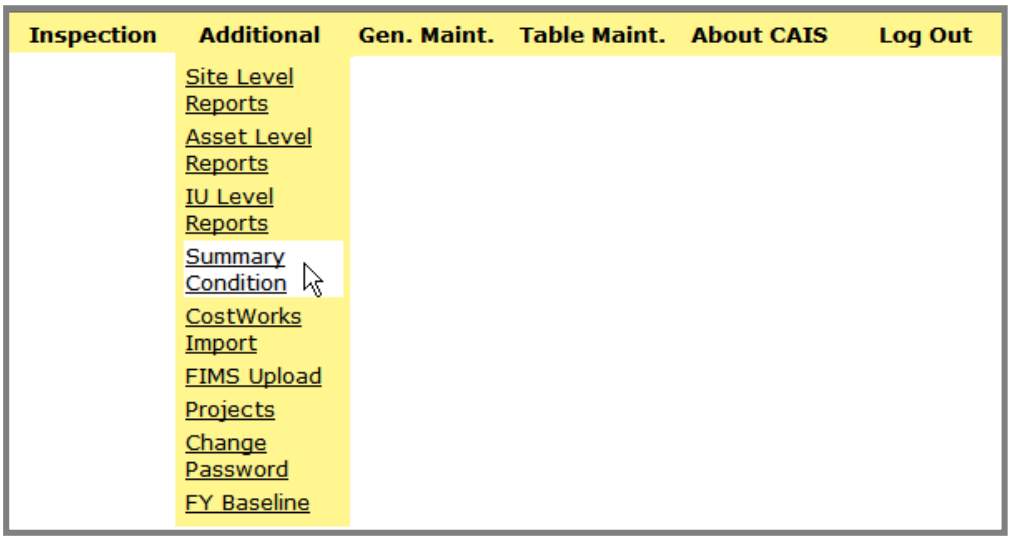


Figure 101. Summary Condition Report Selection Menu

The Summary Condition window is shown in the figure below.

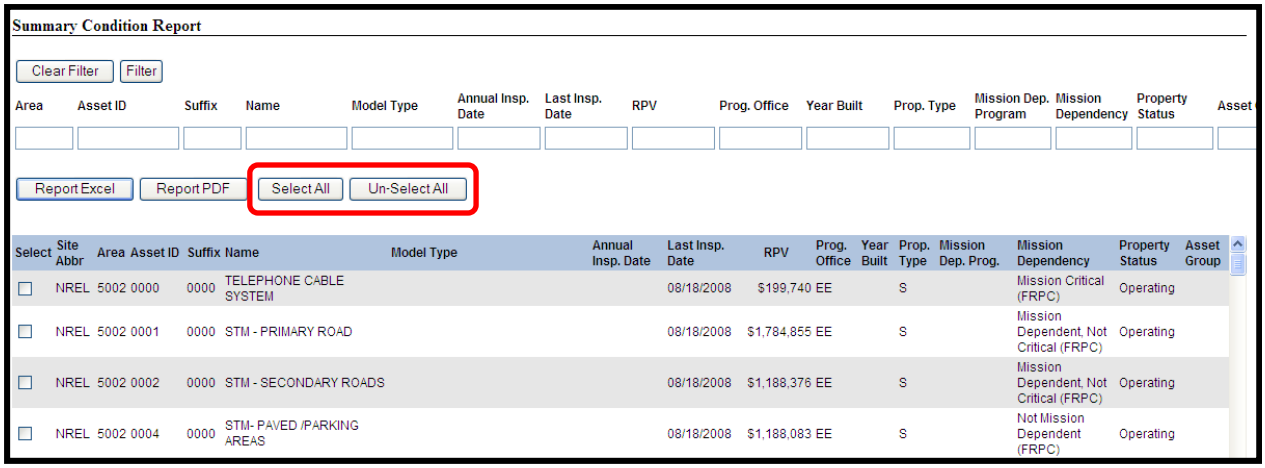
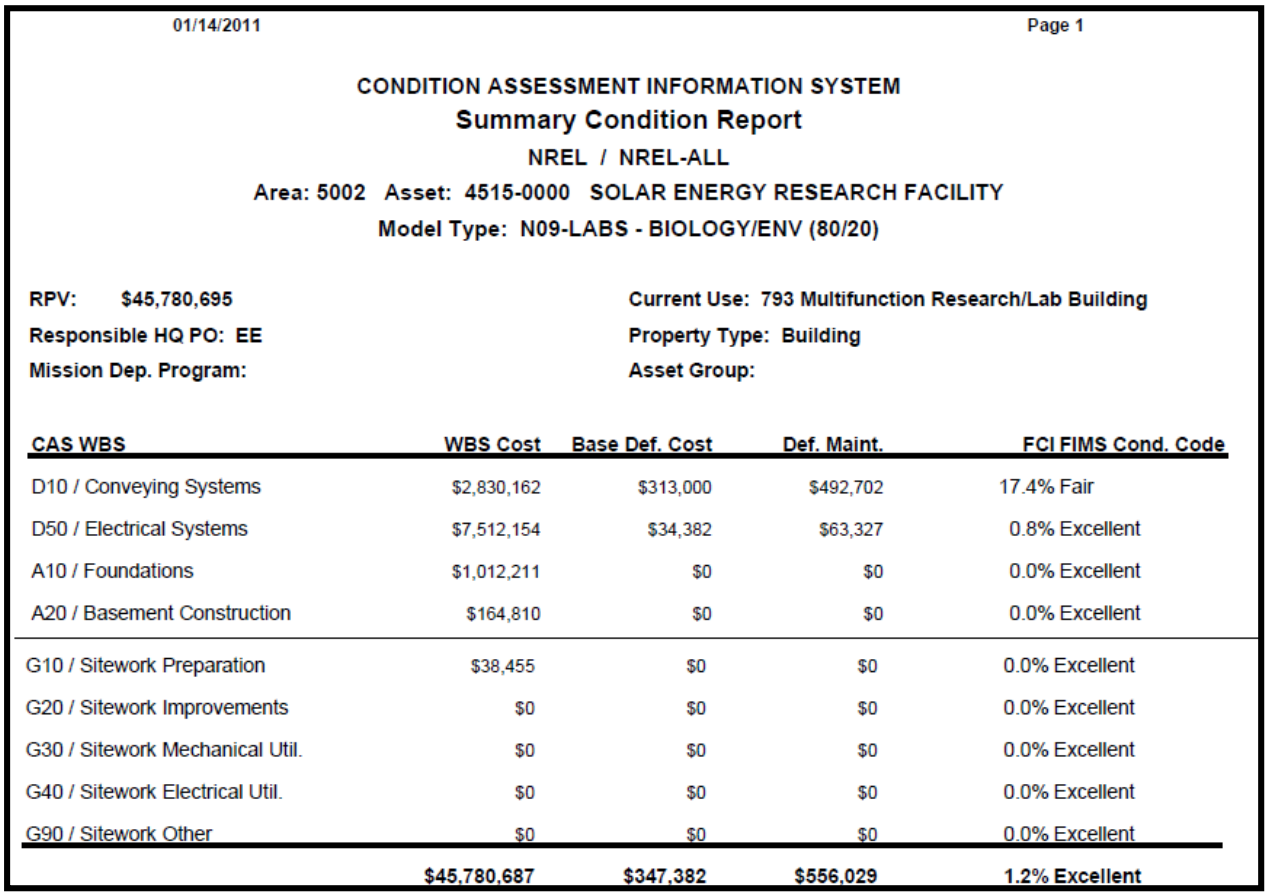


Figure 102. Summary Condition Report Selection Screen

Use the "Select All" and "Un-Select All" buttons circled in red above to make report on multiple assets at one time. The report is shown below.



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CONDITION ASSESSMENT INFORMATION SYSTEM

Summary Condition Report

NREL / NREL-ALL

Area: 5002 Asset: 4515-0000 SOLAR ENERGY RESEARCH FACILITY

Model Type: N09-LABS - BIOLOGY/ENV (80/20)

RPV: $45,780,695
Responsible HQ PO: EE
Mission Dep. Program:
Current Use: 793 Multifunction Research/Lab Building
Property Type: Building
Asset Group:

CAS WBS	WBS Cost	Base Def. Cost	Def. Maint.	FCI FIMS Cond. Code
D10 / Conveying Systems	$2,830,162	$313,000	$492,702	17.4% Fair
D50 / Electrical Systems	$7,512,154	$34,382	$63,327	0.8% Excellent
A10 / Foundations	$1,012,211	$0	$0	0.0% Excellent
A20 / Basement Construction	$164,810	$0	$0	0.0% Excellent
G10 / Sitework Preparation	$38,455	$0	$0	0.0% Excellent
G20 / Sitework Improvements	$0	$0	$0	0.0% Excellent
G30 / Sitework Mechanical Util.	$0	$0	$0	0.0% Excellent
G40 / Sitework Electrical Util.	$0	$0	$0	0.0% Excellent
G90 / Sitework Other	$0	$0	$0	0.0% Excellent
	$45,780,687	**$347,382**	**$556,029**	**1.2% Excellent**

Figure 103. Summary Condition Report

Note that only 9 of the 22 systems included in this report are displayed. The line in the middle of the screen capture indicates where the information has been truncated.

The report uses the same Filter mechanism as Asset and IU Level reports.

The report comprises the following data:

CAS WBS – The Work Breakdown Structure is the list of the CAS inspection systems

WBS Cost – The total cost of the WBS is based on the percentage of this system in the CostWorks and FIMS Model Type selected to generate a Replacement Plant Value (RPV).

Base Deficiency Cost – The cost of the deficiencies found for each WBS excluding cost adders.

Deferred Maintenance – The cost of the deficiencies found for each WBS including all cost adders.

FCI – Is the facility condition index. It is calculated by dividing the Deferred Maintenance Cost by the WBS cost.

Summary Condition – the ratio of Deferred Maintenance to Replacement Plant Value (RPV).

Summary condition ratings are listed below.

$0 \leq 2\%$ Excellent

$2 \leq 5\%$ Good

$5 \leq 10\%$ Adequate

$10 \leq 25\%$ Fair

$25 \leq 60\%$ Poor

$>60\%$ Fail

5. Projects

This section covers how the cost of repairs, replacements and rehab and improvement costs can be assembled into projects for future funding.

CAIS projects can include all IUs regardless of the status of the DM and RIC flags. Prior to release 1.18, one of these flags had to be set to Yes to be included in the project.

Projects development is in the Additional/Projects menu shown below.

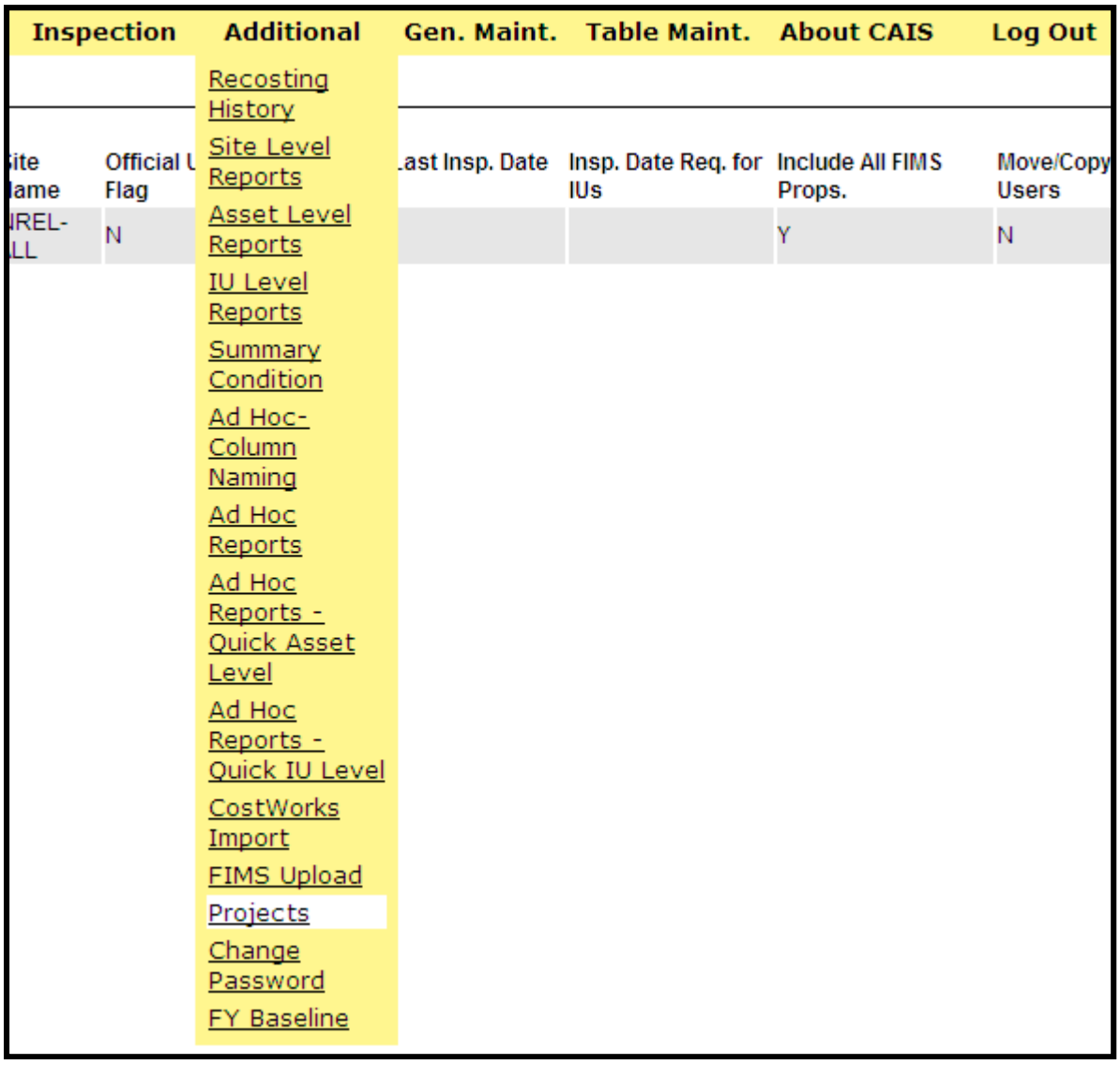


Figure 104. Projects Menu Selection

Click on Projects to open the Project List window shown below.

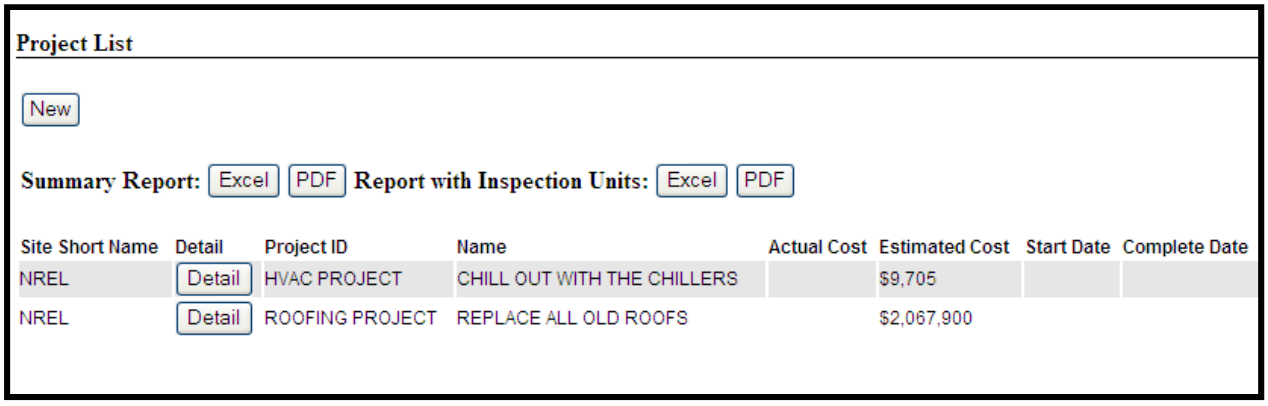


Figure 105. Project List

Click on the New button to open the Blank Project Detail window shown below.

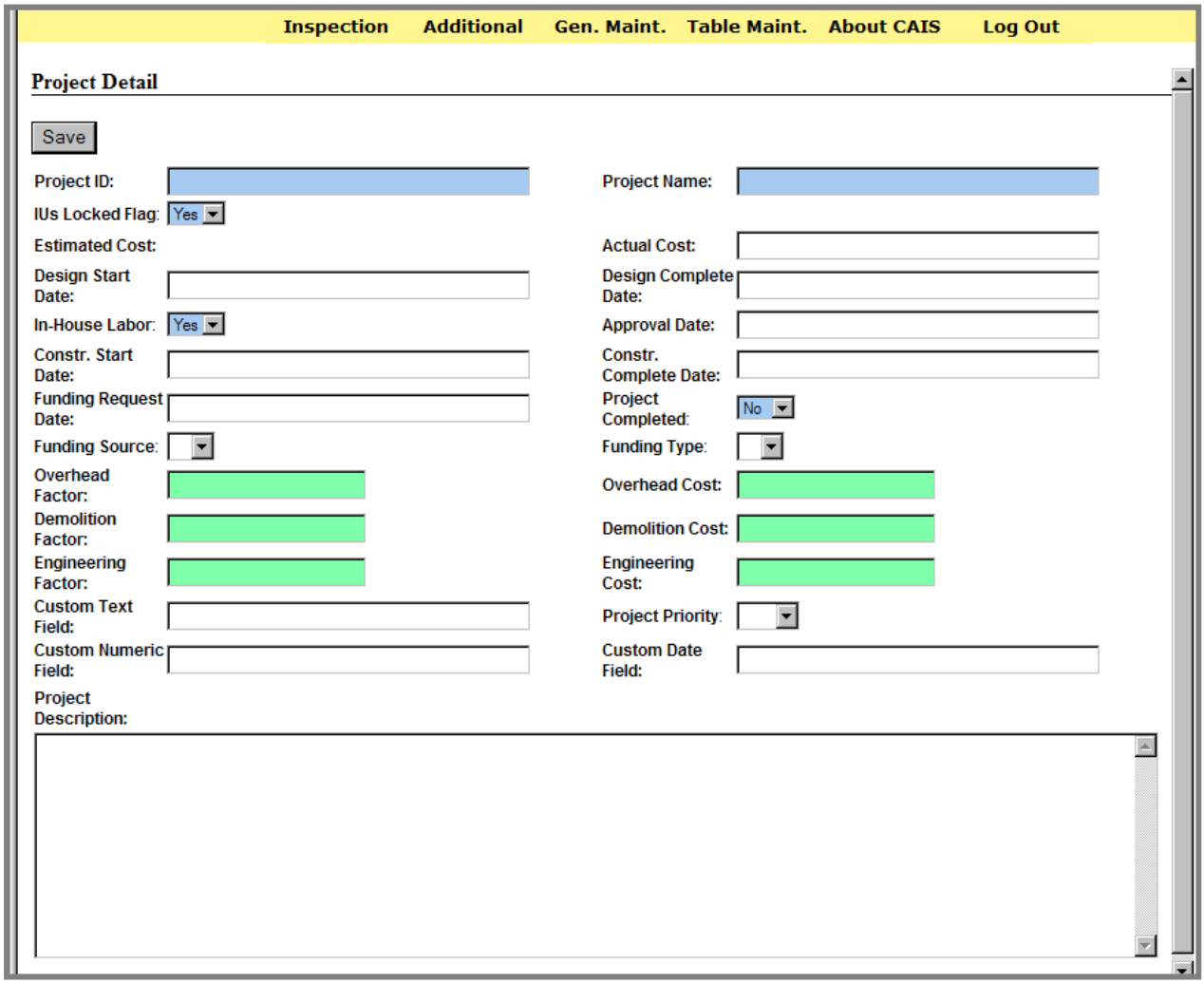


Figure 106. Project Detail Window (New Project)

After the new project has been saved, the toolbar and multiple buttons become available as show on the following page.Click on the Detail button for a project to open its Project Detail window shown below.

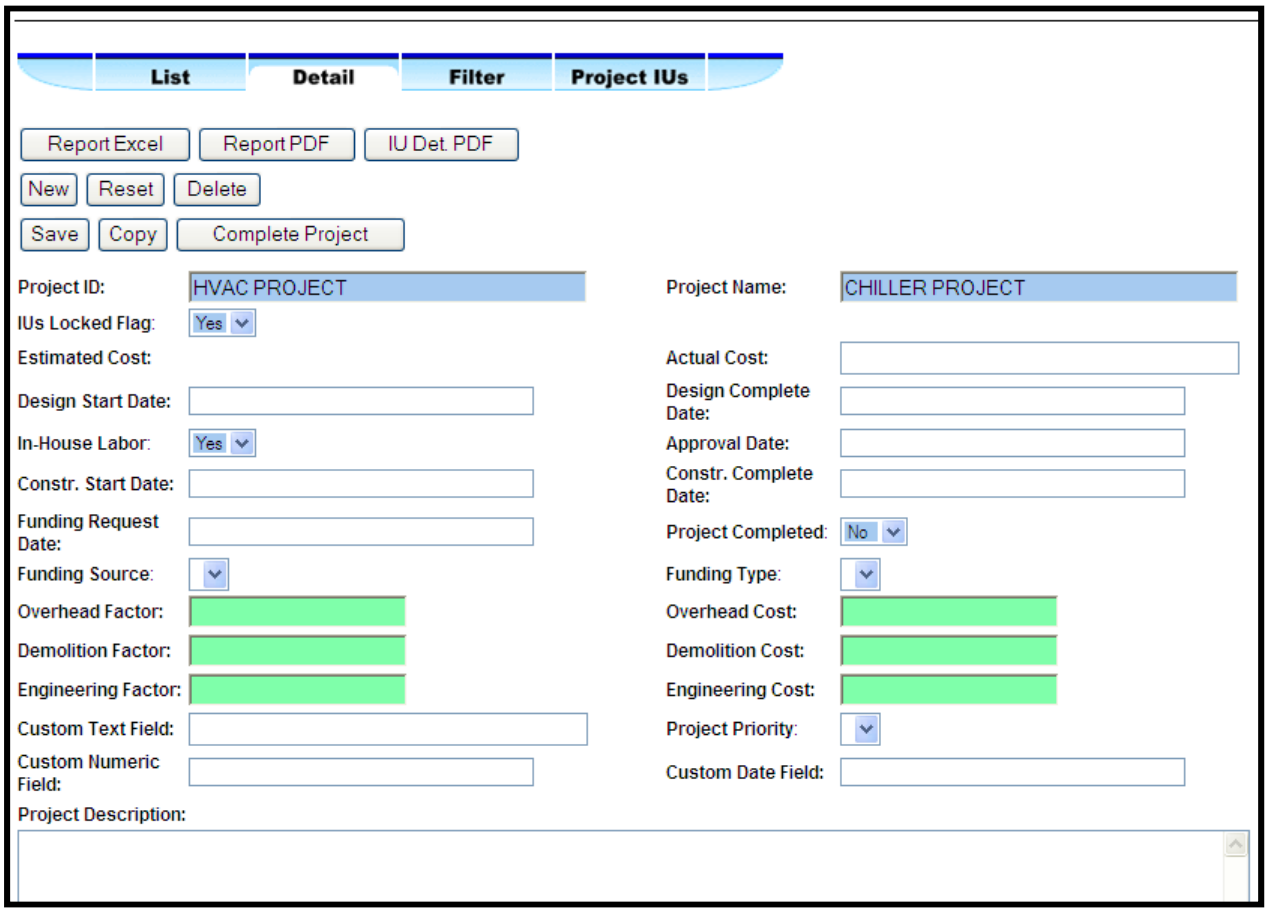


Figure 107. Project Detail Window (Existing Project)

Most of the fields in the Project Detail window are self-explanatory or discussed earlier. Several fields have information that must be obtained from the site project planners or cost estimators. These are the Overhead, Demolition and Engineering factors or their estimated cost; Design and Construction date information and if In-House labor forces will be used. Sites can add additional information in the Custom fields. The color significance continues with this screen. Blue = required and Green = calculation.

The Project Detail window fields provide the sources of the project deficiency information that will be repaired or replaced by the project. These fields require data entry of deficiency and asset information using the Volume, WBS, Component, Type and Asset dropdown lists.

