



Department of Energy

Washington, DC 20585

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MEMORANDUM FOR DISTRIBUTION

FROM:

for PAUL BOSCO 
DIRECTOR, OFFICE OF ENGINEERING
AND CONSTRUCTION MANAGEMENT

SUBJECT:

FY 2008 Real Property Deferred and Annual Maintenance
Reporting Requirement

REFERENCE:

DOE Order 430.1B: Real Property Asset Management

Pursuant to section 5.d.12 of the referenced Order, this memorandum provides implementing guidance for the FY 2008 deferred and annual maintenance reporting requirements. Please distribute it to the appropriate elements of your organization.

The attached *Implementation Procedures to Report Deferred and Annual Maintenance on Real Property* applies only to real property (buildings, real property trailers and other structures and facilities (OSFs)) not personal property. The data reported under this reporting requirement is supplementally reported in the Department's Annual Performance and Accountability Report.

Questions on this guidance may be addressed to Peter O'Konski at (202) 586-4502. Questions related to the population of the Department's Facilities Information Management System may be addressed to Gary Horn at (202) 586-9296.

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Director, Office of Science

cc: Steve Iskaowitz , CF-1

Ingrid Kolb, MA-1



Attachment

Implementation Procedures to Report Deferred and Annual Maintenance On Real Property

1. The following is the FY 2008 implementation procedures for the field offices/sites to determine and report deferred maintenance on real property as required by the Statement of Federal Financial Accounting Standards (SFFAS) No. 6, Accounting for Property, Plant, and Equipment (PP&E) and DOE Order 430.1B, Real Property Asset Management (RPAM).
 - a. This document is intended to assist field offices/sites in consistently and accurately applying the appropriate methods to determine and report deferred maintenance estimates as well as reporting of annual required and actual maintenance costs
 - b. This reporting satisfies the Department's obligation to recognize and record deferred maintenance as supplemental data within its annual Performance and Accountability Report. Further, elements of this data will be used to determine the Annual Operating and Maintenance cost as required by the Federal Real Property Council and reported within the Federal Real Property Profile.
 - c. Reporting and trending deferred maintenance is critical to efficient programming, and compliance with the goals established within the Asset Management Plan / Three Year Rolling Timeline.

2. Definitions/Acronyms^{1,2,3}
 - a. Annual Actual Maintenance Costs. The actual, burdened costs incurred in FY 2008 of all maintenance activities for a building, trailer or OSF (including repairs). *Do not include maintenance costs of programmatic equipment and programmatic real property.*
 - i. Programs executing a directed deferred maintenance reduction program; such as the NNSA Facilities and Infrastructure Recapitalization Program (FIRP) are encouraged to separately track costs associated with deferred maintenance reduction for cost visibility and as a tool to measure program effectiveness.
 - ii. To facilitate management and cost visibility, industry practice and good management dictate the accrual of actual costs against specific, real property assets (if not major building systems). Therefore, maintenance costs should be reported from asset-level data collected in the Site's Maintenance Management and Financial Management Systems. *Maintenance costs should be allocated only if accrued asset level data is unavailable.*

 - b. Annual Required Maintenance Costs. Estimates of all costs to perform maintenance

¹ Reference: *FIMS Reporting Guide*

² Reference: DOE O 430.1B *Real Property Asset Management*

³ Reference: *Whole Building Design Guide*

activities for a building, trailer or other structure and facility (OSF) in FY 2008 that one would normally expect to be accomplished as determined by engineering/maintenance/life cycle analysis and vendor maintenance schedules. Included are preventive maintenance, predictive maintenance, corrective maintenance and any other maintenance/repair activity required for which FY 2008 is the *optimum period of accomplishment*. Maintenance costs should, in as much as practical, reflect the anticipated cost of the maintenance action. I.e., they should reflect the local prevailing wage rates and cost burdens as well as other related work necessary to resolve the deficiency. For example, if replacement of a compressor installed on a chiller would require a crane lift and relocation of a chilled water line, those costs should be included in the deficiency cost. Similarly, where maintenance efforts can be aggregated in project bundles thereby reducing cost; that reduced cost should be captured. As an example, aggregating all paving into a large indefinite quantity paving contract typically offers significant savings over discrete repair actions through multiple paving contracts. Although certain corrective maintenance activities cannot be planned with certainty; an estimate of these activities, based on historic costs shall be included in aggregate annual required maintenance costs at the asset level. Do not include maintenance requirements that were identified in the FY 2007 deferred maintenance estimate unless they are reprogrammed for accomplishment in FY 2008 and are not going to be deferred to FY 2008 or beyond. *Maintenance costs of programmatic equipment and programmatic real property (OSF 3000 series assets) are not to be included.*

