U.S. GENERAL SERVICES ADMINISTRATION
OFFICE OF INSPECTOR GENERAL

Review of the Heating Operation and Transmission District's Operations and Finances

Final Audit Report
A060170/P/W/R07005
September 13, 2007

Washington Field Audit Office
Washington, DC

U.S. GENERAL SERVICES ADMINISTRATION
Office of Inspector General

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Reply to Attn of: Regional Inspector General for Auditing
Washington Field Audit Office

Subject: Review of the Heating Operation and Transmission District's Operations and Finances
Report Number A060170/P/W/R07005

To: Tony Reed
Regional Administrator
National Capital Region

This report presents the results of our review of PBS NCR's Heating Operation and Transmission District's (HOTD) operations and finances. Our review found various accounting, procurement, and operational issues that should be addressed to improve HOTD's performance. From an accounting perspective, current financial system data does not does accurately describe HOTD financial performance. Financial system data should be adjusted to obtain a representative picture of HOTD operations. In particular HOTD should recognize all general and administrative and depreciation expense, correct the Reimbursable Work Authorization type used, allocate expenses by business line, and consider treating the operation as one facility. From a procurement standpoint, HOTD should restore contract administration for the $69M chilled water expansion/cogeneration project. Key operational issues include the cogeneration system not realizing planned energy savings, weak controls over fuel oil, and the lack of a strategy for the West Plant. Our report provides a number of recommendations for improving a function that is essential to the federal government.

If you have any questions regarding this report, please me or Paul Malatino, Regional Inspector General for Auditing, at (202) 708-5340.

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EXECUTIVE SUMMARY

Purpose

The purpose of this review was to conduct a comprehensive assessment of the Heating Operation and Transmission District (HOTD), both its operations and finances. The objectives were three-fold: to determine if HOTD operates and utilizes its assets economically, efficiently, and securely to reliably provide steam and chilled water, to determine if management controls are sufficient to safeguard HOTD assets, and to determine if HOTD is accountable for revenue and expenses to derive utility rates that recover costs and charge customers appropriately.

Background

HOTD provides steam and chilled water utility service to government and quasi-government customers. Steam is used for heating space and hot water; chilled water is utilized for cooling space and dehumidifying. In FY 2005, HOTD serviced 76 customers over approximately 50M gross square feet. There are four major assets involved in providing HOTD utility services: the Central Heating Plant, the Central Refrigeration Plant, the West Heating Plant, and the Steam Distribution Tunnels.

HOTD is a unique organization within GSA, providing utility service to federal agencies throughout the National Capital Region (NCR). Throughout HOTD's history, Congress has also authorized HOTD to service non-federal government customers, such as the Daughters of the American Revolution, Organization of American States, and Smithsonian Institution. In FY 2005, HOTD serviced 28 buildings outside of the GSA inventory. For financial reporting purposes, these buildings were included in the HOTD organization as they only have a relationship with GSA for utility services.

Results-in-Brief and Recommendations

1. HOTD evaluates its customer billing rates on the basis of cost projections that exclude certain operating expenses. The two primary exclusions are general and administrative (G&A) expenses and depreciation. One consequence of this decision is that the HOTD organization regularly incurs a substantial loss; for the fiscal year ended September 30, 2005, it lost $20.3 million on revenue of $51.9 million. The agency financial system does not account for this organization as a discrete entity so the effort needed to compile the financial results is considerable.

Recommendations:

- *Prepare annual financial statements for HOTD that comply with Federal Accounting Standards.*
- *Subject the HOTD organization to more rigorous financial and operational analysis. HOTD would benefit from dedicated financial support and could likely justify a full time financial specialist.*

2. HOTD's investment in a cogeneration system has not resulted in the energy savings planned to help fund that acquisition. The expectation was that the cogeneration system would provide for all of the plant's electricity needs and produce a surplus for sale back to the utility company. In fact, the plant remains a net consumer of electricity. There are several contributing factors, but ultimately the system has been operated at about 32 percent of its theoretical availability and its performance variance from specification has not been tested.

Recommendations:

- *Develop a boiler operating plan that takes into account market conditions and relative efficiency of the equipment.*
- *Instruct the contracting officer to assemble a contract file for the chiller/cogenerator procurement and to fulfill his administrative responsibilities under this procurement.*
- *Ensure that the contracting officer designate a qualified individual to serve as the contracting officer's technical representative.*
- *Replace the deficient induced draft fan to permit as-designed system functionality and performance testing of the cogeneration system.*

3. HOTD's West Plant facility is idle and deteriorating and there is no long-term strategy in place to remedy this condition. In addition, there is no established contingency plan to deal with a full or partial plant shutdown. As currently configured, a major disruption to the Central Plant could have a significant impact on the executive branch of the federal government, as HOTD services multiple headquarter agency buildings, the Executive Office Buildings, and the White House.

Recommendations:

- *Utilizing the PBS portfolio management methodology, determine the best use of the West Plant asset and develop a workable strategy. Consider the possibility of restoring the West Plant with an energy savings performance contract.*
- *Devise a contingency plan for providing utility services in the event Central Plant operations are interrupted.*

4. Five of the six boilers used to generate steam at HOTD's Central Plant are periodically powered by fuel oil as an alternative to natural gas. While not the primary energy source, fuel oil does represent a significant cost. HOTD recorded fuel oil expense of $2.1 million in FY 2005, accounting for five percent of total utilities expense. Control over this asset is weak; the risk that a fuel oil loss or shortage would go undetected is unacceptably high.

Recommendations:

- *Account for fuel oil in accordance with generally accepted accounting principles: the commodity should be carried by HOTD as an asset until consumed; its value should be derived from a consistently applied inventory valuation method; fuel oil expense should be determined on the basis of actual fuel consumed in the period reported.*

- *With respect to specific internal controls: determine fuel oil consumption using the automated gauges on the boilers; maintain the fuel oil delivery log; perform periodic inventory reconciliation of fuel oil to provide reasonable assurance of accuracy and to detect loss.*

5. Review of the financial aspects of HOTD's operations yielded several accounting weaknesses: inappropriate accounting for energy conservation project depreciation expense; incorrect RWA type, lack of a discrete HOTD identifier; lack of a business line cost allocation model.

Recommendations:

- *Discontinue the use of recurring Reimbursable Work Authorizations (RWA) for HOTD services in order to correct accounting data. HOTD sales should be recognized as revenue, not a contra expense. Consider the development of an RWA type specific to HOTD utility sales.*
- *Recognize the HOTD organization as a discrete facility within the financial system.*
- *Develop the capability to isolate HOTD financial activities by business line.*

INTRODUCTION

Background

The General Services Administration's (GSA) Heating Operation and Transmission District (HOTD), within the Public Buildings Service (PBS) National Capital Region (NCR), provides steam and chilled water utility service to government and quasi-government customers. Steam is used for heating space and hot water; chilled water is utilized for cooling space and dehumidifying. In FY 2005, HOTD serviced 76 customers over approximately 50M gross square feet. There are four major assets involved in providing HOTD utility services: the Central Heating Plant, the Central Refrigeration Plant, the West Heating Plant, and the Steam Distribution Tunnels. The Central Heating Plant houses five boilers and a boiler-like heat recovery steam generator. The total plant capacity is 1.57M pounds per hour (pph) steam, with a firm capacity (capacity without one of the two largest boilers) of 1.17M pph. The Central Refrigeration Plant, located within the Central Heating Plant, includes eight chillers. Six of the chillers are electric and two chillers are driven by steam turbines. The total chiller capacity is approximately 17,000 tons, with a firm capacity less than 15,000 tons. The West Heating Plant houses five boilers with a total capacity of about 1M pph steam and a firm capacity of about 800,000 pph, however the West Heating Plant has not been in operation since 2000. The Steam Distribution Tunnel system that moves steam throughout the HOTD service area consists of seven miles of underground tunnel and five miles of buried pipe.

HOTD is a unique organization within GSA. The concept of a centrally located heating plant received congressional approval in 1913, however war efforts pushed construction commencement to 1933. The initial plan was for a centralized plant to service federal buildings around the White House and Triangle areas of Washington, DC. Throughout HOTD's history, Congress has also authorized HOTD to service non-federal government customers, such as the Daughters of the American Revolution, Organization of American States, and Smithsonian Institution. In FY 2005, HOTD serviced 28 buildings outside of the GSA inventory.

Eighty-nine employees worked in HOTD in 2005. These employees were organized throughout four divisions: Maintenance and Engineering, Production and Environmental, Maintenance and Engineering Steam Distribution, and Administration and Systems. A decrease in the salary expense of HOTD associates from 1996 to 2005 was balanced by a nearly equal increase in contract costs during the same period.

Recently, one of the most significant changes within HOTD was the completion of a chilled water expansion/cogeneration project in December 2004. This $69M project installed eight chillers and a cogeneration system in the Central Plant. The increased chiller capacity allowed HOTD to extend chilled water service to the Smithsonian Institution. The cogeneration system allows HOTD to use its heat recovery steam generator to produce steam and also electricity as a by-product from waste. Electricity produced exceeding the needs of the plant itself results in credits from the local electricity

company. By incorporating energy savings guarantees, the project was able to use a commercial funding source.

Objective, Scope and Methodology

The objectives of this review were to determine: 1) if HOTD is operating and using its assets economically, efficiently, and securely to reliably provide steam and chilled water to its customers, 2) if management controls are sufficient to safeguard HOTD assets, and 3) if HOTD is accountable for revenues and expenses to derive utility rates that recover costs and charge its RWA customers appropriately.