Users have the option to enter an Overhead, Demolition and Engineering factor or the actual cost. They can mix the choices but cannot pick both the cost and factor of each cost adjustment.

The Estimated Cost is the sum of the deferred maintenance and the RIC plus the overhead, demolition, and engineering costs or (deferred maintenance + RIC times the three factors or any combination of costs or factors.

The IU Locked Flag being Yes indicates IUs cannot be changed and No means IUs can be changed.

The Funding Source and Funding Type are defined in the Table Maintenance Menu and will follow Program Office guidance.

To view the IUs associated with the project, click on the Project IUs tab. A window similar to the figure below opens.

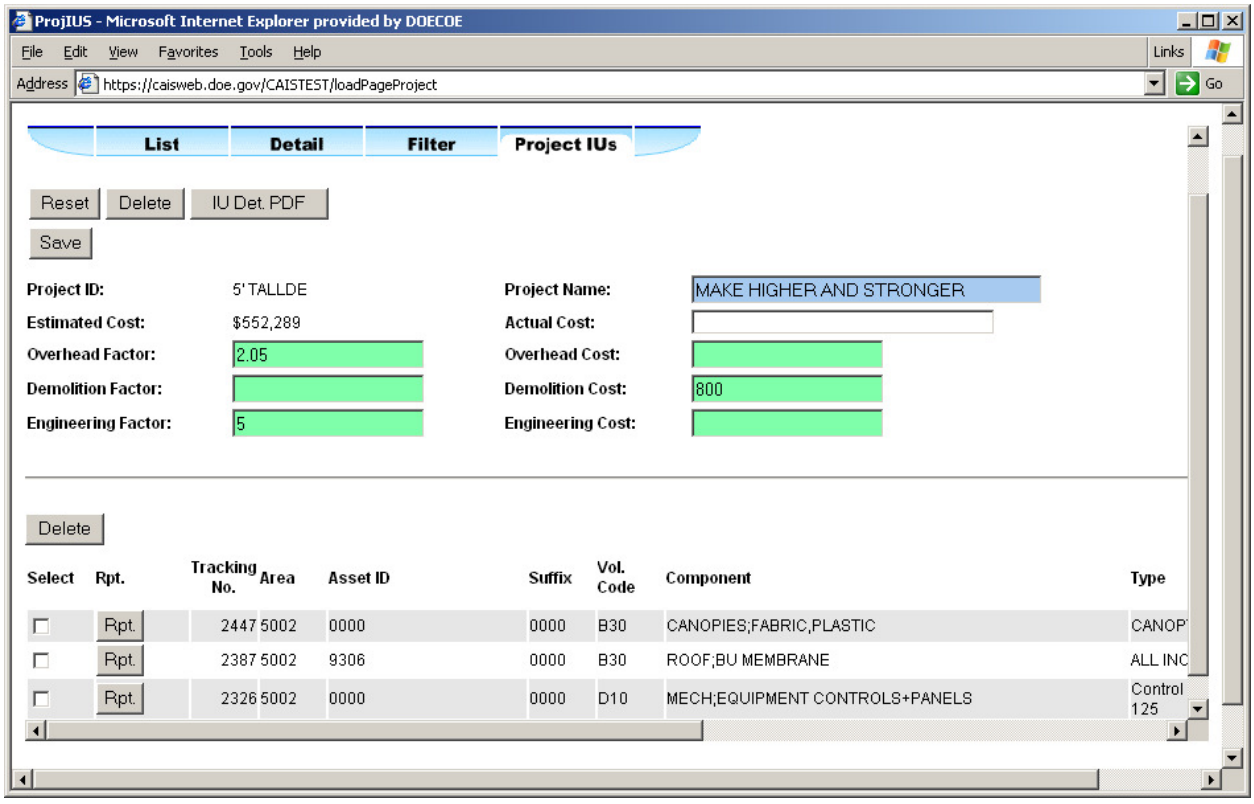


Figure 108. Project IUs Window

After completing the initial project setup information, click on the Filter tab to add Inspection Units to the Project as shown below.

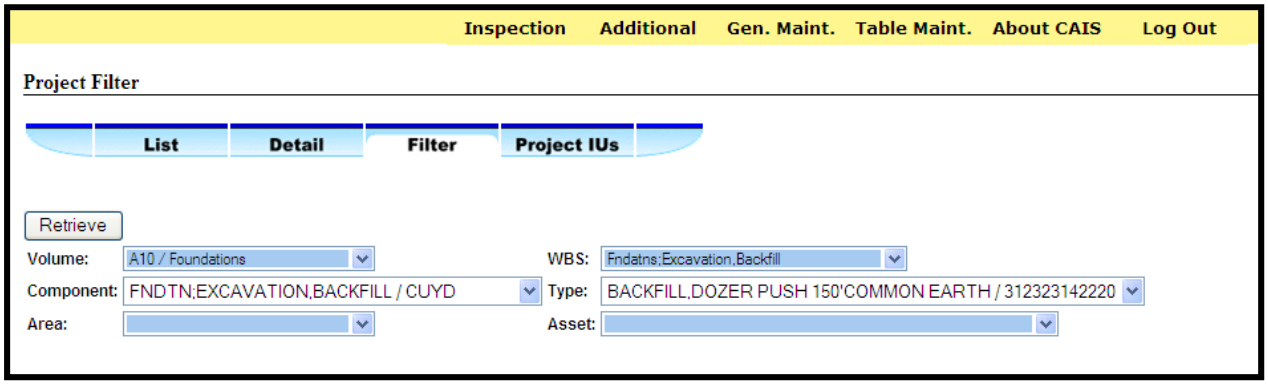


Figure 109. Project Filter

Once this information is entered, click on the Retrieve button, and IUs related to the conditions specified are retrieved.

The Project Filter screen fields provide the sources of the project deficiency information that will be repaired or replaced by the project. You may retrieve the existing IUs by the following fields: Volume, WBS, Component, Type, Area and Asset.

After the IUs are retrieved by pressing the Filter button, you may then do additional filtering of the results by Area, Asset ID, Suffix, Tracking No., Volume, WBS, Component, Type, Quantity, Unit of Measure, Official Cost, Deferred Maintenance Flag, RIC Flag, RIC Type, Urgency, Location, Inspection Date, Equipment ID, and Optimum Year.

When you click on the Rpt button, the IU Detail (Complete) report for the selected IU is displayed in PDF format.

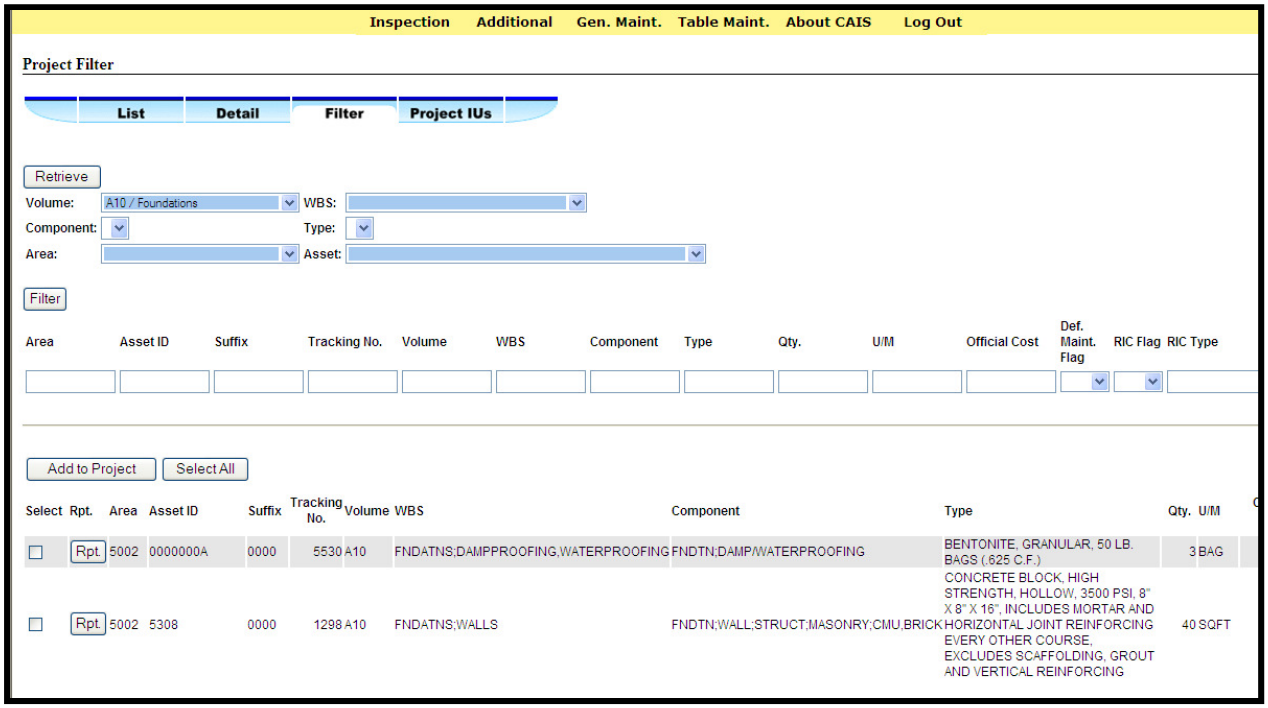
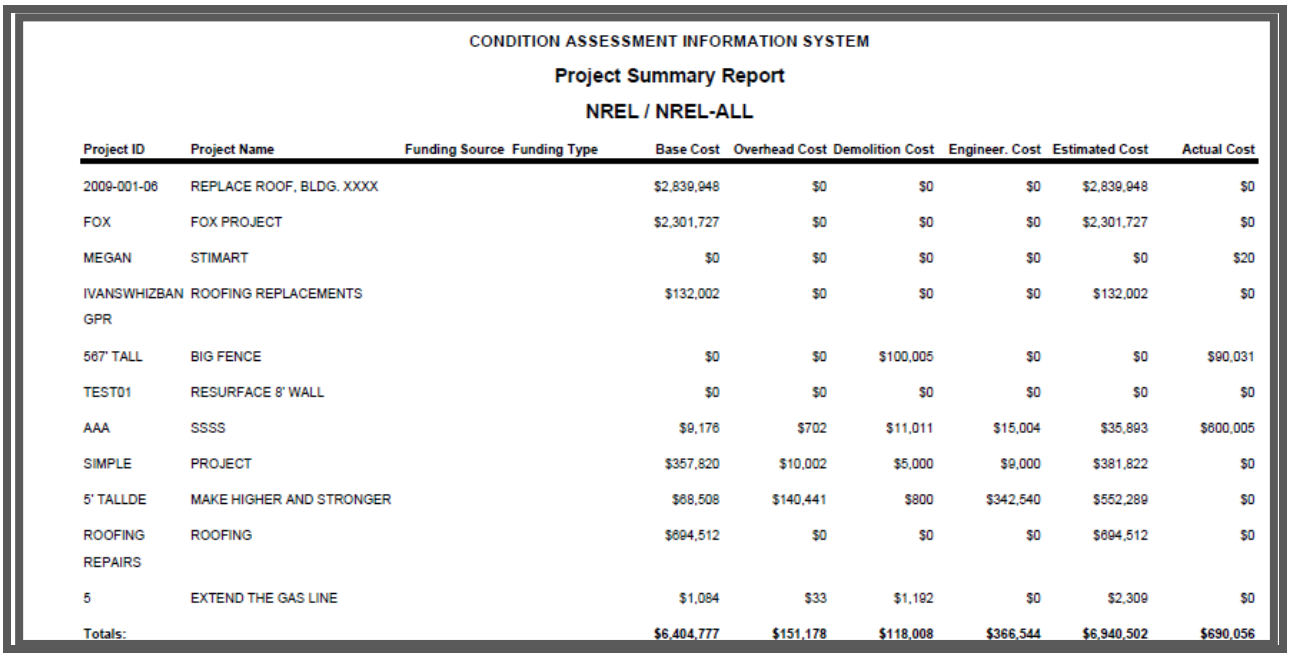


Figure 110. Project Filter Screen with Results

The administrator selects those Inspection Units that will be repaired or replaced by this project by checking the Select boxes on the left of each asset and clicking on the Add to Project button. The project may include more than one asset.

A Project Summary report and the IU Detail (Complete) report can be generated in Excel or PDF formats from the Project Filter Screen. A sample Project Summary report is shown below. The IU Detail (Complete) report shows all of the IUs that comprise the project.



CONDITION ASSESSMENT INFORMATION SYSTEM

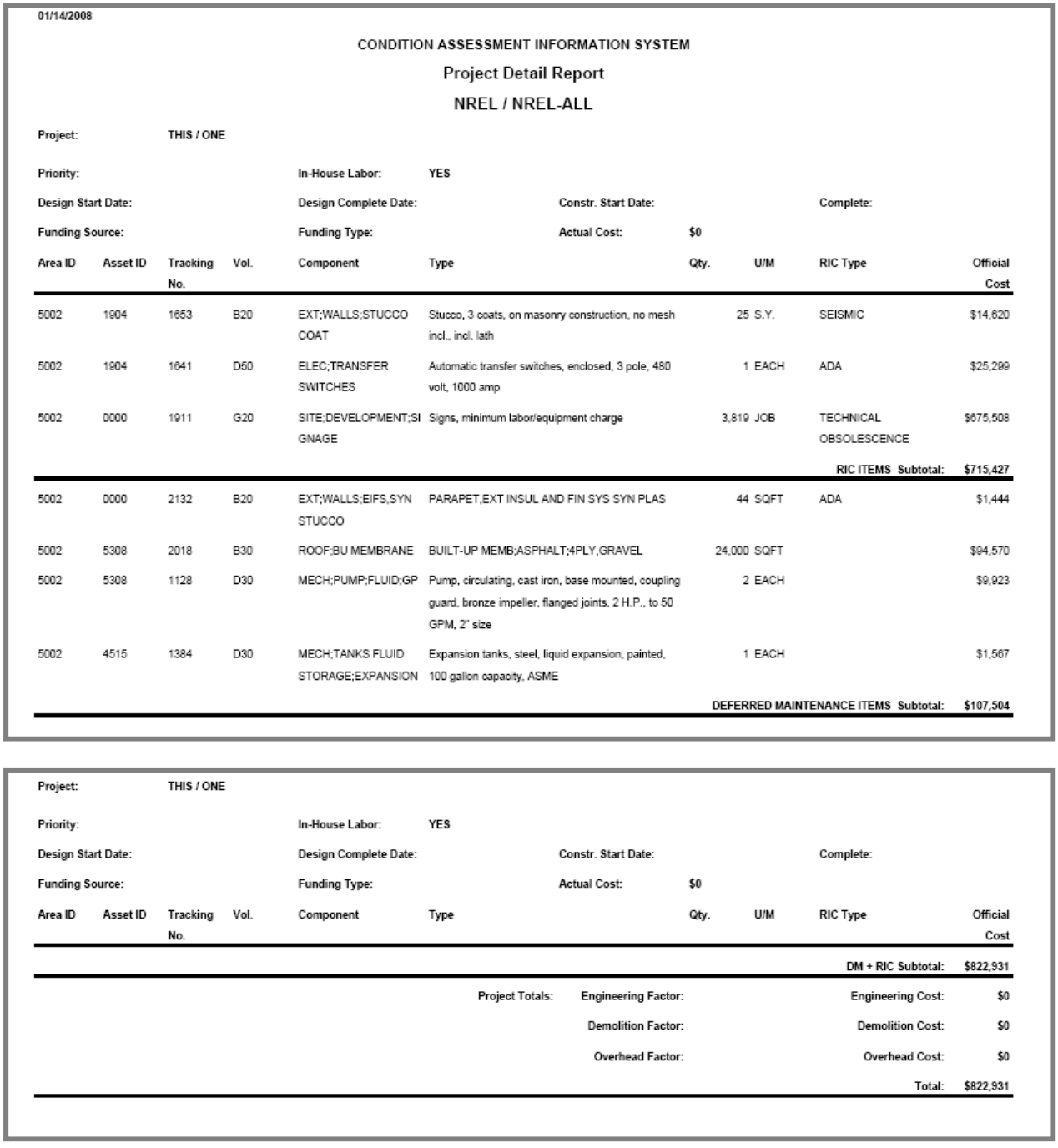
Project Summary Report

NREL / NREL-ALL

Project ID	Project Name	Funding Source	Funding Type	Base Cost	Overhead Cost	Demolition Cost	Engineer. Cost	Estimated Cost	Actual Cost
2009-001-06	REPLACE ROOF, BLDG. XXXX			$2,839,948	$0	$0	$0	$2,839,948	$0
FOX	FOX PROJECT			$2,301,727	$0	$0	$0	$2,301,727	$0
MEGAN	STIMART			$0	$0	$0	$0	$0	$20
IVANSWHIZBANGPR	ROOFING REPLACEMENTS			$132,002	$0	$0	$0	$132,002	$0
567' TALL	BIG FENCE			$0	$0	$100,005	$0	$0	$90,031
TEST01	RESURFACE 8' WALL			$0	$0	$0	$0	$0	$0
AAA	SSSS			$9,176	$702	$11,011	$15,004	$35,893	$600,005
SIMPLE	PROJECT			$357,820	$10,002	$5,000	$9,000	$381,822	$0
5' TALLDE	MAKE HIGHER AND STRONGER			$68,508	$140,441	$800	$342,540	$552,289	$0
ROOFING REPAIRS	ROOFING			$694,512	$0	$0	$0	$694,512	$0
5	EXTEND THE GAS LINE			$1,084	$33	$1,192	$0	$2,309	$0
Totals:				**$6,404,777**	**$151,178**	**$118,008**	**$366,544**	**$6,940,502**	**$690,056**

Figure 111. Project Summary Report

The figure below shows a sample Project Inspection Units Report.



01/14/2008

CONDITION ASSESSMENT INFORMATION SYSTEM

Project Detail Report

NREL / NREL-ALL

Project: THIS / ONE

Priority: **In-House Labor:** YES

Design Start Date: **Design Complete Date:** **Constr. Start Date:** **Complete:**

Funding Source: **Funding Type:** **Actual Cost:** $0

Area ID	Asset ID	Tracking No.	Vol.	Component	Type	Qty.	U/M	RIC Type	Official Cost
5002	1904	1653	B20	EXT;WALLS;STUCCO COAT	Stucco, 3 coats, on masonry construction, no mesh incl., incl. lath	25	S.Y.	SEISMIC	$14,620
5002	1904	1641	D50	ELEC;TRANSFER SWITCHES	Automatic transfer switches, enclosed, 3 pole, 480 volt, 1000 amp	1	EACH	ADA	$25,299
5002	0000	1911	G20	SITE;DEVELOPMENT;SIGNAGE	Signs, minimum labor/equipment charge	3,819	JOB	TECHNICAL OBSOLESCENCE	$675,508
								RIC ITEMS Subtotal:	**$715,427**
5002	0000	2132	B20	EXT;WALLS;EIFS,SYN STUCCO	PARAPET,EXT INSUL AND FIN SYS SYN PLAS	44	SQFT	ADA	$1,444
5002	5308	2018	B30	ROOF;BU MEMBRANE	BUILT-UP MEMB;ASPHALT;4PLY,GRAVEL	24,000	SQFT		$94,570
5002	5308	1128	D30	MECH;PUMP;FLUID;GP	Pump, circulating, cast iron, base mounted, coupling guard, bronze impeller, flanged joints, 2 H.P., to 50 GPM, 2" size	2	EACH		$9,923
5002	4515	1384	D30	MECH;TANKS FLUID STORAGE;EXPANSION	Expansion tanks, steel, liquid expansion, painted, 100 gallon capacity, ASME	1	EACH		$1,567
								DEFERRED MAINTENANCE ITEMS Subtotal:	**$107,504**

Project: THIS / ONE

Priority: **In-House Labor:** YES

Design Start Date: **Design Complete Date:** **Constr. Start Date:** **Complete:**

Funding Source: **Funding Type:** **Actual Cost:** $0

Area ID	Asset ID	Tracking No.	Vol.	Component	Type	Qty.	U/M	RIC Type	Official Cost
								DM + RIC Subtotal:	**$822,931**

Project Totals:	**Engineering Factor:**	**Engineering Cost:**	**$0**
	Demolition Factor:	**Demolition Cost:**	**$0**
	Overhead Factor:	**Overhead Cost:**	**$0**
		Total:	**$822,931**

Figure 112. Project Inspection Units Report

6. Interfaces

CAIS has two interfaces: (1) CAIS imports building model system percentages from the RS Means CostWorks program, and (2) exports deferred maintenance costs and system deficiency information to FIMS.

6.1 Import from CostWorks

CAIS imports replacement plant value (RPV) model information from the RS Means CostWorks program. CostWorks is a Windows based application that provides cost data in RS Means costbooks. CAIS uses the Square Foot models to estimate the building system percentages. These percentages are applied to the asset replacement plant value to estimate a system or WBS replacement plant value. The WBS RPVs are used to estimate a system facility condition index. The facility condition index (FCI) is the ratio in percent of deferred maintenance cost to replacement plant value. CostWorks currently has 76 models. Additional OSF models for buildings and utility plants can be constructed with CostWorks.

CostWorks exports data directly into CAIS. The site, area, and property ID must be entered in the model developed in CostWorks. Using the File menu and Export feature, users can export model percentage as a CAIS file. The CostWorks model name appears in the model type pick list for the assets. The figure below shows the CostWorks Import option on the Additional menu.

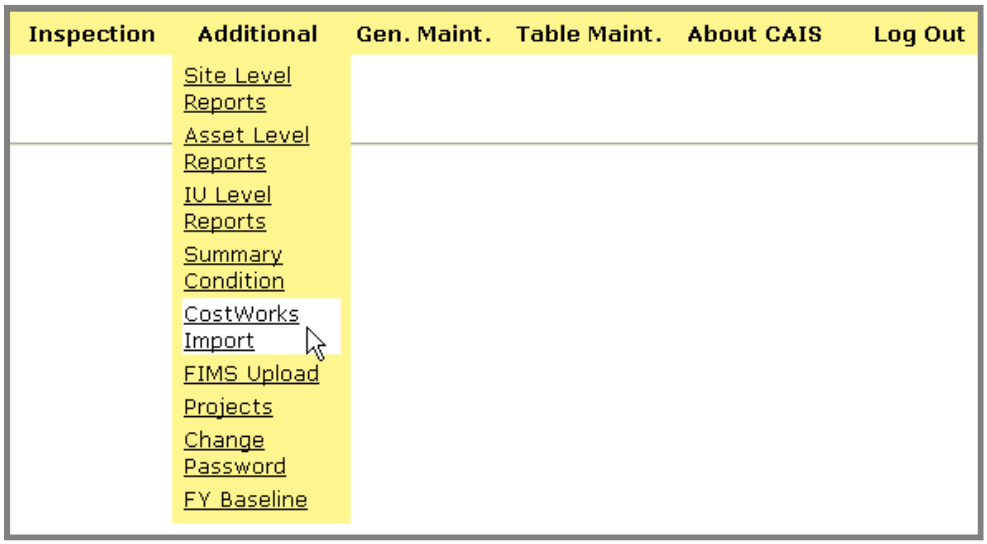


Figure 113. CostWorks Import Option

The figure below shows the CostWorks Import screen.

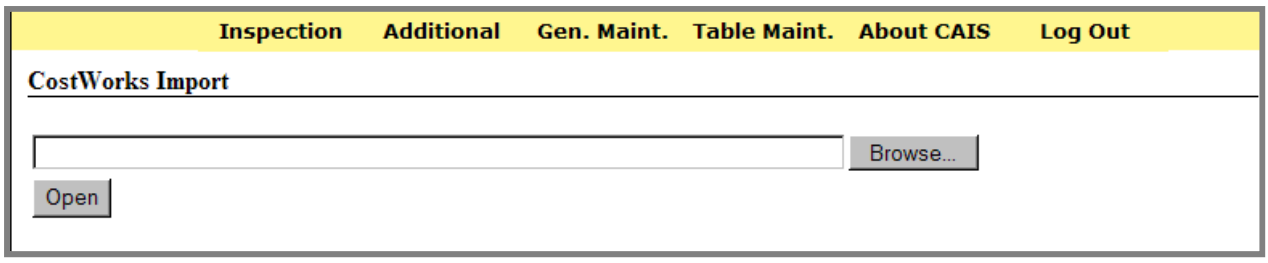


Figure 114. CostWorks Import Screen

In The CostWorks Import Screen, browse in CAIS for the file created from the CostWorks software. After opening the .cas file created by doing an Export to CAIS from CostWorks. The figure below shows the content of the imported file. After reviewing the content of this file, click on SAVE to add the data to the CAIS database.

