CHAPTER 10
ACCOUNTING FOR PROPERTY, PLANT, AND EQUIPMENT

1. INTRODUCTION.

a. Background/Authorities. This chapter describes accounting requirements for the acquisition, use, and retirement of property and provides guidelines for distinguishing between charges to capital accounts and charges to expense accounts consistent with the applicable Statements of Federal Financial Accounting Standards (SFFAS).

b. Applicability. The applicability of this chapter is specified in Chapter 1, "Accounting Overview." When in conflict with the provisions of this chapter, Power Marketing Administrations (PMAs) should observe the policies of the Federal Energy Regulatory Commission and other applicable industry standards as they apply to the accounting and financial management of property, plant, and equipment (PP&E).

This policy supersedes all prior Office of the Chief Financial Officer (CFO) guidance on accounting for property, plant, and equipment.

c. Policy/Objectives. Financial accounting for PP&E is governed by the following basic principles:

(1) Department of Energy (DOE) property should be accounted for and reflected in the official DOE financial records in accordance with the capitalization criteria contained in this chapter, regardless of funding source;

(2) Depreciation should be calculated and recorded in the appropriate cost-of-operation account, using the appropriate fund type;

(3) Timely and accurate financial reporting on facility construction and capital equipment activities must be provided to DOE management;

(4) Financial control over property should be maintained;

(5) The primary basis of accounting for property is its acquisition cost (with the general exceptions of transfers, excess property received, foreclosures, and discoveries); and

(6) Timely capitalize assets meeting the capitalization criteria and when physically placed in service; and

(7) Depreciate the assets over the appropriate useful life.

d. Responsibilities.

(1) The CFO develops property accounting policies and procedures and accounts for property at DOE headquarters.

(2) The Office of Management:

(a) Serves as the Department's official point of contact relating to the acquisition, use, or disposal of real property;

(b) Is responsible for property management through the promulgation of acquisition regulations and financial assistance rules governing DOE property held by contractors; and

(c) Develops and maintains procedures, standards, and guides for property, supply, and equipment management programs and for personal property management.

(3) DOE field elements must maintain accurate and up-to-date accounting records and supporting documentation to provide the proper accountability for DOE's investment in property. DOE field elements also must maintain summary financial control records for all integrated contractors for which they are responsible.

(4) DOE contractors must maintain accurate and up-to-date accounting records and supporting documentation to provide the proper accountability for DOE's investment in property. Contractors also must maintain financial control records for all subcontractors having DOE-owned property.

2. CAPITALIZATION CRITERIA AND GENERAL REQUIREMENTS.

a. General Requirement. Capitalize individual PP&E items that are purchased, constructed, or fabricated in-house, including major modifications or improvements to any of these items, if they have an anticipated useful life of 2 years or more and if the acquisition cost exceeds the capitalization threshold.

b. Distinguishing Between Accounting for Capitalized Property and Management of Accountable Property. Notwithstanding requirements to account for PP&E that meets the capitalization criteria of this policy, the Office of Management establishes separate requirements to maintain records of personal property for accountability purposes. See DOE Order 580.1A for accountability and property record requirements for personal property and DOE Order 430.1B for real property.

c. Capitalization Threshold.

(1) For items acquired, or placed-in-service for constructed assets, on or after October 1, 2011, the threshold is $500,000. For items acquired, or placed-in-service for constructed assets, before October 1, 2011, smaller thresholds apply. Contact the CFO Office of Finance and Accounting if more specific information is needed on past capitalization thresholds.

(2) The capitalization threshold for internal use software is $750,000. Accounting for internal use software is discussed in section 4.k of this policy.

d. When to record PP&E. PP&E shall be recorded at the date that title passes to DOE or when the PP&E is delivered to DOE. Recording constructed assets and property acquired as part of a larger construction project is described in section 2.p below.

e. Conducting Physical Inventories. Policy requirements for conducting physical inventories are established by the Office of Management and described in DOE Order 430.1B, *Real Property and Asset Management,* and DOE Order 581.1A, *Department of Energy Personal Property Management Program.*

f. Purchased Assets. The capitalized cost includes the acquisition cost and all costs to bring the asset to a form and location suitable for its intended use, for example, invoice price and any added transportation and installation costs (see additional detail in SFFAS 6, paragraph 26).

When costs are incurred directly by the entity to bring the asset to a form and location suitable for its intended use (i.e., costs not separately invoiced by a third party), the capitalized costs should be the total or fully burdened costs incurred. Generally, costs should be recorded net of purchase discounts taken. Purchase discounts lost and late-payment penalties should not be included as costs of assets, but should be written off as an operating expense.

As a general rule, indirect costs allocated to the purchase of the item are not capitalized. Indirect costs would include fringe benefits, overhead, materials and handling, facilities cost of money, laboratory-directed research and development (LDRD), and general and administrative (G&A).

g. Constructed Assets. When a DOE federal entity constructs a depreciable asset for its own use, the acquisition cost of constructed capital assets includes both direct and all allocated indirect costs of the entity that constructed the asset.

h. **Assets Constructed by Contractors.** Assets constructed by contractors should be capitalized according to the total contract costs incurred in the construction of the asset, including both direct costs incurred and allocated indirect costs.

i. **Assets Acquired through Energy Savings Performance Contracts (ESPCs)**. Assets acquired through ESPC contracts or other alternative financing mechanisms shall be recorded as DOE PP&E if they otherwise meet the capitalization criteria in this policy. ~~The acquisition cost of the asset should be determined in accordance with the requirements for determining the cost of an asset acquired under a capital lease (see section 2.p of this policy).~~

The DOE Federal Energy Management Program (FEMP) maintains detailed definitions and information on ESPCs.

When ESPC contracts are used at contractor-operated sites, the contractor shall coordinate with the cognizant federal office to ensure proper recording of the ESPC transactions.

j. **Assets Acquired through Bulk/Aggregate Acquisitions.**

The table below provides guidance regarding the capitalization of items acquired in a bulk/aggregate acquisition, ~~including items acquired under a capital lease.~~

Transaction Type		Capitalization of Assets	Grouping of Assets
Bulk Acquisition	similar items, separate purpose/utility	Capitalize if the acquisition cost exceeds capitalization threshold	No
Bulk Acquisition	similar items, related purpose/utility	Capitalize if the acquisition exceeds capitalization threshold	Yes
Aggregate Acquisition	dissimilar items, related purpose/utility	Capitalize if the acquisition exceeds capitalization threshold	Yes
Aggregate Acquistion	dissimilar items, unrelated purpose/utility	Evaluate on an asset by asset basis	No

FASAB standards require the capitalization of assets acquired through a bulk/aggregate acquisition, except as noted in the chart above, to ensure period cost are not distorted or asset values understated by expensing the purchase of numerous items.

Examples of bulk and aggregate acquisitions include fleets of vehicles, groups of servers, and the initial complement of equipment (for example, office equipment) for a building, when the cost of the equipment is not already capitalized as part of the building's construction cost. An initial complement for facilities includes, but

is not limited to, landscaping, sidewalks, parking lots, furniture, fixtures and network equipment.

Assets acquired through bulk or aggregate purchases may be grouped into one or more property record units in accordance with the guidance in section 2.k of this policy.

~~Additional requirements relating to the accounting for assets acquired through a capital lease are discussed in section 2.p of this policy.~~

k. Property Record Unit Concept

(1) Property record units are designed to establish divisions or subsections of the completed PP&E categories. Property record units facilitate the recording of changes to property categories and the reconciliation of physical inventories with financial accounts.

(2) A property record unit, sometimes called a PP&E record unit, is a property, plant or equipment item, for example, a building, selected to be continuously identified in the property records. The selection of property record units determines the manner in which costs are assembled and recorded in the property records. A property record unit may be composed of one or more retirement units. A retirement unit may correspond to a single asset or a group of assets having a related purpose/utility.

In selecting the property unit, consideration should be given to its use, relationship with other associated items, relative importance, frequency of anticipated property changes, and monetary value. A property record unit may be a functional unit consisting of an assembly of associated items, some of which are retirement units, such as a hydraulic extrusion press; a facility serving or designed to serve two or more other property record units, such as a control system or piping system; a continuous facility of which sections are retirement units, such as roads, walks, and paved areas; or a unit that is complete in itself, such as a spectrometer.

(3) Retirement units are established for convenience in accounting for the replacements of major components of plant and equipment.

(a) A retirement unit establishes a physical dividing line by which costs of major work related to plant and equipment are capitalized. Costs to extend the life of or replace the retirement unit should be capitalized. All other costs related to the retirement unit should be expensed. A retirement unit is a component of plant and equipment that is capitalized in a separate account and invariably

eliminated from the plant and equipment accounts when removed, transferred, sold, abandoned, or demolished.

(b) There should be a close coordination among the budget, accounting, engineering, project management, and technical staffs in the development and maintenance of retirement units. The development of retirement units should take into consideration such factors as use made of the item, retirement history of identical or comparable items, and the monetary and physical relationship of the item to the associated property record unit.

(4) Each field element or integrated contractor will develop and maintain its own property record unit catalog covering all activities reporting to that element. Approval by the head of the field element or a designee is necessary for new catalogs and revisions of sections of existing catalogs. DOE review and approval of property record unit additions and deletions by contractors should be done annually by the cognizant Field Chief Financial Officer or equivalent (Field CFO). A property record unit catalog describes the property record units that DOE owns. It provides a basis for a common understanding as to the manner in which PP&E costs are assembled and recorded in the field and contractor PP&E records. The description of each property record unit is intended to provide sufficient information to identify the unit in the PP&E records and for physical inventory purposes. The retirement units applicable to each property record unit provide a basis for distinguishing between capital (PP&E) and expense charges. A property record unit catalog should have the following principal features:

(a) An explanation of the property record units, what they consist of, and the descriptions used and type of asset;

(b) The manner in which the units are to be recorded in the property records, whether as individual items or as a group of similar items;

(c) A list of the retirement units applicable to each property record unit; and

(d) The current Departmental capitalization criteria.