The scope of our fieldwork included HOTD activity, both operational and financial, during FY 2005 through July FY 2006. To accomplish the audit objectives, we:

Operational

- Toured the Central and West Heating Plants to observe HOTD's control environment for operations and assess the status of the West Heating Plant;
- Reviewed HOTD studies performed by independent contractors, reports to the Environmental Protection Agency, District of Columbia Air Quality Operating Permit, relevant GSA Orders, HOTD's Operations Manual for Fuel Handling and other relevant laws and regulations;
- Held discussions with special agents of the Department of Homeland Security, Federal Protective Service and a member of PBS NCR's building security committee to identify physical security concerns; reviewed security assessment report prepared by the Department of Justice, and the Department of Homeland Security, Federal Protective Service policy directive regarding building security;
- Met with associates in HOTD's Maintenance and Engineering and Production and Environmental divisions regarding natural gas operations, fuel oil handling, chilled water production, and cogeneration;
- Spoke with the PBS NCR Portfolio Management Division regarding the status of and strategy for the West Heating Plant;
- Met with associates in the Central Office Energy Center of Expertise to understand aspects of their natural gas contract, natural gas industry standards and measurements, transportation charges, futures and spot market purchases, questionable invoices, and other contract requirements;
- Held discussions with the Defense Logistics Agency contracting office to ascertain their role in HOTD's procurement of fuel oil;
- Held discussions with local building managers at the Department of Transportation, Department of Housing and Urban Development, and the Reporter's Building to identify their buildings' heating and cooling arrangements;
- Reviewed available HOTD in-house documents including Monthly Fuel Quantity Reports, Fuel Reports for production, Boiler Engineer Technician Daily Logbooks, and ad hoc natural gas schedules;

- Reviewed monthly and hourly data regarding electricity generation by the cogeneration system and Pepco Energy Services electricity charges for FY 2005;
- To verify fuel oil delivered we reviewed fuel oil invoices, fuel receiving logs, and Bills of Lading for FY 2005 and FY 2006 through July;
- Reviewed the natural gas contract with Washington Gas Energy Services effective during audit fieldwork, all futures placed, and all FY 2005 invoices; and
- Reviewed Washington Gas Energy Services' bulletin boards that disclose daily natural gas quantity, type, and quality delivered to HOTD.

Financial

- Met with associates in HOTD's Administration and Systems division regarding utility rate setting, business line cost allocation and RWA processing;
- Discussed the HOTD organization and HOTD's FY 2005 financial performance with the PBS NCR Financial Management Division;
- Extracted financial data for FY 2005 for the entire HOTD organization from the Financial Management Information System (FMIS) and PilotWorks. Obtained HOTD-related manual worksheet adjustments to GSA's financial statements made by the PBS Fort Worth Accounts Receivable & Financial Analysis Division. Used complete financial data to develop HOTD profit and loss statement;
- Compared financial system data with HOTD internal financial analysis, focusing on analyzing the utility rate setting process;
- Reviewed legislation authorizing HOTD to service non-Federal Buildings Fund customers;
- Reviewed documentation relevant to the chilled water/cogeneration energy conservation project and researched legislation authorizing alternative financing for energy savings projects;
- Spoke with former contracting officer's technical representative for energy conservation project;
- Discussed accounting for the chilled water/cogeneration project with associates from the PBS Central Office Financial Operations Division, Central Office Financial Consulting and Analysis Division, and PBS Fort Worth Accounts Receivable & Financial Analysis Division;
- Reviewed Reimbursable Work Authorization (RWA) guidance and FY 2005 RWAs for HOTD service;
- Researched accounting guidance regarding revenue recognition and contra expenses; and
- Applied the HOTD-developed cost allocation methodology segregating costs between the steam and chilled water business lines.

Audit fieldwork was conducted from June 2006 through May 2007. The audit was conducted in accordance with generally accepted government auditing standards.

RESULTS OF REVIEW

Summary

The initial objective of this engagement was to audit HOTD's operational efficiency and financial results, which it reports for internal HOTD use only. Our initial survey work indicated that HOTD maintained operational efficiency measures and compiled financial statements. Ideally the audit would test the assertions present in these documents, determine the effects of any discrepancies, and offer recommendations for improvement. As the fieldwork progressed, it became clear that the operational reports were missing key input data, such as fuel consumed per boiler. Similarly, on the financial side, we found that there was no available crosswalk from agency financial data to the HOTD compilation of financial results. The net result was that the information was essentially not auditable as presented. These factors required us to adjust the focus of the audit from attestation to instead exploring the informational boundaries of the available data.

Our primary focus then became an attempt to determine the financial results of operations, measured in a way that complies with federal accounting standards. In FY 2005, we found that HOTD operated at an aggregate loss of $20.3 million on revenue of $51.9 million when applying federal accounting standards. Its rate-setting methodology all but ensures a loss on operations, as it excludes indirect costs and depreciation on capital assets. We found that the current account structure made it very difficult to compile these results. We found accounting errors of a more systemic, PBS-wide nature with respect to asset recognition and depreciation of equipment purchased under energy savings contracts. We found deficiencies in HOTD's own energy savings contract, and disappointment with savings actually realized. We found an idle backup facility with no long-term strategy. We found weak control over stored fuel oil. Finally, we found certain financial procedures that should be changed to improve the accuracy and usefulness of the accounting data.

Findings

1. HOTD Rate Setting Procedures Preclude a Full Cost Recovery

HOTD evaluates its customer billing rates on the basis of cost projections that exclude certain operating expenses. The two primary exclusions are general and administrative (G&A) expenses and depreciation. One consequence of this decision is that the HOTD organization regularly incurs a substantial loss; for the fiscal year ended September 30, 2005, it lost $20.3 million on revenue of $51.9 million[1]. The agency financial system does not account for this organization as a discrete entity, so the results of operations is not a matter of official record. Further, the effort needed to compile these results is considerable.

HOTD undertakes a portion of this effort each year, compiling data from the financial system in the course of its annual billing rate development exercise. Its analysis stops

[1] FY 2005 net loss presented in detail in Appendix C.

short of computing the full results of operations. With respect to the exclusion of G&A expenses, it argues that to include this charge as a billed cost element might result in a double charge for certain customers. This reasoning is inconsistent with the agency accounting system's indirect cost allocation methodology[2]. The G&A expense pool is made up of a field office, regional and national component. Field office G&A, for example, is only allocated against direct expenses for that field office. The HOTD organization is its own field office for G&A allocation purposes, and HOTD's field office G&A represented $3.6 million or 81 percent of the total HOTD G&A for FY 2005. It includes, for example, all the HOTD office salaries and office expenses. From an accounting perspective, it is a valid cost of operation. For business reasons, HOTD may choose to exclude such costs from its rate calculation, but it does not follow that such costs be excluded from its measured results of operations.

HOTD likewise excludes depreciation, and it is not uncommon for governmental entities to exclude non-cash expenses from certain calculations. It is not appropriate, however, to exclude depreciation from any financial statement that purports to be a representation of the results of operations. The language of accounting has meaning only if the conventions it imposes are uniformly adopted. Again, for business reasons, HOTD may choose to exclude such a cost from its rate calculation, but depreciation remains a valid accounting concept and accepted means of allocating the historical cost of an asset across its useful life.

The following table compares the net loss computation arrived by HOTD with the results of audit.

	Per HOTD	**Per Audit**
Revenue	$52,716,082	$51,948,035
Expenses:		
• Utilities	41,513,878	41,451,776
• Maintenance	11,414,027	10,082,433
• Administration	4,303,141	4,621,859
• Other	376,439	10,000
Total Direct Expense (BA61)	57,607,485	56,166,068
G&A Expense	-	4,497,489
Depreciation Expense	-	11,455,201
Loss on Operations	(4,891,403)	(20,170,724)
Interest Expense:		
Ellipse Project	223,331	
Cogeneration/Chiller Project	7,542,216	4,448,354
Reimbursed by Smithsonian Institute	(4,278,638)	(4,278,638)
Net Loss	(8,378,312)	(20,340,440)

[2] The current G&A allocation methodology is based on a building's direct expenses. Such an allocation methodology may assess a disproportionate share of national and regional G&A to HOTD. For example, an increase in the cost of fuel would result in an increase in the G&A allocated to HOTD. Distortions caused by this direct expense-based methodology were previously addressed in the *Review of PBS Portfolio Restructuring Initiative, A030080/P/W/R04002*, dated December 31, 2003.

HOTD's authority to service its non-Federal Buildings Fund (FBF) customers typically derives from the customer entity's originating legislation. In most instances, the provisions of that legislation require that utility rates charged be reasonable and not less than cost. Assuming a generic definition of cost, one in accordance with generally accepted accounting principles, the exclusion of select, material cost elements does not appear to be authorized. In effect, the FBF is subsidizing the cost of utilities delivered to its non-FBF customers, which represent approximately 37 percent of HOTD revenue, and depleting the fund of much needed capital that would otherwise be available for repairs and improvements to GSA real property in general.

