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# Technical Release 11: Implementation Guidance on Cleanup Costs Associated with Equipment

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## Status

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<b>Interpretations and Technical Bulletins</b>	None.
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<b>Affected by</b>	None.

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## Summary

This technical release is intended to address cleanup costs associated with equipment as it applies to SFFAS 1, 5, 6 and TR 2. The guide focuses on cleanup of hazardous waste associated with equipment. It focuses on when cleanup costs should be recognized as an environmental liability and when it should be expensed as a cost of routine operation. In addition the guide includes two examples – one example is associated with equipment cleanup when a liability should be recognized and one is associated with equipment cleanup when the costs should be expensed as routine operations. This proposed technical release provides steps that can be followed to help federal entities consistently apply existing standards. The guidance will also assist federal entities to provide reasonable estimates of cleanup costs associated with the disposal of equipment assets, when required.

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## Introduction

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### Purpose

1. In accordance with Statement of Federal Financial Accounting Standards (SFFAS) 6 (paragraphs 97 and 98), cleanup costs that occur when operations cease shall be estimated when the associated asset is placed in service and a portion of estimated total cleanup costs shall be recognized as expense during each period that the asset is in operation. The purpose of this technical release is to provide implementation guidance on cleanup costs associated with equipment.<sup>1</sup> This technical release clarifies the accounting for cleanup costs associated with permanent or temporary closures, or shutdown of equipment<sup>2</sup> (i.e., when cleanup cannot occur until the end of the useful life or at regular intervals during that life). This technical release also clarifies the accounting for other cleanup costs associated with ongoing operations (i.e., “routine”<sup>3</sup> hazardous waste removal and disposal) as outlined in SFFAS 6 paragraph 93. Cost for hazardous waste that is cleaned up and managed routinely is accounted for in accordance with SFFAS 6 paragraph 93 and the accounts payable provisions of the liability standards in SFFAS 1.<sup>4</sup>

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### Scope

2. The guidance in this technical release relates to cleanup costs associated with equipment as defined by SFFAS 6 par. 85 - 87.
3. Readers of this technical release should first refer to the hierarchy of accounting standards in SFFAS 34. This technical release supplements the relevant accounting standards, but is not a substitute for and does not take precedence over the standards. This technical release clarifies, but does not change, guidance previously provided in Statement of Federal Financial Accounting Standards (SFFAS) 1, *Accounting for Selected Assets and Liabilities*; SFFAS 5 *Accounting for Liabilities of the Federal Government*, SFFAS 6 *Accounting for*

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<sup>1</sup> Equipment is defined in Appendix D.

<sup>2</sup> SFFAS 6 Par. 87: Cleanup may include, but is not limited to, decontamination, decommissioning, site restoration, site monitoring, closure, and post closure costs.

<sup>3</sup> See definition in Appendix D.

<sup>4</sup> SFFAS 1 paragraph 74: Accounts payable are amounts owed by a federal entity for goods and services received from, progress in contract performance made by, and rents due to other entities.

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*Property, Plant, and Equipment, Chapter 4: Cleanup Costs; and Technical Release (TR) 2 Determining Probable and Reasonably Estimable for Environmental Liabilities in the Federal Government.*

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## Effective Date

4. This technical release is effective immediately

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## Background

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### Overview

5. SFFAS 6 Chapter 4: *Cleanup Costs* applies only to cleanup costs from federal operations known to result in hazardous waste which the federal government is required to cleanup by federal, state and/or local statutes and/or regulations that have been approved as of the balance sheet date, regardless of the effective date of such statutes or regulations (i.e., remove, contain or dispose of). These cleanup costs meet the definition of liability provided in SFFAS 5.<sup>5</sup> Due to the nature of the environmental liability and the timing associated with cleanup costs, additional guidance is provided in SFFAS 6 on the recognition of cleanup costs over the life of the related equipment. The SFFAS 6 guidance is required since cleanup generally does not occur until the end of the useful life of the equipment or at regular intervals during that life. Other cleanup costs, such as those resulting from accidents or where cleanup is an ongoing part of operations, are to be accounted for in accordance with the liability standards (i.e., SFFAS 1 and SFFAS 5) and are not subject to the recognition guidance provided in SFFAS 6, since the cleanup effort is not deferred until operation of associated equipment ceases either permanently or temporarily.
6. This technical release provides steps that can be followed to help federal entities consistently apply existing standards and ensure consistent, accurate and meaningful application of the standards. The guidance will also assist federal entities to provide reasonable estimates of cleanup costs associated with the disposal of equipment, when