(5) When assets are grouped and capitalized that would not normally be deemed to be accountable property according to the requirements of DOE Order 581.1A, Department of Energy Personal Property Management Program, the financial organization shall coordinate with the Organization Property Management Officer to ensure that the capitalized assets are

considered as other accountable property (see paragraph 4(c)2 of Order 581.1A).

l. Assets Acquired or Constructed with Funding from Non-DOE Entities. These assets are capitalized if DOE takes title and possession of the asset according to the terms of the reimbursable work agreement or other governing document.

m. Property Belonging to Other Agencies. Property belonging to other agencies includes property that is borrowed or that is in DOE's possession through purchase with funds provided by others to perform their work in accordance with an interagency agreement. Each organization having custody of any such property should establish detailed procedures to provide effective control over the property. Property control, including the vesting of title, should be in accordance with the terms and conditions of the agreement (see the DOE property management regulations at 41 CFR 109-1.5105) or the working arrangements for the use of funds and property of others. It is not intended that DOE record such property in its financial accounts, nor that depreciation be recorded thereon, if title is vested in the other party or parties. However, property management personnel are responsible for developing and administering detailed procedures for the control or property belonging to other agencies.

n. Items That Are Generally Not Capitalized

(1) Inherently Experimental Items. Items that are inherently experimental, used as special tools, or, by nature of their association with a particular scientific experiment, not expected to have an extended useful life or an alternative future use, are not capitalized.

(2) Interest. Generally, DOE elements should not capitalize interest during the acquisition of PP&E. However, certain DOE elements fund the acquisition, construction, or fabrication of PP&E through direct borrowing from the Department of the Treasury (Treasury) and pay interest directly to Treasury. In such cases, capitalize interest based on the interest rate charged by Treasury for the funds borrowed. The interest capitalization begins with the first expenditure for the qualifying asset and ends when the asset is substantially complete and ready for its intended use. Capitalize interest costs as long as the following general conditions are met:

(a) Expenditures for PP&E have been made, and

(b) Activities that are necessary to get PP&E ready for its intended use are in progress.

(3) **Maintenance and Repair**. Maintenance and repairs activities are not capitalized. As defined by SFFAS 40, maintenance and repair are directed toward keeping fixed assets in an acceptable condition. Activities include preventive maintenance; replacement of parts, systems, or components; and other activities needed to preserve or maintain the asset. Maintenance and repairs, as distinguished from capital improvements, exclude activities directed towards expanding the capacity of an asset or otherwise upgrading it to serve needs different from, or significantly greater than, its current use.

(4) **Alterations.** Alterations are adjustments to interior arrangements or other physical characteristics of an existing property record unit so that it may be more effectively adapted to or utilized for its designated purpose. The following are examples of alterations:

(a) Removal or installation of interior walls for purposes of rearranging the layout of an office building, and incidental heating and ventilation ducting system modifications that do not significantly extend the capacity of the system;

(b) Construction of a door or passage through an interior structural wall; and

(c) Installation of new lighting fixtures that do not significantly increase the lumens emitted but may result in energy or maintenance savings.

An alteration does not result in betterment to the property record unit. Work to accommodate a change in use is a betterment (see section 2.r of this policy for a detailed discussion of betterments).

(5) **Demonstration Projects.** Expense demonstration projects that have limited useful lives and that will not be used for actual production or operations. A special circumstance may apply if the resulting facility is originally intended for demonstration purposes but is later deemed to be successful and is used for operations. In such circumstances the facility should be capitalized when the decision is made to use the facility for operations.

(6) **Prototype Equipment**

(a) Expense conceptual design, fabrication, testing, and reworking of prototype equipment subject to redesign as fabrication and testing are performed. This usually applies only to the first unit if several similar units are to be acquired.

(b) Expense testing and reworking of prototype equipment for which design has been established.

(7) Environmental Management (EM) Property. EM property shall be accounted for in a manner consistent with Chapter 4 of SFFAS 6, "Cleanup Costs." Accounting requirements relating to EM property do not impact applicable budgetary rules.

o. Construction Work in Progress (CWIP)

(1) General Requirements. Construction costs shall be accrued in the CWIP account. When DOE constructs a capital asset for its own use, the construction cost includes both direct and all allocated indirect costs of the entity that constructed the asset. For assets constructed for DOE by integrated contractors, construction costs include all direct and allocated indirect costs incurred during construction.

Construction activities may include additions or betterments to existing PP&E; erecting temporary construction facilities; and, in certain circumstances, demolition, dismantling, and removal.

(2) Accumulating CWIP Costs. Costs shall be accumulated in the CWIP account during the acquisition or construction period. Detailed accounting records should be maintained for:

(a) Each construction project or job; and

(b) Each item of capital equipment.

(3) Demolition, Dismantling, and Removal Costs and Salvage Credits. Removal costs should be accounted for as Construction Work in Progress when the removal is in connection with an authorized construction project or an equipment project and when one of the following conditions is met:

(a) Removal of existing facilities or equipment is a required part of the construction project;

(b) Costs are incurred when it is economical to salvage or reuse items;

(c) The removal is necessary for health and safety considerations; or

(d) Contractual agreements require removal.

(4) Transferring CWIP to completed PP&E. CWIP shall be transferred to completed PP&E no later than six months from the date it is placed in service. The placed in service date is determined at the discretion of the management official with responsibility for the construction project. When determining the placed in service date, management officials may consider project management completion dates as appropriate, including consideration of when the facility begins operations for its predominate use. Both STARS and FIMS shall be updated when an asset is placed in service.

When a construction effort involves multiple property record units, the placed in service date shall be determined separately for each unit.

Special provisions apply for environmental management property. See section 2.n.(7) of this policy for a discussion of environmental management property.

(5) Abandoned Projects. Abandoned project costs include costs incurred because of the cancellation of all or part of a contract or purchase order to procure, manufacture, or assemble an item of PP&E. These costs, less any salvage credits, are distributed over the remaining units of property within the project for project accounting purposes, except where such distribution significantly distorts the cost of the remaining property units. Where such distortion occurs, the costs of the abandoned project or project segment may be closed from Construction Work in Progress to Abandoned Projects. All charges to abandoned projects should be approved by the Field CFO and shall be coordinated with the project management official responsible for the abandoned project.

~~**p. Accounting for Leases**~~

~~**(1) Definitions.** A lease is an agreement conveying the right to use an asset, or part of an asset, such as part of a building, from one entity (the lessor) to another (the lessee) for a specified period of time in return for rent or other compensation. Operating and capital leases are defined in SFFAS 6 for accounting purposes. The definition of these terms for accounting purposes varies from the definitions used by OMB in Circular A-11 for budgetary purposes (see section 2.p.(4) below).~~

~~**(a) Operating Leases**. An operating lease is a rental agreement requiring periodic payments for the use of an asset during a period. An operating lease does not represent the acquisition of an asset; consequently, no new assets are recorded in the accounting records of the lessee.~~

(b) Capital Leases. A capital lease is an agreement that transfers substantially all the benefits and risks of ownership to the lessee. If, at its inception, a lease meets one or more of the capital lease criteria in SFFAS 6 as shown below, it must be classified as a capital lease by the lessee:

i. The lease transfers ownership of the property to DOE by the end of the lease term;

ii. The lease contains an option for DOE to purchase the leased property at a bargain price;

iii. The lease term is equal to or greater than 75 percent of the estimated life of the leased property;

iv. The present value of rental and other minimum payments, excluding that portion of the payments representing executor cost, equals or exceeds 90 percent of the fair value of the leased property.

(2) Recording capital leases.

Assets acquired through a capital lease shall be capitalized when the cost exceeds property capitalization threshold (see section 2.c of this policy). The requirement to capitalize the assets acquired under a capital lease applies when the amount of the lease liability exceeds the capitalization threshold, regardless of the cost of the individual assets acquired. The cost of general PP&E acquired under a capital lease shall be equal to the amount recognized as a liability for the capital lease at its inception (SFFAS 6 par. 29).

Expensing assets acquired through a capital lease does not affect separate accounting requirements to record the lease liability. The liability for a capital lease shall be recorded in all cases, even when the assets acquired through the capital lease are considered immaterial for accounting purposes (i.e., the value is lower than the capitalization threshold) and are expensed in the current period.

At the inception, the amount to be recorded for the leased asset(s) and the lease liability under a capital lease is the lower of (1) the present value of the rental and other minimum lease payments during the lease term, excluding that portion of the payments representing executory costs paid by the lessor, or (2) the fair value of the leased property at the inception of the lease. Fair value is defined as the price for which an asset could be

~~bought or sold in an arm's-length transaction between unrelated parties (e.g., between a willing buyer and a willing seller).~~

~~If the portion of the minimum lease payments representing executory cost is not determinable from the lease provisions, the amount should be estimated (SFFAS 5, paragraph 44).~~

~~When calculating the present value of the minimum lease payments, the discount rate would normally be the government's incremental borrowing rate. The implicit interest rate shall be used when (1) it is practicable for DOE to learn the implicit rate computed by the lessor and (2) the implicit rate is less than the government's incremental borrowing rate. The government's incremental borrowing rate shall be the Treasury borrowing rate for securities of similar maturity to the term of the lease (SFFAS 5 par 45), as reported in OMB Circular A-94, Appendix C. Follow instructions in A-94 for calculating the interest rate for a lease term that does not match current bond maturities.~~

~~During the lease term, each minimum lease payment should be allocated between a reduction of the obligation and interest expense so as to produce a constant periodic rate of interest on the remaining balance of the liability (SFFAS 5 par 46).~~

~~Operating leases are not capitalized. Note that the criteria for identifying capital leases for financial reporting purposes differ from OMB criteria for budget scoring of leases, which are discussed in paragraph 4 of this section. Leases that are expensed as operating leases for accounting purposes under the criteria of SFFAS 6 could still be considered a capital lease for budgetary purposes.~~

