September 27, 2001

THOMAS G. DAY
VICE PRESIDENT, ENGINEERING

RUDOLPH K. UMSCHEID
VICE PRESIDENT, FACILITIES

SUBJECT: Audit Report – National Refrigerant Management Plan
(Report Number FA-AR-01-002)

This report presents the results of our audit of the National Refrigerant Management Plan (Project Number 00HA037FA000). This audit was self-initiated. Our objectives were to review the progress and evaluate the controls and procedures for accomplishing the goals of the National Refrigerant Management Plan.

The audit indicated that the Postal Service is making progress in converting the chillers identified in the National Refrigerant Management Plan. However, progress toward being "Chlorofluorocarbon Free by 2003" cannot be measured because the Postal Service does not have an accurate inventory of all facilities using chlorofluorocarbon refrigerants. The audit also disclosed problems with management control over refrigerants removed from Postal Service chillers. The Postal Service could not account for as much as 109,000 pounds of refrigerants, valued at $949,000. Management did not agree with our estimate, stating there is no dependable process in place to accurately estimate what should be in the current refrigerant inventory. Management's comments and our evaluation of these comments are included in the report.

We recommended that management consider the cost effectiveness of converting additional chillers before expanding the program. We also recommended that management strengthen accounting procedures for refrigerants removed from facilities. Although management did not fully agree with our estimated amount of unaccounted for refrigerants, they concurred with our recommendations, and their planned actions are responsive to our concerns.

The Office of Inspector General (OIG) considers recommendations 1, 2, and 4 significant and, therefore, requires OIG concurrence before closure. Consequently, the OIG requests written confirmation when corrective actions are completed. These recommendations should not be closed in the follow-up tracking system until OIG

provides written confirmation that the recommendations can be closed. We appreciate the cooperation and courtesies provided by your staff during the audit. If you have any questions, or need additional information, please contact Lorie Siewert, director, Contracts and Facilities, at (651) 855-5856, or me at (703) 248-2300.

John M. Seeba
Assistant Inspector General
for Financial Management

Attachment

cc: John A. Rapp
John R. Gunnels

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Introduction

This report presents the results of our audit of the Postal Service refrigerant management program for refrigerant equipment with a 50-ton or greater cooling capacity at Postal Service facilities. The report responds to a self-initiated audit by the Office of Inspector General. The objectives of the audit were to review progress and evaluate the controls and procedures for accomplishing the goals of the Postal Service National Refrigerant Management Plan.

Results in Brief

Our review indicated that although the Postal Service is making progress in converting the chillers identified in the plan, progress toward meeting the goal of the Postal Service being "Chlorofluorocarbon Free by 2003" cannot be measured because the Postal Service does not have an accurate inventory of all facilities using chlorofluorocarbon refrigerants. Our review also identified weaknesses in the management control over refrigerants removed from Postal Service chillers, which may cause the Postal Service to incur additional costs in the future.

Summary of Recommendations

We recommend the vice president, Engineering, estimate the total cost of converting chillers with consideration to the Voice of the Business, the Voice of the Employee, and the Voice of the Customer to determine whether eliminating the use of chlorofluorocarbon refrigerants is justified. We recommend the vice president, Engineering, in conjunction with the vice president, Facilities, implement controls to ensure the shipping requirements of the National Refrigerant Management Plan are followed. We also recommend the vice president, Engineering, establish procedures to ensure that all refrigerants shipped to the Defense Logistics Agency facility are credited to the Postal Service refrigerant stockpile.

Summary of Management's Comments

Management agreed with all of our recommendations. However, they noted that "Chlorofluorocarbon Free by 2003," was a slogan, rather than a goal. Management did not fully agree with our estimation of the amount of refrigerants not credited to the stockpile noting that the estimate was the worst-case scenario. Management's comments, in their entirety, are included in the appendix of this report.

Overall Evaluation of Management's Comments	We understand management's assertion that "Chlorofluorocarbon Free by 2003" was a slogan, not a Postal Service goal, nonetheless, Maintenance Management Order 026-97 clearly stated this as the program goal for the National Refrigerant Management Plan. Regarding the amount of lost refrigerants, our analysis, as noted in management's response, is an estimate of the highest amount of refrigerant not accounted for and available for future distribution and use. Management's planned actions are responsive to our recommendations.