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<sup>5</sup> SFFAS 6, paragraph 88: This standard applies only to cleanup costs from Federal operations known to result in hazardous waste which the Federal Government is required by Federal, state and/or local statutes and/or regulations that have been approved as of the balance sheet date, regardless of the effective date, to cleanup (i.e., remove, contain or dispose of). These cleanup costs meet the definition of liability provided in *SFFAS 5 [Statement of Recommended Accounting Standards no. 5, Accounting for Liabilities of the Federal Government (SRAS no. 5)]*.

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required. The identification and recognition of an environmental liability associated with equipment being decommissioned/ disposed is illustrated in Diagram 1.

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## Related Accounting Literature

7. The related accounting standards are as follows:

Federal Accounting Standards Advisory Board (FASAB) Accounting Standards:

- a. SFFAS 1, *Accounting for Selected Assets and Liabilities*
- b. SFFAS 5, *Accounting for Liabilities of the Federal Government*
- c. SFFAS 6, *Accounting for Property, Plant, and Equipment*
- d. Technical Release 2, *Determining Probable and Reasonably Estimable for Environmental Liabilities in the Federal Government*

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## Technical Guidance

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### Cleanup Costs Associated with Equipment at Disposal

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8. In accordance with SFFAS 6, the cleanup costs are the costs of removing, containing, and disposing of (1) hazardous waste from property, or (2) material and/or property that consists of hazardous waste<sup>6</sup> at permanent or temporary shutdown of the associated equipment asset. If the hazardous waste cleanup is unique to the equipment closure (either temporarily or permanently), disposal, or decommissioning, then the cleanup costs, as defined above, shall be estimated when the associated equipment asset is placed in service. Recognition of the expense and accumulation of the environmental liability shall begin on the date that the equipment asset is placed into service, continue in each period that operation continues, and be completed when the equipment asset ceases operation.<sup>7</sup> A portion of estimated total cleanup costs shall be recognized as expense during each period that the equipment is in operation.<sup>8,9</sup> In accordance with SFFAS 5, the liability is recognized when a future outflow or other sacrifice of resources as a result of past transactions or events is probable and reasonably estimable. In addition, TR 2 outlines several key factors (tests) that must be considered in determining whether a future outflow of resources from a federal entity for environmental cleanup is probable and can be reasonably estimable.

Example of Practice – Cleanup Costs Associated with Equipment at Disposal:

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<sup>6</sup> SFFAS 6 paragraph 86: Hazardous waste is a solid, liquid, or gaseous waste, or combination of these wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

<sup>7</sup> SFFAS 6 paragraph 98: Recognition of the expense and accumulation of the liability shall begin on the date that the PP&E is placed into service, continue in each period that operation continues, and be completed when the PP&E ceases operation.

<sup>8</sup> SFFAS 6 paragraph 97: A portion of estimated total cleanup costs shall be recognized as expense during each period that general PP&E is in operation. This shall be accomplished in a systematic and rational manner based on use of the physical capacity of the associated PP&E (e.g., expected usable landfill area) whenever possible. If physical capacity is not applicable or estimable, the estimated useful life of the associated PP&E may serve as the basis for systematic and rational recognition of expense and accumulation of the liability.

<sup>9</sup> SFFAS 6 paragraph 104 provides additional instructions for initial implementation of SFFAS 6 and for liabilities related to assets in service at the effective date of this standard.