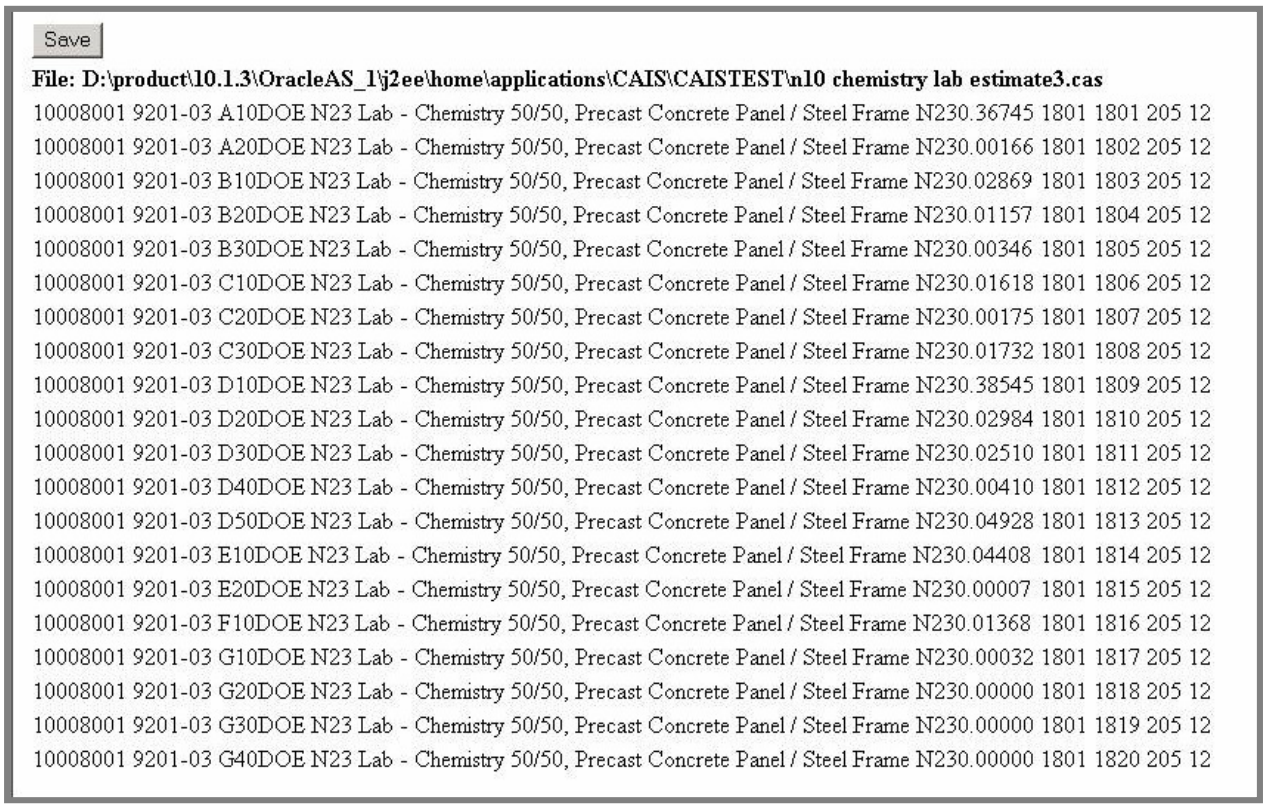
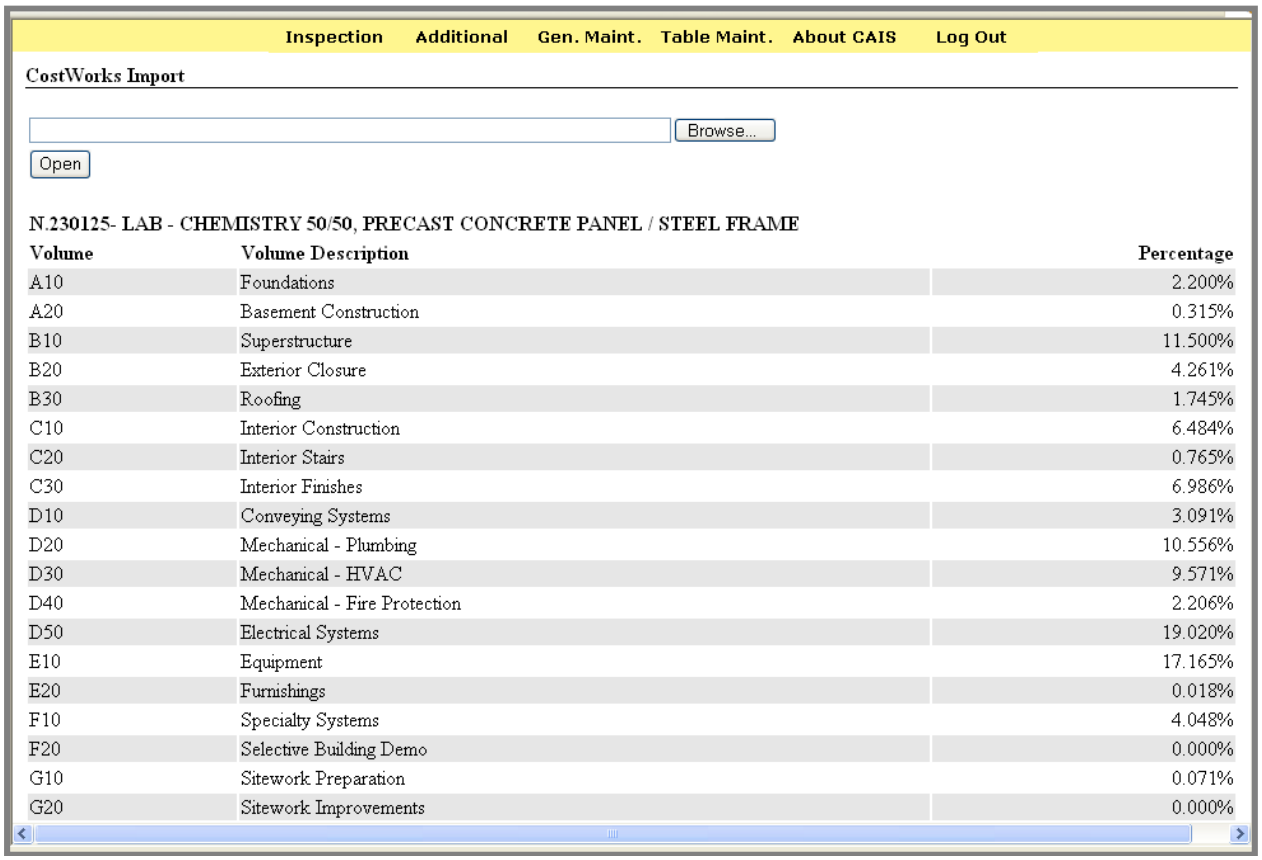


Figure 115. CostWorks File Import

The figure below shows the data was successfully entered into the database.



N.230125- LAB - CHEMISTRY 50/50, PRECAST CONCRETE PANEL / STEEL FRAME

Volume	Volume Description	Percentage
A10	Foundations	2.200%
A20	Basement Construction	0.315%
B10	Superstructure	11.500%
B20	Exterior Closure	4.261%
B30	Roofing	1.745%
C10	Interior Construction	6.484%
C20	Interior Stairs	0.765%
C30	Interior Finishes	6.986%
D10	Conveying Systems	3.091%
D20	Mechanical - Plumbing	10.556%
D30	Mechanical - HVAC	9.571%
D40	Mechanical - Fire Protection	2.206%
D50	Electrical Systems	19.020%
E10	Equipment	17.165%
E20	Furnishings	0.018%
F10	Specialty Systems	4.048%
F20	Selective Building Demo	0.000%
G10	Sitework Preparation	0.071%
G20	Sitework Improvements	0.000%

Figure 116. CostWorks Imported Model Type Percentages

If you look at the Summary Condition Report for this asset, the condition codes for each value will show the calculated condition codes based on the percentage from the custom CostWorks model you have created.

6.2 CAIS Upload to FIMS

CAIS is populated with the CAIS/FIMS common field information from FIMS when CAIS use is initiated at a new site. After the initial data load, database triggers keep the CAIS database synchronized with the FIMS database whenever FIMS is changed. CAIS reports its deferred maintenance and additional information described below to FIMS through the CAIS upload to FIMS.

CAIS uploads the following data to FIMS:

- deferred maintenance cost
- last inspection date
- the five worst building deficiency systems

Table 8 – CAIS FIMS Field Mapping for the FIMS Upload

CAIS to FIMS FIELD MAPPING			
CAIS Table	**CAIS Field**	**FIMS Table**	**FIMS Field**
cais_site_assets	as_def_maint_cost	fims_tbl_def_maint	defm_dm
cais_site_assets	as_last_insp_date	fims_tbl_def_maint	defm_inspect_date
cais_summary_cond	svol_code	fims_tbl_building	pbld_def1 pbld_def2 pbld_def3 pbld_def4 pbld_def5
cais_summary_cond	svol_code	fims_tbl_osf	posf_def1 posf_def2 posf_def3 posf_def4 posf_def5

For a CAIS Administrator to run the FIMS Upload, select the FIMS Upload option from the Additional menu options shown in the next section.

6.2.1. The Standard Upload

Note that if you use System Level Deferred Maintenance, the standard upload includes data entered from the System Level Deferred Maintenance screen.

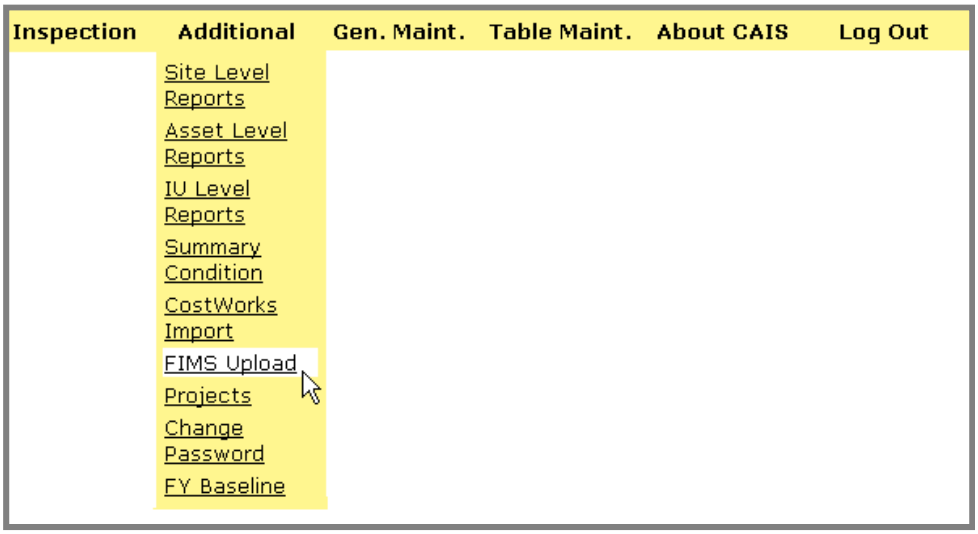


Figure 117. FIMS Upload Menu Choice

The FIMS Upload Screen shown below will then appear.

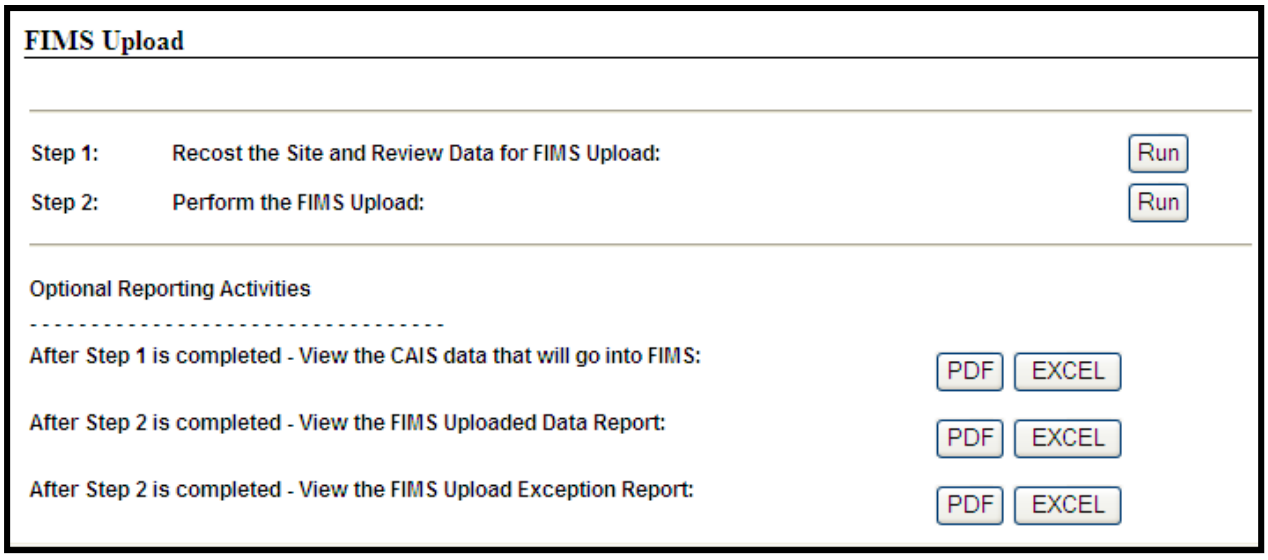


Figure 118. FIMS Upload Screen

The FIMS Upload is a two-step process.

1. When you select Step 1 to run "Recost the Site and Review Data for FIMS Upload, you will receive the message in the figure below. When you select OK, the FIMS Export Report is run automatically.

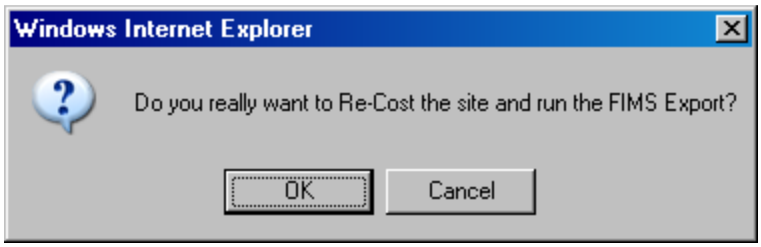


Figure 119. Re-Cost Verification Message

Note: if the re-costing process takes a very long time for your site, you may close the CAIS Application after initiating the process. After re-logging into CAIS, review the re-costing history screen, to confirm that the process has been completed successfully. If the process is not complete after you log back on to CAIS, the end date/time field will be blank as shown below.

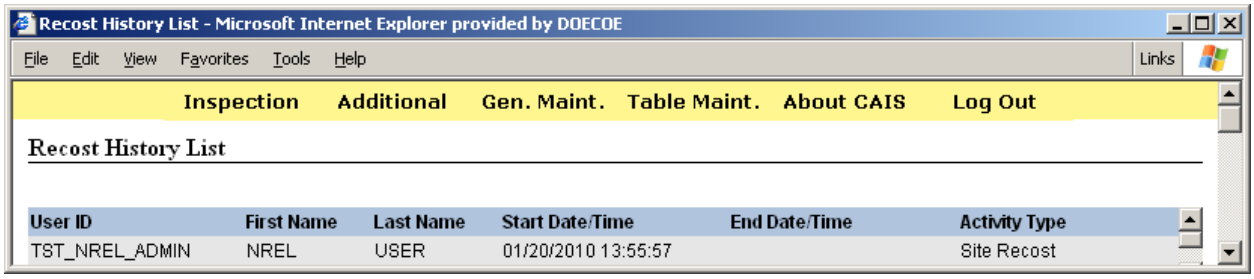


Figure 120. Re-Cost History Screen – Re-Cost Not Completed

If the re-costing and FIMS Upload file/report creation are complete, the following two activity type entries (FIMS Export and Site Recost) will be displayed.

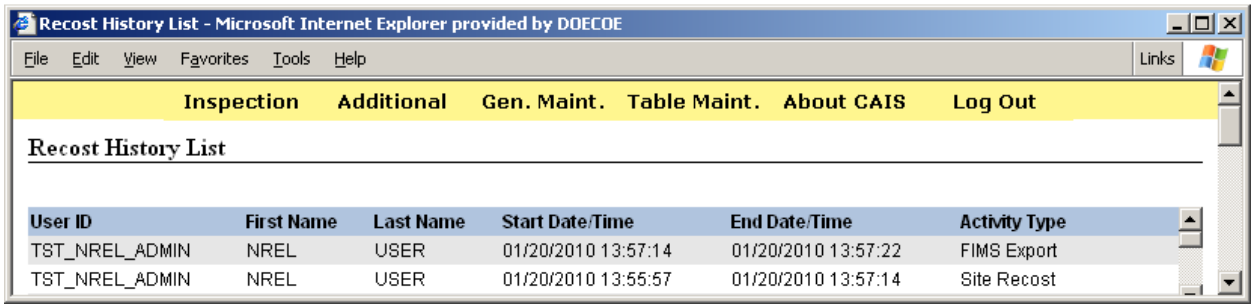
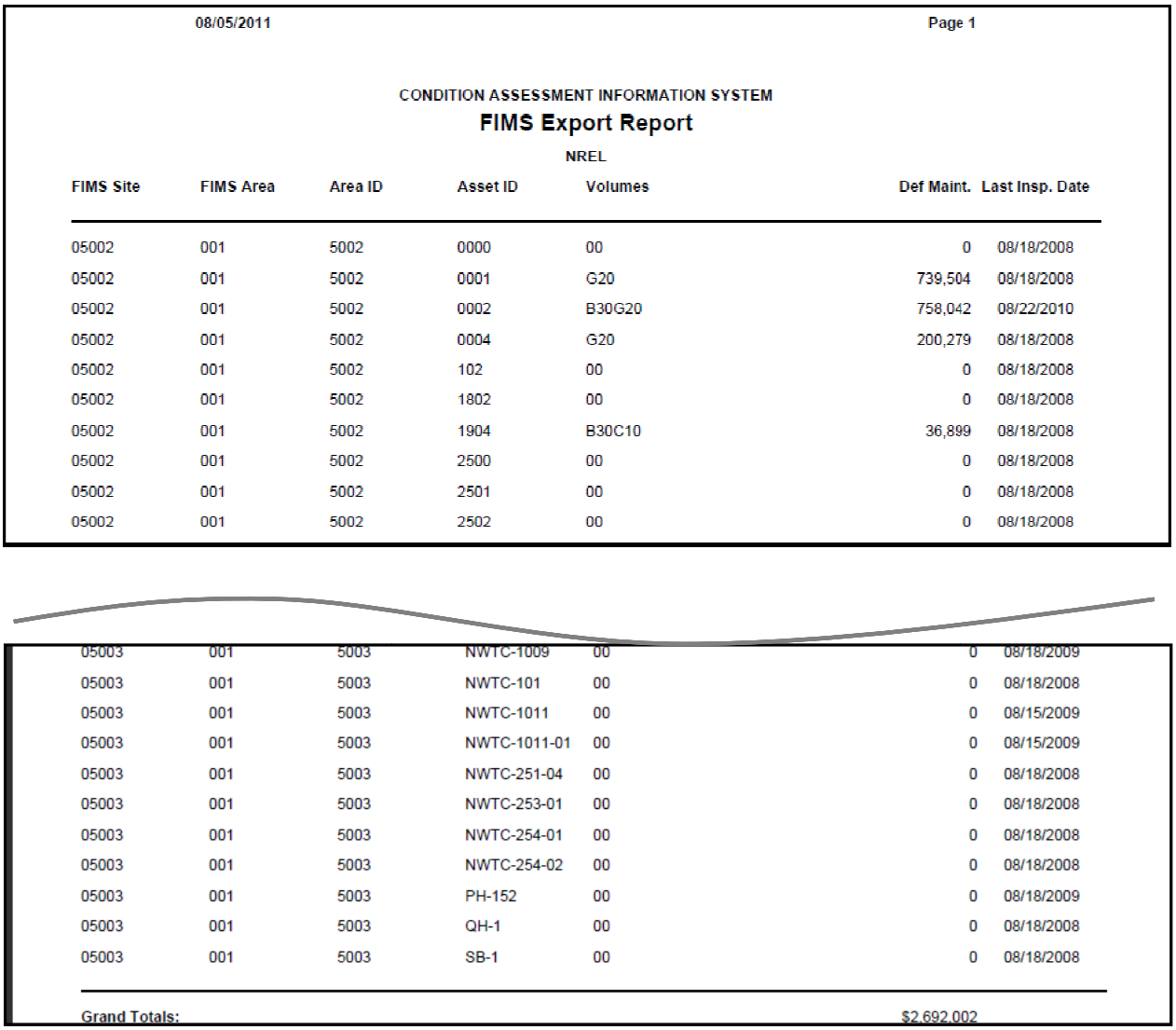


Figure 121. Re-Cost History Screen – Upload and Re-cost Completed

You can also select “View the FIMS Export Report” which is the same report independent of the upload process. This report, shown below, shows the data in CAIS.



08/05/2011 Page 1

CONDITION ASSESSMENT INFORMATION SYSTEM

FIMS Export Report

NREL

FIMS Site	FIMS Area	Area ID	Asset ID	Volumes	Def Maint.	Last Insp. Date
05002	001	5002	0000	00	0	08/18/2008
05002	001	5002	0001	G20	739,504	08/18/2008
05002	001	5002	0002	B30G20	758,042	08/22/2010
05002	001	5002	0004	G20	200,279	08/18/2008
05002	001	5002	102	00	0	08/18/2008
05002	001	5002	1802	00	0	08/18/2008
05002	001	5002	1904	B30C10	36,899	08/18/2008
05002	001	5002	2500	00	0	08/18/2008
05002	001	5002	2501	00	0	08/18/2008
05002	001	5002	2502	00	0	08/18/2008
05003	001	5003	NWTC-1009	00	0	08/18/2009
05003	001	5003	NWTC-101	00	0	08/18/2008
05003	001	5003	NWTC-1011	00	0	08/15/2009
05003	001	5003	NWTC-1011-01	00	0	08/15/2009
05003	001	5003	NWTC-251-04	00	0	08/18/2008
05003	001	5003	NWTC-253-01	00	0	08/18/2008
05003	001	5003	NWTC-254-01	00	0	08/18/2008
05003	001	5003	NWTC-254-02	00	0	08/18/2008
05003	001	5003	PH-152	00	0	08/18/2009
05003	001	5003	QH-1	00	0	08/18/2008
05003	001	5003	SB-1	00	0	08/18/2008
Grand Totals:					$2,692,002	

Figure 122. FIMS Export Report (PDF)

2. When you select Step 2 “Perform the FIMS Upload”, you will receive the message shown in the figure below. When you select OK, the FIMS Upload Report is automatically generated.