- i. Programs executing a directed deferred maintenance reduction program; such as the NNSA Facilities and Infrastructure Recapitalization Program (FIRP), are encouraged to separately fund deferred maintenance reduction. Separate funding establishes cost visibility and generates a deferred maintenance target from which to measure program effectiveness.
- c. **Betterments.** Capitalized improvements to facilities that result in better quality work, increased capacity, and/or extended useful life as required to accommodate regulatory and other changes to requirements. Determining when and to what extent expenditure should be treated as betterment requires judgment. The proper basis for determining whether or not betterment is effected is when the effect of the replacement is related to each unit when a minor item is replaced in each of a number of similar units, rather than to the cumulative costs. Listed below are the various terms that are commonly used to describe various categories of betterments:
- i. **Construction** is the erection, installation, or assembly of a new plant facility; the addition, expansion, improvement, or replacement of an existing facility; or the relocation of a facility. Construction includes equipment installed in and made part of the facility and related site preparation; excavation, filling and landscaping, or other land improvements; and design of the facility. Examples of improvements to an existing facility include the following types of work.
 1. Replacing standard walls with fireproof walls.
 2. Installing a fire sprinkler system in a space that was previously not protected with a sprinkler system.

3. Replacing utility system components with a significantly larger capacity components (e.g., replacing a 200-ton chiller with a 300-ton chiller) and converting the functional purpose of a room (e.g., converting an office into a computer room).
- ii. Conversion is a major structural revision of a facility that changes the functional purpose for which the facility was originally designed or used.
 - iii. Major Renovation and Replacement is a complete reconstruction of a facility that has deteriorated or has been damaged beyond the point where its individual parts can be economically repaired. If the item replaced is a retirement unit, its original costs (including installation cost) are removed from the plant and capital equipment accounts, and the cost of the newly installed item (including installation cost) is added to the plant and capital equipment accounts.
- d. CAIS. The Department of Energy *Condition Assessment Information System*.
 - e. Corrective Maintenance. The repair or restoration of failed or malfunctioning equipment, systems, or facilities to their intended functions or design conditions. It does not result in a significant extension of the expected useful life.
 - f. Deferred Maintenance. 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.
 - g. D&D. *Decontamination and decommissioning*; includes demolition or disposal activities.
 - h. Facility. Land, buildings, and other structures, their functional systems and equipment, and other fixed systems and equipment installed therein, including site development features outside the plant, such as landscaping, roads, walks, parking areas, outside lighting and communication systems, central utility plants, utilities supply and distribution systems, and other physical plant features. These include any of the DOE-owned, -leased, or -controlled facilities, and they may or may not be furnished to a contractor under a contract with DOE.
 - i. FIMS. The Department of Energy *Facility Information Management System*.
 - j. FIRP. *Facilities and Infrastructure Recapitalization Program*.
 - k. Green Building Products. At this time, there is no industry standard definition. However, in general, green building products are those that are made from salvaged or recycled materials and/or conserve natural resources and/or avoid toxic emissions and/or save energy over their traditional counterparts.
 - l. Infrastructure. All real property, installed equipment, and related real property that is not solely supporting a single program mission at a multi-program site or that is not programmatic real property at a single program site.

- m. **Integrated Design.** A process whereby all the members of the building stakeholder community, and the technical planning, design and construction team examine the project objectives, and building materials, systems, and assemblies from many different perspectives. This approach is a deviation from the typical planning and design process of relying on the expertise of specialists who work in their respective specialties somewhat isolated from each other.

- n. **Maintenance.** Day to day work that is required to sustain property in a condition suitable for it to be used for its designated purposes, including preventive, predictive, and corrective maintenance. Maintenance costs and work do not include the following.
 - i. Regularly scheduled janitorial work such as cleaning, and preserving facilities and equipment.
 - ii. Work performed in relocating or installing partitions, office furniture, and other associated activities.
 - iii. Work usually associated with the removal, moving, and placement of equipment.
 - iv. Work aimed at expanding the capacity of an asset or otherwise upgrading it to serve needs different from or significantly greater than those originally intended.
 - v. Improvement work performed directly by in-house workers or in support of construction contractors accomplishing an improvement.
 - vi. Work performed on special projects not directly in support of maintenance or construction.
 - vii. Nonmaintenance roads and grounds work such as grass cutting and street sweeping.