INTRODUCTION

Background

As part of the United States' commitment to implementing the Montreal Protocol on Substances that Deplete the Ozone Layer, the Congress amended the Clean Air Act in 1990. The act divides ozone depleting substances into two classes based on their ozone depleting potential; Class I, which is more damaging to the ozone layer, and Class II, which is less damaging. The act classifies all chlorofluorocarbons as Class I substances, and classifies hydrochlorofluorocarbons as Class II substances. Both of these substances are used extensively throughout the Postal Service; primarily in air conditioning equipment.

The act directs the Environmental Protection Agency administrator to promulgate regulations phasing out the production and consumption of Class I and Class II substances. The act defines consumption as the amount of a substance produced in the United States, plus the amount imported, minus the amount exported to parties to the Montreal Protocol. The act does not prohibit the continued use of ozone depleting substances. The Environmental Protection Agency administrator established the phase-out schedule for Class I and Class II substances in 1993, which is shown in Table 1, below.

Table 1
Phase Out Schedule for Ozone Depleting Substances

Substance	Clean Air Act Classification	Phase-Out Date
Chlorofluorocarbons	Class I	January 1, 1996
Halons	Class I	January 1, 1994
Carbon tetrachloride	Class I	January 1, 1996
Methyl chloroform	Class I	January 1, 1996
Hydrochlorofluorocarbons	Class II	January 1, 2003 - January 1, 2030

Postal Service Efforts to Limit Use of Class I Substances

Although the Clean Air Act and the Environmental Protection Agency do not prohibit the continued use of Class I substances, the Postal Service implemented a proactive program to limit the use of these substances. Under the Postal Service program, chlorofluorocarbon refrigerants in chillers at Postal Service facilities are to be

abated by either replacing or retrofitting (herein referred to as conversion) the equipment to non-chlorofluorocarbon refrigerant applications by 2003. Chillers are air conditioning equipment used primarily in medium and large facilities.

In 1993, the Postal Service conducted a nation-wide survey of facilities over 50,000 square feet to identify refrigerant equipment with a 50-ton, or greater, cooling capacity in operation at Postal Service facilities. The Postal Service awarded a contract to an independent consulting firm to conduct on-site surveys, develop site-specific abatement actions, prepare budgetary cost estimates, and support needs at the facilities identified by the survey process.

In 1996, the Postal Service established a refrigerant recovery and recycling program, designated area refrigerant coordinators, and addressed issues concerning the handling and disposal of refrigerant chemicals. The recovery and recycling program includes reclamation, storage, and distribution of refrigerants. This program is accomplished through an interagency agreement with the Defense Logistics Agency.

In 1997, the Postal Service implemented the National Refrigerant Management Plan, which provided centralized funding for the conversion of the chillers. The National Refrigerant Management Plan is funded as a component of the Five Year Capital Investment Plan.

Objectives, Scope, and Methodology

The objectives of the audit were to review the progress and evaluate the controls and procedures for accomplishing the goals of the National Refrigerant Management Plan.

To accomplish our objectives, we reviewed Postal Service policies and procedures for the management of chlorofluorocarbon refrigerants at Postal Service facilities, interviewed Postal Service and Defense Logistics Agency officials, reviewed information in the Facilities Management System for Windows, and reviewed contracts for 49 completed chiller conversion projects.

We identified all chiller conversion projects completed as of May 31, 2000, and determined the status of the refrigerant contained in those chillers. We used May 31, 2000, as the cutoff date for our testing because recovered refrigerants

from all projects completed by that date could reasonably be expected to have been shipped to the Defense Logistics Agency in time to be included in the October 2000 inventory.

We used a two-step process to determine the value of the refrigerants removed from Postal Service chillers, but not credited to the Postal Service refrigerant stockpile at the Defense Logistics Agency. First, we estimated the amount of usable refrigerant available after the reclaiming process. Second, we multiplied the amount of usable refrigerant by the current market value for that type of refrigerant.

The Defense Logistics Agency provided us with the current market values for the types of refrigerant currently in the Postal Service stockpile. The Defense Logistics Agency determined the current market values by contacting several refrigerant chemical suppliers and averaging the prices quoted by those suppliers.

