

CHAPTER 10 - MANAGING OZONE DEPLETING SUBSTANCES (ODS) AT USACE PROJECTS AND FACILITIES

10-1. Purpose. This chapter establishes guidance for managing ODSs at USACE projects and facilities.

10-2. Applicability. This chapter applies to all USACE commands having responsibility for civil works funded activities, including floating plant. USACE research and development laboratories and other facilities that are wholly or substantially military funded but not located on military installations shall adapt the ozone-depleting substance guidance in AR 200-1, Environmental Protection and Enhancement, in coordination with CECW-OA. USACE facilities located on Army installations will comply with the installation commanders' ozone-depleting substance elimination program requirements.

10-3. Guidance.

a. Executive Order 12843 established a policy of the Federal government to implement cost-effective programs to minimize procurement of materials and substances that contribute to the depletion of stratospheric ozone and give preference to the procurement of alternative chemicals, products and manufacturing processes that reduce overall risks to human health and the environment by lessening the depletion of ozone in the upper atmosphere.

b. The Army's objective is to end dependence on ODS use in equipment and processes so that the pending phaseout of Class I ODSs causes minimal impact on Army missions. Although the Class I phaseout applies to chemical production and import only, and does not apply to their use, EO 12843 and Army policy do. Class I Substances list can be found in 40 CFR Part 82, Appendix A.

c. The key to efficiently eliminating ODSs from USACE projects and facilities is developing and implementing comprehensive ODS elimination plans. Operations project managers or facility managers should develop and execute ODS elimination plans addressing applicable facilities and equipment. Advance planning for phaseout of ODSs will minimize impact on individual projects and facilities. The following paragraphs describe the steps involved in ODS elimination planning.

(1) Step 1: Assign an ODS Elimination Coordinator

(a) It is recommended that MSC commanders and District commanders designate an ODS coordinator in the Operations element since most of the affected facilities and equipment are at operating projects. Laboratories and FOAs should also designate ODS coordinators. The intent is to provide senior leadership with a responsible individual to monitor execution of ODS elimination efforts throughout the division, district, laboratory, FOA, etc.

(b) ODS coordinators should be knowledgeable of USACE policies, and Federal, state and local regulations concerning ODSs, and familiar with the operations and maintenance of projects and facilities, especially those having refrigeration, air conditioning, and fire suppression systems. The ODS coordinator should also be familiar with the planning, programming and budgeting processes.

(c) It is further recommended that operations project managers and facility managers appoint an individual to oversee and coordinate their ODS elimination efforts.

(2) Step 2: Inventory ODS Equipment and Supplies

(a) The first task is to assemble an accurate inventory of all equipment which uses ODSs and an inventory of all ODS supplies on hand. The equipment inventory should include air conditioning, refrigeration and fire fighting systems, and all other ODS applications. These inventories will serve as the baseline for ODS elimination planning. The following information should be gathered as part of the equipment inventory process:

- Location of equipment - area, building, and room
- Ownership - determine if equipment is project, PRIP, logistics or personal property
- Equipment type - manufacturer, model, and serial number of affected components
- Chemical used - identify the ODS used and amount of chemical contained in the system
- Operating record - include the date of installation and operating conditions of the system which apply primarily to air conditioning and refrigeration units
- Maintenance record - include scheduled maintenance actions, emergency repairs, leaks, major overhauls and chemical recharges. The history of chemical requisition may be useful to supplement maintenance records
- Future Plans - such as upcoming scheduled maintenance, building renovation, demolition plans or facility realignment

(b) The information collected should include project and facility supplies and at least the following information:

- Chemical type - chemical name, new or recycled product (for quality control)
- Storage location - building location and ownership
- Allocation - chemical dedicated for a specific use
- Amount - total chemicals at that location, volume, weight, number of containers

(c) The equipment and chemical stock inventories should be prepared in a format that can be updated over the course of the ODS elimination program. Periodic inventories are required.