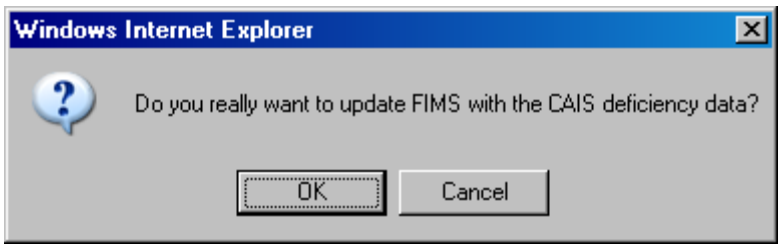
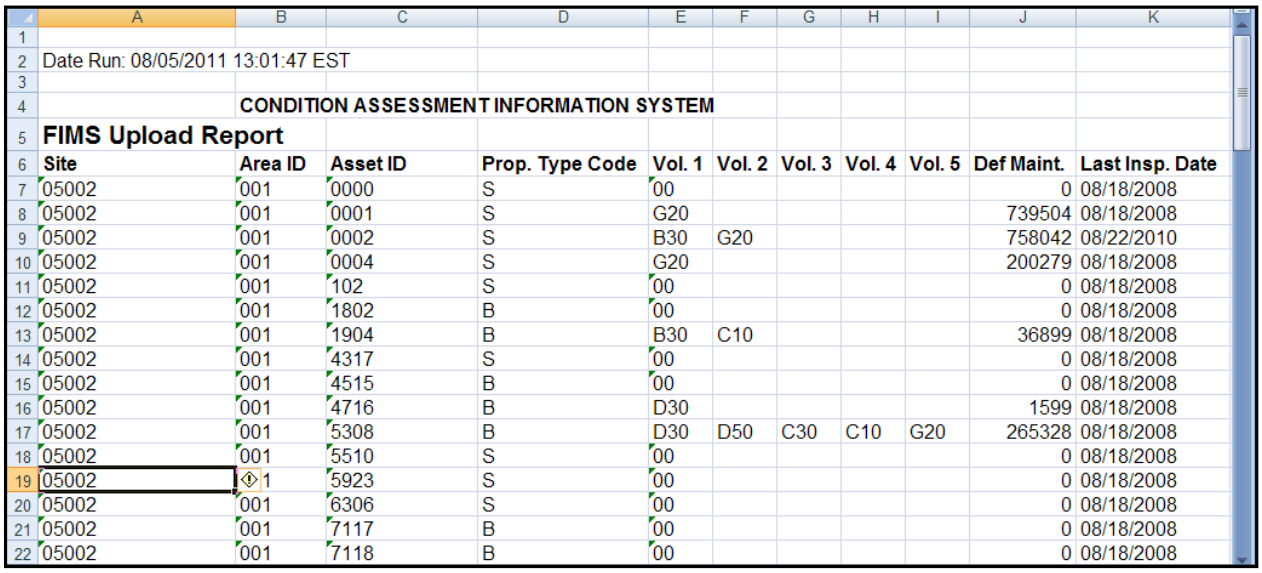


Figure 123. FIMS Upload Verification Message

One may also select “View the FIMS Uploaded Data Report” which is the same report independent of the upload process. This report shows the data in FIMS shown below.



Date Run: 08/05/2011 13:01:47 EST

CONDITION ASSESSMENT INFORMATION SYSTEM

FIMS Upload Report

Site	Area ID	Asset ID	Prop. Type Code	Vol. 1	Vol. 2	Vol. 3	Vol. 4	Vol. 5	Def Maint.	Last Insp. Date
05002	001	0000	S	00					0	08/18/2008
05002	001	0001	S	G20					739504	08/18/2008
05002	001	0002	S	B30	G20				758042	08/22/2010
05002	001	0004	S	G20					200279	08/18/2008
05002	001	102	S	00					0	08/18/2008
05002	001	1802	B	00					0	08/18/2008
05002	001	1904	B	B30	C10				36899	08/18/2008
05002	001	4317	S	00					0	08/18/2008
05002	001	4515	B	00					0	08/18/2008
05002	001	4716	B	D30					1599	08/18/2008
05002	001	5308	B	D30	D50	C30	C10	G20	265328	08/18/2008
05002	001	5510	S	00					0	08/18/2008
05002	1	5923	S	00					0	08/18/2008
05002	001	6306	S	00					0	08/18/2008
05002	001	7117	B	00					0	08/18/2008
05002	001	7118	B	00					0	08/18/2008

Figure 124. FIMS Uploaded Data Report (Excel)

One may also select “View the FIMS Uploaded Data Report” which is the same report

Note that during the year end processing period when FIMS DM data is locked down, the FIMS upload in CAIS is disabled. The screen capture below shows how the FIMS Upload screen looks during the lockdown period. The second run button is replaced with an informational message.

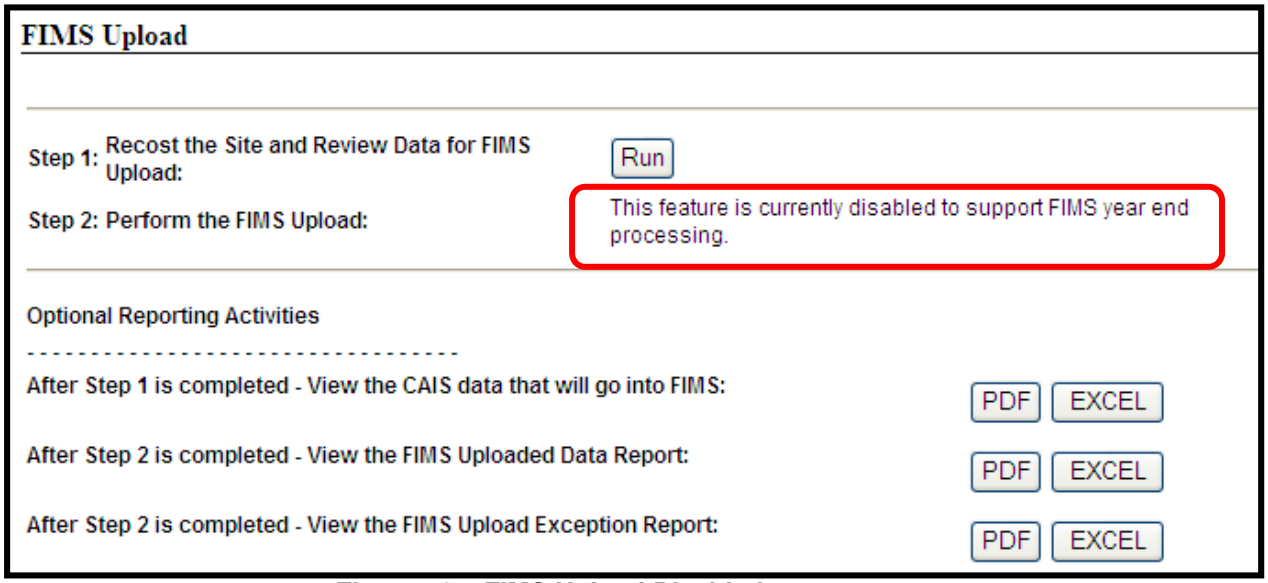


Figure 125. FIMS Upload Disabled

6.2.2. FIMS Upload for Idaho National Laboratory

To support the business process of INL, a special version of the FIMS upload has been created. A screen shot of this screen is shown below.

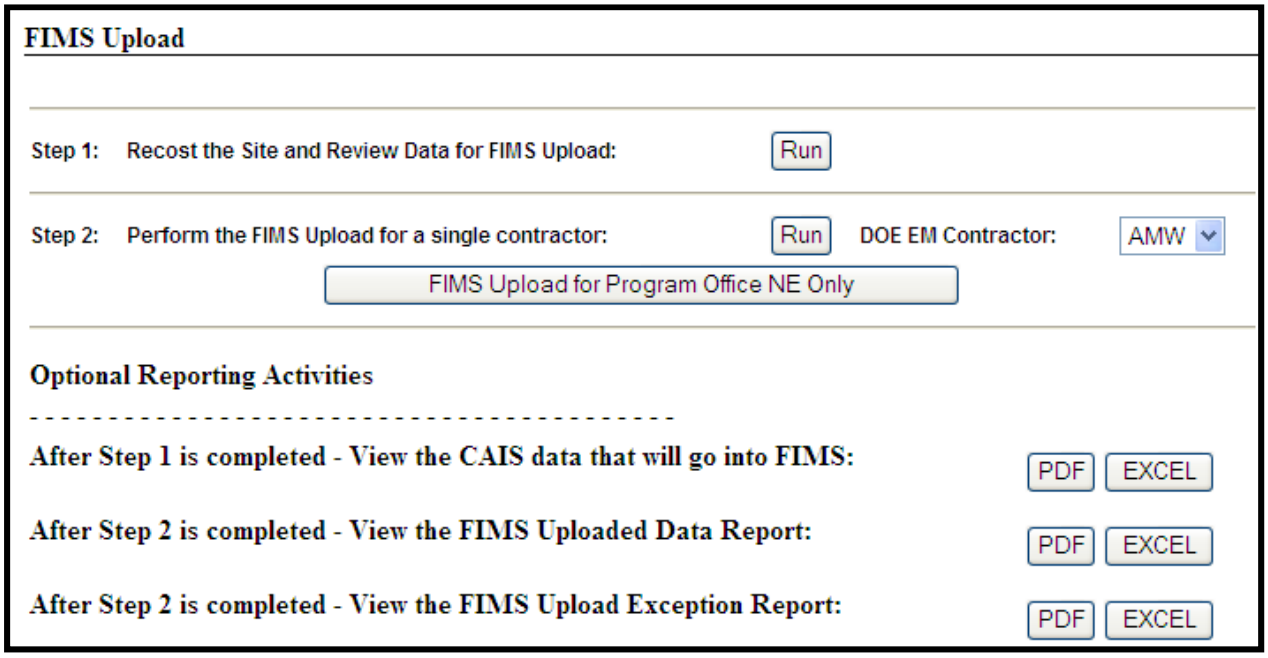


Figure 126. FIMS Upload for INL

The DOE EM Contractor drop down displays the unique 3 character combinations from the FIMS Alternate Property Name field for properties for the EM program office. At this time, the two values displayed are: AMW and CWI.

The FIMS Upload for Program Office NE only allows all non-EM assets in CAIS to be uploaded to FIMS. The associated reports for this upload display both the Program Office and the first three characters of the alternate property name.

To support FIMS year end processing the FIMS upload feature will be disabled during the DM lockdown period in FIMS. The see figure Figure 125 to see how these feature will appear.

6.3 FIMS Automatic Update to CAIS

Since FIMS is the database of record for the Department of Energy, whenever property information is changed in FIMS, these updates need to be reflected in CAIS. One particularly important scenario is when the Replacement Plant Value (RPV) values are updated annually in FIMS. In addition to updates, new property records entered into FIMS as well as properties which are archived in FIMS need to be reflected in CAIS. This interface has the following features:

1. When a new property is added to FIMS which is a building or an OSF, it is added to CAIS.
2. To make it easy for the CAIS administrator to identify these new assets in CAIS, the added_from_fims_date will be set to the system date. This new field shall be displayed on the Asset Detail Screen and on the Asset List Report.
3. When a property is archived from FIMS, it sets the archived_in_fims_date field in CAIS to the system date. This new field is displayed on the Asset Detail Screen Asset List Report.
4. When a property has any of the following fields (except for the site number which cannot be updated) updated in FIMS, it should be updated in CAIS:

FIMS TO CAIS FIELD MAPPING TABLE

FIMS Table	FIMS Field	CAIS Table	CAIS Field
FIMS_TBL_SITE	SITE_NUMBER	CAIS_SITES CAIS_SITE_AREAS	AS_CSIT_ID or FIMS_SITE_NUMBER
FIMS_TBL_AREA	AREA_NUMBER	CAIS_SITE_AREAS CAIS_SITE_AREAS	AREA_ID or FIMS_AREA_ID
FIMS_TBL_BUILDING	PBLD_BUILDING_RPV	CAIS_SITE_ASSETS	AS_REPL_PLANT_VALUE
FIMS_TBL_OSF	POSF_STRUCTURE_RPV	CAIS_SITE_ASSETS	AS_REPL_PLANT_VALUE
FIMS_TBL_BUILDING	PBLD_GROSS_SQFT	CAIS_SITE_ASSETS	AS_GROSS_SQFT
FIMS_TBL_BUILDING	PBLD_RPV_MODEL	CAIS_SITE_ASSETS	AS_MT_CODE
FIMS_TBL_BUILDING	PBLD_YEAR_BUILT	CAIS_SITE_ASSETS	AS_YEAR_BUILT
FIMS_TBL_PROPERTY	PROP_PROPERTY_ID	CAIS_SITE_ASSETS	AS_ID
FIMS_TBL_PROPERTY	PROP_NAME	CAIS_SITE_ASSETS	AS_NAME
FIMS_TBL_PROPERTY	PROP_PROGRAM	CAIS_SITE_ASSETS	AS_HQPO_PROGRAM_OFFICE
FIMS_TBL_PROPERTY	PROP_MISSION_ESSENTIAL	CAIS_SITE_ASSETS	AS_ESSENTIAL_PO_MSN_CODE
FIMS_TBL_PROPERTY	PROP_STATUS	CAIS_SITE_ASSETS	AS_CMST_STATUS_CODE

5. To track updates to CAIS from FIMS updates the last_fims_auto_udadate_date field in CAIS will be set to the system date. This new field shall be displayed on the Asset Detail Screen.
6. When the database trigger updates a field in CAIS due to an update in FIMS, the new column in CAIS called last_auto_update_date will be updated with the system date/time stamp. This field shall be displayed on the Asset Detail Screen.
7. When a new asset is placed in CAIS from FIMS due to the creation of a new asset, the last_auto_update field shall be populated with the system date/time. If e-mail notification is turned on, an e-mail is generated as well to notify all CAIS users who have been configured to receive e-mail notifications.
8. A new Asset Report will be developed in CAIS which will sort by the last_auto_update_date so that CAIS administrators can monitor the automated changes that are being made to CAIS. This report will display three kinds of updates: assets which have had their fields updated, assets which have been added to FIMS, and assets which have been archived in FIMS.
9. When an asset is archived in FIMS, if e-mail notification is turned on, an e-mail is generated to notify all CAIS users who have been configured to receive e-mail notifications.
10. A sample e-mail is shown below.

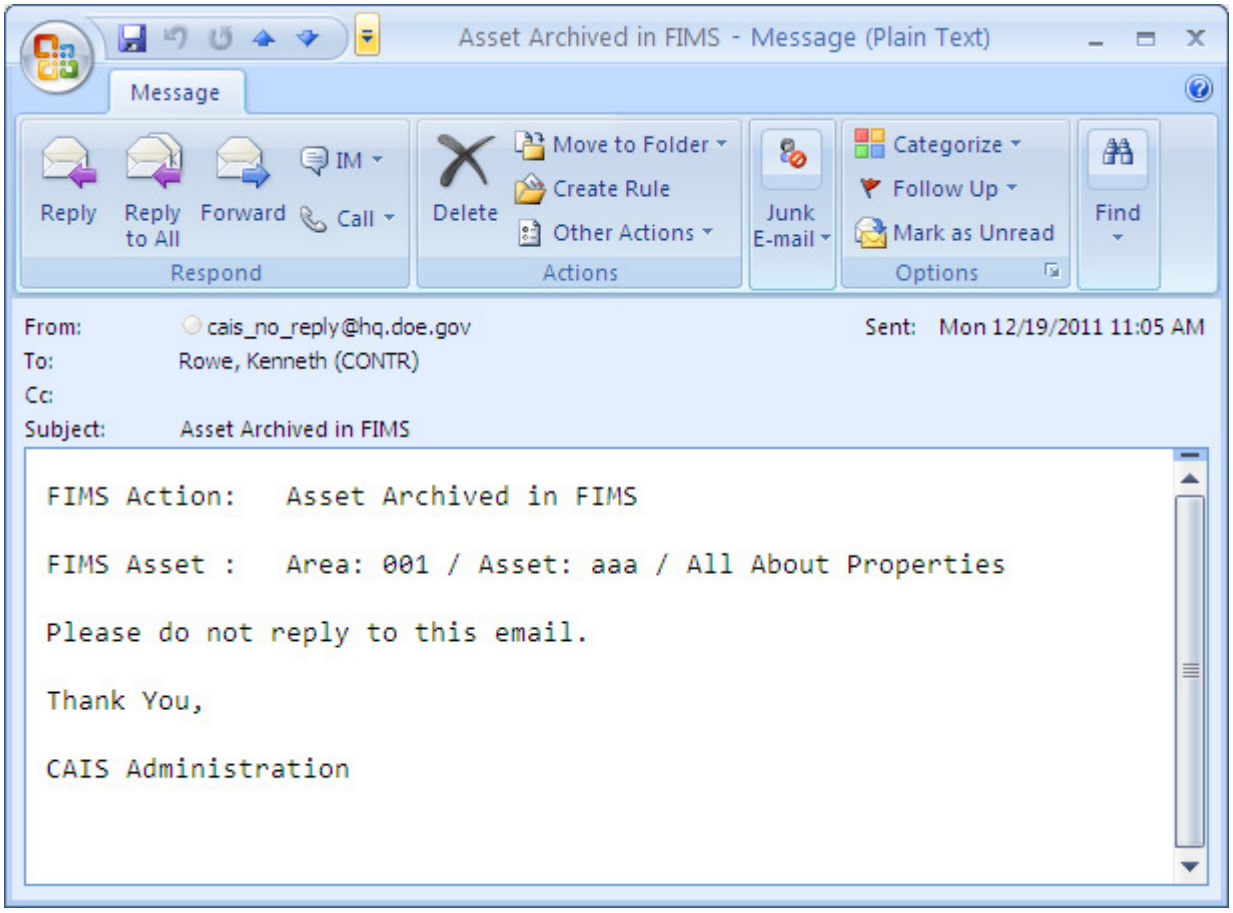


Figure 127. e-mail Notification of a FIMS Action

7. Maintenance

This section details how the various site, area and asset tables and pick lists are maintained and customized for site use.

There are two menu selections for users to maintain CAIS tables and asset information: General Maintenance and Table Maintenance. The maintenance screens have familiar looks. They have a List screen which displays the information and a Detail screen where edits can be entered and saved.

The Site, Area, and Asset Maintenance options can be selected from the General Maintenance menu as shown below.

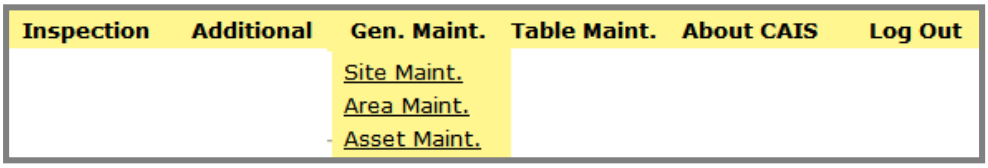


Figure 128. General Maintenance Menu Options

7.1 Site Maintenance

Select Site Maint from the General Maintenance menu to open the Site Maintenance list (see figure below), and then click on a Detail button to view the associated Site Maintenance Detail screen (figure at top of next page).

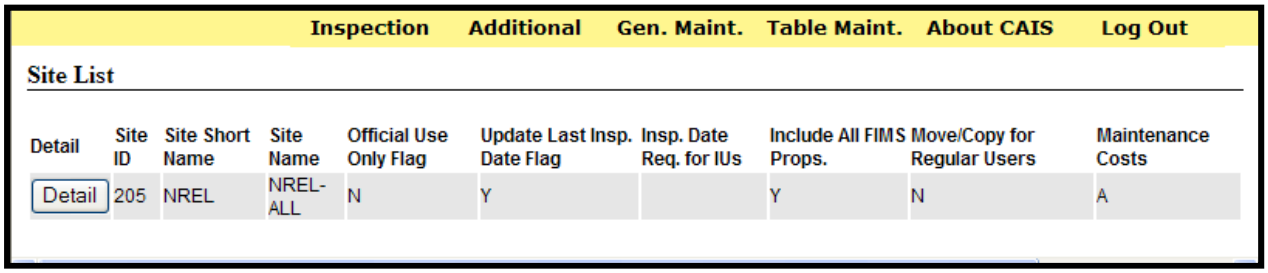


Figure 129. Site Maintenance List

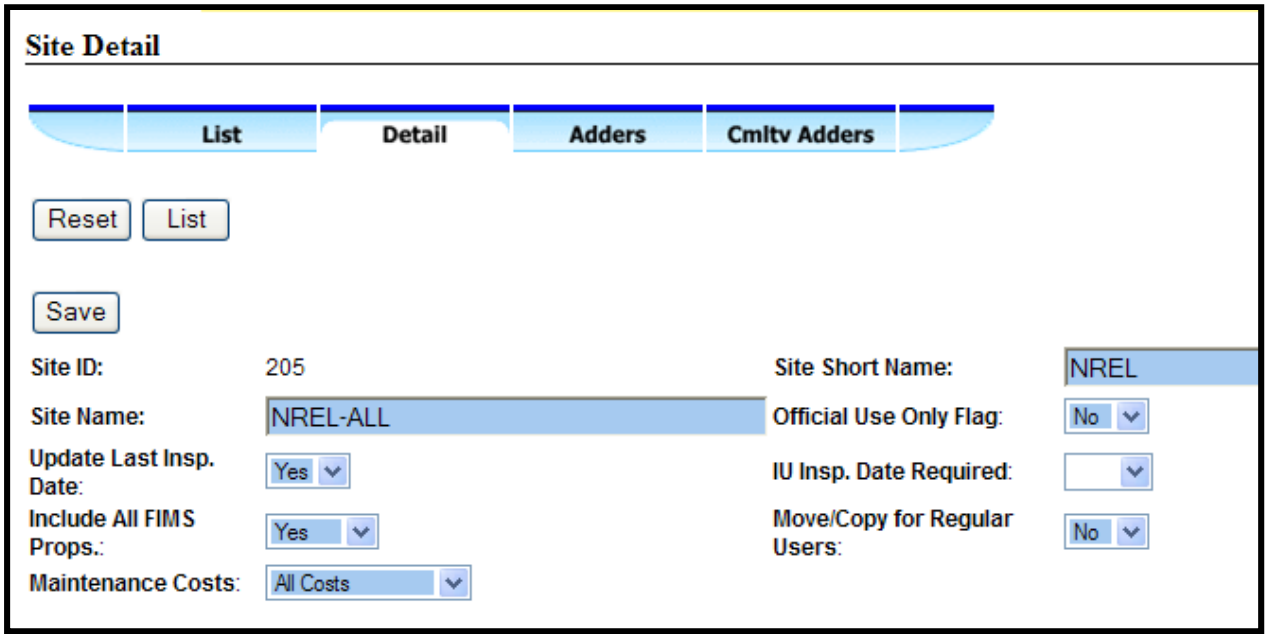


Figure 130. Site Maintenance Detail Screen

Set the "Official Use Only Flag" to restrict report dissemination. This will cause "Official Use Only" to be displayed in the header and footer of any report that is run.

When "Update Last Inspection Date" on the Site Maintenance Detail screen is set to "Yes" the Last Inspection Date Input on the IU Detail Screen will automatically update the Last Inspection Date for the Asset provided that the last inspection date for the IU is more recent than the last inspection date that is already stored for the asset. The last inspection date for the asset is particularly important because this field is part of the FIMS export/upload.

Set "Include All FIMS Props" to "Yes" to include leased buildings in the FIMS to CAIS update program.

To make the Move/Copy Screen available for Regular Users the "Move/Copy for Regular Users" flag must be set to "Yes".

To configure the application to display the RS Means maintenance loaded costs, the "Maintenance Costs" drop down has three options: All Costs, No Maintenance Costs and Maintenance Costs Only.

7.2 Area Maintenance

Select Area Maint from the General Maintenance menu to open the Area Maintenance list (see figure below), and then click on a Detail button to view the associated Area Maintenance Detail screen (see figure at bottom of page).