This audit was conducted from August 2000 through September 2001 in accordance with generally accepted government auditing standards and included tests of internal controls, as were considered necessary under the circumstances. We discussed our conclusions and observations with appropriate Postal Service management officials and included their comments, where appropriate.

Prior Audit Coverage

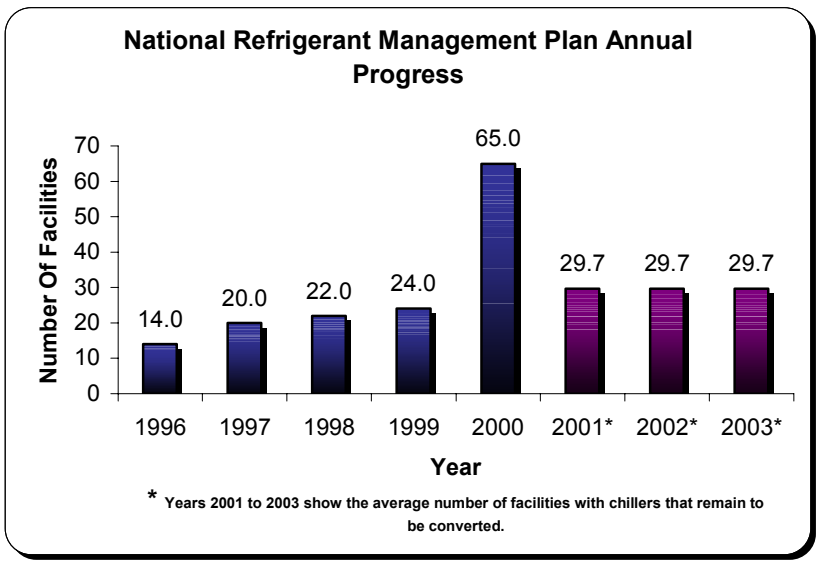
We reviewed Postal Service Office of Inspector General (OIG) reports, Postal Inspection Service reports, and General Accounting Office reports to determine if any reviews were completed on the management of refrigerants. We concluded no directly related reviews had been conducted.

AUDIT RESULTS

Progress Toward Meeting National Refrigerant Management Plan Goals	Although the Postal Service has made progress in converting chillers under the National Refrigerant Management Plan, the progress toward meeting the goal of the Postal Service being "Chlorofluorocarbon Free by 2003"[1] and the total cost of meeting the goal cannot be measured because the Postal Service does not have an accurate inventory of all facilities using chlorofluorocarbon refrigerants. However, the Postal Service has initiated an effort to develop a more accurate inventory of air conditioning equipment using chlorofluorocarbon refrigerants at facilities over 15,000 square feet that should allow better progress measurement and cost determination.
Inventory of Chlorofluorocarbon Equipment	In an effort to identify all facilities that use chlorofluorocarbon refrigerants, the Postal Service conducted a national survey in 1993. This survey included all Postal Service facilities over 50,000 square feet. According to Postal Service officials, the intent of only including facilities over 50,000 square feet in the survey was to identify facilities with air conditioning equipment with a 50-ton, or greater, cooling capacity. According to Postal Service officials, the national survey did not identify all facilities using chlorofluorocarbon refrigerants. The 50,000 square foot criteria assumed a load of 1,000 square feet per ton of cooling capacity. We obtained air conditioning equipment manufacturer information from Postal Service officials that estimates a load of approximately 300 square feet per ton of cooling capacity. Based on this information, the survey should have included all Postal Service facilities over 15,000 square feet. The Postal Service has initiated an effort to identify all cooling equipment at facilities over 15,000 square feet. This inventory should more accurately identify all equipment with a 50-ton, or greater, cooling capacity.
Progress Toward Converting Chillers	We reviewed the Postal Service's progress toward converting the chillers at the 234 facilities identified for conversion under the National Refrigerant Management Plan. Through calendar year 2000, chillers at 145 of these facilities have been converted, and chillers at 89 remain to

[1] Maintenance Management Order 026-97, "United States Postal Service National Refrigerant Management Policies and Procedures," states that the Postal Service goal is to be "Chlorofluorocarbon Free by 2003."

be converted. The chart below shows the number of facilities that have been completed in each year of the program, and the number remaining to be converted.