It would be speculative to ascribe HOTD's loss on operations simply as a failure to pass on to its customers a full-cost billing rate. Many plant costs are fixed, but most of the billing rate structure is variable, so a variance is to be expected. Further, the actual cost of fuel used to generate steam and chilled water is a function of an unpredictable commodities market. Certain strategies are available to better manage such risks, such as the commodity futures contracts HOTD uses to lock in the price of natural gas. However, in HOTD's case, the effectiveness of this practice as well as plant operations in general, are not subject to the structured analysis of a properly designed managerial accounting system. In its place, we found some ad hoc analysis and much unanalyzed raw data. A more rigorous approach is needed.

2. Planned Energy Savings from Cogeneration System Not Realized

HOTD's investment in a cogeneration system has not resulted in the energy savings planned to help fund that acquisition. A cogeneration system produces both steam and electricity by burning natural gas. The plant has a year round need for steam production as it provides both heat and hot water to its customer buildings. Electricity is used to operate the plant in general but especially to power the chillers used to provide cold water for air conditioning during the cooling season. The expectation was that the cogenerators would provide for all of the plant's electricity needs and produce a surplus for sale back to the utility company. In fact, the plant remains a net consumer of electricity. There are several contributing factors, but ultimately the system has been operated at about 32 percent of its theoretical availability and its performance variance from specification has not been tested.

Using contract authority[3] derived from Federal Property and Administrative Services Act of 1949 as amended (40 U.S.C. § 481(a)(3)), the Energy Policy Act of 1992 (42 U.S.C. § 8256), and the National Energy Conservation Policy Act (42 U.S.C. § 8287)[4] HOTD

[3] Contract authority is a form of budget authority that permits contracts in advance of appropriations or in excess of amounts otherwise available under revolving funds. It provides authority to enter into binding contracts but not the funds to make payments under them. The funds needed to liquidate the obligations must be provided by subsequent appropriations (called liquidating appropriations) or by the use of receipts or offsetting collections authorized for that purpose. In this instance, it is the guaranteed energy cost savings that are the designated source of funding.

[4] We have inferred these authorities from the available, relevant contemporaneous documentation. A complete contract file was not maintained. The *Federal Property and Administrative Services Act of 1949* provides GSA with the statutory authority to acquire utility services, which have been broadly defined to

completed a major asset acquisition in December 2004 with the installation of a chilled water expansion/cogeneration project. This $69M project installed eight chillers and a cogeneration system in the Central Plant, allowing HOTD to extend chilled water service to the Smithsonian Institution and configure one boiler to produce both steam and electricity for use by HOTD or export to the electricity grid. The project was procured under NCR's Area Wide Public Utilities Contract with Washington Gas Light Company (Washington Gas). Financing is provided by a third party commercial lender.

HOTD's energy conservation project was designed to incorporate the essential features of an energy savings performance contract (ESPC). This was considered essential to preserve the necessary contract authority and preclude the project from being "scored" as a capital project in need of budget authority equal to the present value of the full acquisition cost. The essential features of an ESPC are that the: 1) project is funded through expected energy savings that must exceed debt service payments, 2) contract provides for a guarantee of energy savings, and 3) project is subject to an annual energy audit. These key features of an ESPC ensure that performance risk under such an energy conservation project is borne by the contractor, not the government.

GSA's business case for this project argued that guaranteed energy savings should result in cost savings sufficient to fully fund the project. Absolute cost savings could not be guaranteed, as the future cost of natural gas used to power the cogeneration system and the future market value of electricity were not known, but the authorizing legislation recognizes this constraint. However, while the contract solicited energy savings guarantees for both the chiller and cogeneration systems, a review of the available contract award documentation revealed an agreement that provided only a partial performance guarantee. A review of the subsequent contract administration documents revealed that even those limited provisions have not been enforced.

HOTD's contract with Washington Gas refers to separate performance standards for the chiller and cogeneration sides of the project. It called for annual performance testing to ensure these standards were met. An account of deviations was to be maintained to track actual performance results as credits and penalties against the contract requirements. If overall performance was less than required by the contract, Washington Gas would be penalized a settlement sufficient to purchase a quantity of fuel equal to the performance deviation.

On the chiller side of the project, the terms of the energy savings guarantee are clearly established but not fully administered. Output and efficiency are measured against agreed upon benchmarks and performance testing is conducted. Testing was done in 2004 and 2006 but waived by HOTD in 2005 due to operational issues that would have forced

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include energy savings measures such as those being discussed here. The specific contract authority under that Act is limited to ten years. *The Energy Policy Act of 1992* has been read to permit multi-year energy savings contracts with no year limitation. (The contract action in question was financed over a 15 period.) The *National Energy Conservation Policy Act* presents the necessary attributes to create an "energy savings performance contract" or ESPC. Principle among those attributes is a specific type of energy savings guarantee provision. The ESPC contract term may extend 25 years.

testing to be conducted during the peak load season. In 2004, Washington Gas' performance exceeded the SOW requirements and credits should have been assessed. In 2006, several tests did not meet the SOW requirements and penalties should have been entered into the account of deviations. The account is not maintained, however, because no one at HOTD is presently serving in the capacity of the contracting officer's technical representative (COTR). A COTR would be charged with administering the contract in accordance with the contract specified terms and conditions.

On the cogeneration side of the project, the contract does not create an energy savings guarantee. While it does call for an annual audit, the contract does not appear to establish specific audit criteria and no audit has been conducted to date. The Combustion Turbine Performance Agreement section of the contract does make reference to a performance agreement "…set forth in Exhibit A-Technical Proposal, Tab #20." But Tab #20 houses only the terms of a nine-year service agreement with Solar Turbines Incorporated. The agreement stipulates that Solar will guarantee 97 percent availability, prorating the $400,080 annual fee if it fails to perform. Maximum offset is limited to five percent of the fee. Absent from this guarantee is any energy savings metric, such as fuel efficiency or energy output. The risk of unrealized energy savings is borne entirely by the government instead of by the contractor.

Had the contract included cogeneration performance standards, HOTD would still have been unable to conduct performance testing due to operational limitations. When the chiller/cogeneration project was designed, Washington Gas believed that HOTD's existing induced draft (ID) fan could operate at the level required to achieve SOW performance standards. The existing ID fan was therefore retained for use in the new system. However, the ID fan was not operating at original design specifications, a deficiency that may trace to its initial installation in the 1970s. Since Washington Gas cannot be held responsible for this deficiency, HOTD accepted the project as substantially complete and ultimately found itself responsible for replacement of the ID fan. HOTD has stated that it has secured funding for a replacement and is in the process of procuring a new fan. Once installed and operating at specification, cogeneration performance testing can commence.

Limitations of the ID fan contributed to underutilization of the system, but by plan, HOTD has limited use of the turbines to about 32 percent of design capacity. It could not, however, provide analytical justification to support this operating plan. There are multiple factors to be considered. These include the cost of natural gas, the market value of electricity and the relative efficiency of the plant's conventional boilers. It is our understanding that the design criteria of the cogeneration system implies outputs as a percentage of fuel input to be approximately 10 percent electricity, 70 percent steam, and 20 percent loss. HOTD does not measure individual boiler efficiency, but with a plant-wide loss factor of more than 20 percent, there is at least the potential for value from greater utilization of the cogeneration system. The initial business case, for example, assumed that turbines would be in use 24 hours a day, seven days a week. While the relevant cost factors may have veered from the initial assumptions, the actual basis for the current operating plan appears to be more anecdotal than analytical. To optimize the operational efficiency of its plant, HOTD should establish a formal analytical process that

incorporates all of the relevant variables. Further, it must measure the operational efficiency of each of its conventional boilers.

The impact of underutilization is that PBS does not achieve a positive cash flow after debt payment, which was one of the requirements to qualify for third party financing. Financial projections showed that the project was expected to generate a positive cash flow after debt payments of $517,568 per year. However, the positive cash flow was based on the turbines generating enough electricity to sell $502,023 of surplus electricity after internally supplying all of HOTD's needs. For FY 2005 HOTD remained a net consumer of electricity, incurring an expense of $1,868,466 for the year.

As a final note, our review of this project was hampered because of inadequate documentation maintained by the contracting officer. There is no official contract file and no record of delegation to designate the current contracting officer's technical representative (COTR). The contracting officer stated that all source documents were with HOTD and that he could provide no additional information. He was unable to name the current COTR or provide evidence of such delegation. The records kept by HOTD did not constitute a proper contract file.

3. Lack of Strategy Leaves West Plant Idle and Deteriorating

The West Heating Plant (West Plant) was constructed in 1948 and is included on the National Register of Historic Places. According to the Asset Business Plan, the plant is located on 1.7 acres in the Georgetown area of Northwest Washington, DC. Housing five boilers and no chillers, it was previously a backup for the Central Heating Plant. Beginning in FY 1996, HOTD ceased normal operations at the West Plant to decrease costs, but maintained plant functionality. By FY 2000, the plant was in need of reinvestment funds to operate safely, but was not needed for servicing HOTD's customer load. With the support of HOTD, the then PBS NCR Assistant Regional Administrator decommissioned the West Plant.

GSA Order OHR P 5440.1 CHGE 440 charges NCR's Portfolio Management Division (Portfolio) with overall responsibility within the region for developing strategies for and maximizing financial performance of individual assets. As part of this asset management responsibility, Portfolio develops Asset Business Plans (ABP) for each asset. According to the June 1, 2007 ABP, the West Plant is located in, "one of the most desirable areas of Washington, DC". The ABP calls attention to the need to develop a future strategy for the asset, i.e. retention and reactivation or disposal, yet does not discuss any factors to be considered or address the delay in strategy development, which now spans more than a decade.[5]

[5] HOTD awarded a contract for Strategy Planning Analysis to ISES Corporation, which commenced June 6, 2007. The study calls for the development and analysis of short and long-term strategies and action plans addressing GSA's need to provide energy services.