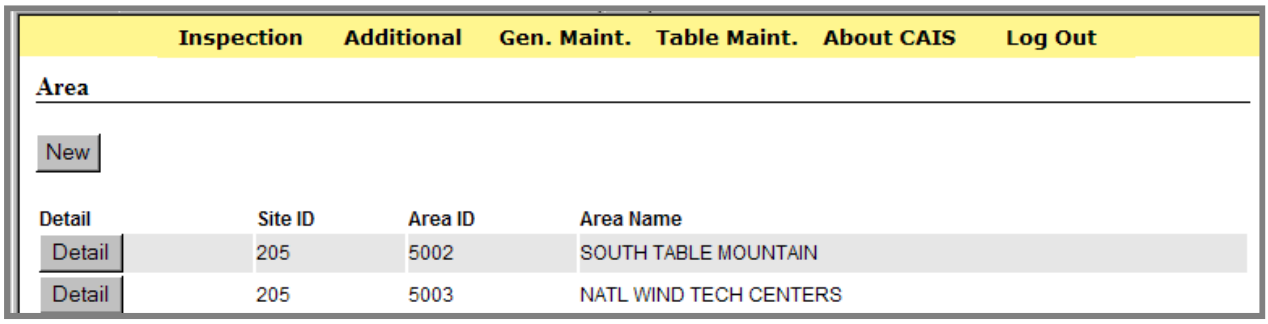


Figure 131. Area Maintenance List

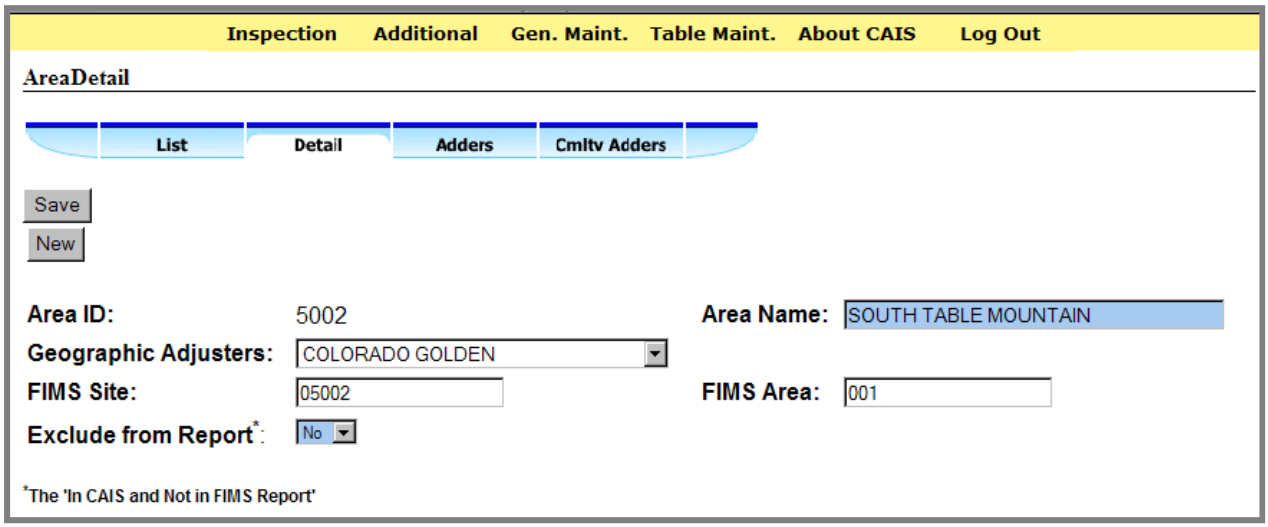


Figure 132. Area Maintenance Detail Screen

Set “Exclude from Report” to “Yes” to have the Area excluded from the FIMS to CAIS reconciliation report.

7.3 Asset Maintenance

Select Asset Maint from the General Maintenance menu to open the Asset Maintenance list (see next figure), and then click on a Detail button to view the associated Asset Maintenance Detail screen (see figure at top of the next page).

The Asset Maintenance list permits a new asset to be added to the list or have its fields edited.

The property type and mission dependent program fields on the Asset Maintenance list are view-only FIMS fields. The property type values include B-Building, S-OSF, and T-Trailer.

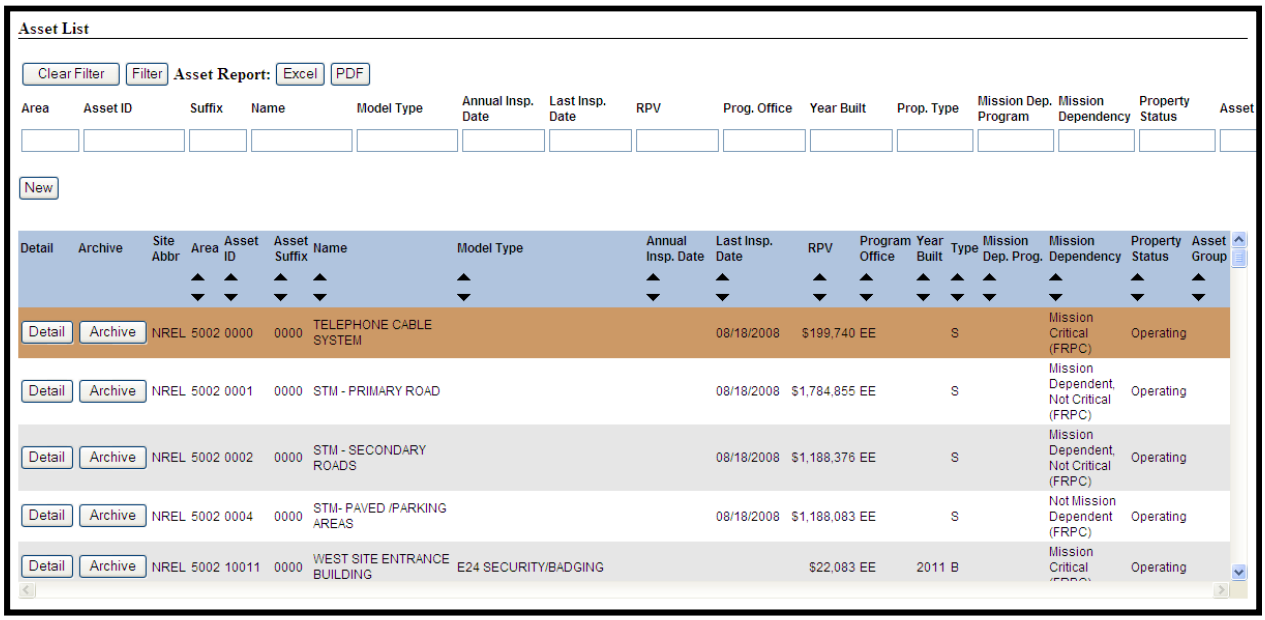


Figure 133. Asset Maintenance List

If an asset has been archived in FIMS, the CAIS Administrator may want to archive the asset in CAIS. Simply press the 'Archive' button from the asset list and confirm the action. The Asset along with the regular and cumulative cost adders and all of its Inspection Units will be archived. The archive warning message is shown below.

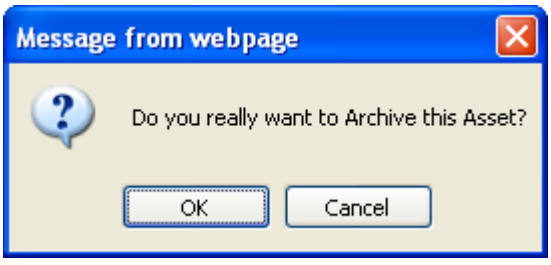


Figure 134. Archive Asset Warning

The Asset Maintenance Detail Screen displays all the FIMS fields and condition assessment information associated with the asset. These fields are used for identification, maintenance reporting and estimating features of the database. Blue fields on the screen indicate that the data is mandatory data, white fields indicate optional data, and green fields indicate the data is used for computations. The Costing button recalculates the Deferred Maintenance cost for the asset.

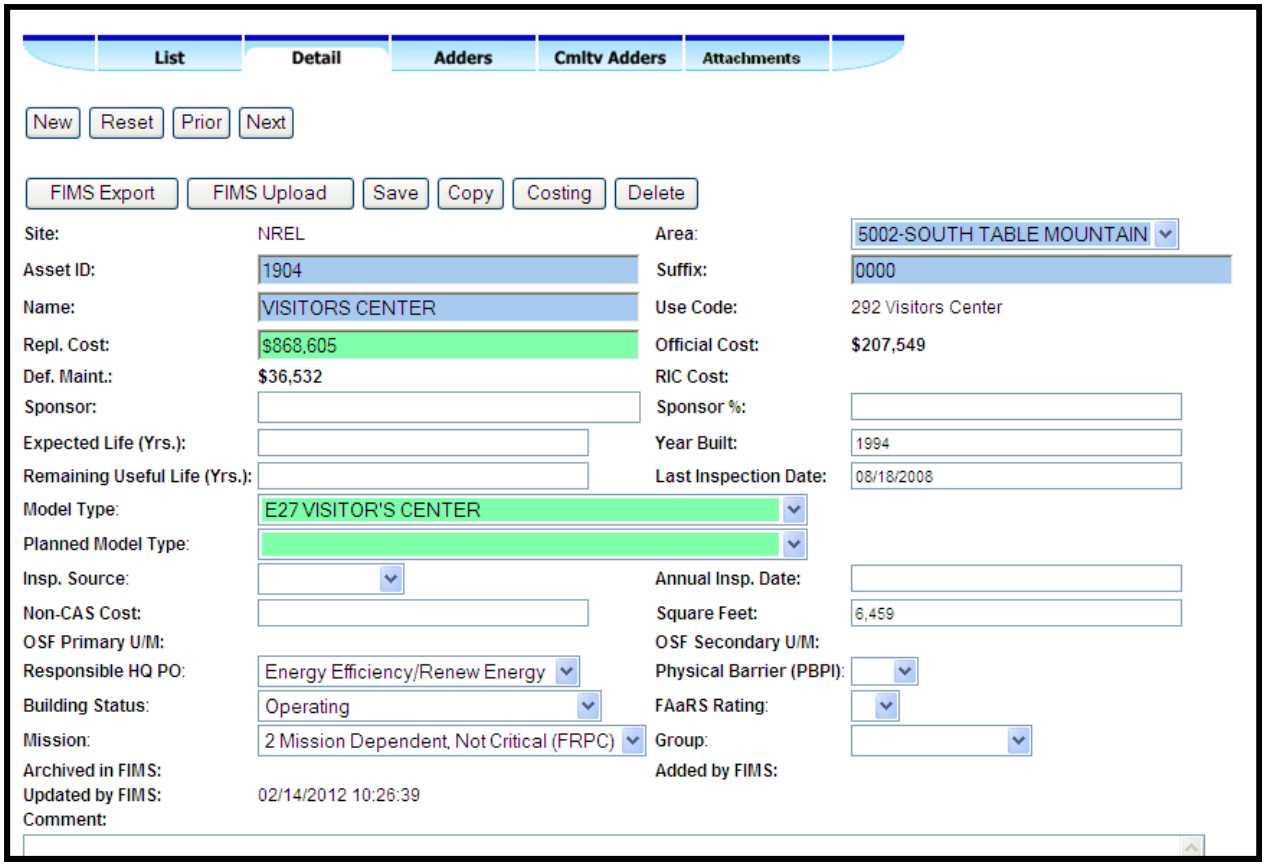


Figure 135. Asset Maintenance Detail Screen

Note that the following 5 fields are view only and reflect the real-time values stored in FIMS:

- Use Code
- OSF Primary Unit of Measure
- OSF Primary Quantity
- OSF Secondary Unit of Measure
- OSF Secondary Quantity

The tabs on the toolbar for the Asset Maintenance Screen include: Cost Adders, Cumulative Cost Adders and Attachments.

The functioning of how these toolbar options is described in the IU section of this document. See section 2.5.7 for Cost C adders, section 2.5.8 for Cumulative Cost Adders and section 2.5.10 for Attachments.

7.4 Archived Assets

After selecting the Archive Assets menu choice, the following screen is displayed.

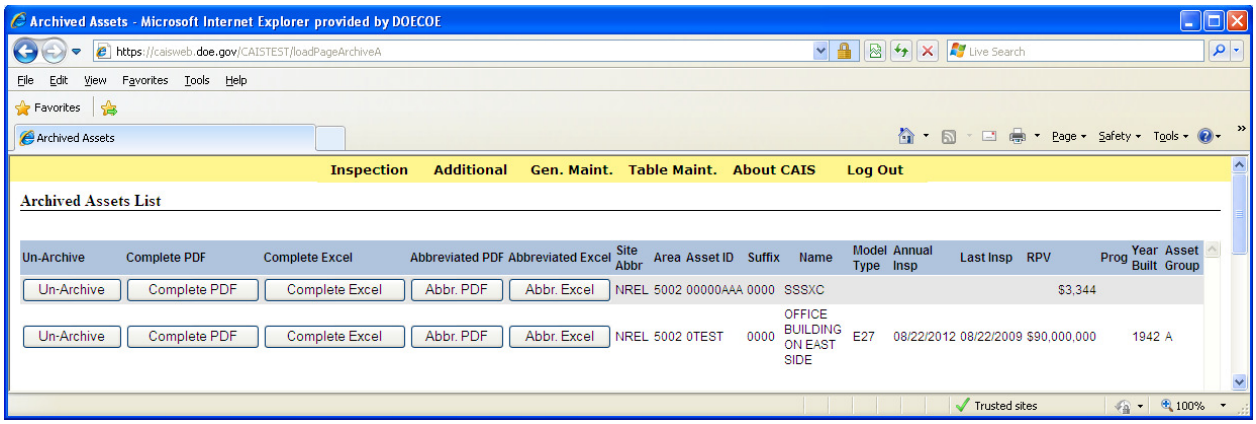


Figure 136. Archived Assets Screen

This screen allows for reporting and for the un-archival of assets. The un-archive action may only be performed by the CAIS Administrator.

7.5 Table Maintenance

The Table Maintenance Menu, shown below, has a long list of tables that can be edited under this menu.

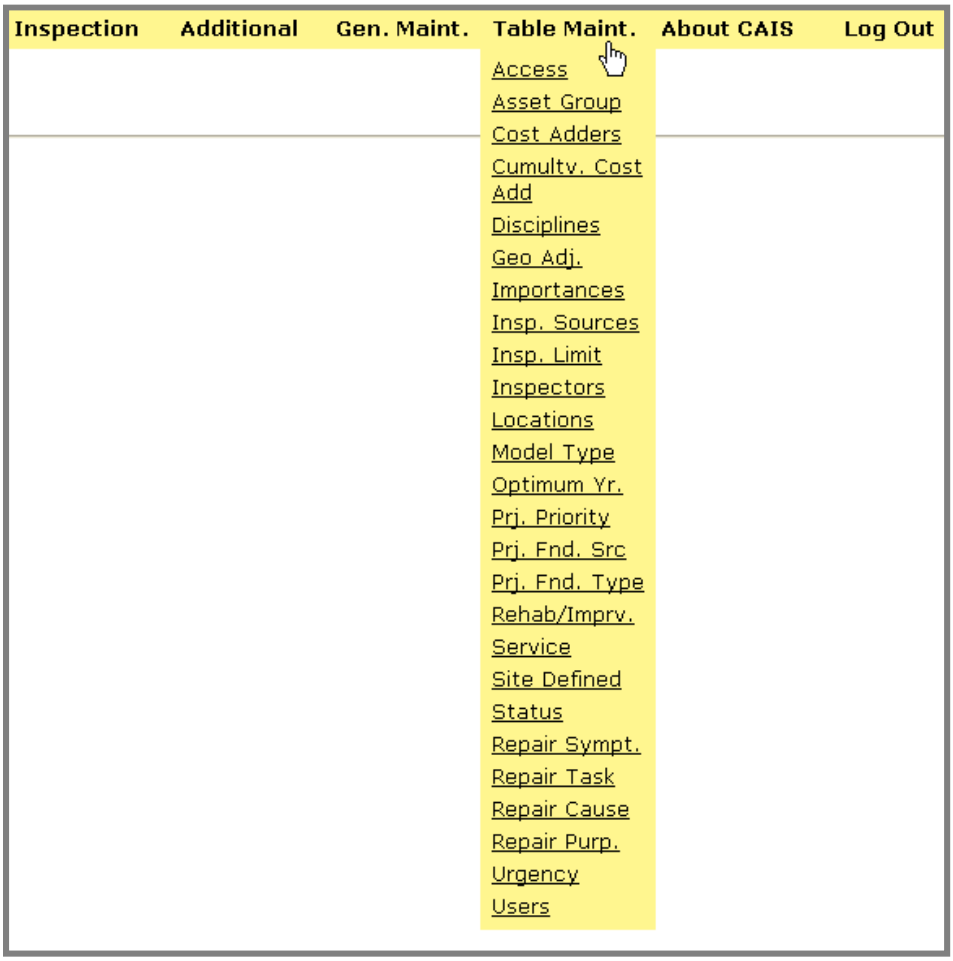


Figure 137. Table Maintenance Menu Selections

This section describes the purpose behind each table and provides screen captures and narrative on any unique table maintenance fields. Code is a common field in the tables. This field can be an abbreviation of the description or term or description within the table lists.

Access – The table contains information on the type of access requirements for each asset. With a myriad of buildings in its complex knowing the levels of access can save inspection preparation time. The list is based on feedback from site users. The Sort Order field is a sorting mechanism. The Code is an abbreviation of the description and the Site Key is the FIMS site number.

Cost Adders – These are cost markups associated with hazardous, security environments and special conditions that add costs to the repair of the deficiencies. These markups are based on equipment, material, labor and overhead elements. See Section 5.2 for the details.

Cumulative Cost Adders – These are cost markups associated with the repair process and are not a function of equipment, material, labor and overhead cost factors. Examples could be escort requirements, testing, special scheduling, and delivery requirements. See Section 5.2 for the screens.

Discipline List – This is the inspector discipline pick-list. The specialties and vocations of your inspection staff are listed in this table.

Geographic Adjusters List – This table is a list of cost adjustments for labor, material, equipment, and overhead at various cities in the United States as a function of geography/location. This table is updated annually. Sites can change these values but be advised that you should have the necessary documentation justifying your location cost adjustments.

Importance List – This is a pick-list of operational status/value designations for each asset. The **Code** field is an abbreviation of the Importance description.

Inspection Source List – This is a list of inspection sources, the year of the version, and version description. This list provides historic information of the initial CAS inspection.

Inspectors List - This is a list of the individuals conducting the condition assessments. The Detail screen provides communication information on each inspector. See Section 3, System Initialization, for more details.

Inspector Estimate List - The estimate limit set by the CAIS administrator that an inspector can estimate a deficiency cost. The default cost is $5,000. See Section 3, Costing, for additional information.

Location List - This is a pick-list of common building locations for inspectors to specify the whereabouts of the deficiency. Note one of the locations is Asset Wide.

Model Types List – The list indicates which RS Means Square Foot Model is being used to determine the Model Type Detail volume or system percentages. The building model list can come from FIMS or CostWorks. The CostWorks models include all the FIMS building models and other structure and facilities type assets. CostWorks provides flexibility and accuracy in estimating replacement plant values. The Code indicates the model number. E series are generic RS Means Building models; N series indicate DOE custom designed models.

Model Type Detail – Based on the selected model type, percentages of each volume making up the replacement plant value are calculated. These percentages are used to estimate a replacement plant value for each volume and using the CAIS derived deferred maintenance cost, a facility condition index. Whereas FIMS calculates an asset condition index only CAIS can estimate the facility condition index for each WBS/volume. The CAIS Summary Condition Report provides a very valuable complete picture of asset condition. Select Model Type on the Table Maintenance Menu to open the Model Type List shown in the figure on the following page.

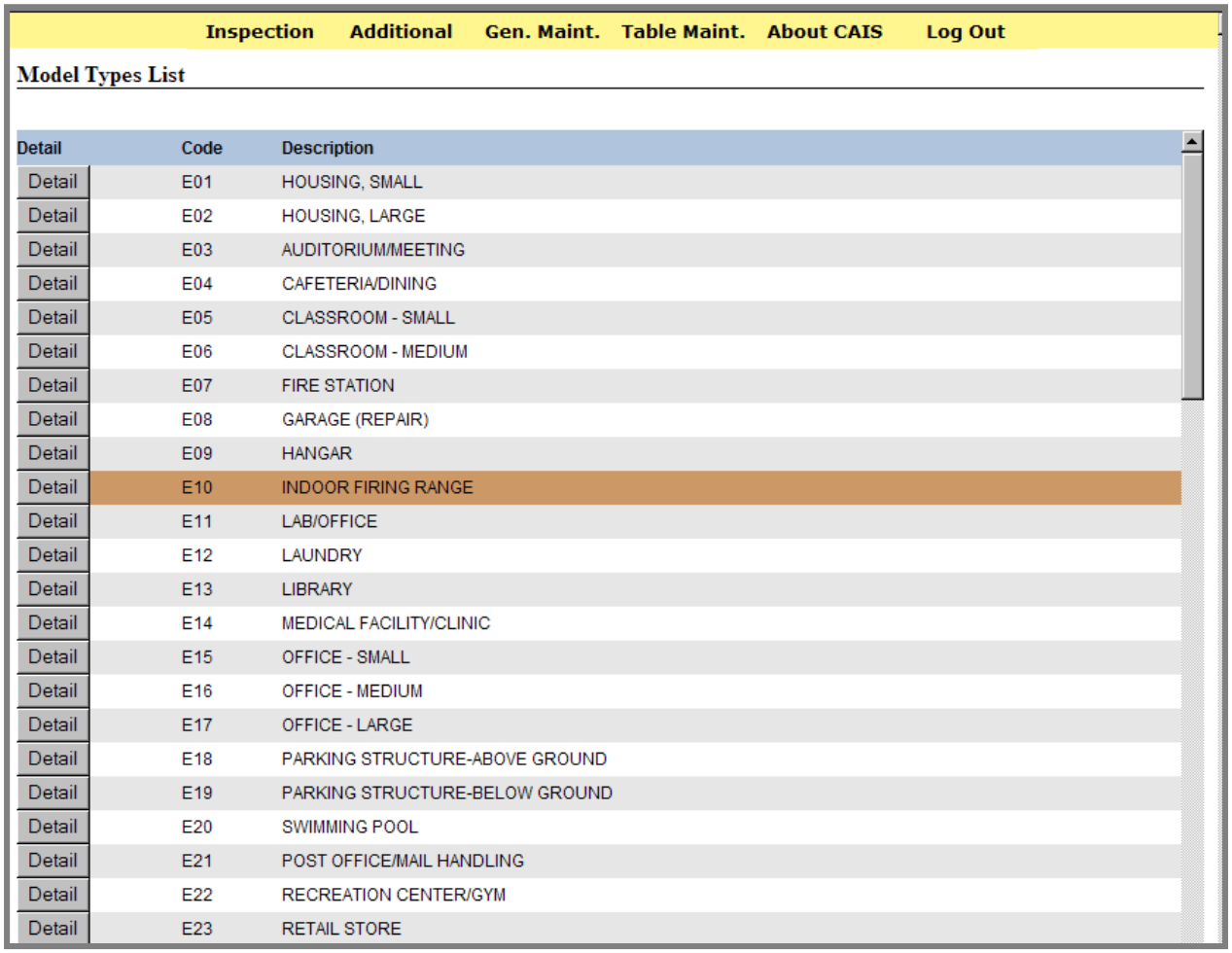
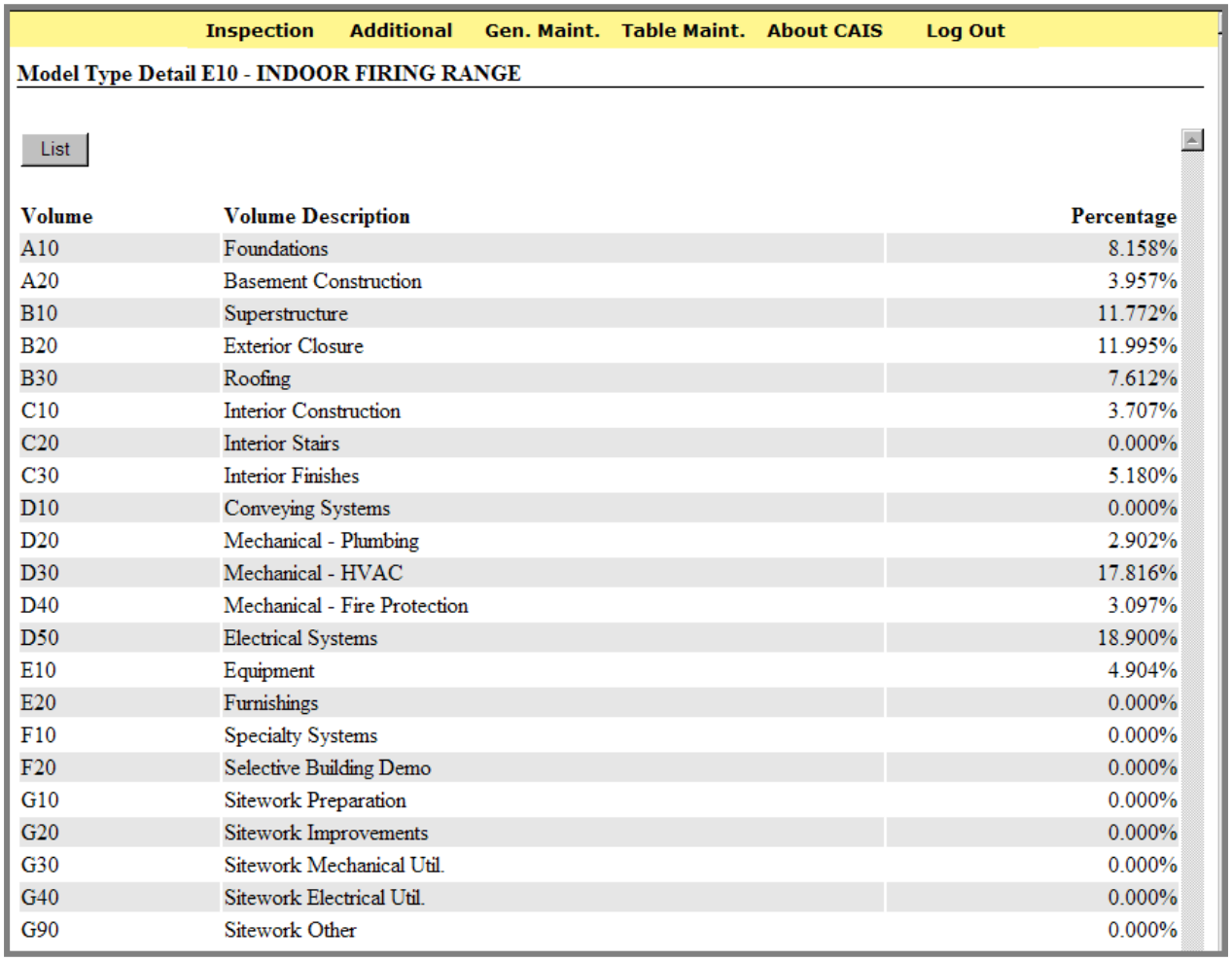


Figure 138. Model Type List

Click on the Detail button of the desired model type to see its detail window as shown below.