~~(3) Depreciation and interest expense~~

~~The property acquired through the capital lease is depreciated as a capital asset. For assets that will be owned by DOE at the end of the lease term, depreciation is calculated over the useful life of the asset. For assets that will be returned to the lessor at end of the lease term, depreciation shall be calculated over the lease term.~~

~~The difference between the total of the lease payments and the amount recorded as the capital lease is interest. A portion of each lease payment shall be allocated to interest expense, and the balance of the payment should be applied to reduce the lease liability.~~

~~(4) Budgetary definitions of operating and capital leases~~

~~OMB Circular A-11 provides separate definitions of operating and capital leases that are applicable for budget execution purposes. These definitions are similar but not identical to the FASAB definitions used for accounting purposes. The A-11 definitions are used to determine whether full funding must be obligated in the current fiscal year for future lease payments (capital leases), or whether funding need only be obligated for the minimum lease term and cancellation costs (operating leases). The accounting treatment of assets acquired under a capital lease has no bearing on the budgetary requirements in A-11. Budgetary rules require that full funding be obligated up front for most capital leases regardless of whether the asset is capitalized or expensed for accounting purposes.~~

~~In addition to the four SFFAS 6 capital lease criteria, Circular A-11 provides two additional criteria which must be met for a lease to be considered an operating lease for budgetary purposes:~~

~~**(a)** The asset is a general purpose asset rather than being for a special purpose of the Government and is not built to the unique specifications of the Government lessee; and~~

~~**(b)** There is a private sector market for the asset.~~

~~OMB Circular A-11 also requires that proposals for certain types of leases be submitted to OMB for review. These include any proposed lease of a capital asset where the total Government payments will exceed $50 million and all financing proposals that are non-routine in nature and involve unique or unusual concepts or characteristics. All major leasing requests must be coordinated with the CFO Office of Budget.~~

~~Some exceptions apply to the general requirements in A-11 for the full funding of capital leases, including leases included as part of an Energy Savings Performance Contract (ESPC) and GSA leases funded through GSA's Federal Buildings Fund. Questions regarding exceptions to the need for full funding of leases should be directed to the CFO Office of Budget.~~

q. Accounting for Betterments

(1) General Provisions. Betterments are improvements to PP&E that result in better quality, higher capacity, or greater energy efficiency; extend the useful life of a facility; accommodate a change in the use of the facility; or accommodate regulatory and other requirement changes.

Determining when and to what extent a facilities project should be treated as a betterment requires judgment. When a minor item is replaced in each of a

number of similar units, use of the cost basis is the proper basis for determining whether a betterment should be recorded. Although a particular project may meet some of the characteristics of a betterment, if the capitalization criteria are not met or the improvement added is insignificant, then the project should be expensed.

In some cases betterments may be funded through alternative finance mechanisms such as Energy Savings Performance Contracts (ESPC). Betterments that meet the criteria for capitalization shall be capitalized regardless of the funding source.

(2) Placed in service date. Betterments should be recorded according to the placed-in-service date of the betterment, as determined by the DOE management official responsible for completing the betterment.

(3) Depreciation. Betterments should be depreciated according to the remaining useful life of the underlying asset, if the asset is not expensed or fully depreciated.

For betterments to fully depreciated or expensed assets, the betterment should be depreciated according to the standard useful life of the betterment. For assets scheduled for demolition, disposal, or permanent removal from service at a specific future date, the remaining period of utility should not exceed the anticipated removal date.

(4) Special Circumstances

(a) Betterments to Fully-Depreciated Assets. Betterments to fully-depreciated capital assets that remain in use should be capitalized and depreciated only if the value of the betterment exceeds the capitalization threshold.

(b) Betterments to non-capital or expensed assets. Betterments to non-capital or expensed items shall be capitalized if the cost of the betterment exceeds the capitalization threshold. The placed in service date is the date the betterment is completed. The underlying asset—if properly expensed in a prior period—should not be capitalized.

(c) Betterments to assets permanently removed from service. Betterments to assets permanently removed from service should be expensed in the current period. This would include any improvements made to stabilize and/or secure facilities that are pending demolition. FASAB Technical Release 14 requires that depreciation be discontinued for assets permanently removed from

service, with the asset recorded at the estimated net realizable value. Thus, betterments to assets permanently removed from service should be expensed in the current year to ensure that depreciation does not continue for such assets. As necessary, the net realizable value of the asset should be adjusted to reflect the betterment.

(5) Common Categories of Betterments

(a) **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 the design of the facility. Examples of improvements to an existing facility include the following:

i. Replacing standard walls with fireproof walls;

ii. Installing a fire suppression system in a space that was not previously protected;

iii. Replacing utility system components with significantly larger capacity components (for example, replacing a 200-ton chiller with a 300-ton chiller); and

iv. Converting the functional purpose of a room (for example, converting an office into a computer room).

(b) **Conversion.** Conversion is a major structural revision of a facility that changes the functional purpose for which the facility was originally designed or used.

(c) **Replacement.** Replacement is a complete reconstruction of a plant record unit 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 PP&E categories, and the cost of the newly installed item, including installation cost, is added to the PP&E categories

r. Permanent Removal of Impaired PP&E

(1) **General requirement.** PP&E shall be removed from general PP&E accounts along with associated accumulated depreciation/amortization, if before disposal, retirement, or removal from service, it no longer provides service in the operations of the entity. This either could be because it has suffered damage, becomes obsolete in advance of expectations, or is identified as excess.

Further guidance is provided in FASAB Technical Release 14, *Implementation Guidance on the Accounting for the Disposal of General Property, Plant, & Equipment.*

(2) **Determining when permanent removal occurs.** Two business events are necessary for the permanent removal from service:

(a) Use of the asset is terminated, and

(b) There is documented evidence of management's decision to permanently remove the asset from service.

If only one of these two events has occurred, permanent removal from service has not occurred (i.e., considered other than permanent removal) and there is no change in the PP&E reported value and depreciation continues.

Management’s decision to remove from service is evidenced by the actions taken in accordance with the entity’s policies and procedures to commence the retirement and/or disposal process. As required, auditable property records must be maintained to show the occurrence of the two events.

(3) **Recording permanent removal.** If management has decided that an item is permanently removed, the item should be reclassified into an Other Asset account at its expected net realizable value. Any difference in the book value of the PP&E and its expected net realizable value shall be recognized as a gain or a loss in the period of the adjustment. The expected net realizable value shall be adjusted at least annually, and any further adjustments in value recognized as a gain or a loss.

The CFO Office of Finance and Accounting provides a PP&E Best Practices Guide that describes SGL transactional information.

(4) **Discontinuation of depreciation and amortization.** When permanent removal occurs, no additional depreciation or amortization shall be taken once such assets are removed from PP&E in anticipation of disposal or retirement.

(5) Applying the PP&E materiality threshold. The requirements relating to permanent removal from service do not apply to property that has a residual book value that is less than the capitalization threshold (currently $500,000) at the time of the property's removal from service. Depreciation should continue for such assets, with the book value adjusted at the time of disposal, retirement, or removal from service.

s. Permanent Impairment of PP&E Remaining in Service

(1) Basic requirement. DOE must account for the permanent and significant impairment of PP&E remaining in use, beginning on October 1, 2014. The requirement applies to all PP&E, including construction work in process, with the exception of internal use software.

(2) Definition of Impairment for Accounting Purposes

As defined by FASAB in SFFAS 44, impairment is a significant and permanent decline in the service utility of PP&E, or expected service utility for construction work in process. Entities generally hold PP&E because of the services they provide or will provide in the future; consequently, impairments affect the service utility of the PP&E. The events or changes in circumstances that lead to impairments are not considered normal and ordinary. That is, at the time the PP&E was acquired, the event or change in circumstance would not have been (a) expected to occur during the useful life of the PP&E or, (b) if expected, sufficiently predictable to be considered in estimating its useful life.

PP&E will be identified as potentially impaired as a result of the occurrence of significant events or changes in circumstances, or routine asset management processes. FASAB has identified the following as common, but not exclusive, indicators of impaired assets:

(a) Evidence of physical damage;

(b) Enactment or approval of laws or regulations which limit or restrict general PP&E usage;

(c) Changes in environmental or economic factors;

(d) Technological changes or evidence of obsolescence;

(e) Changes in the manner or duration of use of general PP&E;

(f) Construction stoppage or contract termination; or

(g) General PP&E idled or unserviceable for excessively long periods.

Detailed guidance on identifying impaired assets is provided in SFFAS 44.

(3) Identifying impaired PP&E. There is no requirement to conduct an annual or other periodic survey solely for the purpose of identifying impaired PP&E. Impairments should be recorded when they are identified through normal business practices or the impairment of the PP&E is generally known. In the normal course of business, permanent impairments of items that remain in service should be infrequent.

(4) Assessing the significance of the impairment. Judgment is required to determine whether impairments are significant. Specific guidance for assessing the significant of impairment is contained in SFFAS 44.

(5) Measuring impairment. SFFAS 44 provides multiple approaches for measuring the impairment. Impairments will be measured using one of the accepted methodologies detailed in SFFAS 44.

3. REAL PROPERTY

a. Definition. Real property includes land, improvements on the land, or both, and interests therein. The chief characteristics of real property (real estate) are immobility and tangibility. It comprises land and all things of a permanent and substantial nature affixed thereto, whether by nature or by "human hand." "Nature" includes trees, the products of land, and natural resources; by "human hand," those objects, buildings, fences, or bridges erected on the land. Equipment or fixtures, such as plumbing, electrical, heating, built-in cabinets, and elevators, that are installed in a building in a more or less permanent manner usually are held to be part of the real property. Real property may also include triple-wide trailers or modular units joined together so that the structure is not portable and cannot be relocated without being dismantled and thus losing its identity. Trailers double-wide or less, used as temporary or mobile facilities should be considered personal property when not acquired or intended for permanent use.

b. Financial Controls over Real Property.