Determination of hazardous waste cleanup liability associated with equipment disposal at the time equipment is being placed in service.

9. As the entity assesses the probability of future outflows of resources for environmental cleanup associated with the equipment disposal, the following factor should be considered. Does the acquisition or any other relevant information (e.g. operating records, experience with similar assets, etc.) identify materials that are used or created within the process that would constitute a hazardous waste at disposal? If the future outflows of resources for environmental cleanup are not probable, then the criterion for recognition of a liability is not established.<sup>10</sup>
10. If the future outflows of resources for environmental cleanup are probable then the entity must assess whether the hazardous waste associated with the newly acquired equipment will be regulated and/or managed the same as other routine operational waste (i.e. routinely disposed using the same method) at the federal facility, or will it be uniquely managed.
11. As the entity assesses the reasonable estimability of future outflows of resources for environmental cleanup related to equipment disposal, the entity should consider whether liability can be estimated for removing, containing, and/or disposing of the hazardous waste.<sup>11</sup>
12. If the future outflow of resources for environmental cleanup related to the equipment disposal are probable, and it is determined that the hazardous waste associated with the newly acquired equipment is **not** routinely removed and disposed during equipment operation; and the costs of removal or containment and/or disposal of the hazardous waste associated with disposal of the equipment can be reasonably estimated (estimates may include a study, if required), then the requirement of equipment disposal cleanup liability recognition has been satisfied and the federal entity must recognize an environmental liability for these estimated costs in accordance with SFFAS 6, paragraph 98. (See illustration in Diagram 1.)<sup>12</sup>

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<sup>10</sup> Technical Release 2 establishes guidance for when costs associated with environmental damage meet the probable and reasonably estimable criteria.

<sup>11</sup> SFFAS 6 Note 68: The unit of analysis for estimating liabilities can vary based on the reporting entity and the nature of the transaction or event. The liability recognized may be the estimation of an individual transaction or event; or a group of transactions and events. For example, an estimate of the cleanup costs could be made on a facility by facility basis, or an entity by entity basis.

<sup>12</sup> In accordance with SFFAS 6, paragraph 96, "Estimates shall be revised periodically to account for material changes due to inflation or deflation and changes in regulations, plans and/or technology. New cost estimates should be provided if there is evidence that material changes have occurred; otherwise estimates may be revised through indexing." As additional information becomes available, the agencies must re-evaluate assumptions, revise cost estimates, and make necessary adjustments to the liability recognition.

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## Cleanup Costs Associated with Equipment during Ongoing Operations

13. In accordance with SFFAS 6, paragraph 93,<sup>13</sup> if such cleanup is an ongoing part of operations, the costs are to be accounted for in accordance with liability standards outlined in SFFAS 1 and are not subject to the recognition guidance provided in SFFAS 6, chapter 4 (paragraphs 97 and 98). Any accrued liability/payable and associated operating expense should be recognized in the period the cleanup occurs as part of ongoing operations.
14. In many cases, hazardous wastes removed and disposed at decommissioning, shutdown and/or disposal of equipment are the same as those managed as part of the periodic routine maintenance and day-to-day operations, as determined by the regulatory requirements and method of managing the waste. For instance, the costs of removing and disposing of hazardous waste (e.g., batteries, cleaning solvents, motor oil) incurred as part of periodic routine maintenance of equipment over its useful life, are generally expensed and the associated liability/payable is recognized as the costs are incurred. The cost of removing and disposing of the same routine maintenance hazardous waste at the time of equipment disposal would likewise be expensed and associated liability is recognized when incurred.

Example of Practice – Cleanup Costs Associated with Equipment during Ongoing Operations: Determination of hazardous waste cleanup during ongoing operations of the equipment (routine hazardous waste disposal) at the time the equipment is being placed in service.