Volume	Volume Description	Percentage
A10	Foundations	8.158%
A20	Basement Construction	3.957%
B10	Superstructure	11.772%
B20	Exterior Closure	11.995%
B30	Roofing	7.612%
C10	Interior Construction	3.707%
C20	Interior Stairs	0.000%
C30	Interior Finishes	5.180%
D10	Conveying Systems	0.000%
D20	Mechanical - Plumbing	2.902%
D30	Mechanical - HVAC	17.816%
D40	Mechanical - Fire Protection	3.097%
D50	Electrical Systems	18.900%
E10	Equipment	4.904%
E20	Furnishings	0.000%
F10	Specialty Systems	0.000%
F20	Selective Building Demo	0.000%
G10	Sitework Preparation	0.000%
G20	Sitework Improvements	0.000%
G30	Sitework Mechanical Util.	0.000%
G40	Sitework Electrical Util.	0.000%
G90	Sitework Other	0.000%

Figure 139. Model Type Detail Screen

Optimum Year List - This is a list of years in the life cycle of an asset when maintenance actions should be taken to preserve and maximize the usefulness of the asset.

Project Priority List – This is the site priority or importance designation/rating given to a CAIS created project. The list is normally maintained by each program office.

Project Funding Source List – This information lists the source of the project funding. Funding sources are different for each program office. Sites should design this list based on their site and program office requirements.

Project Funding Type List – This is a list of the type of funds to be used for the project. An example could be General Plant Project (GPP), FIRP, and line item project. Code would the common abbreviation of the funding type.

Rehab and Improvement Cost List – This list provides description of the purpose of the rehab and improvement project. Examples are seismic issues, upgrade, code compliance, modernization, etc.

Service List – This is a list of the service requirements of the inspection unit. Does it run continuous, intermittent, used only for emergencies etc?

Site Defined List – This list is designed for the sites to use as they see fit.

Status List – Is a list of the status of the repair and replacement projects or tasks.

Repair Symptom List – Is a description of some common repair symptoms for an inspection unit. Examples are overheating, loud noise, vibration.

Repair Task List – These are common corrective actions that are necessary to repair the inspection unit.

Repair Cause List – This is a list of common causes for the deficiency. Examples are not proper size, abuse, improper maintenance.

Repair Purpose List – Is a list of descriptions or rationale why the repairs are necessary. Examples are code violation, efficiency, repair, safety violation.

Urgency List – Is a list of predefined time periods when the repairs or replacements should be made. This field is used to determine when a deficiency cost becomes a deferred maintenance cost item.

User List – Provides information on who is using the database and what role or rights (Administrative, Regular, or View Only) they have in CAIS. The table is also discussed in Section 1.5, System Initialization.

8. Special Features

This section deals with the Yearly Cost Update, FY Baseline report and the System Level Deferred Maintenance approach for assessing asset conditions.

8.1 Yearly Costing Update

This function is performed by the CAIS Support Team. The process updates the database with RS Means data for facilities costs, factors for engineering costs, assembly's data, and model information.

The cost data is normally available from RS Means in January of each year. However, DOE has delayed this update to avoid misalignment, confusion and inconsistencies with the Ten Year Site Plan (TYSP) preparation and publication, FIMS and CAIS deferred maintenance costs and facility condition index metrics.

Yearly costing updates will continue to be controlled by DOE Headquarters program offices.

8.2 FY Baseline

This FY Baseline screen, shown below, provides the deferred maintenance, rehab and improvement costs or both and the official costs to repair or replace the deficiencies of an inspection unit (IU) A report can be generated by using the File/Print commands.

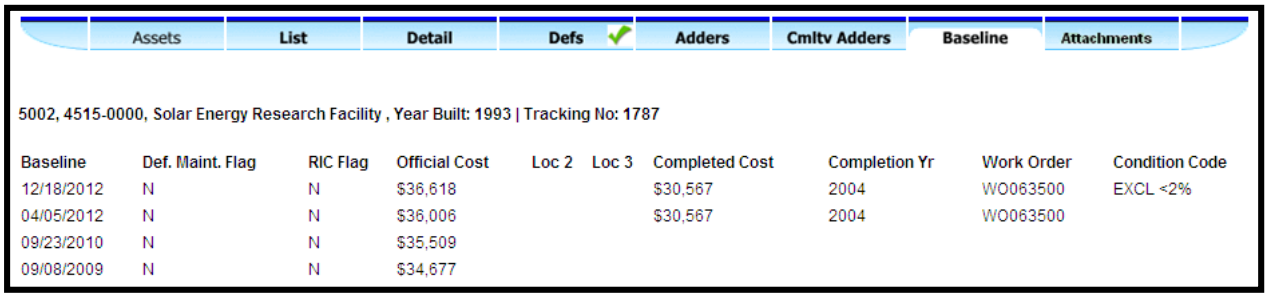


Figure 140. FY Baseline Screen

NNSA sites have a requirement to save snapshots of the deferred maintenance (DM) costs for each fiscal year. They also need to report on the buy-down of the DM for future years.

To create the FY Baseline, select FY Baseline from the Additional Menu shown below.

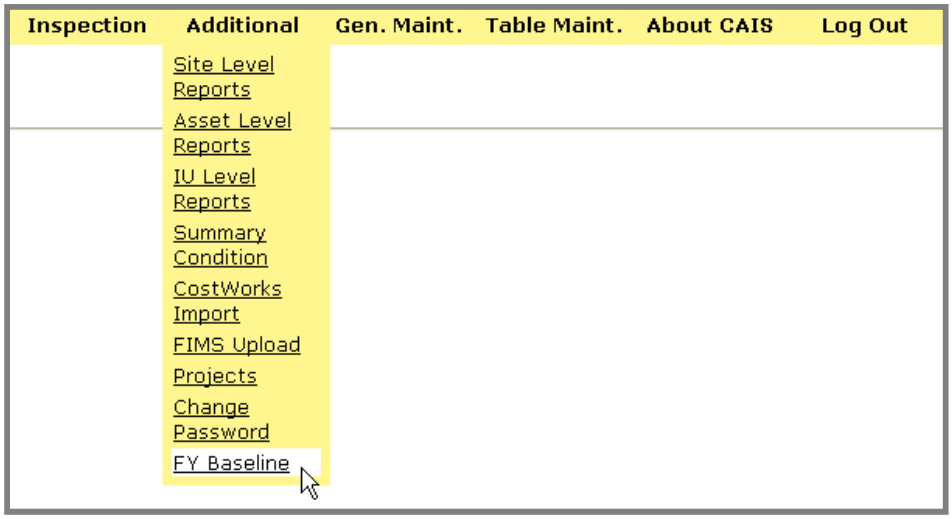


Figure 141. Baseline Option

The Create FY Baseline Screen will appear (shown below).

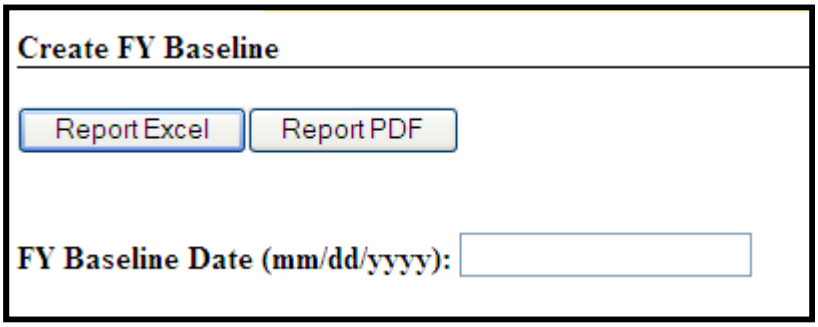


Figure 142. Create FY Baseline Screen

Enter the FY Baseline Date and select your desired report format. The year must be four digits or you will be prompted with the message shown in the figure below.

Figure 143. Four Digit Year Requirement Message

You will be prompted whether you really want to create a permanent FY Baseline (shown below).

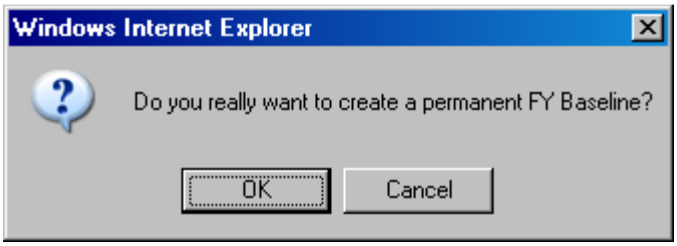


Figure 144. Verify You Want to Create a Permanent FY Baseline

Click on OK. The report will be produced.

Check the Report Section for samples of the FY Buydown Report.

8.3 System Level Deferred Maintenance

System Level Deferred Maintenance is a condition assessment approach some sites have used where maintenance budgets prevent detailed inspections; the site has many environmental issues; or the assets may be closed or shutdown in the future but are still in operation and possibly only safety and health deficiencies are important. System level deferred maintenance is currently used at INL, LANL, SRS and Hanford.

For those sites with access to the System Level Deferred Maintenance tool, the option is available under the Additional dropdown menu, show below.

NOTE: This screen will not work unless a model type and RPV value is specified.

ADDITIONAL NOTE: The data from the System Level Deferred Maintenance Screen is incorporated into the standard FIMS Export/Upload process.

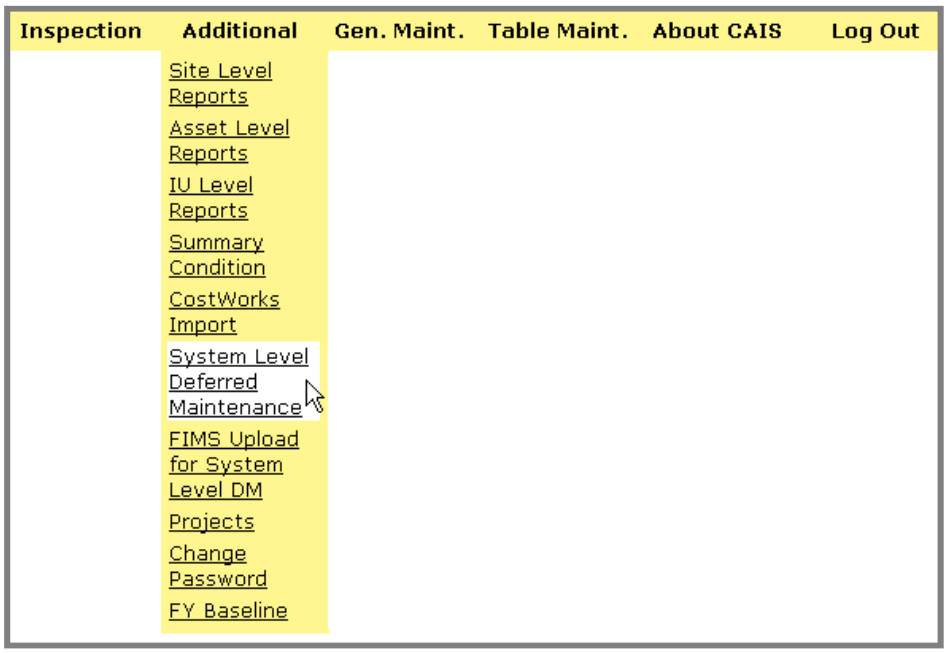


Figure 145. System Level Deferred Maintenance Menu Choice

When the System Level Deferred Maintenance option is selected, the System Level Deferred Maintenance Asset List screen appears (see below).

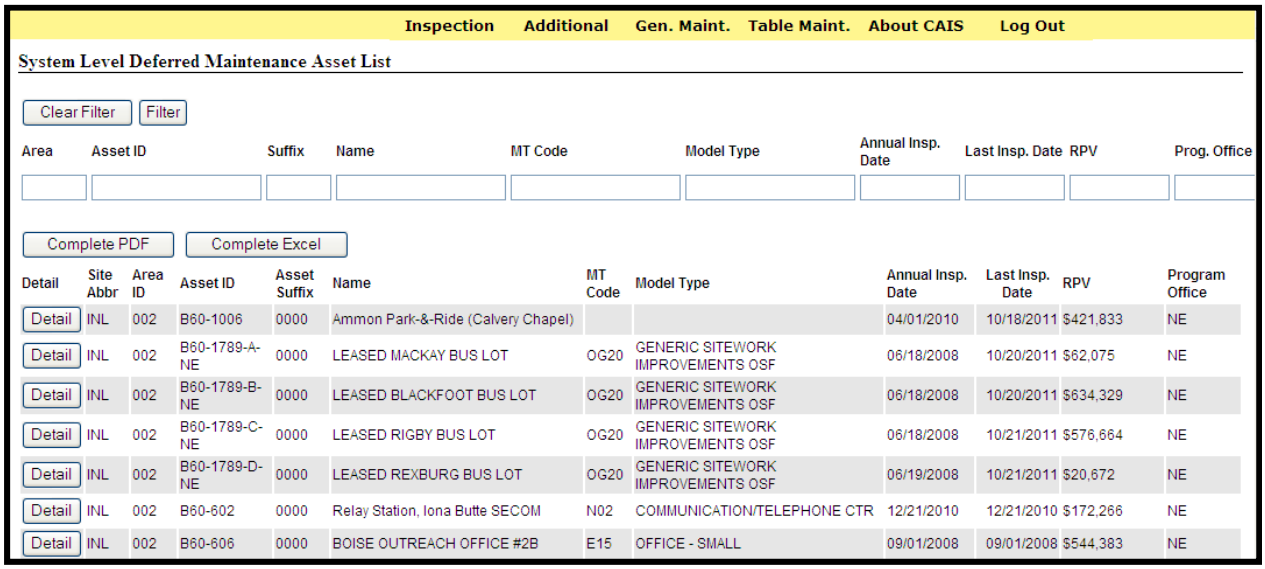


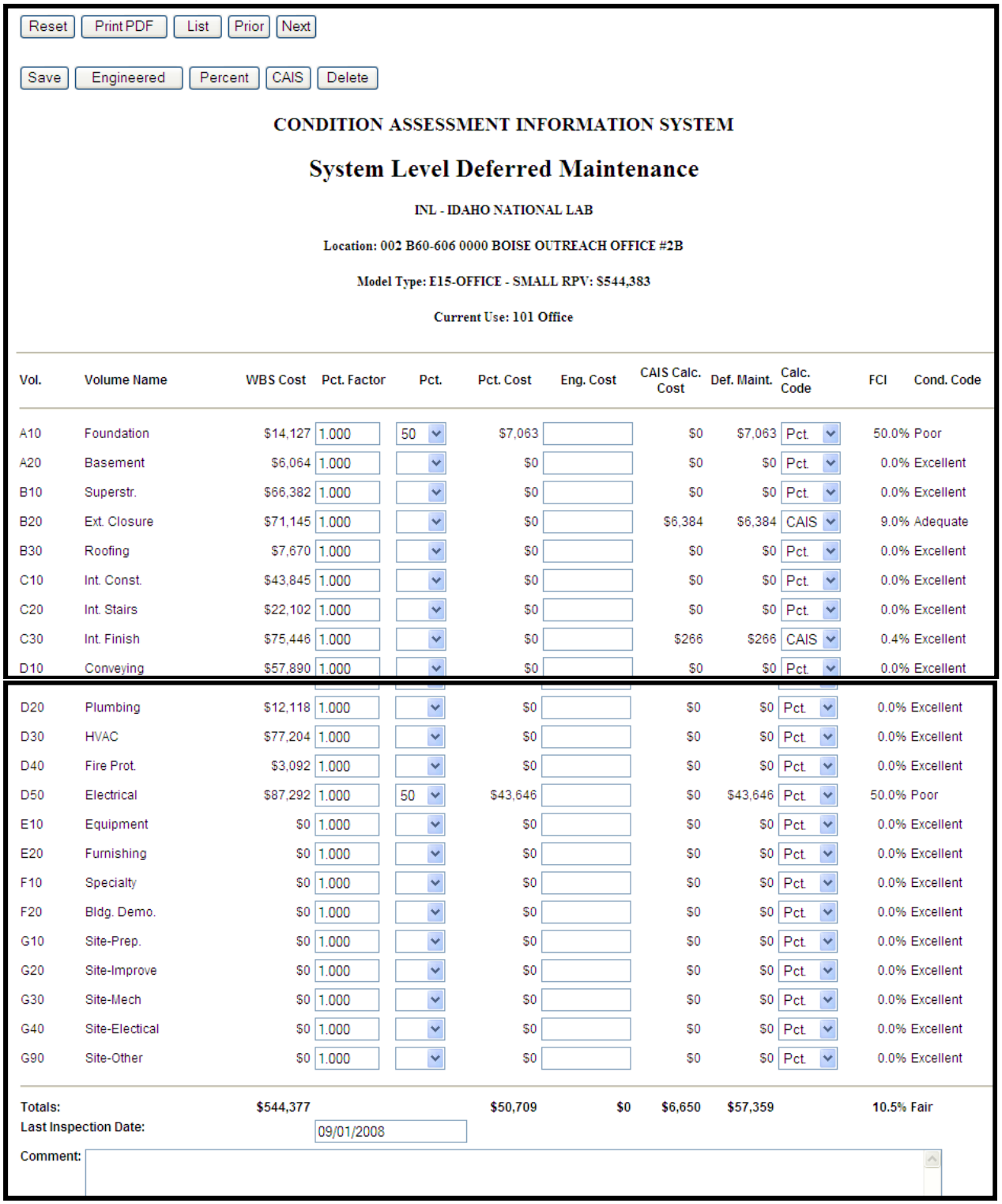
Figure 146. System Level Deferred Maintenance Asset List Window

Note that there is a site-wide System Level DM report that may be produced in PDF and Excel Formats. Simply press the '**Complete PDF**' or '**Complete Excel**' buttons on the System Level DM Asset List screen to run these reports.

Note that it may be necessary to run a site re-cost for one of the summary condition roll-up reports in order to get complete information for this report. Running the following reports with re-cost set to 'Yes' will accomplish this:

- Total Repair Costs (Site Level)
- Total Repair Costs by Area (Site Level)
- Summary Condition Compilation (Asset Level)
- Site Asset Costs by WBS (Asset Level)
- FIMS Export (No re-cost flag for this report)

Selecting the **Detail** option opens the specific asset detail information displayed in the figure below.



Reset | Print PDF | List | Prior | Next

Save | Engineered | Percent | CAIS | Delete

CONDITION ASSESSMENT INFORMATION SYSTEM

System Level Deferred Maintenance

INL - IDAHO NATIONAL LAB

Location: 002 B60-606 0000 BOISE OUTREACH OFFICE #2B

Model Type: E15-OFFICE - SMALL RPV: $544,383

Current Use: 101 Office

Vol.	Volume Name	WBS Cost	Pct. Factor	Pct.	Pct. Cost	Eng. Cost	CAIS Calc. Cost	Def. Maint.	Calc. Code	FCI	Cond. Code
A10	Foundation	$14,127	1.000	50	$7,063		$0	$7,063	Pct.	50.0%	Poor
A20	Basement	$6,064	1.000		$0		$0	$0	Pct.	0.0%	Excellent
B10	Superstr.	$66,382	1.000		$0		$0	$0	Pct.	0.0%	Excellent
B20	Ext. Closure	$71,145	1.000		$0		$6,384	$6,384	CAIS	9.0%	Adequate
B30	Roofing	$7,670	1.000		$0		$0	$0	Pct.	0.0%	Excellent
C10	Int. Const.	$43,845	1.000		$0		$0	$0	Pct.	0.0%	Excellent
C20	Int. Stairs	$22,102	1.000		$0		$0	$0	Pct.	0.0%	Excellent
C30	Int. Finish	$75,446	1.000		$0		$266	$266	CAIS	0.4%	Excellent
D10	Conveying	$57,890	1.000		$0		$0	$0	Pct.	0.0%	Excellent
D20	Plumbing	$12,118	1.000		$0		$0	$0	Pct.	0.0%	Excellent
D30	HVAC	$77,204	1.000		$0		$0	$0	Pct.	0.0%	Excellent
D40	Fire Prot.	$3,092	1.000		$0		$0	$0	Pct.	0.0%	Excellent
D50	Electrical	$87,292	1.000	50	$43,646		$0	$43,646	Pct.	50.0%	Poor
E10	Equipment	$0	1.000		$0		$0	$0	Pct.	0.0%	Excellent
E20	Furnishing	$0	1.000		$0		$0	$0	Pct.	0.0%	Excellent
F10	Specialty	$0	1.000		$0		$0	$0	Pct.	0.0%	Excellent
F20	Bldg. Demo.	$0	1.000		$0		$0	$0	Pct.	0.0%	Excellent
G10	Site-Prep.	$0	1.000		$0		$0	$0	Pct.	0.0%	Excellent
G20	Site-Improve	$0	1.000		$0		$0	$0	Pct.	0.0%	Excellent
G30	Site-Mech	$0	1.000		$0		$0	$0	Pct.	0.0%	Excellent
G40	Site-Electical	$0	1.000		$0		$0	$0	Pct.	0.0%	Excellent
G90	Site-Other	$0	1.000		$0		$0	$0	Pct.	0.0%	Excellent
Totals:		**$544,377**			**$50,709**	**$0**	**$6,650**	**$57,359**		**10.5%**	**Fair**

Last Inspection Date: 09/01/2008

Comment:

Figure 147. System Level Deferred Maintenance Detail

The buttons at the top of the Detail Screen are used for the following:

Reset – Clicking this button erases all data fields, allowing you to go back to the original retrieved detail information after you have made changes which you decided you didn't want to save. This can only be done before you select save. Removes data you entered in the filtering fields

Print PDF – Clicking this produces a report of the information displayed on the screen in PDF format.

List – goes back to the list of assets

Next – go to the next asset detail

Save – Saves any changes you made

Engineered – Flips all Calc. Code flags to Eng

Percent - Flips all Calc. Code flags to PCT

CAIS - Flips all Calc. Code flags to CAIS. The system specified will obtain the DM dollar value from the IU records.

DELETE – Delete the System Level DM Data. Use this button when you want to remove all System Level DM Data for a particular asset.