Detailed records of DOE-owned property must be maintained by the DOE field element or by a designated contractor. The summary financial control records maintained by field elements and contractors must include, at a minimum, the reporting code of the organization holding the property, the site code, the type of property (asset type), the acquisition cost, the accumulated depreciation, and the use of status code. Accurate and up-to-date accounting records must be maintained to provide the proper accountability for DOE's investment in property. As property is acquired, transferred, retired, or otherwise taken out of service because of loss, consumption, or casualty, documentation must be prepared, retained, and used to support entries into the accounting records, to authorize disposals and transfers, and to explain total or partial losses of property.

The DOE field element maintains detailed accountability records of all DOE-owned land, such as deeds, plats, and other legal documents.

c. **Purchase of Real Property**. The acquisition cost of real property includes the following:

(1) The cost of land and land rights includes the purchase price, other acquisition costs, and net costs of removing or wrecking any facilities acquired with the land.

(2) The cost of completed facilities purchased from non-Government sources includes the purchase price, other costs incident to the purchase, and the net cost of converting the facilities to make them useful to DOE. Exceptions to this policy must be authorized by the CFO Office of Finance and Accounting.

d. **Improvements to Non-DOE Property.** Improvements to non-DOE property, such as leasehold improvements, must be capitalized and recorded as a DOE asset if it otherwise meets the capitalization criteria, including the capitalization threshold.

The use of federal funds for improvements to the property of others is only permitted under certain circumstances. The Comptroller General has established the general principle that the Government may not make permanent improvements to non-Government-owned property. Exceptions are based on whether the Government's interests in the overall project are adequately protected with respect to such improvements. In making such a determination, the Comptroller General has established the following general criteria for determining whether it is allowable to use Federal funds for such improvements:

(1) The proposed alterations are incidental to and essential for the accomplishment of the purpose of the appropriation;

(2) The cost of the alterations are reasonable;

(3) The improvements are used for the principal benefit of the government; and

(4) The government's interest in the improvements is protected. The Comptroller General has normally found that a lease or other agreement securing the occupancy rights of the government is sufficient to protect the government's interest in the improvements. (See, e.g., 71 Comp. Gen. 4, B-243866.1)

e. Separating Construction and Fabrication Costs from Research and Development Costs. Costs incurred for construction and fabrication activities are recorded as a Construction Work in Progress and capitalized when the asset is placed in service; costs incurred for Research and Development activities are expensed.

When a DOE laboratory or other operating contractor performs research and development activities and acts as prime contractor for design and construction work for DOE, the contractor must be able to clearly segregate costs incurred for R&D activities from costs incurred for construction and fabrication.

f. Existing Facilities Moved Because of Construction Activities.

(1) Moving existing permanent facilities, such as utility lines and roads, because of construction activities involves the retirement by removal or abandonment of existing facilities and the addition of new facilities. Such new facilities will be accounted for as a cost of the new project. Removal costs should be charged to Construction Work in Progress for Removal Costs. Credit the book cost of materials reused in the new project to Construction Work in Progress for Salvage Credits, and charge the assigned cost to the new project. The book cost of other materials salvaged should also be credited to Construction Work in Progress Salvage Credits, and this cost should be charged to inventory or other appropriate accounts. Removal costs and salvage credits should be closed from these accounts to the appropriate accumulated depreciation account. The retirement loss (the difference between the new amount closed to the accumulated depreciation account and the depreciation accrued on the retired facilities to the date of retirement) should be charged to Plant and Capital Equipment Adjustments Extraordinary Losses. The book cost of the retired facilities should be closed directly to the appropriate accumulated depreciation account.

(2) Costs of moving temporary construction facilities should be charged to Construction Work in Progress accounts and distributed to all projects served by the temporary facilities.

g. Closeout of Construction Projects.

(1) Coordination between Finance and Project Management Personnel. Finance and project management personnel should coordinate to establish effective procedures to provide for the capitalization of construction projects.

(2) Determination of Acquisition Cost. The prime construction contractor or architect-engineer prepares the final cost report, depending on the type of contract involved. The final cost report provides a basis for entering construction project costs in the continuing property records and a means for determining the costs of property record units, and therefore, should be prepared under the general joint direction of finance, construction, and property management in the responsible field element

(3) Capitalization of a Completed Construction Project. The total cost of a construction project or an operative unit within a project should be closed to the appropriate completed PP&E categories from the Construction Work in Progress account once the PP&E is placed into service. Each element of a construction project, such as a building, a parcel of land, or a warehouse that has been physically and financially completed except for the settlement of minor outstanding claims must be closed to the completed PP&E categories on the basis of actual total cost incurred to date.

(4) Adjustments to Historical Cost. To maintain project historical data, significant costs incurred in the settlement of claims outstanding at the time the project is closed, and claims arising after an element has been closed, should be recorded in the Construction Work in Progress account when paid, but subsequently closed to completed Plant and Capital Equipment. Necessary adjustments to the original costs of the related property record units previously recorded should be made at the time the project is placed in service.

(5) Determination of the Placed in Service Date. As indicated by SFFAS 6, construction projects must be capitalized when they are placed in service. See paragraph 2.p.(4) of this policy for additional detail on determining the placed in service date.

h. Financial Reporting Requirements. The real property recorded on the financial records of DOE and its integrated contractors is reported in the Department's

financial statements. Generally, the financial statements or associated notes must disclose the following:

(1) Real property classified into the following categories, separated by depreciated and nondepreciated assets:

(a) Land and improvements, and

(b) Structures, facilities, and improvements.

(2) Construction Work in Progress;

(3) The basis for determining asset value; and

(4) Additions to and retirements of real property each fiscal year.

i. Reconciliation of Real Property Records. DOE organizations and integrated contractors must annually reconcile their real and related property records. Financial control records are kept in the Department's accounting system (the Standard Accounting and Reporting System or STARS); the real property records are kept in the Facilities Information Management System (FIMS) database maintained by the Office of Management. Reconciliation is a necessary step to ensure the accuracy of the Department's financial reporting.

The annual reconciliation must use the financial control records as of September 30. To assist with the reconciliation of STARS and FIMS records, the following guidance must be observed:

(1) To permit reconciliation with the September 30 STARS financial control records, restrict changes and additions to FIMS to real property changes incurred only through September 30.

(2) To ensure that real property changes are recorded in the same month and amounts in both STARS and FIMS, both financial and facility management should coordinate real property changes.

(1) Only appropriate real property asset-type and use status codes should be used.

(2) The cognizant project manager must provide an allocation to the appropriate asset type codes for any project even though the final cost report is not complete.

(3) FIMS records the acquisition cost of the property. The acquisition cost recorded in FIMS is not adjusted downward to account for depreciation.

4. PERSONAL PROPERTY AND CAPITAL EQUIPMENT.

a. Definition. For financial management purposes, personal property is generally property meeting the capitalization criteria that can be moved and that is not permanently affixed to real property. Generally, items are personal property if they can be removed without seriously damaging or diminishing the functional value of either the real property or the items themselves.

b. Capital Equipment-Type Accounts. Ledger subsidiary accounts are maintained to include capital equipment by account and additional data code elements, such as asset type, use status, and site.

c. Financial Controls Over Capital Equipment.

(1) All capital equipment, except as qualified below, is recorded in the appropriate account, which is supported by summary and detail accounts for each DOE activity.

(2) The costs to similarly acquire capital equipment must be accumulated and transferred, using accounting entries, directly into the completed Plant and Equipment account.

(3) Financial records do not duplicate the detailed property records maintained by the cognizant property officer. However, for internal control purposes, the balances in the financial accounts should be reconciled semiannually with the detailed property records.

d. Equipment Acquired by Purchase.

(1) The cost of equipment acquired by purchase includes invoice cost, less discount, plus transportation charges, modification, and installation costs. If property acquired by purchase includes a trade-in, the recorded cost of the purchased item should be the net invoice cost plus the allowance for the traded-in item.

(2) The amount capitalized under an installment contract includes the purchase price, other costs incident to the purchase (for example, freight), and the net cost to make the equipment ready for use. Record such equipment in the accounts at the time it is placed in service.

e. Equipment Acquired as Part of a Construction Project. Items acquired as part of a construction or fabrication activity are not personal property items. Instead, for those items that are an integral part of that activity or are related to, designed for, or specially adapted to the functional or productive capacity of that activity,

the costs to purchase, fabricate, and install such items shall be included as part of the construction or fabrication activity.

f. **Equipment Fabricated.** When the costs and estimated useful life of items fabricated at a DOE facility meet the capitalization criteria, the item should be capitalized and recorded in the Completed PP&E account. For assets fabricated by a site/facility management contractor, the asset value is determined by the contract cost, including all direct costs incurred and allocated indirect costs as determined by the contractor's approved Cost Accounting Standards (CAS) Disclosure statement. Actual costs should be used whenever possible, but a cost estimate, approved by DOE management, may be used when necessary.

g. **Property Acquired by Foreclosure Processes.** Property acquired by foreclosure processes should be recognized at its appraised value. The difference between amounts due, costs incurred, and the appraised value of the assets acquired should be recognized as current period loss or gain.

h. **Property Acquired by Other Means.** Non-federal property acquired by donation, device, forfeiture, or confiscation should be recorded at the estimated fair market value plus any costs incurred to place the property in use. Donations from other Federal entities are considered transfers and are recorded at current book value.

i. **Research and Development Equipment.** Property purchased or fabricated for use in research is not capitalized if the property is not expected to have a useful life of 2 years or more in essentially its original form. The cost of such property is charged to operating expense.

j. **Property acquired by another agency that is funded by DOE through an interagency agreement.** An interagency agreement is a written agreement entered into between two Federal agencies that specifies the goods to be furnished or tasks to be accomplished by one agency in support of the other. In some cases, another agency may acquire capital equipment or property to support the performance of an interagency agreement that is funded by DOE. This section provides procedures for addressing such property.