15. As the entity assesses the probability of future outflows of resources for environmental cleanup related to the equipment, the following factor should be considered. Does the acquisition or any other relevant information (e.g. operating records, experience with similar assets, etc.) identify materials that are used or created within the process that would constitute a hazardous waste at disposal? If the probability of future outflows of resources for environmental cleanup is not met, then the criterion for recognition of a liability is not established.<sup>14</sup>
16. If the future outflows of resources for environmental cleanup are probable, then the entity must assess whether the hazardous waste associated with the newly acquired equipment will be regulated and/or managed the same as other routine operational waste at the federal facility or will it be uniquely managed.

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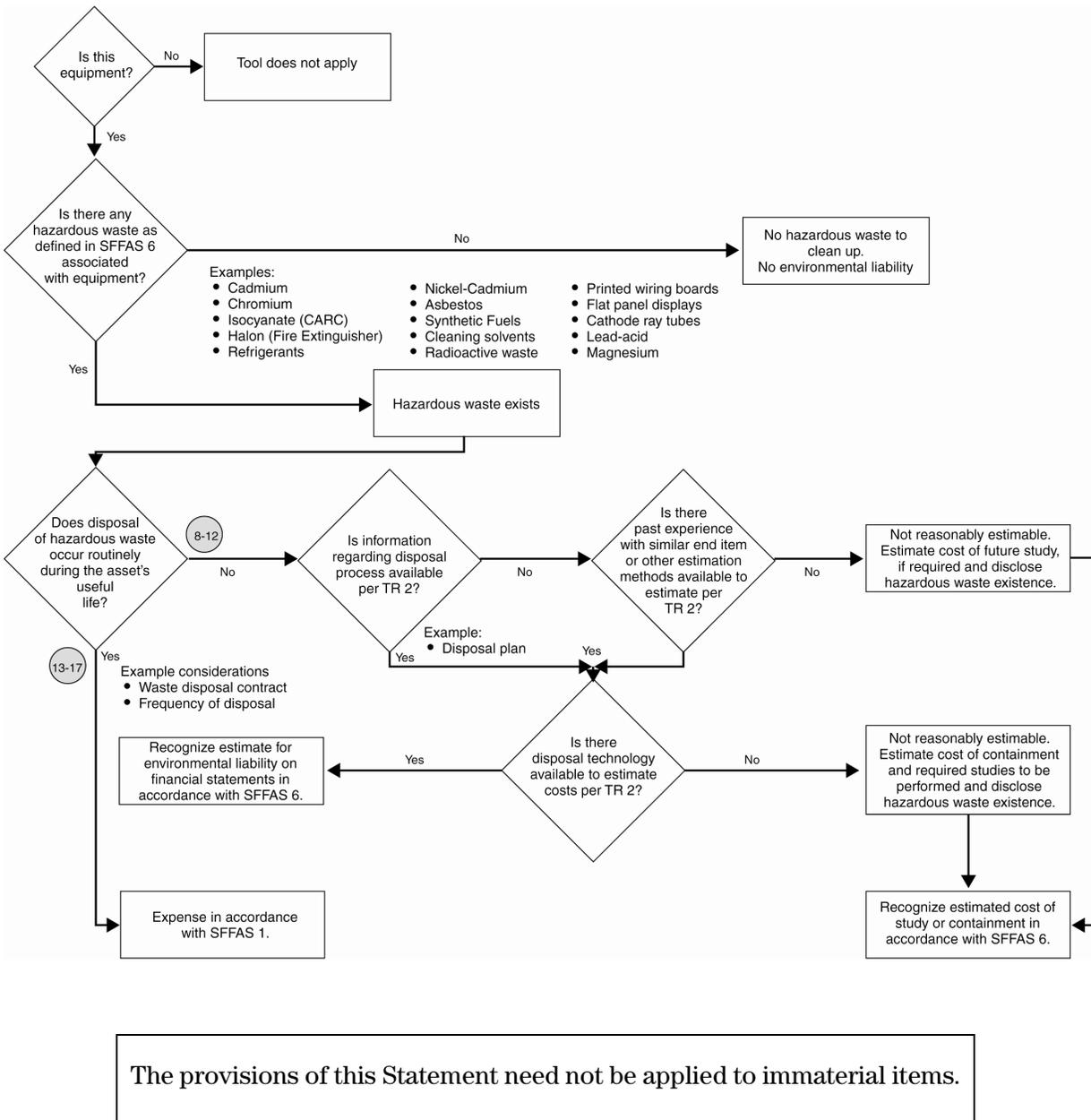
<sup>13</sup> SFFAS 6 paragraph 93: Other cleanup costs, such as those resulting from accidents or where cleanup is an ongoing part of operations, are to be accounted for in accordance with liability standards and are not subject to the recognition guidance provided in this standard. This guidance does not apply to these other types of cleanup since the cleanup effort is not deferred until operation of associated PP&E ceases either permanently or temporarily.