The plant is currently inoperable and its repair needs extensive. A feasibility study, *GSA HOTD System Capacity and Service Expansion—Feasibility Study*, issued in December 2006, estimates that $15.3 to $19 million would be required to bring the West Plant back into operation. Because of the significant cost, a prospectus would be required to reactivate the West Plant, requiring the project to compete for scarce capital investment dollars and congressional approval. It seems unlikely that a back-up heating plant will ever top the list of federal construction projects. This may explain the prolonged stalemate.

Nevertheless, with a heightened security environment and the desire to produce steam in the West Plant to allow for Central Plant repairs, HOTD would now like to bring the West Plant back into operation. The feasibility study recommends that the West Plant be reactivated if risk analysis determines that enhanced system reliability associated with two plants is needed; it recommends sale of the West Plant if such reliability is not required. The report also suggests connecting HOTD's steam distribution system with the Architect of the Capitol's Capitol Power Plant system for increased system reliability. HOTD is currently developing a business plan for NCR management, which will outline HOTD's current requirements and begin the process of creating a strategy for the asset.

Assuming a viable business case can be made to recommission the plant, there may be an alternative to prospectus funding. The use of an energy savings performance contract might be justifiable depending on the level of overall energy cost savings. For example, if a refurbished West Plant could reduce overall operating costs by lessening dependency on the larger, less efficient boilers of the Central Heating Plant, the cost savings might be sufficient to cover the debt service. Further, if the customer base could be expanded, it may be possible to spread many of the current fixed costs over a larger base, reducing the cost per unit of energy delivered.

Any operational redundancy that would result would actually be a desirable byproduct, as HOTD currently has no established contingency plan to deal with a partial or full plant shutdown. As currently configured, a major disruption to the Central Plant could have a significant impact on the executive branch of the federal government, as HOTD services multiple headquarter agency buildings, the Executive Office Buildings, and the White House. In June 2006, area flooding affected the Central Plant and steam tunnels, resulting in a loss of services to 80 percent of its customers. HOTD estimated that the loss could have been limited to about 30 percent if the West Plant had been available as a backup facility. Had this incident occurred during the heating season, executive branch locations could have been rendered uninhabitable, with the potential for both structural and system damages due to freezing temperatures.

In any event, the status quo allows the asset to deteriorate, generates no value for the Federal Buildings Fund, and contradicts PBS portfolio management strategy. If investment funds are not forthcoming, disposal appears to be the indicated choice.

4. Controls Over Fuel Oil

Five of the six boilers used to generate steam at HOTD's Central Plant are periodically powered by fuel oil as an alternative to natural gas. While not the primary energy source, fuel oil does represent a significant cost. HOTD recorded fuel oil expense of $2.1 million in FY 2005, accounting for five percent of total utilities expense. It is stored in five tanks adjacent to the Central Plant plus a holding tank or "day tank". The total storage capacity is about one million gallons. Inventory turnover is approximately one time per year.

The risk that a fuel oil loss or shortage would go undetected is unacceptably high - fuel oil is fungible and vulnerable to diversion. In addition, the current practice of inferring oil usage from steam produced has not been tested for accuracy. HOTD relies upon these output conversions to generate a fuel oil usage report as required under its environmental operating permit. Inaccurate usage data would also, in theory, distort the value of fuel oil expense allocable to a given time period, but HOTD's accounting treatment for fuel oil ignores usage data altogether. Its method of accounting for fuel oil is not compliant with generally accepted accounting principles, and interjects a distortion effect of its own.

To establish accountability during a given period, HOTD needs to have established:

(a) An accurate measure of on-hand inventory levels;
(b) Verifiable evidence of actual quantities delivered; and
(c) An accurate measure of quantity consumed.

HOTD's procedures are weak in each of these aspects.

4 (a) Physical Inventory

Fuel oil, unlike natural gas, or other utilities, is purchased and then stored until used. The proper accounting treatment would have the purchase accounted for as an asset and only expensed as consumed. The value of fuel oil used would be determined on the basis of a declared, consistently applied inventory valuation method, such as first-in, first-out. HOTD, however, does not account for fuel oil as an asset. All purchases are expensed as paid. From a HOTD accounting perspective, there is no asset to safeguard. With no asset, there is no need to determine the value at the beginning and end of an accounting period. Consequently, HOTD does not record the inventory value for this asset. A fundamental element of internal control is therefore absent.

4 (b) Deliveries

HOTD uses a "Central Heating Plant Fuel Oil Receiving Log" to manually record fuel oil delivered to the Central Plant tank farm. Deliveries are accounted for by truckload by both the trucking company and HOTD's receiving log. The receiving log provides an accounting record for fuel deliveries by including the date, tanker truck ticket number, gross and net gallons per the Bill of Lading, fuel yard tank number, beginning tank level, ending tank level, gallons received, the technician's initials, and a certification by the foreman that the log sheet is correct. If the log were filled out accurately and completely it would provide

independent verification that all the fuel oil HOTD purchased was delivered to its tanks.

We selected for a detailed review the fuel oil receiving log for January 2005. We found that only one tanker delivery was recorded completely on the fuel log, that is, it had a tank number identified, a beginning start level recorded and an ending level recorded. The remaining 44 deliveries contained numerous mistakes, inaccuracies and omissions. As a result, the fuel oil log does not fulfill a control purpose to document receipt and support invoice payment approval.

4 (c) Fuel Oil Consumption

Fuel oil to be consumed is fed from the five receiving storage tanks into the day tank and then to the boilers. With the exception of the cogeneration system, each boiler has a meter to measure the quantity of fuel oil it consumes. The plant formerly burned Number 6 fuel oil, which is a thick, syrupy, tar-like liquid. The meters were not reliable when used with this fuel. In the absence of metering HOTD developed a method to derive fuel oil consumed from the quantity of steam produced in MBTUs converted to gallons. At the time of our review HOTD had switched to Number 2 fuel oil, which could be metered, but still continued to account for fuel oil consumed indirectly from the quantity of steam produced. Deriving the quantity of fuel oil consumed by this method is inexact. It relies on the accuracy of the amount of time recorded on the daily boiler logbooks that a boiler is consuming gas versus oil. Also, because it may take about an hour to transition a boiler from natural gas to fuel oil, there is some overlap of natural gas and fuel oil use on a boiler at the same time.

To test the reliability of the reported quantities of fuel oil consumed, we compared the observed quantity of fuel oil on-hand in July 2006 with the expected quantity on-hand based on HOTD's internal documentation. We used the tank level readings recorded on the daily boiler room logbooks on January 1, 2005 as our beginning balance. We added the subsequent deliveries recorded on the January, February and December 2005 Central Heating Plant Fuel Oil Receiving Logs, and because the receiving logs for deliveries during October and November 2005 were missing we used the paid fuel oil invoices for those months to identify the quantity delivered. We subtracted the consumed fuel oil reported on the HOTD Fuel Quantity Reports to derive the expected on-hand fuel oil quantity:

Beginning Inventory (Jan 2005)	807,557
Plus: Deliveries (Jan 2005-Jul 2006)	1,052,181
Less: Consumption (Jan 2005-Jul 2006)	1,061,753
Expected Ending Inventory (Jul 2006)	797,985
Observed Ending Inventory (Jul 2006)	885,906
Variance	87,921

The quantity of on-hand fuel oil we observed exceeds the expected quantity of fuel oil by 87,921 gallons. In our opinion the most likely explanation for the "surplus" on-hand fuel oil is that oil consumption is being overstated but since the meters are not used we could not measure the accuracy of the fuel oil consumed.

HOTD can tell at any time how much fuel oil is on-hand, but because of the incomplete delivery documentation and imprecise consumption data, HOTD cannot tell how much fuel oil it *should* have on-hand.

5. Other Accounting Concerns

Review of the financial aspects of HOTD's operations yielded several accounting weaknesses. Issues discovered include: inappropriate accounting for an energy conservation project depreciation expense, incorrect RWA type, lack of a discrete HOTD identifier, and lack of a business line cost allocation model. These concerns require the attention not only of HOTD but also of PBS financial divisions.

5 (a) Inappropriate Accounting of Energy Conservation Project Depreciation Expense

The principle value of the chilled water expansion/cogeneration project is $69.4M. The project is a multiple asset project, meaning that multiple assets are being acquired under one project number. Each asset under such a project has an individual substantial completion date upon which depreciation should begin for that individual asset. There are three assets associated with project number JDC00567.

Asset	**Value**	**Substantial Completion Date**
South Side and North Side Chiller Plants, Chilled Water Distribution, and Cooling Towers	$44,809,504	December 12, 2002
Customer Connections	$2,700,000	July 18, 2003
Cogeneration and Chiller Controls	$21,859,629	December 30, 2004

Depreciation for project number JDC00567 should have begun in December 2002 by depreciating the $44.8M associated with the project's first asset. Full project depreciation should have begun in December 2004 when the entire project was completed. The Real Property Accounting and Depreciation System

(RPADS) is the information system used for assessing depreciation. RPADS however cannot be used for multiple asset projects as it cannot process more than one substantial completion date for a given project number. As a result, PBS had to manually generate the depreciation for project number JDC00567.