(1) If capital equipment is purchased or otherwise acquired with DOE funds pursuant to an agreement, unless otherwise agreed by DOE and the other Federal agency, the following should apply:

(a) The title thereto should vest in DOE;

(b) The other Federal agency should be accountable for the property until it is transferred to DOE; and

(c) The other Federal agency should maintain a record of capital equipment procured or fabricated.

(2) Unless expressly authorized by the contracting officer in advance, the other Federal agency should not be reimbursed for the procurement or fabrication of capital equipment.

(3) At the termination or completion of the agreement, accountability and control of items, regardless of dollar value, should be transferred to DOE, if so requested by DOE. If transfer is not requested, title should be transferred to the other Federal agency.

(4) Not later than 15 days after the close of each reporting period, the other agency should furnish DOE monthly or other periodic cost or financial reports in such form and detail as stated in the interagency agreement. Any costs incurred for capital equipment should be supported by a list showing the description, make, any serial number, and the cost of each item acquired.

(5) The capital equipment shall be recorded in the DOE accounting records when it is transferred to DOE, if the equipment otherwise meets DOE capitalization requirements, including the applicable capitalization threshold. The capitalization threshold shall be applied to the acquisition cost, not the book value when transferred. The accounting process for property transfers is described in section 8 of this policy.

k. Internal Use Software.

(1) **Applicability.** Statement of Federal Financial Accounting Standards (SFFAS) Number 10, "Accounting for Internal Use Software," is applicable to all internal use software either purchased or in the development phase after September 30, 2000. "Internal use software" means software that is purchased from commercial vendors "off-the-shelf," internally developed, or contractor-developed solely to meet the entity's internal or operational needs. It applies to internal use software procured or developed by federal as well as contractor entities, assuming that such software will be owned by the Department. Software includes the application and operating system programs, procedures, rules, and any associated documentation pertaining to the operation of a computer system or program.

(2) **Capitalization Criterion.** Software valued at $750,000 and more with a useful life of at least 2 years shall be capitalized. The $750,000 threshold applies to the total cost of the project. Thus, the threshold should be applied not only to the current increment of a phased software project but

also to planned future increments and enhancements if the aggregate cost exceeds $750,000.

(3) **Bulk Purchase**. A bulk purchase of software is the single purchase of like items of software in a lot, with the cost of each individual item being below the Department's established software capitalization threshold. Generally, bulk purchases of internal use software that meet the Department's established capitalization threshold and two-year life shall be capitalized.

(4) **Exclusions**. The following types of projects should not be capitalized:

(a) Legacy waste software; i.e., internal use software whose primary purpose (more than 50%) is to support environmental legacy waste, is excluded from the requirements of SFFAS Number 10.

(b) Software that is an integral part of stewardship property, plant, and equipment.

(c) Research and Development software. However, in some cases software may originally be developed for research and development purposes but may later be used for operational purposes. In such circumstances, the software should be capitalized if it otherwise meets the capitalization criteria.

(d) Minor enhancements of existing internal use software. Minor enhancements are those that are unlikely to result in significant additional capabilities or functionalities, regardless of the amount spent on the enhancement (see section (6)(b) below).

(5) **The Decision to Capitalize or Expense**. Not all costs associated with a software project or procurement will be capitalized. In order for a software project's costs to be eligible for capitalization, management must have authorized the project (i.e., management must have committed to the project and believe that it is more likely than not that the project will be completed). Costs incurred before project authorization, and costs incurred after testing and acceptance, will be expensed. Further, in accordance with FASAB standards, all data conversion costs are to be expensed. The table below summarizes the phases of a software project and shows which phases should be capitalized and which phases should be expensed.

Phases of Software Task/Project	Capitalize or Expense?
Conceptual Design	Expense
Authorization	Initiate Capitalization
Design & Implementation	Capitalize
Testing	Capitalize
Data Conversion	Expense
Acceptance	Terminate Capitalization
Operation	Expense
Maintenance	Expense
Enhancements	Capitalize (See 5. A. v. below)
Impairment	Reduce capital value
Retirement	Remove capital asset

Note: For more detailed explanations, refer to SFFAS 10 for software phases and related processes.

(6) Capitalization/Expense Guidance.

(a) Costs to be capitalized. The following costs related to the purchase, development or modification of internal use software should be capitalized if those costs exceed the capitalization cost threshold and the software is expected to have a useful life of two years or more:

i. The actual cost of software procured from a software provider;

ii. Any material internal cost incurred by the entity to make commercial off-the shelf (COTS) software ready for use;

iii. The direct and indirect costs of developing software internally including initial training and documentation manuals. The direct costs of developing software include internal labor charges for personnel compensation and benefits of programmers, systems analysts, project management, and administrative personnel directly involved in the planning, designing, coding, or testing of the software, and costs incurred for supplies during the development stage;

iv. The amounts paid by the entity to a contractor to design, code, test, install, and implement the software. In addition, any material internal cost incurred by the entity to make the software ready for use should be capitalized;

v. The acquisition cost of enhancements to existing internal use software, and modules thereof, should be capitalized when it is more likely than not that they will result in significant additional capabilities and they meet the capitalization threshold. Enhancements costing less than $750,000 that are part of a phased software development project and enhancements that extend the usefu11ife of the software should be expensed. Note that "bug fixes" are not enhancements;

vi. The cost of changes and modifications to existing software of purchased software that results in significant additional capabilities (i.e., added functionality) of the software;

vii. The cost of software configuration, software interfaces, and installation to hardware; and

viii. The cost of testing, including any parallel processing.

(b) **Costs to be expensed**. The following costs related to the purchase, development, or modification of internal use software should be expensed:

i. Costs incurred in the preliminary design stage such as the identification, evaluation, and testing of various alternatives; the determination of technology requirements; and the final selection of an alternative;

ii. Data conversion costs;

iii. Costs incurred after final acceptance testing has been successfully completed;

iv. Minor enhancements that qualify as ongoing systems maintenance, including bug fixes;

v. Costs incurred which extend the useful life of the software without adding capabilities. Examples include the repair of a design flaw or minor upgrades that extend the useful life of the software.

(c) **Environmental Management (EM) Internal Use Software.** EM property shall be accounted for in a manner consistent with

Chapter 4 of SFFAS 6, "Cleanup Costs." Accounting requirements relating to EM property do not affect applicable budgetary rules.

(d) Amortization of Capitalized Software Costs

i. Software that is capitalized pursuant to the above must be amortized in a systematic and rational manner over the estimated useful life of the software. The estimated useful life used for amortization must be consistent with that used for planning the software's acquisition.

ii. For each module or component of a software project, amortization must begin when that module or component has successfully completed final testing. If the use of a module is dependent on completion of another module, the amortization of that module must begin when both that module and the other modules have successfully completed final testing.

iii. Any additions to the book value or changes in useful life must be treated prospectively. The change must be accounted for during the period of change and future periods. No adjustments should be made to previously recorded amortization. When an entity replaces existing internal use software with new software, the unamortized cost of the old software should be expensed when the new software has successfully completed testing.

(7) Special Considerations for Cloud Computing Arrangements

(a) For accounting purposes, FASAB defines a cloud computing service as any resource that is provided over the Internet. It has the following essential characteristics: on-demand self-service, broad network access, resource pooling, rapid elasticity, and measured service. The most common cloud service resources are: software as a service, platform as a service, and infrastructure as a service.

(b) If the Department enters into a cloud computing arrangement with a non-DOE entity that includes a software license, the Department should account for the software license element of the arrangement consistent with the acquisition of other software licenses ~~in accordance with the lease criteria stated in SFFAS 5 and SFFAS 6.~~ The internal use software requirements in SFFAS 10 are not applicable to a cloud computing arrangement that does not convey

a contractual right to the internal use software or does not include a software license.

(c) If the Department develops and owns the software, platform or infrastructure that is used in the cloud computing arrangement, the DOE entity should account for the software asset in accordance with SFFAS 10.

(d) If the Department acts as the service provider for cloud computing software and/or infrastructure funded in part by non-DOE entities, the Department should account for the software in accordance with SFFAS 10.

5. GOVERNMENT-OWNED, CONTRACTOR-HELD PROPERTY.

a. Purpose. To set forth the general policy to be used by the office of the Field CFOs for establishing financial accounting for Government-owned, contractor-held property. Detailed property records maintained by contractors should not be duplicated by DOE. Financial control accounts are to be maintained by the appropriate office of the Field CFO. Contractors' procedures are not covered except to the extent that such procedures must accurately and reasonably produce the information that is required by DOE to maintain accurate financial records of property. This section does not attempt to supplant the requirements of the Federal Acquisition or Property Management Regulations or the DOE Acquisition or Property Management Regulations for maintaining control over Government property, but it discusses topics of common interest to both finance and property management personnel.

b. Integrated Contractors.

(1) Definition. An integrated contractor is a contractor that works for DOE; uses DOE funds to finance its operations under a cost-type contract; and maintains a separate set of accounts and records for the recording and reporting of all business transactions under the contract in accordance with DOE accounting practices and procedures, and whose accounts, maintained for operations under the contract, are integrated with those of DOE.

(2) Financial Controls.

(a) The financial control between DOE and the integrated contractor is accomplished by integrating the contractor's accounts with those of DOE.

(b) At a minimum, property records of integrated contractors should include the following data:

i. Account and supplementary data code number (such as asset type, use status, and site);

ii. Property record unit title and description, including inventory or property control number (U.S. Government identification tag number);

iii. Location data sufficient to facilitate physical inventories and provide other necessary administrative controls;

iv. Date of accounting entry;

v. Reference to accounting journal entry, project number, and other project information;

vi. Date placed in service, if substantially different from the date of accounting entry;

vii. Additions, quantity and dollar amount (acquisition cost, net of discounts);

viii. Retirements, quantity and dollar amount; and

ix. Standard or estimated useful life.