To estimate deferred maintenance the user has several options:

a. The user enters a cost adjustment factor or markup Percentage (Pct) Factor similar to a Site Factor, and a Percentage (Pct), an Asset Condition Index (ACI), for the entire WBS. The Percentage Cost is calculated based on this information or enter;

b. An Engineered Cost derived from an estimate prepared by site engineering or estimator staffs or a consultant;

c. Or the normal CAIS estimated IU cost (CAIS Calc).

The Deferred Maintenance cost is estimated based on any of these costs if the Calc Code matches the designated cost for each WBS. The Calc Code determines what should be included in Deferred Maintenance. The Calc Code or Deferred Maintenance cost source has three choices: Engineered (ENG), Percentage Cost (PCT) or a CAIS estimated cost (CAIS).

Totals are calculated for each type of cost. The FCI is based on the total Deferred Maintenance divided by the replacement plant value of the entire WBS.

Click Save and the FCI and FIMS Condition Codes are calculated within the report on a WBS basis.

The Engineered, Percent, and CAIS buttons when activated reset all the Calc Code values.

The screen can be printed using the normal File/Print commands.

Table 9 - Fields for System Level Deferred Maintenance

Field Name	Description
CAIS Calc Cost	CAIS developed Deferred Maintenance Cost.
Calc Code	The list options tell the user what is the source of the deferred maintenance cost. The choices are Engineered (ENG.), Percent (PCT), and CAIS Calc Cost (CAIS). Only one choice can be selected.
Deferred Maintenance	Defined in Federal Financial Statement #6, as "maintenance that was not performed when it should have been or was scheduled to be and which, therefore is put off or delayed for a future period".
Engineered Cost	Def. Maint cost developed by in-house or contractor engineering personal.
FCI	The facility condition index (FCI) is the ratio in percent of Deferred Maintenance cost to the WBS cost.
FIMS Cond. Code	CAIS and FIMS use the same condition ratings. The basis of the ratings is the FIMS Summary Condition field sponsored by the Office of Science. The ratings are excellent, good, adequate, fair, and poor and fail.
Pct.	This is the RPAM Asset Condition Index. ACI= (1 – FCI) where FCI stands for Facilities Condition Index.
Pct. Factor	A cost adjustment factor or markup percentage similar to the Site Factor.
Percentage Cost	This cost is the product of the (WBS Cost x Pct. Factor x Pct)
VOL. Volume Name	This is the CAS Work Breakdown Structure Uniformat II volume number and name.
WBS Cost	This is a shorter reference to the above Vol, Volume Name.
Last Inspection Date	Field from the Asset Maintenance Screen. This field is used in the FIMS Upload.
Comment	Free-form text field for providing information related to the System Level DM screen.

9. Ad Hoc Reporting Module

This section describes how to use the Ad Hoc Reporting Module to create custom reports.

9.1 Ad Hoc Reporting Overview

The Ad Hoc Reporting Module allows sites to create custom IU and Asset level reports. The IU Level Reporting includes the following capabilities:

- Reports are generated in Excel so addition customization is available after the report is created.
- Customizable plain English column naming to be set up by the CAIS administrator.
- 92 fields that may be selected. These fields include information from the Site, Area, Asset and Inspection Unit screens.
- Sort by any of the 92 fields
- Filter by any of the 92 fields
- Totals are automatically generated for the numeric columns

9.2 Ad Hoc Reporting: Step-By-Step Instructions

All menu options for this module are located under the "Additional" menu choice.

The first step for using the Ad Hoc Module is to customize the English names of the columns. Then, there are three addition steps:

1) Report Naming

2) Field Selection

3) Filter Definition

Screen shots and descriptions of the functionality of how these screens work follow.

9.3 Set-Up: Column Naming

Column Naming Customization is accessed under “Ad-Hoc-Column Naming”. This is a configuration screen that you may use to customize the names of the column headings that will appear on the Ad Hoc reports. This screen only needs to be set up once. However, you have the option to change the English column names at any time.

This screen may only be accessed by an Admin level CAIS user.

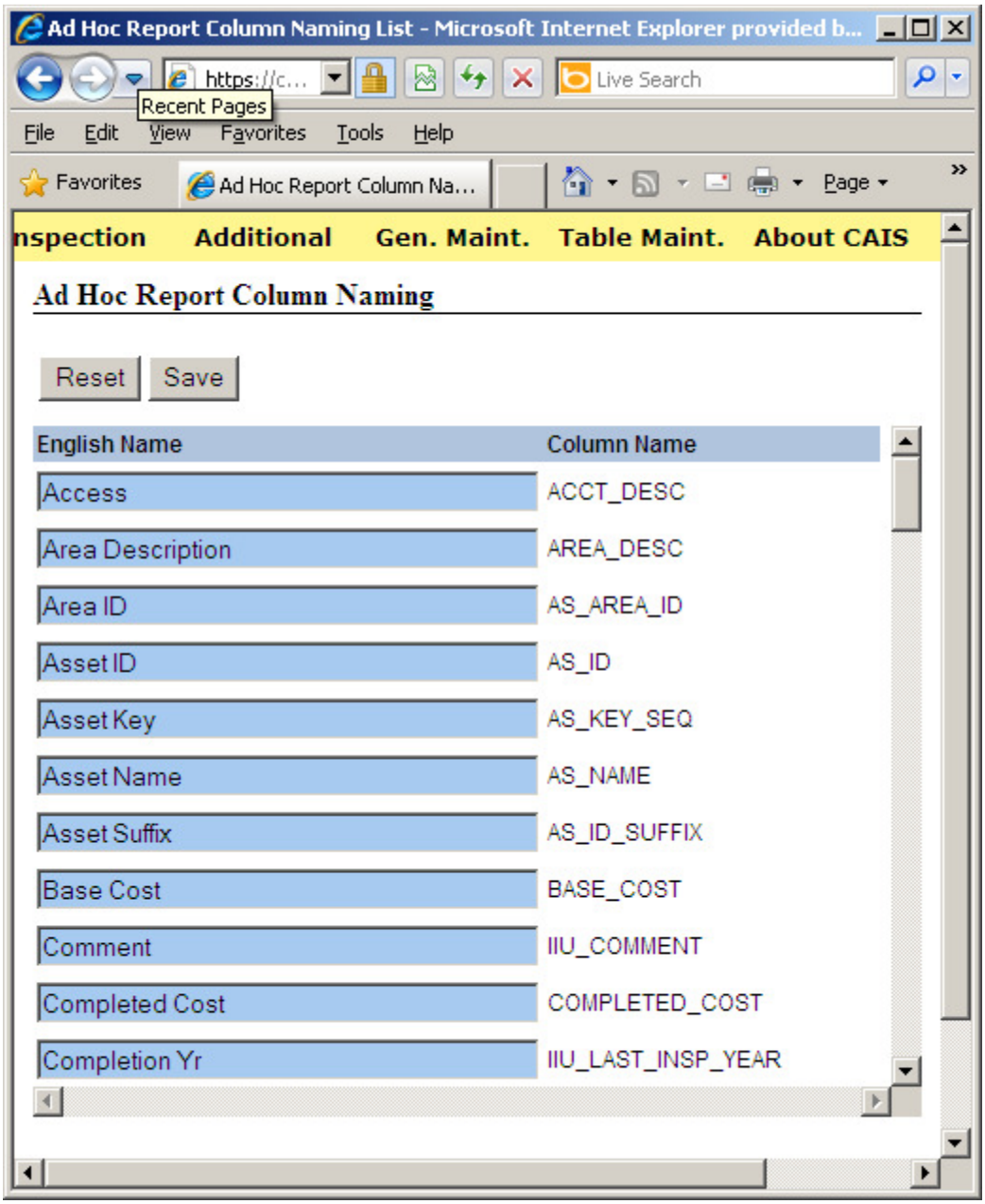


Figure 148. Ad Hoc Column Naming

9.4 Ad Hoc Reports

This is where you create a Title/Name for a report, run the reports and access the toolbar via the Detail button to perform additional customization. Screen shots of the list and detail screens are shown below.

Note that there are two types of Ad Hoc Reports: IU Level and Asset Level. The IU Level reports include inspection unit level data. In contrast, the Asset Level reporting only includes asset type data.

- New IU Level Button: Creates a new IU Level Ad Hoc Report
- New Asset Level Button: Creates a new Asset Level Ad Hoc Report

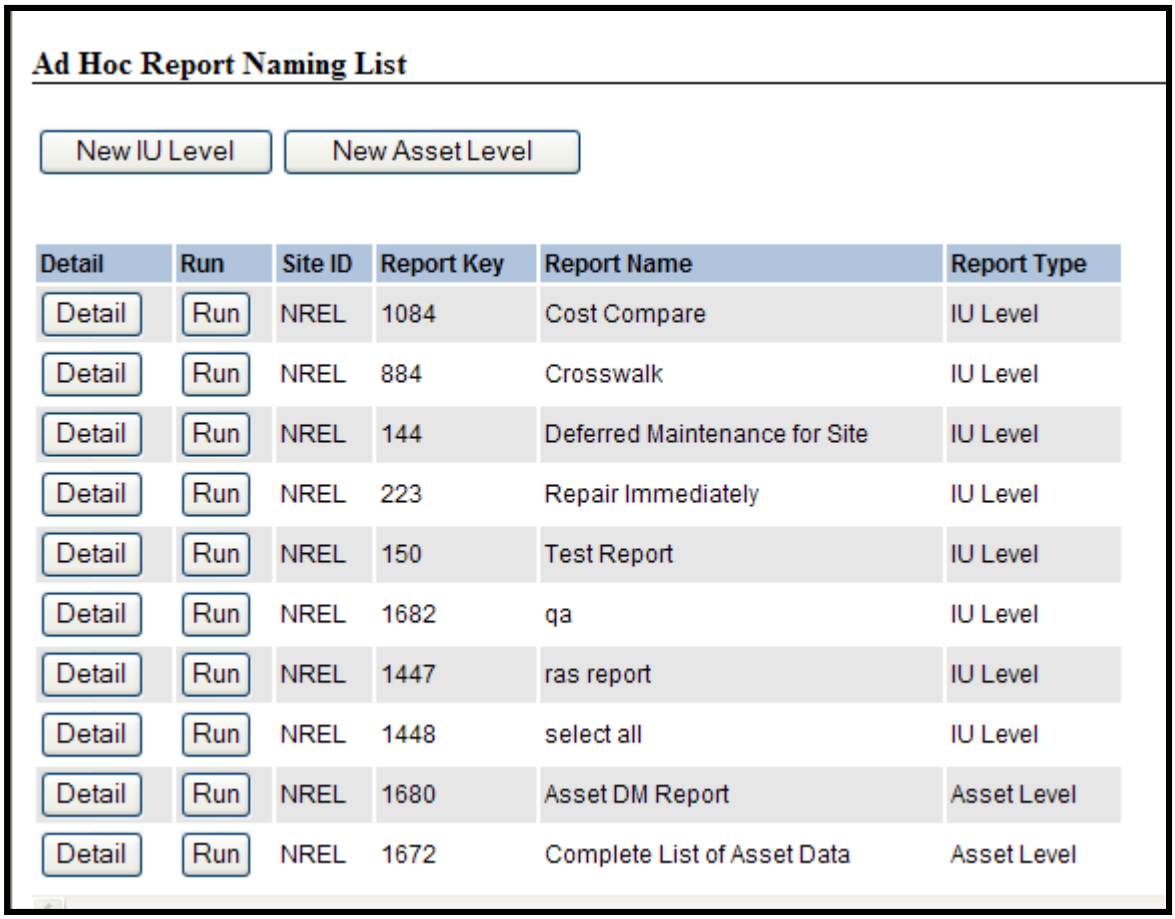


Figure 149. Ad Hoc Report List

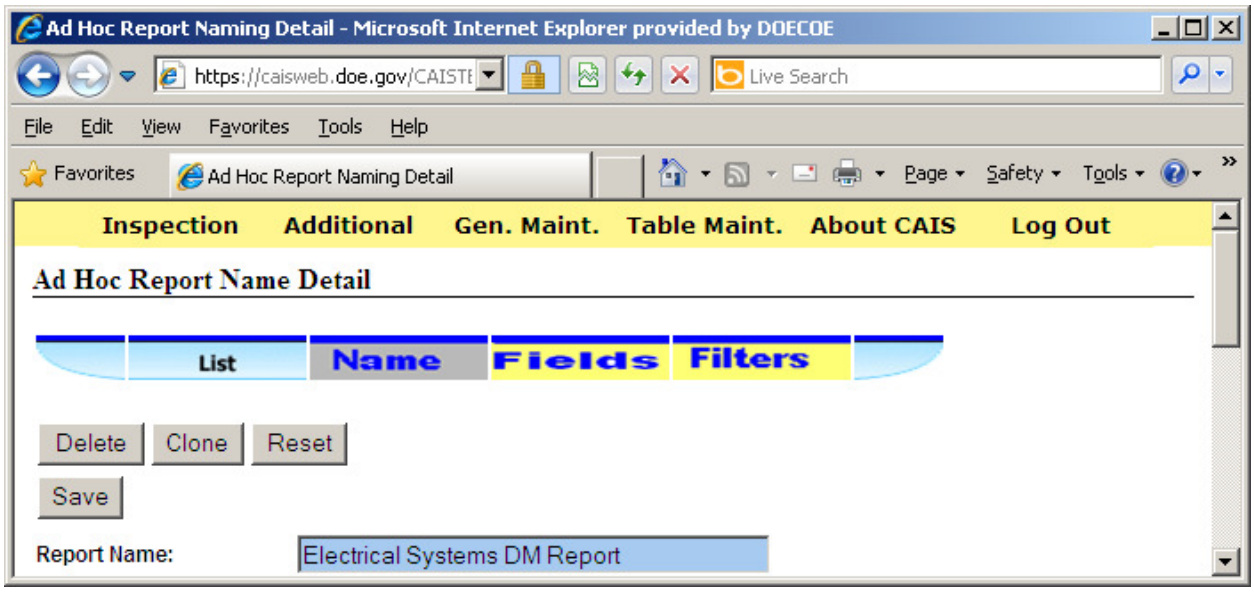


Figure 150. Ad Hoc Report Name Detail

Note that the detail screen allows for the deletion of reports via the "Delete" button.

9.4.1. Cloning an IU Level Ad Hoc Report

Note the Clone button show above. After an Ad Hoc Report has been defined with the desired fields, filters and sort order, one may clone the report and make modifications to the new report without affecting the existing report. After pressing the "Clone" button, a new screen will appear where the name of the cloned report may be entered. After saving the name of the new report, the cloning process is complete. At this point, you may start customizing the cloned report.

9.5 IU Level Ad Hoc Fields

The Ad Hoc Fields screen is accessed by selecting the "Fields" option from the toolbar. This is where you select the fields, column order and sort order for the report. If no column order is specified, the fields are arranged by the report primary key which is related to the order of the fields on the IU Detail Screen.

For convenience, Select All and Unselect All options are included on this screen.

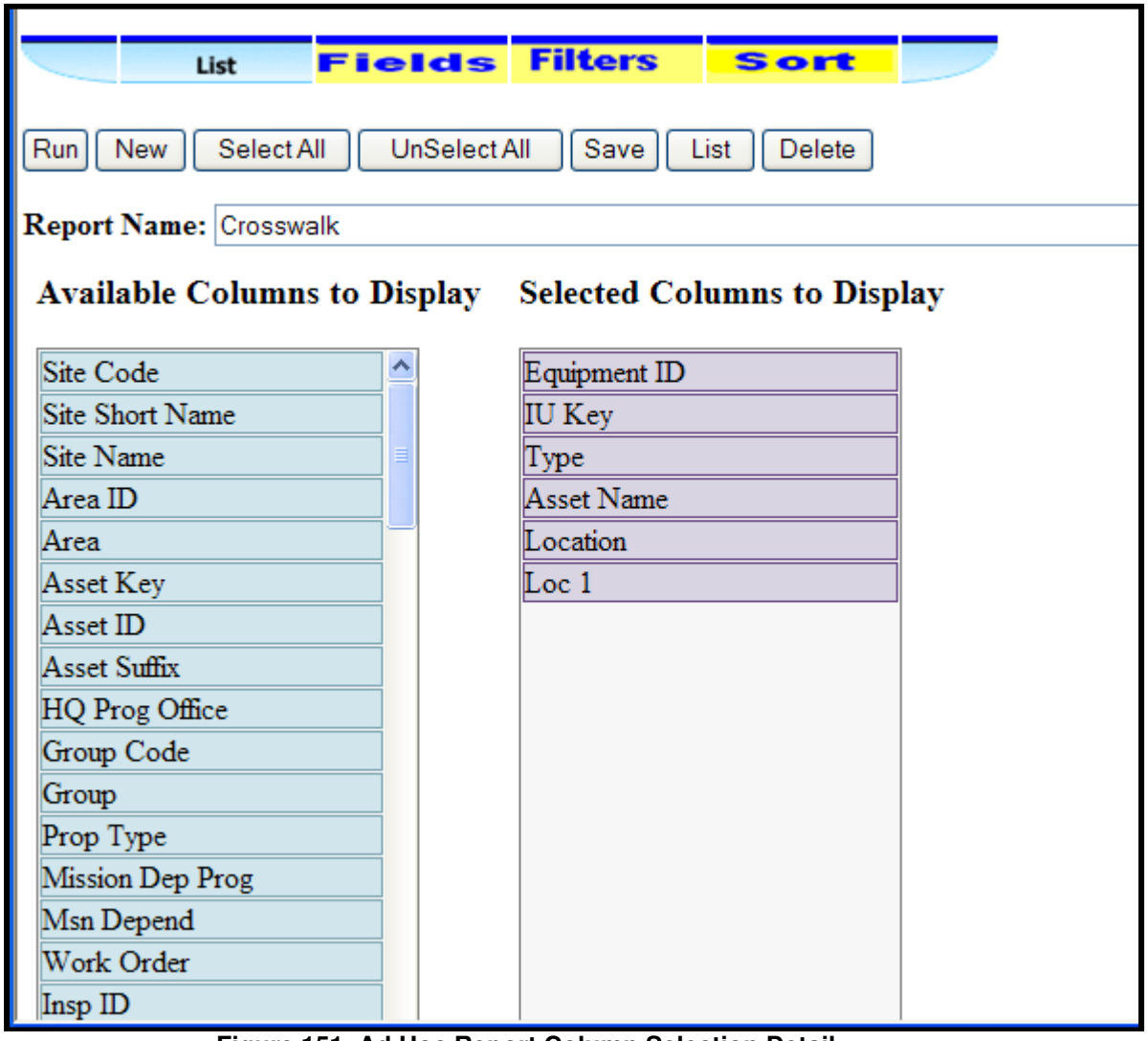


Figure 151. Ad Hoc Report Column Selection Detail

The table below lists the fields that comprise the IU Level Ad Hoc Reporting Module.

NOTE: The report must be saved for any columns that are moved to the right side (Selected Columns to Display Column) to be included in the report.

Table 10 - IU Level Ad Hoc Reporting Fields

Number	English Name	Database Column Name	Data Type
1	Access	ACCT_DESC	String
2	Area Desc	AREA_DESC	String
3	Area ID	AS_AREA_ID	String
4	Asset ID	AS_ID	String
5	Asset Key	AS_KEY_SEQ	Number
6	Asset Last Insp Date	AS_LAST_INSP_DATE	Date
7	Asset Name	AS_NAME	String
8	Asset Suffix	AS_ID_SUFFIX	String
9	Base Cost	BASE_COST	Currency
10	Comment	IIU_COMMENT	String
11	Completed Cost	COMPLETED_COST	Currency
12	Completion Year	IIU_LAST_INSP_YEAR	String
13	Component	COMP_DESC	String
14	Component Key	COMP_KEY_SEQ	Number
15	Condition	COND_DESC	String
16	Creation Date	IIU_RECORD_DATE	String
17	Discipline	DISC_DESC	Number
18	Discipline Code	IIU_DISC_CODE	String
19	DM Cost	DEF_MAINT_COST	Currency
20	DM Flag	IIU_CONDITION_FLAG	String
21	Equipment ID	EQUIPMENT_FIELD	String
22	FY Baseline Date	FY_BASELINE_DATE	Date
23	Group Code	GROUP_CODE	String
24	Group Desc	GROUP_DESC	String
25	HQ Prog Office	AS_HQPO_PROGRAM_OFFICE	String
26	Importance	IMPT_NAME	String
27	Insp Date	IIU_INSPECTION_DATE	Date
28	Insp Est Cost	IIU_EST_COST	Currency
29	Insp First	INSP_NAME_FIRST	String
30	Insp ID	IIU_INSP_ID	String
31	Insp Last	INSP_NAME_LAST	String
32	IU Key	IIU_KEY_SEQ	Number
33	Last Insp Year	IIU_LAST_INSP_YEAR	Year
34	Last Remodeled	IIU_LAST_REMODELED_DATE	String
35	Last Updated	IIU_LAST_INSP_DATE	Date
36	Last Updated By	LAST_UPDATED_BY	String
37	Life w/o Repair	IIU_LIFE_WITHOUT_REPAIR	Year
38	Life With Repair	IIU_LIFE_WITH_REPAIR	Year
39	Loc Five	IIU_LOC_VALUE_5	String
40	Loc Four	IIU_LOC_VALUE_4	String
41	Loc One	IIU_LOC_VALUE_1	String
42	Loc Three	IIU_LOC_VALUE_3	String
43	Loc Two	IIU_LOC_VALUE_2	String
44	Location	IIU_CSLT_CODE	String
45	Mission Dep Prog	PROP_MIS_DEP_PROGRAM	String
46	Mission Dependency	decode(AS_ESSENTIAL_PO_MSN_CODE,'1','Mission Critical (FRPC)' etc.	String
47	Modernize	MODERNIZE_DESC	String
48	Modernize Code	MODERNIZE_CODE	String
49	Modernize Cost	MODERNIZE_COST	Currency

Number	English Name	Database Column Name	Data Type
50	Modernize Flag	MODERNIZE_FLAG	String
51	Msn Depend	MDPM_DESC	String
52	Next Insp Date	NEXT_INSPECTION_DATE	Date
53	Official Cost	IIU_OFFICIAL_COST	Currency
54	Optimum Year	OPTIMUM_YEAR	Year
55	Other Type Desc	IIU_OTHER_TYPE_DESC	String
56	Project ID	PROJECT_ID	String
57	Prop Type	PROP_PROPERTY_TYPE	String
58	Prop Status Code	CMST_STATUS_CODE	String
59	Prop Status Desc	CMST_STATUS_DESC	String
60	Quantity	IIU_QTY	Number
61	Repair Cause	RPCT_NAME	String
62	Repair Cost	REPAIR_COST	Currency
63	Repair Purpose	PRPD_NAME	String
64	Repair Symptom	RPSD_NAME	String
65	Repair Task	RTST_NAME	String
66	Replacement Cost	REPLACE_COST	Currency
67	Replacement Qty	IIU_REPLACEMENT_QTY	Number
68	RPV	AS_REPL_PLANT_VALUE	Currency
69	Service	SVCT_NAME	String
70	Site Code	CSIT_ID	String
71	Site Defined	SDF_DESC	String
72	Site Defined Code	SDF_CODE	String
73	Site Name	CSIT_NAME	String
74	Site Short Name	CSIT_MNEUMONIC	String
75	Standard IU Key	IIU_IU_KEY_SEQ	Number
76	Status for Life	STAT_NAME	String
77	Text 1	CUSTOM_TEXT1	String
78	Text 2	CUSTOM_TEXT2	String
79	Text 3	CUSTOM_TEXT3	String
80	Text 4	CUSTOM_TEXT4	String
81	Type	TYPE_NAME	String
82	Type Key	TYPE_KEY_SEQ	Number
83	U/M	COMP_UM_ABBR	String
84	Urgency	URGT_NAME	String
85	Urgency Code	IIU_URGT_CODE	String
86	Vol Name	SVOL_DESC	String
87	Volume	WBS_LVL1_CODE	String
88	WBS	WBS_DESC	String
89	WBS Key	IIU_WBS_KEY_SEQ	Number
90	Work Order	WORK_ORDER_FIELD	String
91	Year Installed	IIU_YEAR_INSTALLED	Year
92	Year of Last Insp	LAST_INSP_YEAR (two digit year from cais_site_assets as_last_insp_date)	String

9.6 Ad Hoc Filter

The Ad Hoc Filter screen is accessed by selecting the "Filters" option from the toolbar. This is where you define filtering conditions to limit the results of your report. If no filter is specified, you will retrieve every Inspection Unit record in your site's database. There are ten filtering conditions that may be selected: =, !=, >, >=, <, <=, IN, Like, Blank and Not Blank. The 'Like' condition will retrieve records that start with a particular charter(s). To use the "In" selection, separate each condition by a comma (,).