Fort Worth's Financial Analysis Group was responsible for manually generating the depreciation for HOTD's energy conservation project as part of an effort to correct accounting data for energy savings projects nationwide. However, a manual worksheet adjustment was not generated or integrated into GSA's financial statements until FY 2005. The FY 2005 financial statements included a worksheet adjustment for accumulated depreciation on JDC00567 from substantial completion through FY 2005. The substantial completion date used in this worksheet adjustment, October 1, 2002, was incorrect however.[6] Of the $14.07M accumulated depreciation recorded in FY 2005, $4.69M was specifically associated with FY 2005 depreciation. This $4.69M depreciation is in addition to the $6.77M depreciation associated with HOTD in the financial systems and increases HOTD's net loss.

5 (b) Unsuitable RWA Type Distorts Accounting Data and Indirect Cost Recovery

The Reimbursable Work Authorization (RWA) type utilized for HOTD services resulted in inappropriate accounting for HOTD revenue and expenses. United States Code 40 § 592(b)(2) authorizes GSA to provide services above the standard rent level to customer agencies on a reimbursable basis via an RWA (GSA Form 2957). As described in the PBS Chief Financial Officer's May 4, 2005 Reimbursable Work Authorization National Policy Document, there are two major RWA categories: recurring and non-recurring. Under a *recurring* RWA, the cost of above standard services cannot be readily identified. The recurring RWA is not based on actual costs, as actual costs cannot be determined. Costs under a *non-recurring* RWA can be identified. A non-recurring RWA is based on actual costs, such as paid vendor invoices. Under these two categories there are eight RWA types.

[6] PBS has since corrected the worksheet adjustment to reflect the individual substantial completion dates of the three assets.

RWA Category	RWA Type	Description
Non-recurring	A	Identifiable costs for non-prospectus construction or design repairs and alterations
Non-recurring	B	Identifiable costs for prospectus repairs and alterations
Recurring	C	Unidentifiable costs to service private sector under Public Buildings Cooperative Use Act
Non-recurring	D	Identifiable costs to service private sector under Public Buildings Cooperative Use Act
Non-recurring	E	Identifiable costs for nationally declared emergencies or disasters
Non-recurring	F	Identifiable costs for open ended, small-scale services within a fiscal year
Non-recurring	N	Identifiable costs for non-prospectus space alterations and services
Recurring	R	Unidentifiable costs to federal customer

In FY 2005, HOTD's 28 non-GSA building customers and 21 customers in GSA owned and delegated buildings paid for utility services via a recurring, R-type RWA. As discussed above, recurring RWAs are utilized in situations where the cost of above-standard services cannot be readily identified. But HOTD is able to meter steam and chilled water usage by customer, therefore actual costs are identifiable.

The use of the recurring RWA understates both revenue and expenses. Under a recurring RWA, sales are recognized as a credit to expense, or a contra expense, rather than as revenue. This treatment differs for non-recurring RWAs, where sales are recorded as revenue. PBS explains that the contra expense revenue recognition for recurring RWAs is necessary because the expense itself is not known, only estimated, and therefore must be offset by related revenue. Accounting practice dictates that revenue from an organization's ongoing major or central operations should be realized as revenue and not as a contra expense. Utility sales represent HOTD's ongoing major operation and should be classified as revenue. By recording utility sales as a contra expense, all expenses equivalent to the amount of revenue received are offset and appear to have not occurred. In FY 2005, the HOTD organization showed only $65,380 direct revenue and $14,447,116 total expense. Appropriately recording sales would have showed the actual HOTD direct revenue of $51,948,035 and total expense of $66,329,770[7]. Although the net loss is the same, the financial systems do not include an accurate accounting of revenue and expenses.

In order to correct the accounting data, the HOTD RWA type should be changed from R-type recurring. PBS should consider the creation of an RWA type specific to HOTD services, as utility sales are not a good fit for the current RWA model. The newly created RWA type should not record revenue as a contra expense.

[7] Total HOTD expenses before adjustments discussed in Appendix D.

5 (c) No Discrete Financial Identifier for HOTD

The unique nature of the HOTD organization complicates financial analysis. The HOTD organization includes the four plant building numbers as well as 28 non-GSA building numbers, only associated with GSA for HOTD utility services, and two distributable cost centers (Appendix B). When querying GSA's financial information systems, a query based on organizational code does not capture all data associated with HOTD operations. In order to acquire all financial data prior to manual worksheet adjustments, queries must be run using the 32 building numbers and two distributed cost center numbers. The need to include all building numbers is tedious and often unknown to PBS associates. Expenses and revenue associated with these non-GSA buildings should have been charged to the related HOTD assets and not assigned GSA building numbers.

Accounting for the HOTD organization could be made clearer by treating the four plant assets as a facility. PBS considers a facility to be a group of buildings associated through shared space or services. Labeling the HOTD assets as a facility would allow for shared costs to be appropriately distributed among the assets.

5 (d) HOTD Lacks Business Line Cost Allocation Model

HOTD is a unique organization within GSA and the financial systems are not tailored to HOTD's needs. The Financial Management Information System (FMIS) does not allow for the cost allocation by HOTD business line that is required for a more precise rate setting. For example, function code PGA33 in FMIS represents accounting data associated with electricity. All electricity costs incurred by HOTD will be charged against PGA33. However, FMIS does not include a field to differentiate whether the electricity was used in the production of steam or chilled water. The same situation holds for expenses such as labor and operations and maintenance.

Historically, HOTD has not allocated costs by business line when establishing utility rates. We requested that HOTD develop a documented methodology for allocating expenses along the steam and chilled water business lines. HOTD created such an allocation using FY 2006 expenses. HOTD provided an explanation of the minor adjustments needed to apply this allocation to FY 2005 operations. The audit team applied HOTD's conceptual allocation to FY 2005 financial system data (see Appendix D). With such an allocation methodology, HOTD can analyze its business lines separately, determining where loss is occurring and improvements can be made.

FY 2005 Net Income:		
Steam	<$ 13,839,455>	68.0%
Chilled Water	<$ 6,500,985>	32.0%
Total HOTD	<$ 20,340,440>	

HOTD should continue to refine its cost allocation methodology as more data becomes available. Developing a refined cost allocation methodology will allow HOTD to more precisely segregate costs when developing steam and chilled water rates. HOTD should fully document the rationale behind revisions to the cost allocation methodology and ensure costs reconcile with the financial systems. This effort should involve significant coordination with PBS NCR's Financial Management Division.

Conclusion

Our review found various accounting, procurement, and operational issues that should be addressed to improve HOTD's performance. Given the unique nature of the HOTD organization, financial system data needs to be adjusted to obtain a representative picture of HOTD financial performance. In particular HOTD should recognize all general and administrative and depreciation expense, correct the RWA type used, allocate expenses by business line, and consider treating the operation as one facility. HOTD should restore contract administration for the chilled water expansion/cogeneration project. Key operational issues include the cogeneration system not realizing planned energy savings, weak controls over fuel oil, and the lack of a strategy for the West Plant. The services provided by HOTD are essential to federal government agencies within NCR, but areas for improvement remain.

Recommendations

Based on the review findings, the following recommendations are provided to the Regional Administrator, National Capital Region:

1. *Prepare annual financial statements for HOTD that comply with Federal Accounting Standards.*
2. *Subject the HOTD organization to more rigorous financial and operational analysis. HOTD would benefit from dedicated financial support and could likely justify a full time financial specialist.*
3. *Develop a boiler operating plan that takes into account market conditions and relative efficiency of the equipment.*
4. *Instruct the contracting officer to assemble a contract file for the chiller/cogenerator procurement and to fulfill his administrative responsibilities under this procurement.*
5. *Ensure that the contracting officer designate a qualified individual to serve as the contracting officer's technical representative.*
6. *Replace the deficient induced draft fan to permit as-designed system functionality and performance testing of the cogeneration system.*
7. *Utilizing the PBS portfolio management methodology, determine the best use of the West Plant asset and develop a workable strategy. Consider the possibility of restoring the West Plant with an energy savings performance contract.*
8. *Devise a contingency plan for providing utility services in the event Central Plant operations are interrupted.*
9. *Account for fuel oil in accordance with generally accepted accounting principles: the commodity should be carried by HOTD as an asset until consumed; its value should be derived from a consistently applied inventory valuation method; fuel oil expense should be determined on the basis of actual fuel consumed in the period reported.*
10. *With respect to specific internal controls: determine fuel oil consumption using the automated gauges on the boilers; maintain the fuel oil delivery log; perform periodic inventory reconciliation of fuel oil to provide reasonable assurance of accuracy and to detect loss.*
11. *Discontinue the use of recurring Reimbursable Work Authorizations (RWA) for HOTD services in order to correct accounting data. HOTD sales should be recognized as revenue, not a contra expense. Consider the development of an RWA type specific to HOTD utility sales.*
12. *Recognize the HOTD organization as a discrete facility within the financial system.*
13. *Develop the capability to isolate HOTD financial activities by business line.*

Management's Comments

The Regional Administrator, National Capital Region concurred with the review recommendations. Management's comments can be found in their entirety in Appendix A, including efforts already initiated to address several review recommendations.