- o. **Mission Critical Real Property Assets.** Land or constructed assets deemed necessary to perform the primary missions assigned to a particular Site. This would encompass any facility or infrastructure predominantly used to perform scientific, production, environmental restoration or stockpile stewardship and without which, operations would be disrupted or placed at risk.

- p. **Optimum Period.** That 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.
 - i. As an example of optimum period as it relates to the reporting of deferred maintenance; if a maintenance action is identified in FY2008 and the optimum period for completion of the maintenance is in FY2008 or beyond, the activity is not deferred maintenance.

- ii. In some instances, due to change of mission or other reason, the facility manager may determine that maintenance previously identified as deferred i.e., beyond its optimum period is no longer needed or the optimum period for its accomplishment is now later than FY2008. In these cases, there is no deferred maintenance.
- iii. Optimum period is applicable only to active assets. Programs should not decrease or eliminate previously identified deferred maintenance when an asset is placed in a shutdown status. This becomes important historic data. Removal (zeroing out) of deferred maintenance incorrectly identifies the shutdown asset as being in an excellent condition. *Note: Asset Condition Index (ACI) calculations only include active facilities. Maintaining deferred maintenance data on inactive facilities does not affect Site or Program level ACI. Moreover, only deferred maintenance for active assets is supplementally reported within the Department's financial statements.*
- q. OSF. Other Structure or Facility.
- r. Plant, Property & Equipment. Tangible assets that meet the capitalization criteria, that are not intended for sale in the ordinary course of operations, and have been acquired or constructed with the intention of being used, or being available for use by the entity. Plant, property, and equipment includes site infrastructure.
- s. Predictive Maintenance. Those activities involving continuous or periodic monitoring and diagnosis to forecast component degradation so that "as needed" maintenance can be scheduled.
- t. Preventive Maintenance. Those periodic and planned actions taken to maintain a piece of equipment within design operating conditions and extend its life and performed before equipment failure or to prevent equipment failure.
- u. Programmatic Equipment refers to personal property used by programmatic personnel, including personal property meeting the threshold for the list of capital equipment.
- v. Programmatic Real Property. Refers to reactors, accelerators, and similar devices used by programmatic personnel, acquired with line item funding, and listed in the Facilities Information Management System as "Other Structures and Facilities" under the 3200 series usage codes, such as 3209, 3221, 3251 and 3261.
- w. Real Property Assets. Any interest in land, together with the improvements, facilities, structures, and fixtures located thereon, including prefabricated movable structures and appurtenances thereto, under the control of DOE. All real property owned by or leased to the Government or acquired by the Government under the terms of the contract. It includes both government-furnished property and contractor-acquired property as defined in Federal Acquisition Regulation 45.101. DOE-owned, -used and -controlled land, land improvements, structures, utilities, installed equipment, and components are included.

Real property and real estate means land and rights in land, ground improvements, utility distribution systems, and buildings and other structures. Real Property Assets are defined by the Federal Property Management Regulations § 101-47.103-12, Real Property.

- x. Recapitalization. Major renovations or reconstruction activities, including facility replacements, needed to keep existing facilities modern and relevant in an environment of changing standards and missions. This includes the restoration and modernization of existing facilities but not the acquisition of new facilities or the demolition of old ones, unless the demolition is carried out as part of a renovation project or in conjunction with construction of replacement footprint elsewhere.
- y. Repair. See “Corrective Maintenance”.
- z. Replacement Plant Value (RPV). The cost to replace the existing structure with a new structure of comparable size using current technology, codes standards and materials.
- aa. Sustainable Design. A design process that seeks to reduce negative impacts on the environment, and the health and comfort of building occupants, thereby improving building performance. The basic objectives of sustainability are to reduce consumption of non-renewable resources, minimize waste, and create healthy, productive environments.

3. Reporting Requirement.

- a. The deferred maintenance estimate, total annual required maintenance costs, and total annual actual maintenance costs for each building, trailer and other structures and facilities (OSF) must be reported in FIMS. *For OSF 3000 series related personal property (accelerators, reactors etc.); only report deferred maintenance.* (Note: All capital and non-capital real property assets are listed in FIMS as buildings, trailers or OSFs.) Each building, trailer or OSF will have a record in FIMS and within each record are data elements for (1) the deferred maintenance estimate, (2) total annual required maintenance costs, and (3) total annual actual maintenance costs. The field offices/sites will populate these data elements. The Department’s 2008 deferred maintenance estimate reported in the 2008 financial statements will be obtained from FIMS. A tab in FIMS titled “Maintenance” displays these fields on a building, trailer and OSF basis. Standard reports have been prepared to facilitate reporting this data on a Program, Field, Site, Building, and OSF basis.
 - i. In addition to the population of the deferred maintenance estimate and the actual and required annual maintenance costs, sites and offices should verify that each record in FIMS (building, trailer and OSF) has been populated with an appropriate Replacement Plant Value (RPV). Accurate RPVs are necessary for the Department to generate meaningful condition and facility funding metrics and targets.
- b. The facility and maintenance management team responsible for gathering the above information has several methods for entering data in FIMS. If the DOE Condition