Although the Postal Service identified 234 facilities for conversion, additional efforts are required to identify all facilities with equipment containing chlorofluorocarbon refrigerants before progress toward meeting the goal of being chlorofluorocarbon free can be measured and the cost of meeting the goal can be determined.

Total Cost of Converting Chillers

The Postal Service implemented the National Refrigerant Management Plan to provide centralized funding for the conversion of the chillers. The plan is funded as a component of the Five Year Capital Investment Plan. The Postal Service expended $52 million to convert chillers through fiscal year (FY) 1999 and estimated that an additional $40 million will be expended through FY 2005 to convert chillers at the facilities over 50,000 square feet identified in the initial survey process. Because the initial survey process did not identify all facilities with air conditioning equipment using chlorofluorocarbon refrigerants, the Postal Service has not determined the total cost for converting chillers at all facilities.

Recommendation

We recommend the vice president, Engineering, should:

1. Determine the total cost of converting the chillers at facilities greater than 15,000 square feet.

Management's Comments	Management agreed with the recommendation and has already distributed Chiller Surveys to all facilities 15,000 square feet or larger. They anticipate completing their analysis by February 1, 2002.
Recommendation	2. After determining total cost, reconsider whether the goal of eliminating the use of chlorofluorocarbon refrigerants is economically justified given the Postal Service's current financial condition. In the determination, consideration should be given to the Voice of the Business, the Voice of the Employee, and the Voice of the Customer.
Management's Comments	Management agreed with the recommendation and will use the analysis of the data collected from the survey to formulate new policy, which is expected to be completed by March 1, 2002.
Evaluation of Management's Comments	Management's proposed actions are responsive to our recommendations.

Management and Control of Postal Service Refrigerant	The Postal Service converted chillers at 112 facilities containing as much as 254,000 pounds[2] of chlorofluorocarbon refrigerants prior to May 31, 2000. Of this amount, approximately 109,000 pounds, or 43 percent, have not been credited to the Postal Service refrigerant stockpile at the Defense Logistics Agency. The chlorofluorocarbon refrigerants were not credited to the stockpile because the refrigerants were not shipped to the Defense Logistics Agency, or the refrigerants shipped to the Defense Logistics Agency were not properly labeled. Used refrigerants in the stockpile can be reclaimed for future use. As a result, Postal Service refrigerants currently valued at as much as $949,000 may not be available for future distribution and use in Postal Service equipment. In addition, the Postal Service may incur additional costs to purchase new refrigerants that would otherwise be available in the stockpile.
Overview of Postal Service Refrigerant Management and Storage	The refrigerant management effort was implemented through several maintenance management orders issued by the Engineering division. Two major components of the Postal Service refrigerant management effort are the conversion of chillers using chlorofluorocarbon refrigerants to non-chlorofluorocarbon refrigerants, and a refrigerant stockpile, reclamation, and redistribution program. The Postal Service converts chillers using one of two methods; replacing existing equipment with equipment that uses non-chlorofluorocarbon refrigerants, or retrofitting existing equipment to operate with non-chlorofluorocarbon refrigerants. Under either method, the refrigerant contained in the existing equipment can be recovered and stored for future use in maintaining existing equipment. In 1996 the Postal Service established a centralized refrigerant management facility at the Defense Logistics Agency to stockpile, reclaim, and redistribute refrigerants to Postal Service facilities. Reclamation is the reprocessing of used refrigerant to at least the purity specified in the Air Refrigeration Industry 700-1993, “Specifications for Fluorocarbon Refrigerants.” The stockpile was created to allow the Postal Service to maximize the use of existing

[2] The amount of refrigerants contained in Postal Service chillers is based on estimates made by an independent consulting firm in 1994, and may not represent the actual amount of refrigerant in the chillers at the time of conversion.