(3) Reporting Requirements. Reporting requirements of integrated contractors are a part of the normal monthly or other periodic submissions to the cognizant STARS site.

(4) Reconciliation Requirements. The integrated contractor should identify, explain, and report to DOE the differences between its property records and the summary financial control records. The Field CFO should approve all accounting adjustments to the financial control accounts.

c. Nonintegrated Contractors.

(1) Definition. An offsite, nonintegrated contractor is one that works for DOE, receives DOE funds in reimbursement of operations, and maintains an accounting system for the recording and reporting of all business transactions under the contract and whose accounts are not integrated with DOE. An offsite, nonintegrated contractor is not a transportation contractor, grantee, cooperative agreement recipient, or state or local

government. The contractor is directly responsible and accountable for all Government property in its possession or control in accordance with the provisions of the contract, including property provided under such contract that may be in the possession or control of a subcontractor.

(2) Financial Controls. An offsite, nonintegrated contractor should establish and maintain adequately detailed financial records on property acquisition, disposition, and fabrication as required by the contract. The cognizant Field CFO should maintain the summary financial control accounts. At a minimum, property records of nonintegrated contractors should include:

(a) Contract number;

(b) Asset type;

(c) Description of item (name and serial number);

(d) Tag number (Government ownership identity);

(e) Acquisition document reference and date;

(f) Manufacturer's name and model number;

(g) Location (physical area);

(h) Unit acquisition cost (including delivery and installation);

(i) Use status; and

(j) Site code.

(3) Reporting Requirements. The cognizant Field CFO should establish procedures to require that payment vouchers submitted by contractors itemize accountable property purchases, categorized by DOE funding type, and record this information accordingly. In addition, the contractor should prepare a semiannual report, as of February 28 and August 31 of each year, for each of its contracts and subcontracts, showing, by asset type, the dollar amount and the number of line items of PP&E that were acquired, fabricated, or disposed of during the period. At a minimum, the report should show the beginning balance, acquisition, fabrication, disposition, and ending balance. The report should be submitted 45 days after the end of the reporting period, or final date of the contract if applicable. The original and two copies of this report should be sent to the property administrator, who, in turn, should provide copies to the contracting officer

and to the servicing financial organization. Additional requirements may apply according to the terms of the contract.

(4) Reconciliation Requirements. The above semiannual report provides DOE with financial data on DOE-furnished or contractor-acquired property in which title is vested with DOE, and facilitates the reconciliation of the detailed property accounts of the contractor with the summary financial control accounts of the cognizant DOE field element. Reconciliation means to compare the dollar acquisition cost, by asset type, of property in the possession of a contractor with the dollar, by asset type, of property in the corresponding financial control account. The contractor should identify and explain differences, and the Field CFO should approve all accounting adjustments to the financial control accounts.

6. PROPERTY ACQUIRED UNDER GRANTS, COOPERATIVE AGREEMENTS, AND SPECIAL RESEARCH CONTRACTS.

a. Purpose. This section establishes the requirement for the financial recording of property acquired or furnished under the terms of DOE grants and cooperative agreements.

b. Reporting Requirements. Annually, and at the completion of the agreement, recipients must provide to the contracting officer, who should provide a copy to the office of the Field CFO, an inventory listing of DOE-owned property in their custody.

c. Reconciliation Requirements. The inventory reports should serve as the basis for reconciliation of capital assets with the financial control accounting records of the cognizant Field CFO.

7. DEPRECIATION AND DEPLETION.

a. Purpose. Assets are recorded at acquisition cost and in accordance with definitions of types of assets, such as buildings, motor vehicles, and computers. DOE reports depreciation, depletion, or amortization expenses for all Departmental property other than land.

(1) Tangible assets. Accumulated depreciation accounts are maintained and reported for tangible assets.

(2) Minerals, timber, and natural resource assets. Depletion is recorded for natural resource assets such as minerals and timber. Depletion is further explained in paragraph 8f(4).

(3) **Land**. Land is not expensed through depreciation, depletion, or amortization.

b. Basic Requirements.

(1) Depreciation charges should be based on the cost of depreciable assets recorded in the PP&E categories, less the estimated net salvage value, if significant. Net salvage value is the actual or estimated amount recovered or recoverable from the sale, transfer, or reuse of retired PP&E, less expenditures for the sale or transfer. Charges to inventory or other appropriate accounts for reusable materials or parts recovered from retired units also are considered as salvage, including plant and equipment with inherent useful value, as well as the value as scrap material.

(2) Generally, all limited-life property~~, including property being acquired by capital lease,~~ is considered depreciable, whether in service or in standby.

(3) All items of property that have an unlimited life, or for which the salvage value is estimated to equal the original cost of the assets, should be considered as nondepreciable. Such assets include those recorded in the asset type classifications for Land, Land Rights, and Site Preparation, Grading, and Landscaping. However, land rights acquired for a limited period of years are depreciable.

(4) The straight-line method of assigning depreciation expense to accounting periods is to be used generally throughout DOE. The units-of-production method may be used only in special cases where applicable, such as depreciating automotive equipment on a mileage basis or construction equipment on an hourly use basis.

(5) PP&E should not be depreciated in the process of construction until the facility, or segment thereof, is placed in service and the cost closed or transferred to the completed PP&E categories.

c. Depreciation Methods. The following depreciation methods may be used:

(1) **Unit Procedure for Computing Depreciation Expense.** Under the unit procedure, a unit of property is depreciated at a rate based on its specific useful life. If it is retired from service because of normal causes before the expiration of its estimated useful life, the retirement loss is charged to depreciation expense and a credit is made to the accumulated depreciation account.

(2) **Group Procedure for Computing Depreciation Expense**. Under the group procedure, an average useful life is determined for all like units. An

average depreciation rate is determined and applied to the total cost of a group of similar units. Depreciation expense is applied to the group according to the average useful life of the group until the group is fully depreciated. At the time the retirement work order is closed, and if the retirement is due to normal causes, the original cost of the retired facilities may be charged to the accumulated depreciation account, and no loss or gain is recognized.

(3) Composite Depreciation Rates. Composite depreciation rates may be applied to PP&E categories in computing depreciation amounts, provided the composite rates are based on calculations using particular groups of assets (for example, trucks, cars, and buses) and their applicable individual rates, and not on rough general estimates. Composite rates should be computed by applying the appropriate individual rates to the cost of each group included in the account and dividing the sum of the amounts thus obtained by the total balance of the account. Composite rates should be redetermined whenever substantial changes occur in the relative proportion of different groups in an account or when individual rates based on standard useful lives are changed. To illustrate, assume a PP&E category includes three groups of units, each having a different depreciation rate. The computation of the composite rate would be as follows:

Asset	Cost	Rate (percentage)	Annual Depreciation ($)
1 (5 year useful life)	$100,000	20	20,000
2 (6 year useful life)	$50,000	16.6	8,300
3 (10 year useful life)	$350,000	10	35,000
Composite annual depreciation: $63,300, or 12.7 percent of the $500,000 total asset cost			

d. Standard Useful Lives

(1) List of Standard Useful Lives. When standard useful lives are provided as part of the procurement or build of a PP&E, the provided useful life is used for depreciation purposes. Absent a useful life, the list in Attachment 10-1 should be used to determine depreciation rates for all other items of completed PP&E except for those items having useful lives that are materially different from normal averages because of the peculiarity of their use or other special conditions. The list is expanded or revised as

required. Extraordinary obsolescence and nonrecurring casualties were not considered in establishing these standard useful lives.

(2) Revision to Standard Useful Lives. Requests for each revision to the standard useful lives must contain a complete description; use made, unit costs, retirement history of identical or comparable items, and recommended useful life (including support for the recommendation). In addition to this information, the following must also be described fully: the peculiar uses or other considerations, the dollar investment in the anticipated net salvage value of PP&E for which revision is requested, and any other information considered pertinent to the specific case. The CFO Office of Finance and Accounting will review and approve all requests for revision to the list of standard useful lives. (PMAs should refer to publications or studies on utility plant useful lives.)

e. Recording Depreciation. Depreciation is recorded monthly. When major retirements or additions occur that are large enough to materially affect the depreciation expense related to unit product costs or to the depreciation expense applicable to other DOE activities (such as work for others), adjustments to the depreciation base is effective with the first of the month following the month in which the change occurred. Depreciation on the PP&E in each use status is treated as follows:

(1) In Service. Depreciation on PP&E in service is charged to the appropriate program values (for example, production cost, development, research, or program directions) in which the items are used.

(2) In Standby. Depreciation on PP&E in standby is charged to the budget and reporting classification of former use. However, when there is a definite plan for the future use of the PP&E in standby, depreciation should be charged to the program values of future use. However, standby expense items applicable to production activities is reported (but excluded from product inventory) as other production expenses.

(3) Equipment Held for Future Projects. To the extent that equipment in this classification can be identified as being held for use in a given program value, the depreciation expense on such equipment is allocated to that program value. For equipment held for general or multipurpose use, depreciation expense is allocated to program values on a reasonable and equitable basis.

(4) Excess. Depreciation on excess PP&E should not be calculated.

f. Exceptions.

(1) Depreciation of Improvements to Property of Others. Depreciation accruals on PP&E included in the Improvements to Property of Others account is based on the normal useful lives of the PP&E involved or the estimated period of occupancy, whichever is less. Any cost of PP&E remaining on the records at the termination of the contract should be written off–either at that time or upon the disposal of the property–by charging the Plant and Equipment Adjustments account.

(2) Calculation of Depletion. To calculate depletion, an estimate is made of the amount of natural resources to be extracted, in units of tons, barrels, or any other acceptable measurement. The estimate of total recoverable units is then divided into the total cost of the depletable asset to arrive at the depletion rate per unit. The annual depletion expense is the rate per unit times the number of units extracted during an accounting period.