(3) Step 3: Conservation Measures

(a) The next phase of the ODS elimination planning is establishing maintenance processes aimed at conserving and recovering ODS chemicals. Conservation measures, such as leak prevention, will be a major priority of the on-going maintenance. By preventing leaks, the

project or facility will have to procure fewer ODSs to replenish systems and will have a larger recoverable supply for reuse. For refrigeration and fire fighting systems, periodic checks using a specialized chlorine detector may be preferable. For air conditioning systems, especially those in detached mechanical rooms, a fixed detector may provide better protection against leaks. Fixed fire suppression systems can be checked by monitoring cylinder pressure gauges. If leakage does occur, the systems must be repaired immediately. Without a detection system, leakage might progress to the point of reduced operating efficiency.

(b) Another conservation measure that can be implemented is the installation of high efficiency purge units on centrifugal air conditioning systems. The high efficiency purges prevent the venting of Chlorofluorocarbons (CFCs) during normal operation. These purges are a low cost method to conserve refrigerant and may be considered for equipment not immediately scheduled for retrofit or replacement.

(4) Step 4: ODS Recovery and Reuse

(a) After establishing accurate inventories, the operations project manager or facility manager should then do an analysis or evaluation of each ODS application. Based on these evaluations, decisions can be made regarding how to deal with each ODS being used.

(b) Halons installed in power distribution systems, computer facilities and other electronic systems should be recovered. CFCs should also be recovered from project or facility systems when retrofit or replacement occurs. CFCs recovered from projects or facilities may be reused at the same project or facility. CFCs should also be recovered, reclaimed and reused if the project or facility determines the expense of recovery and reclaiming equipment to be worthwhile as an interim alternative to disposing used ODS solvents.

(5) Step 5: Building the Elimination Plan

(a) With the information gathered from steps 1 through 4, operations project managers or facility managers can build ODS elimination plans. The schedule for retrofitting or replacing equipment should be based on a priority assessment.

(b) Retrofit refers to the modification of existing equipment so it can operate effectively with an alternative chemical. Recovery of the Class I ODS chemical and recharging the system with the replacement chemical is only part of the retrofit action. Frequently, additional system components should be replaced during retrofit actions. For example, fire fighting system nozzles and air conditioner lubricant should be compatible with the new chemicals used. The complexity and cost of these modifications should be evaluated when deciding between retrofit and replacement options.

(c) Replacement is the complete removal of an existing ODS dependent system and installation of a new system that uses an environmentally acceptable alternative chemical. In some cases, ODS containing equipment may no longer be needed and can be eliminated using approved disposal procedures. Only hermetically sealed ODS systems, such as water coolers and refrigerators, which require no ODS additions during maintenance, will be allowed to continue operating indefinitely and eventually be replaced through normal attrition and eliminated using approved disposal procedures.

(d) Decisions on whether to retrofit or replace hardware will be based on factors such as cost, condition, age, performance, and safety. Based on the information gathered during the inventory, the project or facility manager can determine which systems are in need of immediate attention, and which will be efficient and useful for a longer period. Those systems judged to be high priority for major maintenance should be retrofitted or replaced before those systems which are operating well. Listed below are some factors to consider when prioritizing and scheduling retrofits and replacements.

High Priority System Indicators:

- Frequent recharges, leaking components
- Obsolete, inefficient equipment
- Equipment near end of life in hours use or age
- Frequent maintenance and repair required
- Building modernization scheduled

Low priority system indicators:

- Recent Installation
- Low maintenance, infrequent repair required
- CFC-13 refrigerant (no option available)
- System resistant to retrofit

10-4. Yearly Updates. Operations Project Managers and facility managers should update their ODS elimination plans in advance of each annual budget cycle to reflect projected costs, plus justification for necessary resources, and provide input to the budget process. The updated yearly plan should reflect both accomplishments and unfinished requirements for eliminating ODSs.

10-5. Resourcing ODS Elimination. There is no special funding for ODS elimination. ODS elimination requirements should be included in the applicable budgeting process. Using the methodology described in this guidance, project and facility plans can be developed to totally eliminate Class I ODSs.