	chlorofluorocarbon refrigerants. Maintenance Management Order 020-96, "Clarification of Refrigerant Issues," requires that when systems containing chlorofluorocarbon refrigerants are converted, the refrigerants should be recovered and shipped to the Postal Service stockpile at the Defense Logistics Agency storage facility. The stockpile serves as an economical alternative to purchasing new refrigerants on the open market that are required for the continued maintenance of existing equipment. The stockpile is, therefore, expected to become valuable in terms of convenience and expenditure avoidance.
Refrigerant in Postal Service Stockpile	As of May 31, 2000, chillers containing chlorofluorocarbon refrigerants at 112 facilities had been converted. In 1994, an independent contractor estimated that the total amount of chlorofluorocarbon refrigerants in the chillers at these facilities was approximately 254,000 pounds. We were unable to confirm the accuracy of the original estimate, and, therefore, the exact amount of refrigerant in the chillers at the time of conversion is unknown. The chlorofluorocarbon refrigerants contained in these chillers may have leaked, or been vented into the atmosphere, been retained by contractors, or been disposed of by other means. We obtained inventory records from the Defense Logistics Agency showing the amount and type of refrigerant in the Postal Service stockpile as of October 2000. These inventory records show that the Postal Service stockpile contains 144,677 pounds of various types of used chlorofluorocarbon refrigerant. Because of the questionable initial inventory and inadequate management controls over the refrigerant inventory at Postal Service facilities, it is not possible to determine the precise amount of refrigerants not credited to the stockpile. We estimated the amount of chlorofluorocarbon refrigerant not credited to the stockpile by subtracting the 144,677 pounds that were credited from the 254,000 pounds that were estimated to be at the facilities that were converted prior to May 31, 2000. Because these chillers were converted, the refrigerants that were contained at the facilities should have been recovered and shipped to the Postal Service refrigerant stockpile and should be reflected in the October 2000 inventory records. The total

amount of chlorofluorocarbon refrigerant not credited to the stockpile is approximately 109,000 pounds, or 43 percent of the total chlorofluorocarbon refrigerant in the chillers that were converted. Because approximately 109,000 pounds of chlorofluorocarbon refrigerant removed from Postal Service facilities was not credited to the stockpile, the Postal Service may unnecessarily incur additional costs to purchase refrigerants that would otherwise be available through the stockpile. Table 2 shows the status of the chlorofluorocarbon refrigerants in Postal Service chillers that were converted through May 31, 2000.

Table 2
Postal Service Refrigerant Status

Refrigerant	Quantity in Converted Chillers (May 2000)	Quantity Credited (Oct. 2000)	Quantity Not Credited
chlorofluorocarbon - 11	143,018	65,928	77,090
chlorofluorocarbon - 12	77,426	59,010	18,416
chlorofluorocarbon - 113	21,013	10,000	11,013
chlorofluorocarbon - 500	12,751	9,739	3,012
Total	**254,208**	**144,677**	**109,531**

The Postal Service implemented the refrigerant stockpile program to maximize the use of existing assets. The use of these assets is maximized by ensuring the availability of refrigerants for reuse. The availability of the refrigerants allows the Postal Service to continue utilizing existing cooling equipment that uses chlorofluorocarbon refrigerants, rather than converting the equipment to use non-chlorofluorocarbon refrigerants.

Value of Refrigerants

Table 3 shows that the total current market value of the 109,000 pounds of chlorofluorocarbon refrigerant that was not credited to the stockpile is approximately $949,000. The 109,000 pounds of chlorofluorocarbon refrigerant is the maximum amount that may have been available to be shipped to the stockpile, and the dollar value of the refrigerant not credited to the stockpile may be less than $949,000. Because of the inadequate management controls over the refrigerant inventory at Postal Service facilities, we were unable to determine the precise amount of refrigerant that was available to be shipped to the stockpile, and, therefore, could not determine the precise dollar value of the refrigerant that was not shipped to the stockpile.