Management Controls

The review commented on several operational and financial control issues. Operationally, control issues were found in fuel oil inventory procedures and contract administration. HOTD's procedures for measuring on-hand fuel oil inventory, receiving fuel oil deliveries, and measuring fuel oil consumed were all weak. Contract administration for a major energy conservation project was lax, with no formal contract file or delegated contracting officer's technical representative. Financially, control weaknesses were found in the areas of fuel oil accounting, depreciation accounting, RWA type utilized, and business line cost identification. HOTD incorrectly accounts for fuel oil as an expense rather than as an asset. The review discussed accounting for depreciation of the energy conservation project, an area in which PBS has made corrections. The RWA type used by HOTD was unsuitable, resulting in the inappropriate recording of revenue as a contra expense. Additionally, HOTD does not track costs by business line and was therefore unable to determine the financial performance of the steam and chilled water segments.

APPENDIX A

Management's Comments

GSA

GSA National Capital Region

SEP 11 2007

MEMORANDUM FOR PAUL J. MALATINO
REGIONAL INSPECTOR GENERAL FOR AUDITING
WASHINGTON FIELD AUDIT OFFICE (JA-W)

FROM: TONY REED
REGIONAL ADMINISTRATOR (WA)

SUBJECT: Review of the Heating Operation and Transmission District's Operations and Finances
Draft Audit Report A060170/P/W/XXXXXX

This is in response to your memorandum of August 1, 2007, requesting comments on the subject draft audit report. Attached is a memorandum from Bart Bush, Assistant Regional Administrator, Public Buildings Service, with our comments.

If you have any questions, or need additional information, please do not hesitate to contact me at (202) 708-9100, or Bart Bush at (202) 708-5891.

Attachment

U.S. General Services Administration
301 7th Street, SW
Washington, DC 20407-0001
www.gsa.gov

APPENDIX A

Management's Comments (continued)

GSA

GSA National Capital Region

SEP 6 2007

MEMORANDUM FOR TONY REED
REGIONAL ADMINISTRATOR (WA)

FROM: BART BUSH
ASSISTANT REGIONAL ADMINISTRATOR
PUBLIC BUILDINGS SERVICE (WP)

SUBJECT: Review of the Heating Operation and Transmission District's Operations and Finances
Draft Audit Report A060170/P/W/XXXXXX

This is in response to the Regional Inspector General for Auditing's request for comments regarding the subject draft audit report's recommendations in the Executive Summary. Our comments are as follows:

PBS/NCR COMMENT ON #1

The Public Buildings Service, National Capital Region (PBS, NCR), agrees with the OIG that the agency financial system does not account for HOTD as a discrete entity. It should, however, be pointed out that the major component of the OIG's computed loss of $20.3M on operation for Fiscal Year 2005 was the General & Administrative (G&A) expenses and depreciation computed at about $16M. Ever since Fiscal Year 2005, HOTD has had significant improvements in its financial standing. The current projections for Fiscal Year 2007 suggest that HOTD will close the year with a loss of $3 million to $4 million; this includes $5 million of depreciation expense.

As a matter of business strategy, the HOTD billing rate does not include G&A and depreciation as cost elements. Inclusion of the G&A and depreciation expenses in those rates would increase the HOTD billing rate far beyond the reasonable market range. It might amount to double charges in the case of GSA buildings where the G&A and depreciation are already factored into the rent appraisal process. As far as the non-GSA buildings, the business strategy is to enhance the economies of scale and the overall systems efficiency, through their inclusion, and to stabilize and reduce the overall steam rate. In any event, further steps will be taken, as recommended, to improve the overall financial accounting system for HOTD operational performance. Furthermore, PBS, NCR is committed to providing additional financial support to the HOTD operations.

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APPENDIX A

Management's Comments (continued)

PBS/NCR COMMENT ON #2:
PBS, NCR acknowledges flaws in the administration of the energy contract and is taking the necessary steps to correct the deficiencies. Among other things, HOTD has engaged Washington Gas in remedial discussions, and will hire a consultant to monitor, calculate and confirm performance testing indexes. Most of the contract administration flaws were attributable to the abrupt departure of the HOTD project engineer/manager responsible for the project in pursuit of a better job opportunity. Given the enormous size and complexities of the project, there was inadequate communication and reassignment of responsibilities prior to his departure. Also, the contracting officer responsible for the project was not a HOTD employee. HOTD is currently reviewing and addressing its contracting resource needs and has noted the OIG recommendations for appropriate follow-up and implementations. Regarding the induced draft fan, HOTD is in the process of procuring the replacement induced draft fan to permit the designed system functionality and performance testing as needed.

PBS/NCR COMMENT ON #3:
PBS, NCR has retained consulting services for a comprehensive study of the HOTD operations. It will study the issues of the West Heating Plant as well as the contingency plan for the Central Heating & Refrigeration Plant given the increasing land development pressure for the site. The purpose of the study includes:

A. Development and analysis of several long- and short-term strategies and action plans that will ensure GSA access to cost effective and reliable energy sources for the current buildings on the system for the next 30 years.

B. Comparative analysis of the various alternative long-term strategies, to help GSA determine which alternative strategy provides best value to the Government. This analysis will establish objective metrics for comparing the alternative strategies. These metrics will include, but are not limited to, cost per BTU of delivered energy (including operating costs for generating/delivering energy) and the Net Present Value of the investments required and revenues generated in each alternative strategy.

C. A "no change" baseline scenario is needed for comparison with other strategies. This baseline strategy will propose keeping the existing system in place, and will determine the needed investments and improvements needed over the next 30 years to maintain current levels of energy delivery to the existing buildings currently on the system. This baseline system will also be critiqued for what it can and can't achieve vis-à-vis the other strategic options.

PBS/NCR COMMENT ON #4:
PBS, NCR will adopt the OIG recommendation regarding accounting for fuel oil in accordance with generally accepted accounting principles. Therefore, HOTD and the PBS, NCR CFO's office will partner with the GSA Office of Finance in developing the correct procedures to correctly account for fuel oil on GSA's financial statement. HOTD acknowledges some flaws in its fuel oil logging and accounting system and will enhance internal control oversight to correct the problems. Although HOTD recorded $1.7M in oil expense for FY 2005, over the past 5 years oil constituted only 5% of the HOTD fuel

APPENDIX A

Management's Comments (continued)

costs. The purchase of fuel oil is a function of natural gas interruptions during the winter season. HOTD has limited oil storage capacity, and to the extent practicable, HOTD will order its fuel oil when rates are determined to be low. It should be pointed out that oil prices are sometimes higher in the summer because fuel oil prices tend to follow gasoline prices, which are almost always higher in the summer time.

PBS/NCR COMMENT ON #5:

PBS, NCR agrees with the OIG's recommendations. HOTD and PBS, NCR's Chief Financial Office will meet with PBS headquarters staff and the GSA Office of Finance (BC) in furtherance of the necessary actions to comply with the IG findings and recommendations in this area.

A. PBS should establish a special RWA type or other arrangement that reflects this fact.

B. HOTD needs specific financial statements.

C. HOTD needs separate cost of service statistics to establish rates for steam and chilled water.

APPENDIX B

Assets Included in HOTD Organizational Code for Financial Reporting Purposes

Building Number	*Building Name*	*Asset Type*	*Customer Type*
DC0001ZZ	Central Heating Plant	GSA-owned	N/A
DC0002ZZ	West Heating Plant	GSA-owned	N/A
DC0006ZZ	Archives	Not GSA asset	IPAC[8]
DC0018ZZ	FOB 1	Not GSA asset	IPAC
DC0041ZZ	GAO	Not GSA asset	IPAC
DC0057ZZ	425 Second Street	Not GSA asset	Non-IPAC
DC0058ZZ	Superior Court D	Not GSA asset	IPAC
DC0134ZZ	FHLBBB Constr	Not GSA asset	IPAC
DC0135ZZ	Air & Space	Not GSA asset	IPAC
DC0200ZZ	Bureau of Eng/Prin	Not GSA asset	IPAC
DC0201ZZ	Bureau of Eng/Prin Annx	Not GSA asset	IPAC
DC0202ZZ	Smithsonian Building	Not GSA asset	IPAC
DC0204ZZ	Hirshhorn	Not GSA asset	IPAC
DC0224ZZ	DC Court House	Not GSA asset	IPAC
DC0296ZZ	Central Heating Plant A/C	GSA-owned	N/A
DC0300ZZ	National Academy of Science	Not GSA asset	Non-IPAC
DC0301ZZ	Federal Reserve	Not GSA asset	Non-IPAC
DC0400ZZ	Steam Distribution Tunnels	GSA-owned	N/A
DC0610ZZ	Washington Monument	Not GSA asset	IPAC
DC1264ZZ	Freer Art Gallery	Not GSA asset	IPAC
DC1267ZZ	Superior Court 0A	Not GSA asset	IPAC
DC1271ZZ	Corcoran Art Gallery	Not GSA asset	IPAC
DC1272ZZ	DAR	Not GSA asset	Non-IPAC
DC1277ZZ	Juvenile Court	Not GSA asset	Non-IPAC
DC1278ZZ	Martin Luther King Library	Not GSA asset	Non-IPAC
DC1279ZZ	Municipal Center	Not GSA asset	Non-IPAC
DC1280ZZ	Municipal Court	Not GSA asset	IPAC
DC1281ZZ	Smithsonian Steam Service 4BD	Not GSA asset	IPAC
DC1282ZZ	National Gallery of Art	Not GSA asset	IPAC
DC1283ZZ	Pan Am Building	Not GSA asset	Non-IPAC
DC1287ZZ	Recorder of Deeds	Not GSA asset	Non-IPAC
DC1355ZZ	History & Technology	Not GSA asset	IPAC
DCC11020150	District Heating FOC	Distributable cost center	N/A
DCC11020310	Central Support FOC	Distributable cost center	N/A

[8] IPAC refers to the Department of Treasury's Intra-Governmental Payment and Collection system, which allows direct transfer of funds between an agency's Treasury account and GSA's Treasury account.