The fields that have been selected for the report being filtered are displayed at the top of the list.

Table 11 - Ad Hoc Reporting Module Filter Options

Number	Filter Option Name	Description
1	=	Equal To
2	!=	Not Equal To
3	>	Greater Than
4	>=	Greater Than or Equal To
5	<	Less Than
6	<=	Less Than or Equal To
7	IN	Used to select multiple options. For example: A, B, C will select those three values. Separate each selection with a comma.
8	Like	All items that start with the value specified.
9	Blank	The fields which do not have a value specified. Also called Null.
10	Not Blank	The fields which have a value specified. Also called Not Null.

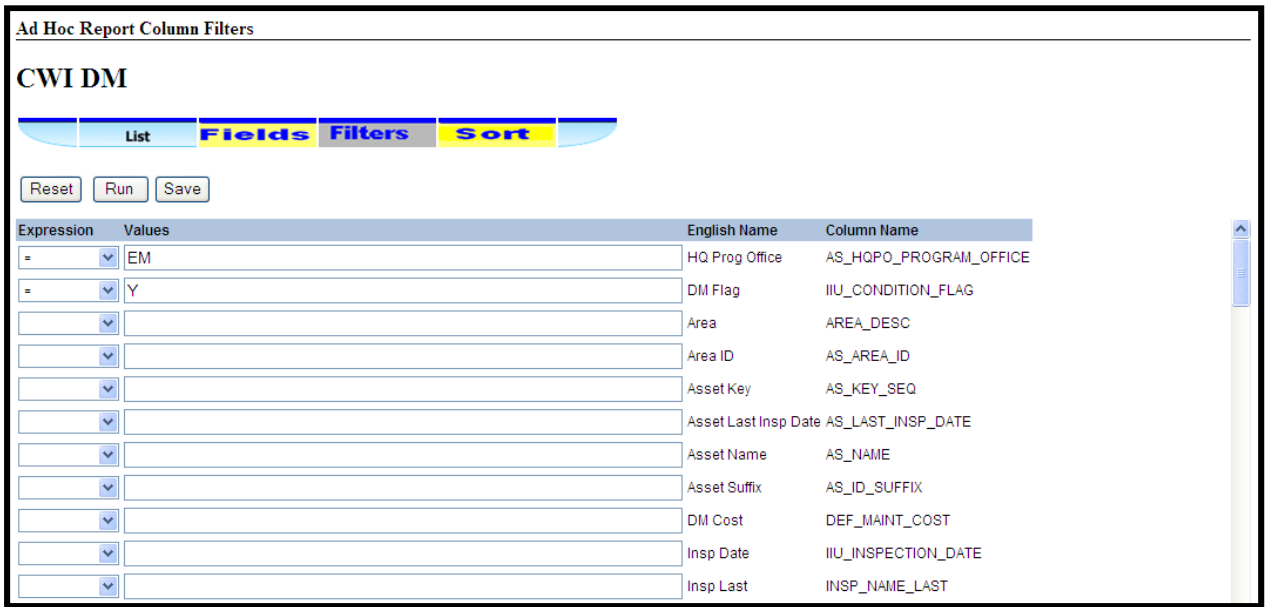


Figure 152. Ad Hoc Report Filter Detail Screen

9.7 Ad Hoc Sort

The Ad Hoc Sort screen is accessed by selecting the “Sort” option from the toolbar. This is where you define sort order of the report.

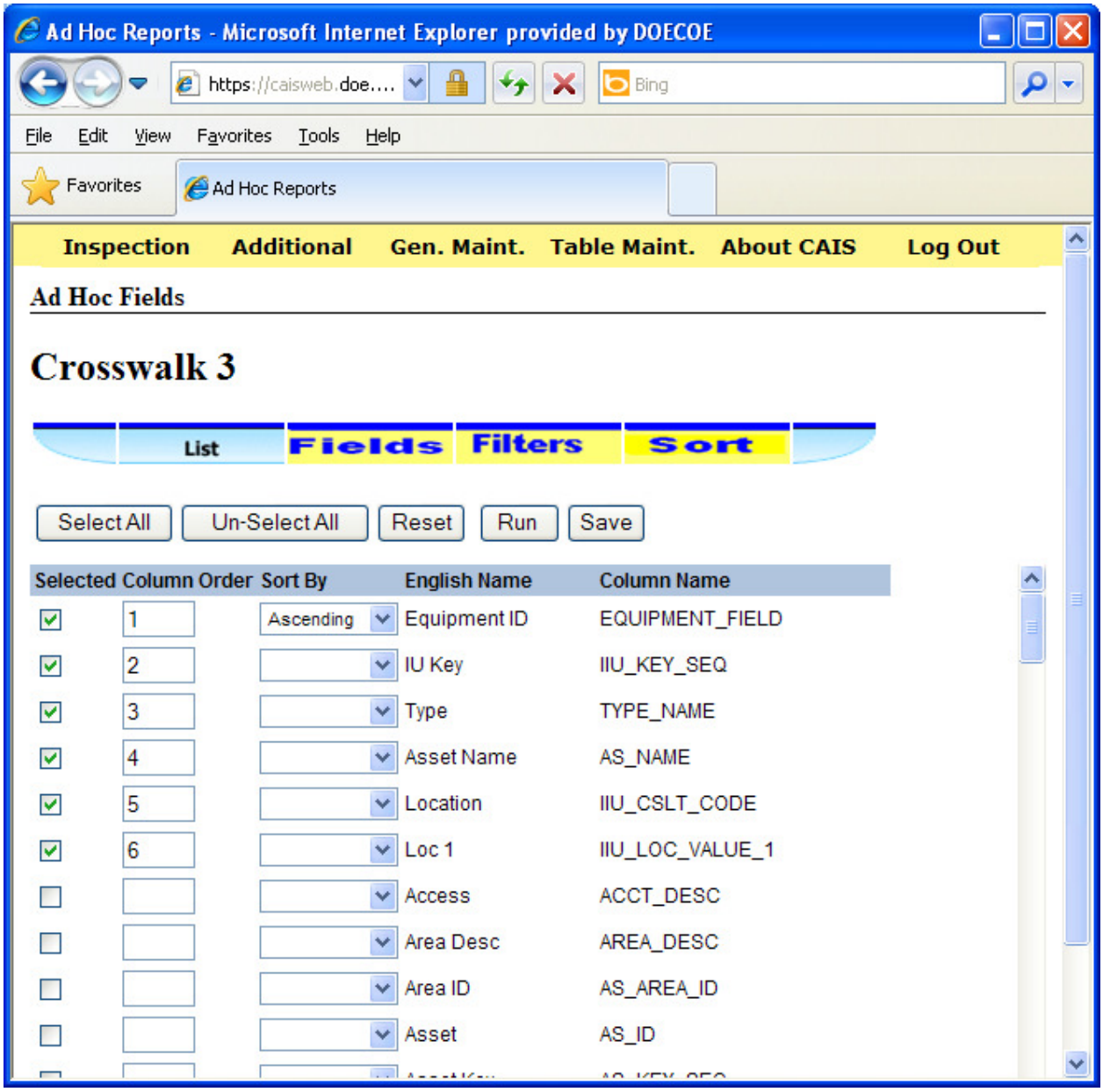
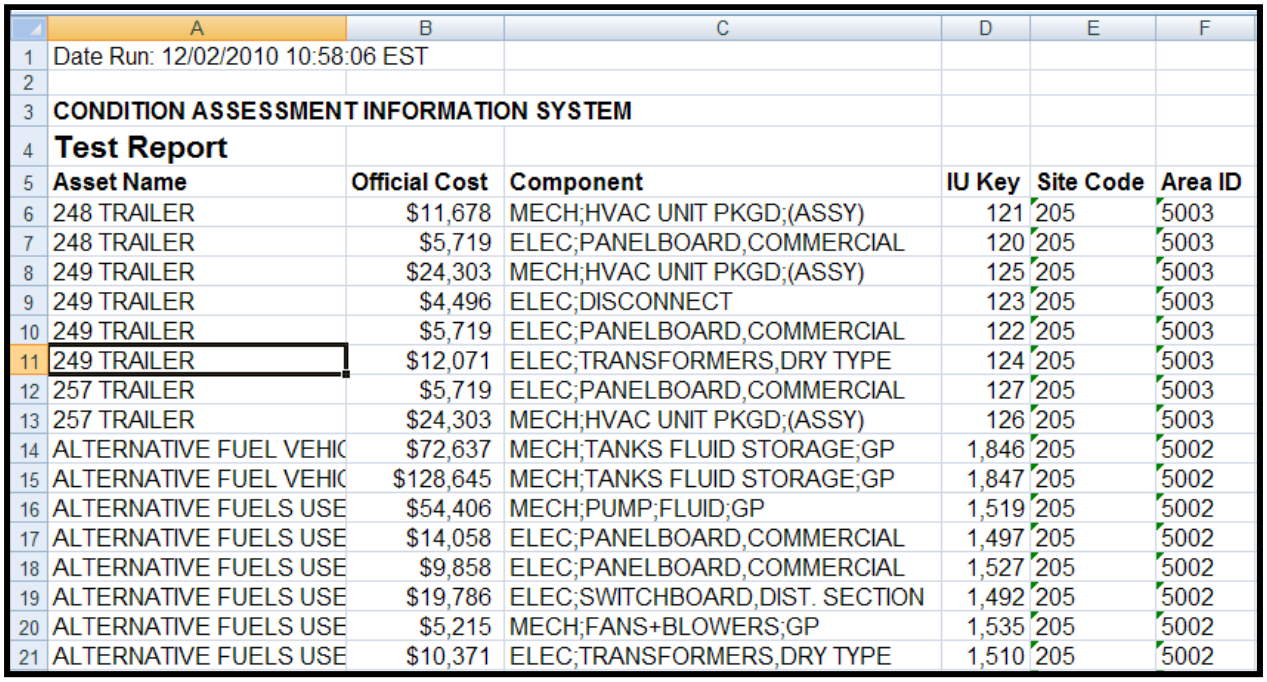


Figure 153. Ad Hoc Sort Screen



	A	B	C	D	E	F
1	Date Run: 12/02/2010 10:58:06 EST					
2						
3	**CONDITION ASSESSMENT INFORMATION SYSTEM**					
4	**Test Report**					
5	**Asset Name**	**Official Cost**	**Component**	**IU Key**	**Site Code**	**Area ID**
6	248 TRAILER	$11,678	MECH;HVAC UNIT PKGD;(ASSY)	121	205	5003
7	248 TRAILER	$5,719	ELEC;PANELBOARD,COMMERCIAL	120	205	5003
8	249 TRAILER	$24,303	MECH;HVAC UNIT PKGD;(ASSY)	125	205	5003
9	249 TRAILER	$4,496	ELEC;DISCONNECT	123	205	5003
10	249 TRAILER	$5,719	ELEC;PANELBOARD,COMMERCIAL	122	205	5003
11	249 TRAILER	$12,071	ELEC;TRANSFORMERS,DRY TYPE	124	205	5003
12	257 TRAILER	$5,719	ELEC;PANELBOARD,COMMERCIAL	127	205	5003
13	257 TRAILER	$24,303	MECH;HVAC UNIT PKGD;(ASSY)	126	205	5003
14	ALTERNATIVE FUEL VEHIC	$72,637	MECH;TANKS FLUID STORAGE;GP	1,846	205	5002
15	ALTERNATIVE FUEL VEHIC	$128,645	MECH;TANKS FLUID STORAGE;GP	1,847	205	5002
16	ALTERNATIVE FUELS USE	$54,406	MECH;PUMP;FLUID;GP	1,519	205	5002
17	ALTERNATIVE FUELS USE	$14,058	ELEC;PANELBOARD,COMMERCIAL	1,497	205	5002
18	ALTERNATIVE FUELS USE	$9,858	ELEC;PANELBOARD,COMMERCIAL	1,527	205	5002
19	ALTERNATIVE FUELS USE	$19,786	ELEC;SWITCHBOARD,DIST. SECTION	1,492	205	5002
20	ALTERNATIVE FUELS USE	$5,215	MECH;FANS+BLOWERS;GP	1,535	205	5002
21	ALTERNATIVE FUELS USE	$10,371	ELEC;TRANSFORMERS,DRY TYPE	1,510	205	5002

Figure 154. Ad Hoc Report Example

9.8 Ad Hoc Reports – New IU Level

To quickly run and save an IU Level Ad Hoc Report, Use the "New IU Level' button on the Ad Hoc Reporting List Screen. This button brings up the screen shown below.

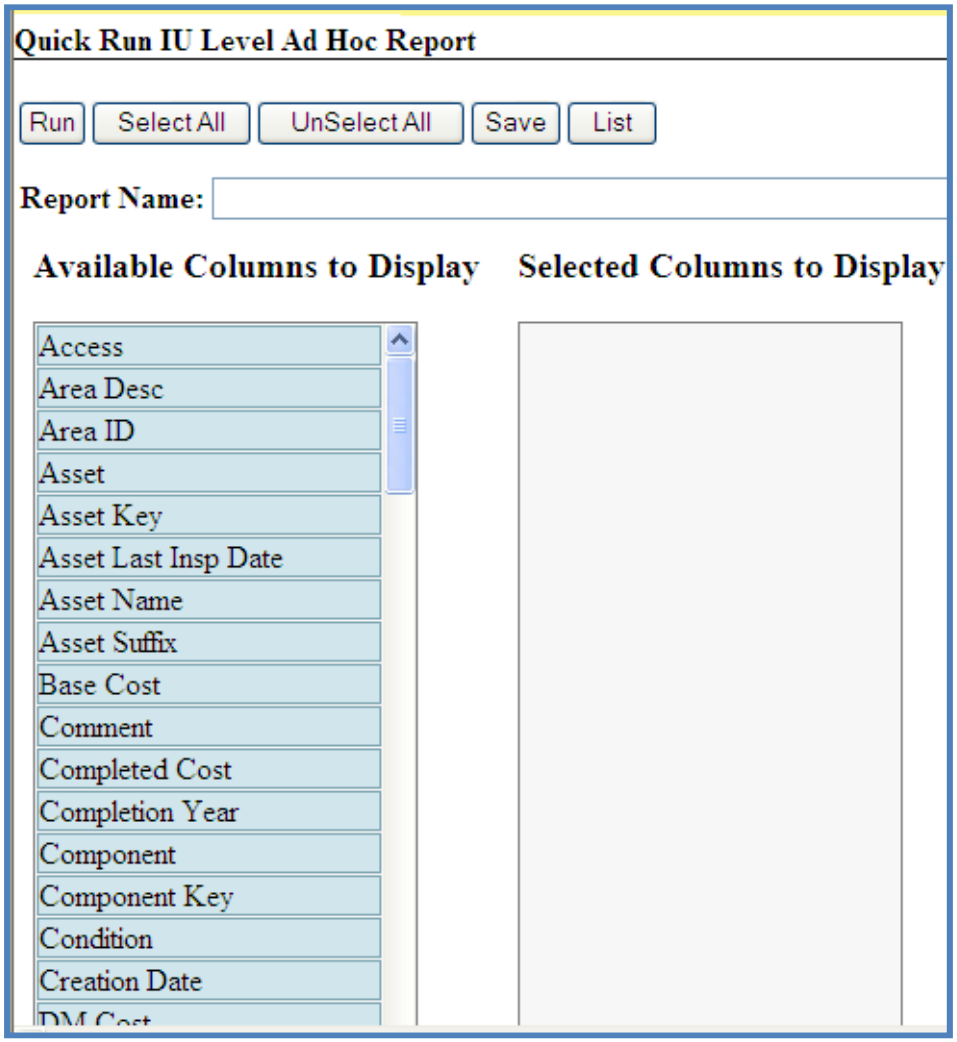


Figure 155. Ad Hoc Reports - Quick IU Level

The fields may be dragged to either side and up and down on the list. Pressing the 'Run' button generates a report to Excel containing the columns selected on the right side in the order specified.

'Save' will save the report with a name and the selected columns and the column order.

After the report has been saved, it will show up on the reports list shown in figure 138. Selecting the detail button from the Ad Hoc Report List allows one to add custom filters, sort orders as well as changing the selected columns and the column order.

9.9 Asset Level Ad Hoc Fields

The following fields will be available for the Asset Level ad hoc reporting tool:

Table 12 – Ad Hoc Asset Reporting Fields

Asset Reporting Fields			
No.	**CAIS Field**	**English Name**	**Data Type**
1.	ADDED_FROM_FIMS_DATE	Added from FIMS Date	DATE
2.	AS_ANNUAL_INSP_DATE	Annual Inspection Date	DATE
3.	ARCHIVED_IN_FIMS_DATE	Archived in FIMS Date	DATE
4.	AREA_DESC	Area Description	VARCHAR2(35)
5.	AS_AREA_ID	Area ID	VARCHAR2(5)
6.	AREA_KEY_SEQ	Area Key Sequence	NUMBER(5)
7.	AS_COMMENT	Asset Comment	VARCHAR2(1000)
8.	GROUP_CODE	Asset Group Code	VARCHAR2(15)
9.	GROUP_DESC	Asset Group Description	VARCHAR2(80)
10.	AS_ID	Asset ID	VARCHAR2(20)
11.	AS_KEY_SEQ	Asset Key Sequence	NUMBER(10)
12.	AS_NAME	Asset Name	VARCHAR2(256)
13.	AS_ID_SUFFIX	Asset Suffix	VARCHAR2(4)
14.	CSIT_ID	CAIS Site ID	NUMBER(5)
15.	AS_DEF_MAINT_COST	DM Cost	NUMBER(15,3)
16.	AS_END_USEFUL_LIFE	End of Useful Life	NUMBER(4)
17.	EXCLUDE_FROM_RPT_FLAG	Exclude from Report Flag	CHAR(1)
18.	AS_EXPECTED_LIFE	Expected Life	NUMBER(4)

Asset Reporting Fields			
No.	**CAIS Field**	**English Name**	**Data Type**
19.	FIMS_AREA	FIMS Area	VARCHAR2(5)
20.	FIMS_SITE	FIMS Site	VARCHAR2(40)
21.	AS_MT_CODE_FUTURE	Future Model Type	VARCHAR2(6)
22.	AS_GROSS_SQFT	Gross Square Feet	NUMBER(10)
23.	AS_ISRC_KEY_SEQ	Inspection Source Key Sequence	NUMBER(10)
24.	AS_LAST_INSP_DATE	Last Inspection Date	DATE
25.	LAST_INSP_YEAR	Last Inspection Year	VARCHAR2(2)
26.	LAST_FIMS_AUTO_UPDATE_DATE	Last Time Updated by FIMS	DATE
27.	AS_ESSENTIAL_PO_MSN_CODE	Mission Code	VARCHAR2(2)
28.	MDP_DESC	Mission Dep. Prog.	VARCHAR2(65)
29.	PROP_MISSION_ESSENTIAL (Description is displayed)	Mission Dependency	VARCHAR2(1)
30.	AS_MT_CODE	Model Type Code	VARCHAR2(10)
31.	MT_DESC	Model Type Description	VARCHAR2(85)
32.	AS_MODERNIZE_COST	Modernize Cost	NUMBER(15,3)
33.	LAST_MODIFIED_BY_FIMS_DATE	Modified by FIMS Date	DATE
34.	AS_OFFICIAL_COST	Official Cost	NUMBER(15,3)
35.	POSF_PRI_QUANTITY	OSF Qty	NUMBER (16,3)
36.	POSF_SEC_QUANTITY	OSF Qty	NUMBER (16,3)
37.	POSF_DIMEN_CODE_1	OSF U/M	VARCHAR2(5)
38.	POSF_DIMEN_CODE_2	OSF U/M	VARCHAR2(5)
39.	PHYSICAL_BARRIER_FLAG	Physical Barrier Flag	CHAR(1)

Asset Reporting Fields			
No.	**CAIS Field**	**English Name**	**Data Type**
40.	AS_HQPO_PROGRAM_OFFICE	Program Office Code	VARCHAR2(4)
41.	PROP_PROPERTY_TYPE	Prop. Type	VARCHAR2(1)
42.	CMST_STATUS_DESC	Property Status	VARCHAR2(60)
43.	AS_CMST_STATUS_CODE	Property Status Code	VARCHAR2(2)
44.	AS_REPL_PLANT_VALUE	RPV	NUMBER(14)
45.	CSIT_NAME	Site Name	VARCHAR2(20)
46.	CSIT_MNEUMONIC	Site Short Name	VARCHAR2(6)
47.	AS_SPONSOR_CODE_1	Sponsor Code	VARCHAR2(9)
48.	AS_SPONSOR_SPACE_1	Sponsor Space	NUMBER(3)
49.	COMMENT_SYS_DEF	System Level DM Comment	VARCHAR2(2000)
50.	AS_YEAR_BUILT	Year Built	NUMBER(4)

9.10 Ad Hoc Reports – Creating Asset Level Ad Hoc Reports

To quickly run and save an Asset Level Ad Hoc Report, Use the "New Asset Level' button on the Ad Hoc Reporting List Screen. This button brings up the screen shown below.

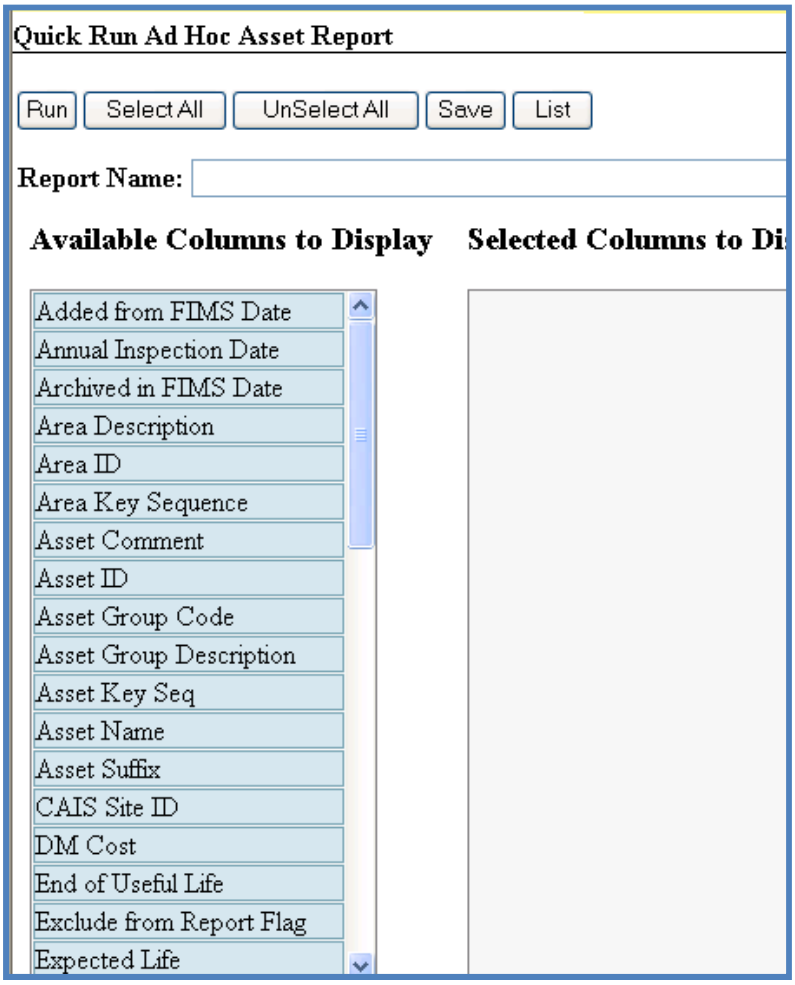


Figure 156. Quick Run Asset Level Ad Hoc Reports

The fields may be dragged from left to right and up and down on the list.