Assessment Information System (CAIS) is the source of the information for the deferred maintenance estimate, the data can be entered through the DOE CAIS-FIMS interface. For sites not using DOE CAIS, data extracted from local information sources conforming to a given file format specification can be uploaded into the FIMS data base.

- i. The deferred maintenance update shall be reported in FIMS by September 30, 2008 and be a representation of all deferred maintenance anticipated through September 30, 2008.
- ii. The Office of Engineering and Construction Management (MA-50) will take the final snapshot of the FIMS data for the deferred maintenance estimate on Thursday October 2nd, 2008.
- iii. The FY 2008 Annual actual maintenance costs must be loaded no later than November 14, 2008. A listing of the deferred and annual maintenance cost priorities is identified in section 6.
- iv. *The FY09 annual required maintenance costs shall be loaded by the sites between December 1, 2008 (after the Fiscal Year 2008 data has been archived and cleared out of FIMS) and December 15, 2008.* The source of information for annual required and annual actual maintenance costs is derived from the Computerized Maintenance Management Systems (CMMS), maintenance implementation plans, and other maintenance management information systems existing at the sites.

4. Data Gathering Methods.

- a. It is the Department's policy that a condition assessment survey (CAS) be used to determine the current condition of the assets, their estimated time to failure, and the estimated cost to correct the identified deficiencies. CAS applies accepted methods and standards fundamentally important to understanding the physical plant and infrastructure needs. Deferred maintenance is calculated using these methodologies and will be reported on a constructed asset basis.
 - i. Other sources of credible facility data may be used to *augment but not replace* an effective CAS program. For example, querying a site's computerized maintenance management system (CMMS) for unexecuted corrective maintenance work orders may provide additional deferred maintenance cost data. Similarly, other special studies or inspection programs (elevator inspections, roof inspections) may also generate appropriate deferred maintenance. However, certain facility management activities such as application of computer-based life cycle cost techniques that predict maintenance and repair costs, although useful for *fine-tuning CAS activities* (e.g., older building components and OSFs may require more frequent and/or more thorough inspection than their newer counterparts) are not in themselves acceptable for generating deferred maintenance.

1. If other sources of credible data are used to augment the condition assessment survey data, care must be exercised to assure that deficiencies are not double counted and the definition of “deferred maintenance” is applied consistently.
 - ii. To ensure accuracy of deferred maintenance data, sites are expected to maintain a linkage between their deferred maintenance data and their maintenance and project data such that when a maintenance task or project action corrects a deferred maintenance item, that item is removed from the deferred maintenance backlog. Sites must not wait until the next inspection cycle to account for corrected deferred maintenance.
- b. Inspection intervals and asset emphasis and selection are at the discretion of the site facility managers based on mission priority and maintenance requirements. However, *condition assessments must be performed on all real properties at least once during any five-year period using inspection methods in accordance with industry standards.*⁴ All sites are expected to maintain and follow a plan of action to inspect all real property on a cyclical basis. It is acceptable to adjust results from previous condition assessments to estimate current plant conditions⁵. For deficiencies that still exist, inflate the estimate to correct the deficiencies to FY 2008 dollars. This estimate shall be accomplished using the inflators table contained in Appendix A. The DOE CAIS users should utilize the RS Means cost tables to adjust their previous condition assessments.
- c. The intent of Departmental policy is to conduct condition assessments on all OSFs and if inspection is impractical, draw data from existing studies and other sources of authoritative information. For OSFs, visual condition assessments may not always be appropriate to determine condition. For example, underground storage tanks or underground piping systems generally cannot be visually inspected. The accepted practice in this case is to use engineering data such as studies, test results, ultrasound results or other auditable data sources to determine if repair or replacement is necessary. For OSFs that normally do not lend themselves to inspection, i.e., OSFs that have Physical Barriers Preventing Inspection (PBPI), and lack existing sources of auditable deficiency data, the PBPI designation shall be selected. The FIMS “Deferred Maintenance” entry shall be zero and the Date of Last Inspection entry shall be blank. Similar to other maintenance, the deferred maintenance would be applicable if a recorded deficiency (replacement, relining, testing etc.) is past due (i.e. the optimum period for correction of the deficiency has elapsed as of September 30, 2008).
- d. Facilities that are in a *shut down* condition i.e., unoccupied, minimally maintained and locked; *and awaiting disposition* shall be inspected periodically (but not less than once in five years) to assure they are not deteriorating in such a manner as to generate a hazard.
 - i. In general, these assets do not require the detailed, rigorous inspection necessary for occupied and/or enduring assets but may require more frequent visits by the