Table 3
Estimated Value of Refrigerant Not Credited to Stockpile

Refrigerant	Refrigerant Not Credited (Pounds)	Estimated Reclaimed Refrigerant (Pounds)[3]	Market Value Per Pound	Dollar Value
chlorofluorocarbon - 11	77,090	57,818	$ 8.54	$ 493,766
chlorofluorocarbon - 12	18,416	13,812	$ 22.57	$ 311,737
chlorofluorocarbon - 113	11,013	8,260	$ 14.27	$ 117,870
chlorofluorocarbon - 500	3,012	2,259	$ 11.65	$ 26,317
Total	**109,531**	**82,149**		**$ 949,690**

Internal Controls

We reviewed contracts for 49 completed chiller conversion projects. The requirement to ship the recovered refrigerants to the Defense Logistics Agency was included in the contract for 12 of these projects, and was not included for the other 37 projects. We confirmed the shipment of the refrigerants for 11 of the 12 projects that included the shipment requirement in the contract, and for 17 of the 37 projects that did not include the shipment requirement in the contract. We believe that including the shipment requirement in the contract would increase the probability that the refrigerants will be shipped to the stockpile. In November 2000, the Facilities division provided additional guidance to the contracting officers recommending that the requirements regarding the shipment of recovered refrigerants to the Postal Service stockpile be incorporated into the project specifications for all chiller conversion projects.

Maintenance Management Order 020-96, "Clarification of Refrigerant Issues," requires that chlorofluorocarbon refrigerant shipments to the stockpile be labeled with information that identifies the shipper's address and the shipping activity's name with a point of contact and telephone number. Officials at the Defense Logistics Agency storage facility stated that many of the shipments received at the storage facility do not contain this information. In some instances, the source of the shipment is merely identified as Postal Service, or the source is not identified. When the source is identified as Postal Service, the shipment is credited to the Postal Service stockpile. When the source is not identified, the shipment is not credited to the Postal Service stockpile.

[3] The Defense Logistics Agency uses a 75 percent factor to estimate the amount of refrigerant that will be available after the reclamation process. According to the Defense Logistics Agency, 75 percent of the recovered refrigerant is the amount that remains after the reclaiming process. We used this factor in estimating the amount of refrigerant that will be available after the reclamation process.

We found one instance where refrigerant shipped from a Postal Service facility to the Defense Logistics Agency was not credited to the Postal Service stockpile. We notified officials at the Defense Logistics Agency of this, and they found that the refrigerant was not credited because the shipment was not properly labeled. The Defense Logistics Agency agreed to credit the Postal Service stockpile for the amount of refrigerant contained in this shipment. We believe that properly labeling the refrigerant shipments will ensure that the refrigerants will be credited to the stockpile.

Maintenance Management Order 020-96, "Clarification of Refrigerant Issues," requires that shipment notifications be sent to Postal Service Headquarters, the area environmental compliance coordinators, and the area refrigerant coordinators when refrigerants are shipped to the stockpile. However, the maintenance management order does not specify who is responsible for sending the shipment notifications. We found that the shipment notifications were not sent to Postal Service Headquarters, as required by the maintenance management order. The shipment notification serves as an important internal control, which aids the Postal Service in ensuring that all refrigerants recovered from Postal Service chillers are shipped to the stockpile. The shipment notification allows the Postal Service to reconcile the refrigerant shipments with the refrigerant receipts reported by the Defense Logistics Agency to ensure that the refrigerant shipments are credited to the stockpile. The lack of shipment notifications precludes the Postal Service from reconciling the shipments with the Defense Logistics Agency inventory records. Designating who is responsible for sending the shipment notification to Postal Service Headquarters should increase the likelihood that the shipment notifications will be sent.

Recommendation

We recommend the vice president, Engineering, should:

3. Establish procedures to reconcile the Defense Logistics Agency inventory receipt records with Postal Service shipment records to ensure that all refrigerant shipments are credited to the Postal Service stockpile.

Management's Comments	Management agreed with the recommendation and proposed a joint action between Engineering and Facilities to include Postal Service Headquarters in the routing of shipment notification forms and require weighing of refrigerant containers by contractors and the Defense Logistics Agency. They expect to establish these procedures by February 1, 2002.
Recommendation	The vice president, Engineering, in conjunction with the vice president, Facilities should: 4. Establish procedures that will ensure that all contracts include requirements that the refrigerants be recovered, properly labeled, and shipped to the Defense Logistics Agency for all projects involving the conversion of Postal Service chillers.
Management's Comments	Management agreed with the recommendation and has reemphasized the program requirements, and plans to update master contract specifications for distribution via hardcopy and CD-ROM by March 2002.
Recommendation	5. Designate who will be responsible for notifying Postal Service Headquarters of refrigerant shipments to the stockpile.
Management's Comments	Management agreed with the recommendation and will implement new procedures to require the Contracting Officer to submit shipment notification forms. This new policy will be implemented in December 2001.
Evaluation of Management's Comments	Management's proposed actions are responsive to our recommendations.