(3) Oil and Gas Producers. In computing depletion for properties that contain both oil and gas, convert the oil and gas reserves and the oil and gas produced to a common unit of measure on the basis of their approximate relative energy contents (without considering their relative sales values) unless either oil or gas clearly dominates both the reserves and current production. Units-of-production amortization rates are revised whenever there has been a significant change in oil and gas reserves, but at least once a year. Capitalized costs are amortized in the following manner:

(a) Acquisition, exploratory, and development costs of proved properties on a units-of-production basis, using recoverable reserves;

(b) Costs of facilities for extracting, gathering, and storing oil and gas on a units-of-production basis; and

(c) Cost of gas plants on a straight-line basis (one half of 1 year depreciation in the year of acquisition, and the other half in the year of disposition)

8. PROPERTY TRANSFERS.

Property transfers are transfers of plant and equipment, accumulated depreciation, and construction work in progress. Property transfer procedures are established to account for and control assets purchased through expenditure of appropriated funds. Transfers could occur between DOE offices and contractors as well as between DOE and other Federal agencies.

Real property transfers shall be consistent with the requirements of DOE Order 430.1B, *Real Property Asset Management.* Personal property transfers shall be consistent with the provisions of DOE Order 580.1A, *Department of Energy Personal Property Management Program,* and DOE Guide 580.1-1, *Department of Energy Personal Property Management Guide,* which describe the requirements for managing personal property.

a. Transfers between DOE offices and contractors. Such transfers are typically made as a result of changes in responsibility for administering items of property, such as the plant and equipment included in contract transfers. Usually, an administrative transfer is made without physical relocation of the property. The acquisition cost, accumulated depreciation, date of original purchase, and any other pertinent data shall be reported on DOE F 2240.7, "Transfer Voucher," with the transfer recorded in STARS.

(1) Transfers of completed PP&E. Completed PP&E shall be transferred based on the acquisition cost less the accumulated depreciation. The transferring office shall credit the Completed Plant and Capital Equipment, debit the Accumulated Depreciation of the transferred asset, and debit Financing Sources Transferred Out for the net book value. The receiving finance office shall debit Completed Plant and Capital Equipment, credit Accumulated Depreciation for the asset received, and credit Financing Sources Transferred In.

(2) Transfers of Construction Work in Progress (CWIP). Construction Work-in-Progress is transferred based on costs accumulated for a particular construction project. The transferring entity's Construction Work-in-Progress account shall be credited, and Financing Sources Transferred Out debited for the costs to be transferred. The receiving entity's Construction Work in Progress shall be debited, with Financing Sources Transferred in credited.

b. Documentation and control of transfers. DOE F 2240.7, "Transfer Voucher," shall be used for transfers of property within DOE. Transfer vouchers reflecting activity between DOE offices shall be forwarded to the DOE Office of Finance and Accounting for processing.

(1) Preparation of the Transfer Voucher. The transferring organization shall prepare and issue transfer vouchers for the movement of material and property. In preparing the transfer voucher, the transferring organization shall complete all applicable sections. The transfer voucher or an attached supplement shall show complete information concerning the items being transferred and shall include a reference to the transfer authorization. This will allow either the receiving organization or the DOE Office of Finance and Accounting to process the transfer and identify and distribute the

costs. The transfer organization shall furnish copies of source documents, when available, along with the transfer voucher. To ensure appropriate accouting, each transfer voucher shall show the appropriate type of transfer in a conspicuous manner as part of the description, as follows:

i. Administrative transfers;

ii. Excess equipment for disposal;

iii. Other excess plant and capital equipment transfers; and

iv. Funded inventory transfers.

(2) **Cutoff Dates**. The transferring organization shall not issue transfer vouchers for a given month on an inter-organizational basis after the 15th calendar day of the month. The cutoff date for the ending month of the fiscal year is prescribed in the fiscal yearend closing instructions issued by the DOE Office of Finance and Accounting. If there are significant amounts that cannot be transferred formally by the prescribed date, the organization furnishing the services or materials shall advise the receiving organization or the Office of Finance and Accounting soon enough for such amounts to be accrued.

c. **Reconciliation of DOE Transfer Accounts**. Each organization shall adhere to the following rules, as well as to the procedures prescribed in paragraphs 8.b.(1-2) above, for preparing and forwarding transfer vouchers to keep the DOE transfer accounts in agreement:

(1) The transferring organization shall review its accounting records to ensure that all charges or credits to Transfers Issued reconcile to the completed transfer voucher.

(2) The offices shall resolve and correct differences in the same monthly edit. Each office shall review the monthly reconciliation of transfers provided by the Office of Finance and Accounting on a cumulative transaction basis in summary form, and initiate any necessary corrective action. The Office of Finance and Accounting shall record any corrections, including out-of-balance problems, during the following month except at the end of the fiscal year, when they shall be issued on a timely basis and received by the office authorizing the work or service for recording as business of that month. Telephone, facsimile, or e-mail confirmations should be used.

(3) If any transferred items are inadequately supported by documentation or are improper, the organization receiving the transfer voucher shall ask the

office that prepared the transfer voucher to furnish additional information or a correcting transfer voucher, as the situation may require.

(4) Confirmation of Transfers. Each organization preparing transfer vouchers shall confirm all transfers made at the end of the month. Additional confirmation requirements, such as a transfer confirmation document, may be provided in the annual year-end requirements memorandum.

d. **Transfers To and From Other Federal Agencies**. Such transfers occur when an agency assumes responsibility for an item of completed plant or capital equipment under terms mutually agreed upon by the agencies involved. No transfer voucher shall be issued for these transfers.

(1) Transfers of Completed Plant and Capital Equipment to Other Federal Agencies (OFAs). The finance office shall record transfers of Completed Plant and Capital Equipment of OFAs by crediting Completed Plant and Capital Equipment for the acquisition cost, debiting Accumulated Depreciation for the amount accumulated, and debiting Financing Sources Transferred Out for the net book value.

(2) Transfers of Completed Plant and Capital Equipment from OFAs shall be recorded by debiting Completed Plant and Capital Equipment for the acquisition cost, crediting Accumulated Depreciation for the amount (estimated if unknown) accumulated, and crediting Financing Sources Transferred In for the net book value, based on the transfer documents.

ATTACHMENT 10-1

STANDARD USEFUL LIVES

Item	Useful Life (Years)
Absorbers	20
Accelerators	20
Acid handling equipment	10
Agitators and mixers	20
Air-conditioning equipment:	
Large (over 20 tons)	20
Medium (5-20 tons)	15
Small (under 5 tons)	10
Air coolers (spray oil)	20
Aircraft	12
Air preheaters	25
Air supply units	20
Alley, robot, complete	10
Ash handling systems	20
Autoclaves	20
Automatic data processing equipment	5
Automotive equipment:	
Ambulances	10
Buses, passenger	10
Carriers, weapon	10
Cars, armored.	10
Jeeps	5
Sedans	6
Scooters	6
Station wagons	6
Trailers, automotive (all types)	10
Trucks (all types):	
Heavy	10
Light	8
Bag sealers	20
Baking panels	20
Balers:	
Metal	25
Paper	20
Bar turners	15
Bath, temperature	20
Batteries, storage (stationary)	10
Battery chargers	10

Item	Useful Life (Years)
Beds, cooling	25
Benches, work:	
Metal	10
Wood	15
Bevatrons	20
Binoculars and telebinoculars	15
Bins, storage:	
Concrete	35
Metal	30
Wood	15
Blenders, dry material	20
Blowers, exhaust, portable	10
Blowers and fans	20
Boats	10
Boiler feed water system	25
Boilers	25
Boothers, ingot separation, complete	8
Boxes, fare	15
Breaching and flue systems	25
Breathing air system	20
Bridges, highway:	
Concrete	50
Steel:	
Heavy	50
Light	35
Wood	15
Briquetters	20
Buckets:	
Load lugger	20
Slug	20
Buildings:	
Temporary, light wood frame, plywood or sheet metal exterior walls or arched sheet metal construction	10
Prefabricated (rehabilitated flattops)	20
Wood framing, exterior walls covered with wood siding, asbestos shingles	30
Light steel structures with finished interiors	30
Masonry exterior walls, wood interior framing or steel frame with metal panel walls, corrugated sheet metal siding and roofing	40
Masonry exterior walls, concrete or steel frame	50
Bus, electrical	Same life as principal structure, but not to exceed 50 years
Cabinets, drying, firehose	15
Cable, aerial, telephone	30

Item	Useful Life (Years)
Cable, underground:	
Telephone	30
Electric	40
Calciners:	
Pot	5
Trough	10
Tube:	
Under 1,000°C	10
1,000°C and above	5
Canning stations	20
Capacitors	25
Car mover or puller, railroad	20
Carrier current telephone equipment	15
Car spot, railroad	30
Cathodic protection units	15
Cells:	
Electrolytic	20
Electrolytic, steel-fluorine production	5
Mockup facilities	20
Structural	20
Centrifuges	20
Chargers, slug, portable	20
Chargers, stationary (remote charging cave)	25
Chime recovery system	10
Chime straightener	15
Chlorinators	20
Circuit breakers, power	25
Classifiers:	
Hydro	30
Mechanical, wet	30
Cleaners:	
Furnace pot	20
Natural gas	25
Clocks, watchman	15
Coal handling systems	20
Comminutors	15
Communication systems (excludes intercommunication systems)	30
Community furnishings and equipment:	
Barber and beauty shop equipment	10
Dormitory and hotel furniture and fixtures	15
Dry cleaning fixtures	15
Grocery store furniture and fixtures	15
Musical instruments	10