APPENDIX C

FY 2005 HOTD Net Loss

REVENUE		***% Revenue***	***Notes***
Steam Sales (A34)	$47,892,181	*92%*	A
Chilled Water Sales (A37)	$3,987,573	*8%*	B
Other Revenue (Direct Revenue and RWA Overhead 981)	$68,280	*0%*	C
Total Revenue	**$51,948,034**	***100%***	
FUEL COST			
Gas (A31)	$34,800,749	*67%*	
Water/Sewage (A32)	$2,694,753	*5%*	
Electricity (A33)	$1,868,466	*4%*	
Oil (A36)	$2,087,808	*4%*	
Total Fuel Cost	**$41,451,776**	***80%***	
GROSS MARGIN	**$10,496,258**	***20%***	
DIRECT OPERATING EXPENSE			
Depreciation Expense	$11,455,201	*22%*	D
Mechanical O&M	$9,690,178	*19%*	E
Project Management	$1,502,892	*3%*	F
Cleaning	$247,833	*0%*	G
Protection	$10,000	*0%*	H
Other/Miscellaneous	$3,263,389	*6%*	I
Total Direct Operating Expense	**$26,169,493**	***50%***	
GENERAL & ADMINISTRATIVE EXPENSE			
Field Office (P1121020)	$3,649,833	*7%*	
Regional G&A	$298,122	*1%*	
National G&A	$549,534	*1%*	
Total G&A Expense	**$4,497,489**	***9%***	
LOSS ON OPERATIONS	**($20,170,724)**	***-39%***	
INTEREST EXPENSE			
Utility Financed Energy Projects (A39)	$4,448,354	*9%*	J
SI Chilled Water Service Assessment (A39)	($4,278,638)	*-8%*	K
Net Interest Expense	**$169,716**	***0%***	
NET LOSS	**($20,340,440)**	***-39%***	L

APPENDIX C

Notes to FY 2005 HOTD Net Loss

Notes

A. See following supporting tables at pages B-3 and B-4.

B. See following supporting table at page B-5.

C. FY 2005 revenue also included $65,380 for an antenna outlease at the West Plant and $2,900 from RWA overhead fees.

D. In FY 2005, a manual worksheet adjustment was made to GSA's financial statements to correct improper accounting for energy savings projects nationwide. A $14,066,519 adjustment was made for accumulated depreciation for HOTD's energy conservation project number JDC00567. Of this adjustment, $4,688,840 was depreciation related to FY 2005 that must be added to the financial system depreciation of $6,766,362 to correctly reflect HOTD operations.

E. See following supporting table at page B-5.

F. See following supporting table at page B-5.

G. See following supporting table at page B-6.

H. See following supporting table at page B-6.

I. See following supporting table at page B-6.

J. In FY 2005, a manual worksheet adjustment was made to GSA's financial statements to correct improper accounting for energy savings projects nationwide. A $469,865 adjustment was made to interest expense A39 for HOTD's energy conservation project number JDC00567. This $469,865 interest expense must be added to the financial system interest of $3,978,489 to correctly reflect HOTD operations. Interest expense should be factored into HOTD's financial summary after the loss on operations, as interest expense is not a direct result of a given fiscal year's operations.

K. In order to provide chilled water to the Smithsonian Institution (SI), HOTD began a chiller expansion/cogeneration project in 2000. The project was financed through alternative third-party financing as an energy conservation project. In a Memorandum of Agreement with HOTD, SI agreed to finance the chiller expansion portion of the project. SI remits $4,278,638 to HOTD annually for payment against the financing note. This assessment is intended to cover financing for the chiller portion of the project and is not related to actual chilled water operations. As a result, it is considered an offset to the project's interest expense.

L. The financial systems show a FY 2005 net loss for HOTD of $14,381,735. However, notes D, E, and J describe adjustments required to HOTD FY 2005 financial data. The correct net loss figure for HOTD in FY 2005 is $20,340,440 after adjusting depreciation ($4,688,840), operations and maintenance ($800,000), and interest ($469,865) expenses.

APPENDIX C

Notes to FY 2005 HOTD Net Loss (continued)

Note A-Steam Sales includes sales of 586,713 MLBS steam to 27 customers paying directly through the Federal Buildings Fund (FBF) and 1,300,250 MLBS steam to 49 customers paying through Reimbursable Work Authorization (RWA). Customers paying through RWA reside in delegated buildings or are private sector customers outside the FBF. The FY 2005 steam rate was $25.95/MLBS. Note there is a two percent variance between the steam sales figure in the financial system and the supporting data provided from HOTD.

Direct Steam Sales			
Building Name	**Building #**	**Usage (MLBS)**	**FY 2005 Bill**
NATIONAL COURTS	DC0094ZZ	12,714.40	$ 329,938.68
EXEC. MANSION	DC0017ZZ	13,070.00	$ 339,166.50
O.E.O.B.	DC0035ZZ	44,022.00	$ 1,142,370.90
F.O.B. 6	DC0010ZZ	15,792.60	$ 409,817.97
F.O.B. NEOB	DC0105ZZ	33,073.00	$ 858,244.35
F.O.B. 10A	DC0083ZZ	30,063.70	$ 780,153.02
F.O.B. 10B	DC0084ZZ	24,613.20	$ 638,712.54
G.S.A. CENTRAL	DC0021ZZ	22,534.40	$ 584,767.68
WILBUR J COHEN BLDG	DC0034ZZ	30,787.00	$ 798,922.65
MARY E SWITZER BLDG	DC0033ZZ	24,945.80	$ 647,343.51
U.S. CUSTOMS	DC0522AB	32,240.00	$ 836,628.00
LAFAYETTE	DC0026ZZ	10,459.60	$ 271,426.62
NEW POST OFFICE	DC0028ZZ	23,689.90	$ 614,752.91
POTOMAC ANNEX	DC0591BE	10,838.00	$ 281,246.10
R.O.B.	DC0031ZZ	13,915.55	$ 361,108.56
U.S. COURT HOUSE	DC0014ZZ	11,623.20	$ 301,622.04
US. TAX CT.	DC0114ZZ	5,375.80	$ 139,502.01
WINDER	DC0048ZZ	1,341.10	$ 34,801.55
1724 F. ST.	DC0078ZZ	1,502.80	$ 38,997.66
2430 E ST NW,SOUTH	DC0533AC	2,373.00	$ 61,579.35
PENSION	DC0030ZZ	7,733.30	$ 200,679.14
VETERNS	DC0007ZZ	18,432.20	$ 478,315.59
RONALD REAGAN	DC0459AF	153,647.00	$ 3,987,139.65
FBI ANNEX	DC0463ZZ	11,809.80	$ 306,464.40
U.S SECRET SERVICE BLDG	DC0505ZZ	15,418.70	$ 400,115.27
F.O.B. 8	DC0086ZZ	4,543.00	$ 117,890.85
OLD POST	DC0029ZZ	10,153.80	$ 263,491.11
TOTAL		***586,712.86***	***$ 15,225,198.59***

APPENDIX C

Notes to FY 2005 HOTD Net Loss (continued)