<sup>14</sup> Technical Release 2 establishes guidance for when costs associated with environmental damage meet the probable and reasonably estimable criteria.

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17. If the future outflows of resources for environmental cleanup related to the equipment disposal are probable and it is determined that the hazardous waste associated with the newly acquired equipment is regulated and/or managed the same as other routine operational wastes, then the costs of removal, containment and/or disposal of the routine wastes associated with disposal of this equipment asset are to be recognized, in accordance with the liability standards, in the period that the removal, containment and/or disposal of routine wastes occurs. These costs are **not** subject to the recognition guidance provided in SFFAS 6, paragraph 98. (See illustration in Diagram 1 below.)

**Diagram 1: Recognizing Environmental Liabilities for Equipment Disposal in Compliance with Technical Release 2 and SFFAS 1, 5 and 6**

(Circles correlate to Sections of document)



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## Appendix A: Basis for Conclusions

- A1. In January 2008, the Accounting and Audit Policy Committee (AAPC) established the General Property, Plant, & Equipment (G-PP&E) task force to assist in developing implementation guidance for federal G-PP&E as it relates to SFFAS 6, ***Accounting for PP&E, SFFAS 23, Eliminating the Category National Defense Property Plant, & Equipment, and other related G-PP&E guidance developed by the FASAB***. The task force includes federal agency representatives who are experiencing G-PP&E implementation issues and those who have G-PP&E implementation best practices to share with the federal community.
- A2. The G-PP&E task force was divided into four subgroups that will address a set of related issues. The subgroups meet separately on a regular basis to discuss their set of issues and report back to the full task force on its progress towards the development of implementation guidance. The four sub-groups are
- G-PP&E Acquisition
  - G-PP&E Use
  - G-PP&E Disposal
  - G-PP&E Records Retention
- A3. This guidance was developed by the Disposal subgroup. The subgroup included members from the following federal agencies:
- Department of Defense
  - Department of Energy
  - Department of the Interior
  - Government Accountability Office
  - General Services Administration
  - National Aeronautics and Space Administration

The subgroup included accountants, program managers, and functional PP&E experts. The program managers gave the subgroup the perspective of how the standards come into play on a day-to-day basis.

- A4. The scope of the implementation guidance is to address cleanup costs associated with equipment as it applies to SFFAS 1, 5, 6 and TR 2. The technical release focuses on when to recognize clean-up of hazardous waste associated with equipment as an environmental liability and when to expense as a routine operational cost. The technical release is separated into two sections – one addressing when SFFAS 1 should be applied and the other when SFFAS 6 should be applied. In addition, the technical release includes two examples – one example is associated with hazardous waste cleanup not routinely managed and

disposed of, which includes liability recognition (e.g., PCB removal and disposal during ship decommissioning) and the other example is associated with hazardous waste cleanup routinely managed and disposed of, which includes expensing of the costs being accounted for as an operational expense (e.g., removal of dry cleaning solvents).