⁴ Reference: DOE O 430.1B *Real Property Asset Management*

⁵ NNSA requires its sites to maintain a snapshot of the FY03 deferred maintenance baseline without adjustments.

inspector because they are not being monitored by an occupant.

- ii. Sites should have a written policy and procedures for how assets in this condition are to be inspected within their overall condition inspection program.
 - e. The Date of Last Inspection field will normally reflect the date of the most recent inspection. For assets that are inspected more than once per year, the date of last inspection field does not need to be changed until the last inspection prior to September 30, 2008, has been performed. Also, as an alternative, a convention has been established in FIMS such that any inspection date entry of January 1, 2008, will be interpreted to mean multiple inspections were performed for the asset during FY 2008.
 - f. Sites shall report annual required and annual actual maintenance costs at the building/trailer/OSF level. The FIMS maintenance tab has accommodations to accepting entries for these two data elements.
5. **Integrated and Sustainable Design.** Real property owning elements are encouraged to consider their real property assets from an integrated and sustainable design perspective when determining the appropriate solution to address specific elements of deferred maintenance.
- a. Where practicable from a life cycle cost perspective, employ energy saving, green technologies and green building products.
 - i. Use of green building replacement products to repair deteriorated conditions at the building component level is not typically a “betterment” but reflects prudent and up to date facility management science.
6. The following listing provides guidance on prioritizing the population of FIMS fields.
- a. **Deferred Maintenance Report for Real Property**
 - i. **Deferred Maintenance Costs for FY2008 (as of September 30, 2008)**
 - 1. This is a mandatory field which must be populated *no later than September 30, 2008*. Deferred maintenance data is included in the Department’s consolidated financial statements to the Chief Financial Officer. **To meet this reporting requirement, the deferred maintenance report will be prepared by MA-50 based on a snapshot of data taken from FIMS on Thursday, October 2, 2008.**
 - ii. **Annual Required Maintenance Costs for FY2008 (as of September 30, 2008)**
 - 1. This data element should have been populated December 3, 2007, for FY 2008. *(Please note that because the FIMS data snapshot will be taken November 17, 2008, for the FY 2008 report, no FY 2009 annual required maintenance data shall be entered until December 1, 2008, to allow for data to be archived.)*

iii. Annual Actual Maintenance Costs for FY2008 (as of 30 September, 2008)

1. This data element must be populated *no later than November 14, 2008*.

iv. Year of Last Inspection

1. This is a mandatory field that must be populated *no later than September 30, 2008*.

v. Building Deficiency System

1. This is a mandatory field that must be populated *no later than September 30, 2008*.

vi. Status

1. This is a mandatory field that must be populated *no later than September 30, 2008*.

vii. Excess Indicator

1. This data element must be updated as necessary *no later than September 30, 2008*.

viii. Excess Year

1. This data element must be updated as necessary *no later than September 30, 2008*.

7. Any questions regarding these implementation procedures should be directed to the following individuals:

- a. Maintenance and real property - Peter O’Konski (MA-50), (202) 586-4502.
- b. DOE CAIS and FIMS reporting methods – Gary Horn (MA-50), (202) 586-9296.
- c. SFFAS No. 6 – Lois Jessup (CF-50), (202) 586-3959.

**** End of Attachment ****

Appendix A:

FY 2008 DEFERRED MAINTENANCE INFLATORS

The following inflators are to be used when reporting deferred maintenance estimates obtained from condition assessments (periodic inspections of plant and equipment) that are not current. For example, if the estimate of maintenance work was prepared in 2006, then multiply that estimate by 1.04 to escalate the estimate to 2008 dollars.

<u>FROM YEAR TO 2008</u>	<u>INFLATORS⁶</u>
2007	1.02
2006	1.04
2005	1.06
2004	1.08
2003	1.10

⁶ Inflaters derived from 2% non-labor escalation rates provided in page 3 of Attachment D of the FY10 Field Budget Call.