Item	Useful Life (Years)
Playground equipment	10
Shoe repair shop equipment	15
Theater furniture and equipment	15
Compressors	25
Compressors, gaseous diffusion cascades	40
Concrete finishing machines, portable	10
Condensers:	
Gas	20
Synchronous	30
Conductors:	
Overhead	35
Underground:	
Electric	40
Telephone	20
Conduit, underground:	
Electric	40
Telephone	50
Containers, trash	15
Control systems	20
Converters	20
Converters:	
Condenser, and tube test system	15
Dry ice	25
Gaseous diffusion cascades	40
Conveyors	20
Coolant systems	30
Coolers	20
Cosmotrons	20
Counters, traffic	15
Cranes, mobile, crawler	15
Cranes and hoists, installed	30
Crucible loading stations	20
Crushers	20
Crystallizers (over 100-ft3 tank size, 40 ft of deck length, or 3 ft2 of cooling surface per linear foot)	15
Curtains, ventilation	10
Cutters, shade	10
Cyclotrons	20
Cylinders, product storage, steel	40
Dams	100
Deaerators	25
Decks, slime	20
Degasifiers	20
Degreasers	20

Item	Useful Life (Years)
Deheaders, drum	10
Dehumidifiers (over 20-ft3 tank size)	20
Deionizers (over 100,000 g of CaCO)	25
Demineralizers	25
Demulsifiers	20
Denitration units	10
Digestors (over 100 gal)	10
Dishwashers, electric	10
Dissociators, ammonia	20
Dissolvers	10
Drainage systems, open	50
Drills, earth	10
Drum painting and drying stations	10
Drums, cylinders, and containers	10
Drunkometers	10
Dryers	20
Dumpers, drum	20
Dust collectors	15
Economizers	25
Elevators	25
Elevators, portable	10
Engravers and engravographs	10
Evaporators	20
Exciters	25
Exposure fields	25
Extrusion presses	20
“F” machines	20
Feeders	25
Fences:	
Chain link	25
Wire	15
Wood	15
Filter presses	20
Filters	20
Fire alarm equipment	25
Fire fighting equipment, mobile	15
Flagpoles	30
Flexible shafts, with motors	15
Freezers, electric	15
Furnaces:	
Electric:	
Reaction	20
Remelt	20

Item	Useful Life (Years)
Hearth	25
Heat treating	25
Roasting	20
Tilting pot	20
Garage equipment	10
Generators:	
Electric:	
Emergency, turbine driven	30
Diesel driven	25
Motor driven	25
Gas	25
Van de Graaff	20
Geological equipment:	
Geiger counters	10
Scintillometers	10
Globes, geographic	15
Grates, sluice	50
Grease flotation units	20
Grounding systems	40
Ground wires, overhead	40
Guard towers Rate according to type of construction	
Guns, deluge	15
Gymnasium equipment (such as boxing rings, rowing machines, tumbling mats)	10
Health instruments	10
Heaters	25
Heaters, portable, electric:	
Over 10,000 Btu	10
10,000 Btu and under	5
Heat exchangers	20
Hoppers	25
Hospital and medical equipment:	
Beds and hospital furniture	15
Dental chairs	15
Medical instruments	10
X-ray equipment	15
Hot mix plants	20
Hydrants, fire	50
Hydraulic accumulator systems (pneumatic oil)	25
Hydraulic pressure boosters	20
Incinerators	20
Industrial trucks and tractors	10
Instrumentation, gaseous diffusion cascades	25

Item	Useful Life (Years)
Instruments:	
Engineering	25
Industrial	15
Measurement and control	10
Surveying	25
Intercommunication systems	15
Irrigation canals	100
Janitorial service equipment	10
Jolters	5
Kettles, heating and melting	15
Kilns (over 50 ft3)	20
Laboratory equipment:	
Hoods	15
Photographic equipment	10
Professional and scientific instruments	10
Pumps and other general equipment	20
Sinks, cabinets, and other furniture	20
Special radiation instruments, apparatus, and accessories	10
Ladders, extension, metal (30 ft and over)	10
Laundry equipment	15
Lighting fixtures, street and fence	20
Lightning arresters	25
Light plants, emergency	25
Loaders	5
Locators, cable fault	15
Locker assemblies	10
Lubrication oil systems	20
Magnets, lifting	15
Magniflux machines	15
Manholes	40
Mannequins, thyroid uptake and calibration	5
Meters, customer:	
Electric	25
Gas	25
Water	30
Meters, speed:	
Electric	15
Radar	10
Mills, tumbling, wet grinding	20
Mixing machines, gas and air	20
Mobile and accessory equipment:	
Air compressors	15
Concrete mixers and pavers	10
Excavating machinery	10

Item	Useful Life (Years)
Farm machinery	15
Pumps	20
Road machinery	10
Tractors	10
Welders:	
Electric	15
Gas	10
Mold coating systems	20
Monorail material handling systems	20
Motor generator sets	20
Motors:	
Electric	20
Internal combustion	10
Nets, lifesaving	15
Odorizers, natural gas	25
Office furniture and equipment:	
Furniture, fixtures, and filing cases:	
Metal	25
Wood	20
Mechanical equipment and machines	10
Safes and vaults	40
Oil bubblers	20
Oil recovery devices	20
Oil storage and filtering systems	25
Optical devices	25
Ovens, electric or gas	15
Partitions, movable	25
Photographic and reproduction equipment	10
Piles (see Reactors)	
Pipe supports, outdoor	20
Piping systems, indoor:	
Air	25
Gas	25
Process	25
Process, gas, gaseous diffusion cascades	40
Steam	25
Water	40
Piping systems, outdoor:	
Air	25
Gas	25
Process	25
Sewer	40
Steam	25
Water	40

Item	Useful Life (Years)
Pistol or rifle range equipment	15
Platform lifts, portable	25
Platforms:	
Concrete	25
Steel	25
Transformer	20
Wood	10
Plating, coating, and stripping systems	5
Poles, crossarms, and fixtures:	
Steel	40
Wood	30
Pools, spray	20
Portable cranes, derricks, hoists, and winches	10
Portable scales	20
Portable tools:	
Air	10
Electric	10
Gasoline engine	10
Power mowers	5
Powerplants, portable	20
Power wiring system, indoor	25
Precipitators, electrostatic	20
Process equipment, heavy water	35
Projectors, contour	10
Proportioners, chemical	25
Protection equipment:	
Firearms	15
Fire extinguishers	10
Radio equipment	10
Protective breathing apparatus	15
Public address systems, portable	5
Pulverizers	15
Pumps:	
Water	20
Other	15
Purgers	25
Radiation source material:	
Cesium 137	15
Cobalt 60	5
Radium	50
Radios	10
Radio stations:	
Antenna	15
Towers	25

Item	Useful Life (Years)
Transmitters	10
Railroad rolling stock:	
Cars	20
Locomotives	25
Railroads:	
Bridges and culverts	45
Grading and ballast	30
Rails and ties	25
Signal systems	25
Ranges, electric	15
Reactivators (100,000-g capacity)	25
Reactors (electrical system devices)	25
Reactors, nuclear:	
Production	25
Research	25
Receivers, air	25
Recreational facilities, outdoor	20
Rectifiers (over 10 kVA)	10
Refrigeration systems	20
Refrigerators	15
Regulators:	
Circuit and bus	25
Pressure	20
Remote handling equipment	10
Repulpers	20
Reservoirs and pits	50
Restaurant, cafe, and canteen equipment	10
Resuscitator units	15
Retaining walls:	
Concrete	40
Timber	20
Roads, walks, and paved areas:	
Asphalt	20
Concrete	30
Gravel or stone	15
Robots, general purpose	20
Rolling mills	20
Saddles	20
Sampler, automatic	15
Scales:	
Conveyor	20
Platform	20
Screens:	
Trash	35

Item	Useful Life (Years)
Traveling	25
Vibrating	20
Scrubbers (tank over 20 ft3)	20
Security alarm system	25
Separation equipment	20
Septic tanks	35
Services:	
Electric	25
Gas	40
Sewer	30
Water	40
Sewage clarifier mechanisms	20
Sewer rod machines	20
Sewing machines	15
Shakers, car	20
Shears, powered	20
Shell loading machines	15
Shop equipment:	
Electric shop equipment	15
General maintenance shop equipment	10
Machine metalworking tools	25
Paint shop equipment	10
Pipe shop equipment	25
Plumbing shop equipment	25
Sheet metal shop equipment	25
Woodworking machinery and equipment	20
Shredders, paper	10
Silos:	
Concrete and masonry	50
Metal	40
Wood	20
Sludge drying beds	30
Sludge heaters	30
Slusher haulers	20
Spur tracks	25
Stacks:	
Concrete or masonry	50
Metal	30
Stitchers, wire	10
Stills	20
Straighteners, bar	20
Strapping machines	15

Item	Useful Life (Years)
Structures, outdoor substation:	
Metal	40
Wood	25
Superheaters (tank over 20 ft3 or 100-ft2 surface)	15
Switchboards	20
Switches, disconnecting	20
Switchgear	30
Synchrotrons:	
Electron	20
Proton	20
Tables, pool	15
Tanks:	
Concrete	50
Metal	40
Process	25
Wood	15
Telephone exchange equipment	30
Telephone subscribers station equipment	30
Teletypewriter equipment	30
Thickener	20
Timer, driver training	20
Tools, process, installed	10
Towers:	
Chemical process	10
Cooling	15
Meteorological and other structural steel towers	25
Traffic lights	20
Transformers:	
Current and potential	25
Steel lighting	20
Transmission and distribution	30
Trestles	40
Tunnels	50
Turbines	25
Turbogenerators	30
Turntables (over 10 ft in diameter)	20
Unit substations	30
Vacuum systems	15
Vaporizers	20
Varidrives (over 5 hp)	20
Washers, drum or can	20
Waste gas burners	25
Water softening systems	25
Wells	40

Item	Useful Life (Years)
Wires, open, overhead	25
Wiring systems, outdoor	30