- A5. This technical release provides steps that can be followed to help federal entities consistently apply existing standards to assist in providing consistent, accurate and meaningful information.
- A6. In January 2009 the Disposal subgroup of the G-PP&E task force presented a draft equipment cleanup issue paper to the AAPC for review. The committee asked the subgroup to better clarify when the equipment cleanup cost should be recognized as a liability and when the costs should be expensed as routine operations. The Committee also asked the subgroup to include an additional example in the technical release for a naval ship to show the distinction between the disposal of hazardous waste during the normal operations of the ship and the disposal of hazardous waste unique to decommissioning the ship. In May the subgroup returned to the AAPC with a revised version of the implementation guidance that included the requested clarifications as well as the ship example. The members provided some additional comments to the subgroup on the technical release and agreed to review a pre-ballot exposure draft of the guidance before the July AAPC meeting and then have a ballot exposure draft available at the July meeting.
- A7. The AAPC released the exposure draft (ED), *Implementation Guidance on Cleanup Costs Associated with Equipment* on September 3, 2009. Upon release of the ED, notices and/or press releases were provided to: *The Federal Register*, the *FASAB News*, the *Journal of Accountancy*, *AGA Today*, the *CPA Journal*, *Government Executive*, the *CPA Letter*, and committees of professional associations commenting on past exposure drafts.
- A8. Ten letters were received from the following sources:

	FEDERAL (Internal)	NON-FEDERAL (External)
Users, academics, others		2
Auditors		
Preparers and financial managers	8	

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A9. AAPC received a comment on the exposure draft requesting clarification on financial transactions and reporting requirements for cleanup costs associated with permanent versus temporary shutdown of the asset. Further, the respondent requested the exposure draft to be changed to only report cleanup costs associated with permanent shutdown of equipment. SFFAS 6 paragraph 85<sup>15</sup> requires reporting of cleanup costs associated with both temporary and permanent shutdown of assets. In addition, the AAPC G-PP&E, Disposal Sub-group is in the process of defining triggering events and associated financial transactions for permanent and temporary shutdown and/or closure of G-PP&E. Additional guidance related to financial transactions and accounting for cleanup costs at the time the asset is permanently and/or temporarily closed and/or shutdown will be provided as a result of that effort.

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<sup>15</sup> Cleanup costs are the costs of removing, containing, and/or disposing of (1) hazardous waste from property, or (2) material and/or property that consists of hazardous waste at permanent or temporary closure or shutdown of associated PP&E.

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## Appendix B: Illustrations

The examples shown in this appendix are for illustrative purposes only. The explanations and illustrations are presented to show how the standards may be applied but are not standards themselves. These illustrations are general in nature and may not apply to specific cases that appear similar but have unique circumstances.

### Example 1: Decommissioning of Used Perchloroethylene Dry Cleaning Equipment

A dry cleaning operation uses the hazardous material perchloroethylene (perc). Perc is a colorless liquid with mild odor used primarily as a dry cleaning solvent. Perc is highly volatile; 80-85% of the chemical used annually is released into the atmosphere with only 1% to water. The greatest health risk presented by perc is inhalation by industry workers. Studies of industry workers indicate a “probable” linkage between prolonged exposure and certain cancers.



Drycleaners typically recycle used solvent on-site which creates several hazardous wastes. Although the quantities of waste have been greatly reduced through recycling, hazardous waste will continue to be removed and disposed as long as the hazardous solvent is used in the operation. In addition, leaks and spills represent a significant potential environmental hazard.

**Table 1** presents the hazardous waste removed and disposed of from dry cleaning operations throughout the life of the asset and at decommissioning. The second and third columns of the table list the regulatory categorization (i.e., EPA Hazardous Waste code), and method for managing the waste, respectively. The fourth column indicates if the hazardous waste is regulated

and managed in a manner that is routine to the operations or unique to decommissioning and disposing of the equipment at the end of its useful life.