APPENDIX. MANAGEMENT'S COMMENTS

UNITED STATES POSTAL SERVICE

September 12, 2001

BILLY SAULS
ASSISTANT INSPECTOR GENERAL FOR BUSINESS PROTECTION

SUBJECT: Draft Audit Report - National Refrigerant Management Plan
(Report Number FA-AR-01-Draft)

We have received your Draft Audit Report on the National Refrigerant Management Plan and are providing the following response. The format we have chosen is to provide a general response to the report and then the detailed responses to your specific recommendations. We believe that in general the report is fair and there are procedures concerning the shipment of refrigerants to the Defense Logistics Agency (DLA) and the inventory of that stockpile, which need improvement. At the same time there are specific comments with which we disagree.

For the purposes of this response, "CFC" refers to Chlorofluorocarbons and "HCFC" refers to Hydrochlorofluorocarbons that are used in the chemical makeup of the refrigerants found in the chiller units of the air-conditioning systems used to cool Postal facilities.

One of the first items of disagreement relates to the phrase "CFC Free by 2003." This is not a Postal Service goal; it was and is merely a slogan to encourage the field to develop projects to replace these CFC systems. There is no law, which requires us to convert CFC systems by 2003. The current law only prohibits the manufacture of CFCs. Therefore, there is no reason to measure our progress towards this goal. Recommendation #2 in your own draft audit clearly suggests the timeframe as artificial.

The field has limited capital funds and tends to keep old cooling systems long beyond the time that they are cost effective. We also expect that in the future the purchase of CFCs will be cost prohibitive. The National Refrigerant Management Plan (NRMP) is an attempt to be proactive in this area, to replace our older, less efficient systems, and to collect a national supply of CFCs to help support the CFC systems that remain in the field.

Our initial effort has been at the larger facilities, those with an interior square footage greater than 50,000 square feet, approximately 230 facilities. We concentrated on units greater than 15 years old, where we were able to make significant energy savings. Typically, we replaced a unit whose energy rating was 2.6 KWH/Ton with a unit whose rating was .6 KWH/Ton.

We have now expanded the scope of the NRMP, and we are collecting chiller and CFC data on all facilities with an interior square footage greater than 15,000 square feet, approximately 4,000 facilities. However, most of these smaller facilities use HCFCs. The production phase out of HCFCs does not begin until 2010, with a production ban in 2030. We expect that one result of the survey will be to identify some additional facilities with CFC units, which we will replace when it is cost effective. Again, most of these facilities are expected to be found using HCFCs, thus there is no need to address them at this time.

Our most important point of disagreement is the estimated $949,000 worth of refrigerant not accounted for. At the very best, the estimate is the worst case scenario. While we agree that we need better procedures to track the stockpile Inventory, we do not believe that there is a dependable process to accurately estimate what should be in the current inventory. The baseline data that was used for your analysis was gathered by our consulting firm in 1994, and was supposed to reflect the manufacturer's "name plate" data. The total refrigerant shown on the "name plate" may not be the amount that was actually in the chiller in 1994, or the amount that was in the chiller at the time of replacement. Replacement of leaking chillers was given priority, and it is quite likely that some refrigerant was lost between the time of the survey and replacement. The analysis also does not account for the cases where the contracting officer provided the refrigerant to the contractor in return for lowering the price of the contract. We certainly know of cases where the CFCs were not sent to the DLA because they were exchanged for goods and services, but we are not aware of any cases where anything improper has occurred. While this practice is not in accordance with the procedures in effect at that time, it certainly does not represent a loss to the Postal Service.

RECOMMENDATIONS:

1. Determine the total cost of converting the chillers at facilities greater than 15,000 square feet.

We agree with the recommendation and we have already distributed the Chiller Surveys to all facilities whose square footage is greater than or equal 15,000 square feet. Most of these forms will be returned during September 2001, and we will begin to enter the information into our database. Once the initial data is collected, we will redistribute survey forms to the facilities that failed to respond to the initial survey. If we can complete the resurvey prior to the Christmas rush, we will have the additional data entry completed during November 2001. In December 2001, we will begin running the reports and performing the analysis necessary to determine when replacements are required and the total cost of those replacements. The results of our analysis will be available by February 1, 2002.