Waste	EPA HW Code	Waste Management Method	Routine/Unique	Accounting Practice	Rationale
Spent Solvent	F002 <sup>1</sup> , D039 <sup>2</sup>	Reuse/recycle on-site or Ship to TSDF <sup>3</sup>	Routine	Operational expense (SFFAS 1)	Reuse/recycle exempts waste or same waste/mgmt as operational
Used Filter Cartridges	F002, D039	Ship to TSDF	Routine	Operational expense (SFFAS 1)	Same waste/mgmt as operational
Distillation Residues	F002, D039	Ship to TSDF	Routine	Operational expense (SFFAS 1)	Same waste/mgmt as operational
Cooked Powder Residues	F002, D039	Ship to TSDF	Routine	Operational expense (SFFAS 1)	Same waste/mgmt as operational
Unused Perc	D039	Reuse/recycle on-site or return to distributor	Routine	Operational expense (SFFAS 1)	Reuse/recycle exempts waste
Wastewater from equipment cleaning	F002, D039	Ship to TSDF	Routine	Operational expense (SFFAS 1)	Same waste/mgmt as operational

All hazardous waste from this equipment falls under the same regulatory requirements (F002, D039) and waste management method (ship to TSDF), or it is recycled and not disposed as a hazardous waste. The hazardous waste removed at decommissioning is the same as waste from ongoing operations and managed the same, as determined by the regulatory requirements. Thus, the cost associated with removal and disposal of the waste produced at decommissioning is recognized as a liability/payable and operational expense in the period incurred in accordance with the guidance provided in SFFAS 6, paragraph 93 and SFFAS 1.

**Key:**

<sup>1</sup>F002: Represents waste containing the class of solvent that includes perchloroethylene.

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<sup>2</sup>D039: Represents waste containing the specific solvent, perchloroethylene.

<sup>3</sup>TSDf: Facility permitted for Treatment, Storage, and Disposal of RCRA hazardous waste.

**References:**

1. RCRA in Focus: Dry Cleaning, EPA530-K-99-005, June, 1999.
2. Proper Disposal of Used Perc Dry cleaning Equipment, Environmental Facilities Corp, April, 2002.
3. A Pollution Prevention Guide for the Dry Cleaning Industry, Delaware Department of Natural Resources and Environmental Control, [www.dnrec.state.de.us/deldrycl.htm](http://www.dnrec.state.de.us/deldrycl.htm)

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## Example 2: Ship Disposal

The disposal of ships belonging to federal agencies is a significant event within asset lifecycle management. Extensive planning and acquisition of services is required to prepare for the retirement of these large-scale assets. Ship disposal may occupy 6 months to 1 year scheduling time of the shipyard's drydock space. Removal of hazardous materials from the ship requires careful planning since the presence of water in and around the ship provides a transport media for hazardous materials to the environment and for human exposure.

In the late 1990's, the U.S. Navy conducted a pilot study to evaluate the feasibility and cost associated with retiring ships, focusing on processes and costs for hazardous material removal. Four separate contractors performed complete ship disposal, using customized processes and in accordance with the environmental regulatory standards of their respective States.

Tables 2 and 3 present the waste streams managed during the disposal operation and identify whether the waste regulation and management is operationally routine or unique to the disposal process. The fifth column indicates if the costs should be accrued as a liability over the life of the asset (i.e., estimated at the time the asset is placed into service and recognized over the life of the asset) in accordance with SFFAS 6, paragraph 98, or expensed and recorded as a payable when the cost is incurred in accordance with SFFAS 1. The tables present high and low volume wastes, respectively, based on the experience of the contractors from the study.

**Table 2. High Volume/Cost Waste Streams**

Waste	Source of Waste	Waste Management Method	Routine/ Unique	Accounting Practice	Rationale
Asbestos-containing materials (ACM)	Pipe and hull insulation and cloth, liner, mastic, plastic foam, gaskets	Disposal in ACM approved landfill <sup>16</sup>	Unique	Accrued Liability (SFFAS 6, paragraph 98)	Unique operation and disposal of regulated waste.
PCB Containing Waste	Cable coatings, felt backing, paint, rubber products	PCB removal under TSCA; Disposal as Solid or TSCA regulated waste. <sup>17</sup>	Unique	Accrued Liability(SFFAS 6, paragraph 98)	Unique operation and disposal; TSCA <sup>18</sup> requires PCB removal from metal prior to further processing.
Waste Oil (Petroleum products)	Fuel, lube oil, hydraulic oil	Recover and recycle.	Routine	Operational Expense (SFFAS 1)	Recovery of useful materials (e.g., metal, fuel) is not a liability.

<sup>16</sup>One contractor disposed electrical cables with asbestos-containing sheathings in their entirety, thereby greatly increasing the volume of ACM waste. Others removed the sheathings to recycle the copper cables. Also, some managed all thermal insulation as ACM rather than sample to determine exact amounts.

<sup>17</sup>Contractors in States that did not adopt EPA's PCB "Mega Rule" need to sample and dispose all PCB waste as TSCA regulated waste. Other States that did adopt the rule allow disposal of PCB Bulk Product Waste (BPW) in a (non-hazardous) Solid Waste Landfill.

<sup>18</sup>Toxic Substance Control Act (TSCA) effective 1/1/77 authorizes EPA to control any substance that was determined to cause unreasonable risk to public health or the environment.

**Table 3. Low Volume/Cost Waste Streams**

Waste	Source of Waste	Waste Management Method	Routine/Unique	Accounting Practice	Rationale
Mercury	Fluorescent light tubes, fire detectors, tank level indicators	Universal waste recycling.	Routine	Operational Expense (SFFAS 1)	Routine recycling.
RCRA-hazardous paint coatings on metal	Ship transducers, ballast, paint coatings	Transferred to scrap metals recycler, RCRA exempt.	Routine	Operational Expense (SFFAS 1)	Routine recycling of useful materials.
Equipment with RCRA-hazardous materials	Contained in equipment	Sale and reuse with disclosure to buyers	Routine	Operational Expense (SFFAS 1)	Recovery of useful materials (e.g., metal, fuel) is not liability.
CFCs	Small refrigerators, water coolers, small freezer units	Sale or reuse; CFC recycled by authorized subcontractor.	Routine	Operational Expense (SFFAS 1)	Routine recycling.

Note to Tables 2 & 3:

Estimated costs associated with two of the high volume wastes (i.e., PCB and asbestos-containing wastes) from ship decommissioning and disposal should be accrued as a financial liability over the asset's useful life as they are non-routine wastes not otherwise managed over the life of the asset. Costs associated with the remainder of the wastes would be accounted for as operational expense in the period incurred in accordance with the guidance provided in SFFAS 6, paragraph 93 and SFFAS 1. These wastes are either routinely recycled materials due to their inherent value (e.g., fuel, oil, CFCs), sold, or routinely disposed as universal waste (e.g., fluorescent lights, batteries, gauges).

However, as stated upfront in this example, ship decommissioning is a unique operation due to increased risk and need for specialized services and space. In addition, the environmental costs incurred by individual contractors vary due to factors such as State and local regulation, technical

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approach to ship disposal, and waste identification and management processes. As a result, the federal agency's management will likely need to make environmental liability determinations based on planned disposal operations for the asset or group of assets, using the examples provided in this document as a guide.

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## Appendix C: Abbreviations

<b>ACM</b>	Asbestos Containing Material
<b>CARC</b>	Chemical Agent Resistant Coating
<b>CFC</b>	Chlorofluorocarbon
<b>PCB</b>	Polychlorinated biphenyl
<b>PERC</b>	Perchloroethylene
<b>RCRA</b>	Resource Conservation and Recovery Act
<b>TSCA</b>	Toxic Substances Control Act
<b>TSDF</b>	Treatment Storage Disposal Facility