2. After determining the total cost, reconsider whether the goal of eliminating the use of chlorofluorcarbon refrigerants is economically justified given the Postal Service's current financial condition. In the determination, consideration should be given to the Voice of the Business, the Voice of the Employee, and the Voice of the Customer.

We agree with the recommendation and we will use the analysis of the data from our survey (see Recommendation #1) to help determine a new policy for the replacement of CFC systems. This policy will incorporate the current financial position of the Postal Service in addition to the consideration of the Voice of the Business, the Voice of the Employee, and the Voice of the Customer. This policy will be determined by March 1, 2002.

3. Establish procedures to reconcile the Defense Logistics Agency inventory receipt records with Postal Service shipment records to ensure that all shipments are credited to the Postal Service Stockpile.

We agree with the recommendation and we realize the inadequacies of the current record keeping as it pertains to the stockpile. We would like to note that the audit recommended that the Vice President, Engineering, in conjunction with the Vice President, Facilities, should address recommendations numbered 4 and 5. Our proposed solutions also include a joint action for recommendation numbered 3. The MMO-026-97, National Refrigerant Management Plan, has copies of the forms that are to be completed upon the shipment of refrigerant to the Defense Logistics Agency. It is our proposal that the completion of the forms, including weighing the recovery cylinders, be part of the contractor's responsibility. The contracting officer for the Postal Service will ensure that these forms are completed and sent to the DLA with a copy to Postal Service Headquarters, Engineering, Maintenance Policies and Programs, CFC Program Manager.

So that the Postal Service can reconcile their inventory at the DLA, the Memorandum of Understanding with the DLA will have to be changed to include the weighing of refrigerant received and the recording of that information. This will be accomplished by February 1, 2002.

4. Establish procedures that will ensure that all contracts include requirements that the refrigerants be recovered, properly labeled and shipped to the Defense Logistics Agency for all projects involving the conversion of Postal Service chillers.

We agree with the recommendation. As noted previously, this recommendation should be addressed by the Vice President, Engineering, in conjunction with the Vice President, Facilities. The MMO-026-97, National Refrigerant Management Plan, Attachment 4, page 3, states "All CFC refrigerants permanently removed from USPS owned equipment shall be shipped to the Defense Logistics Agency." This note has been reissued and reemphasized to the Facilities Service Offices and the Administrative Support Offices. Headquarters Facilities issues the Building Design Standards (BDS) to all Facilities Service Offices and to all Administrative Support Offices. The BDS are on a CD-ROM, which contains Master Specifications that are to be utilized in construction contracts. These "standards" include references to environmental issues, quality standards for materials, etc. The shipping of CFC refrigerant to the DLA should be included as part of the Master Specifications. Changes to the BDS are done quarterly. In March 2002, a new CD-ROM will be issued with all of the previous year's changes. In December 2001, a text version of the changes will be issued. We will have the CFC shipping requirement in the December 2001 text version, which will be incorporated in the March 2002 CD-ROM.

5. Designate who will be responsible for notifying Postal Service Headquarters of refrigerant shipments to the stockpile.

We agree with the recommendation, and we realize the inadequacies of the current record keeping as it pertains to the stockpile. As noted previously, this recommendation should be address by the Vice President, Engineering, in conjunction with the Vice President, Facilities. The MMO-026-97 has copies of the forms that are to be completed upon the shipment of refrigerant to the DLA. It is our proposal that the completion of the forms, including weighing the recovery cylinders, be part of the contractor's responsibility. The contracting officer for the Postal Service will ensure that these forms are completed and sent to the DLA with the shipment of the refrigerant. The contracting officer will also send a copy of these forms to Postal Service Headquarters, Engineering, Maintenance Policies and Programs, CFC Program Manager. The implementation of this procedure will coincide with the BDS update that will be sent out in December 2001.

Thomas G. Day
Vice President
Engineering

Rudolph K. Umscheid
Vice President
Facilities