Reimbursable Steam Sales			
Building Name	**Building #**	**Usage (MLBS)**	**FY 2005 Bill**
H.O.B. 2	DC0018ZZ	22,236.00	$ 577,024.20
B.E.P. ANNEX	DC0201ZZ	49,267.40	$ 1,278,489.03
B.E.P MAIN	DC0200ZZ	79,528.10	$ 2,063,754.20
CORCORAN	DC1271ZZ	10,103.80	$ 262,193.61
D.A.R.	DC1272ZZ	3,062.00	$ 79,458.90
FED. RESERVE	DC0301ZZ	35,352.00	$ 917,384.40
HOOVER	DC0090ZZ	51,343.00	$ 1,332,350.85
FREER	DC1264ZZ	25,167.50	$ 653,096.63
HIRSHORN	DC0204ZZ	32,577.00	$ 845,373.15
SUP. CT. A	DC1267ZZ	6,713.60	$ 174,217.92
SUP. CT. C	DC1277ZZ	2,230.80	$ 57,889.26
MLK LIB.	DC1278ZZ	13,388.00	$ 347,418.60
MUNCIPAL CENTER	DC1279ZZ	16,565.80	$ 429,882.51
MUSEUM GRP.	DC1281ZZ	83,943.00	$ 2,178,320.85
SUP. CT. B	DC1280ZZ	5,806.50	$ 150,678.68
AMER. HIST. MUSEU	DC1355ZZ	51,232.70	$ 1,329,488.57
NAT. RES. COUNCIL	DC0300ZZ	6,252.50	$ 162,252.38
NAT. AIR & SPACE	DC0135ZZ	50,577.10	$ 1,312,475.75
N.G.A	DC1282ZZ	75,957.80	$ 1,971,104.91
DC. CT. HOUSE	DC0224ZZ	23,749.50	$ 616,299.52
O.A.S.	DC1283ZZ	5,139.00	$ 133,357.05
REC. DEEDS	DC1287ZZ	1,499.50	$ 38,912.03
TREASURY DEPT.	DC0551ZZ	37,446.70	$ 971,741.87
SUP. CT. D.	DC0058ZZ	-	$ -
WASH. MON.	DC0610ZZ	-	$ -
O.T.S.	DC0134ZZ	3,174.50	$ 82,378.28
LABOR	DC0116ZZ	42,713.50	$ 1,108,415.33
JUSTICE	DC0023ZZ	40,220.60	$ 1,043,724.57
COMMERCE	DC0013ZZ	49,255.10	$ 1,278,169.85
AGRICULTURE	DC0003ZZ	80,830.70	$ 2,097,556.68
HUD	DC0092ZZ	31,396.00	$ 814,726.20
COMM. ON. SOC. SEC	DC0057ZZ	9,625.50	$ 249,781.73
H.H.H.	DC0115ZZ	22,823.00	$ 592,256.85
ARCHIVES	DC0006ZZ	34,641.50	$ 898,946.93
INTERNAL REVENUE	DC0022ZZ	32,677.80	$ 847,988.91
AFRICAN QUAD	DC0202ZZ	23,618.00	$ 612,887.10
STATE DEPT.	DC0046ZZ	84,380.10	$ 2,189,663.60
FED. TRADE COMM.	DC0019ZZ	6,843.00	$ 177,575.85
H.O.L.C.	DC0075ZZ	3,918.00	$ 101,672.10
FORRESTAL	DC0093ZZ	38,322.00	$ 994,455.90
THEO. ROOSE. BLD.	DC0082ZZ	13,149.50	$ 341,229.53
CT. MIL APPEALS	DC0016ZZ	2,719.70	$ 70,576.22
INTERIOR MAIN	DC0020ZZ	34,004.00	$ 882,403.80
INTERIOR SOUTH	DC0032ZZ	3,167.50	$ 82,196.63
LIBERTY LOAN	DC0024ZZ	747.40	$ 19,395.03
G.A.O.	DC0041ZZ	28,260.00	$ 733,347.00
BLAIR HOUSE	DC0042ZZ	3,755.90	$ 97,465.61
F.D.I.C.	DC0085ZZ	9,521.80	$ 247,090.71
TARIFF	DC0036ZZ	11,346.00	$ 294,428.70
TOTAL		***1,300,250.40***	***$ 33,741,497.89***
GRAND TOTAL		***1,886,963.26***	***$ 48,966,696.48***

APPENDIX C

Notes to FY 2005 HOTD Net Loss (continued)

Note B-There are two rate structures for chilled water billing. USDA and DOE were billed for 109,767 MBTUs at a flat rate of $22.84/MBTU. The Smithsonian Institution (SI) is billed according to a Memorandum of Agreement based on a debt service payment, capacity charge, and consumption charge. SI was billed for 143,627 MBTUs of chilled water. Note there is a four percent variance between the chilled water sales figure in the financial system and the supporting data provided from HOTD.

Reimbursable Chilled Water Sales			
Building Name	**Building #**	**Usage (MBTU)**	**FY 2005 Bill**
AGRICULTURE	DC0003ZZ	66,038.07	$ 1,508,309.52
FORRESTAL	DC0093ZZ	43,728.52	$ 998,759.39
SMITHSONIAN	DC0135ZZ	143,626.66	$ 1,657,270.11
TOTAL		***253,393.25***	***$ 4,164,339.02***

Note E-Adjusted total mechanical O&M expense category by adding in $800,000 of A42 expense that was erroneously recorded in FY 2006.

Mechanical O&M	
Function Code Level Expense	**Amount**
Electrical Operations & Maintenance (A41)	$ 1,069,122
Heating, Ventilation, and Air Conditioning Maintenance (A42)	$ 5,210,494
Adjustment (A42)	$ 800,000
Plumbing/Sewage Operations & Maintenance (A43)	$ 2,020
Elevator & Escalator Operations & Maintenance (A44)	$ 44,965
Fire Protection Systems Maintenance (A45)	$ 25,684
Maintenance Repairs (A46)	$ 1,963,131
General Mechanical (A47)	$ 567,723
(A4Z)	$ 7,040
Total Mechanical O&M Expense	***$ 9,690,178***

Note F—No adjustments required to project management data taken from financial systems.

Project Management	
Function Code Level Expense	**Amount**
Environmental Studies (111)	$ 96,971
Environmental Assessment (113)	$ 736
Energy Audits & Studies (141)	$ 5,870
Design (211)	$ 138,550
Design-Miscellaneous (231)	$ 16,601
Primary Contracts (413)	$ 1,150,613
Management & Inspection-Construction (511)	$ 49,955
CM Management & Inspection Review (512)	$ 2
Miscellaneous-M&I (521)	$ 43,595
Total Project Management Expense	***$ 1,502,892***

APPENDIX C

Notes to FY 2005 HOTD Net Loss (continued)

Note G—No adjustments required to cleaning data taken from financial systems.

Cleaning	
Function Code Level Expense	**Amount**
Building Cleaning-Interior & Exterior (A11)	$ 217,761
Ground & Road Maintenance (A12)	$ 5,204
Trash (A13)	$ 24,869
Total Cleaning Expense	***$ 247,833***

Note H—No adjustments required to protection data taken from financial systems.

Protection	
Function Code Level Expense	**Amount**
Security Guarding (K20)	$ 10,000
Total Protection Expense	***$ 10,000***

Note I-Financial system roll-up for HOTD's other/miscellaneous expense shows a $3,234,079 expense. In this profit and loss statement, contra expense 981 for RWA overhead was moved to revenue and energy savings performance contracts A38 expense was moved into the other/miscellaneous category, showing other expense of $3,263,389.

Other/Miscellaneous	
Function Code Level Expense	**Amount**
Staff Support (901)	$ 140,300
Procurement (903)	$ 1,500
Portable Communications (906)	$ (1)
(90Z)	$ 10
Training-Direct (921)	$ 1,292
Acquisition Training (926)	$ 2,466
Chief Financial Officer (941)	$ 65,056
Telephone (954)	$ (9,672)
Fire & Life Safety (A21)	$ 60,022
Energy Savings Performance Contracts (A38)	$ 26,410
Space Changes (A51)	$ 50,611
Building Support (A61)	$ 129,682
Cafeteria Equipment (A64)	$ 1,872
Operations & Maintenance-Staff Support (A91)	$ 2,793,842
Total Other/Miscellaneous Expense	***$ 3,263,389***

APPENDIX D

FY 2005 HOTD Cost Allocation by Business Line

	Unallocated	*Steam*	*Chilled Water*	*Notes*
Revenue				A
Steam Sales (A34)	$ 47,892,181	$ 47,892,181		B
Chilled Water Sales (A37)	$ 3,987,573		$ 3,987,573	C
Other Revenue	$ 68,280	$ 58,502	$ 9,778	D
Total Revenue	**$ 51,948,035**	**$ 47,950,684**	**$ 3,997,351**	
Fuel Cost				
Gas (A31)	$ 34,800,749	$ 34,800,749	$ -	E
Water/Sewage (A32)	$ 2,694,753	$ 2,099,213	$ 595,540	F
Electricity (A33)	$ 1,868,466	$ 115,845	$ 1,752,621	G
Oil (A36)	$ 2,087,808	$ 2,087,808	$ -	H
Total Fuel Cost	**$ 41,451,776**	**$ 39,103,614**	**$ 2,348,162**	
Gross Margin	**$ 10,496,259**	**$ 8,847,069**	**$ 1,649,190**	
Direct Operating Expense				
Depreciation	$ 11,455,201	$ 5,797,419	$ 5,657,783	I
Mechanical O&M	$ 9,690,178	$ 8,527,357	$ 1,162,821	J
Project Management	$ 1,502,892	$ 1,349,200	$ 153,692	K
Cleaning	$ 247,833	$ 224,041	$ 23,792	L
Protection	$ 10,000	$ 8,830	$ 1,170	M
Other/Miscellaneous	$ 3,263,389	$ 2,926,229	$ 337,160	N
Total Direct Operating Expense	**$ 26,169,493**	**$ 18,833,075**	**$ 7,336,418**	
General and Administrative Expenses				
Field Office (P1121020)	$ 3,649,833	$ 3,127,177	$ 522,656	O
Regional G&A	$ 298,122	$ 255,431	$ 42,691	O
National G&A	$ 549,534	$ 470,841	$ 78,693	O
Total G&A Expense	**$ 4,497,489**	**$ 3,853,449**	**$ 644,040**	
Loss on Operations	**$ (20,170,724)**	**$ (13,839,455)**	**$ (6,331,269)**	
Interest Expense				
Utility Financed Energy Projects (A39)	$ 4,448,354	$ -	$ 4,448,354	P
SI Chilled Water Service Assessment (A39)	$ (4,278,638)	$ -	$ (4,278,638)	Q
Net Interest Expense	**$ 169,716**	**$ -**	**$ 169,716**	
Net Loss	**$ (20,340,440)**	**$ (13,839,455)**	**$ (6,500,985)**	R

APPENDIX D

FY 2005 HOTD Cost Allocation by Business Line (continued)

Notes

A. The methodology used to allocate revenue and expenses between the steam and chilled water business lines was based on an allocation methodology created by HOTD upon audit request. HOTD's methodology is based on historical data, experience, and estimates and has not been tested or refined through HOTD operations. The audit team is aware of imperfections in the allocation methodology. For example, HOTD's allocation methodology allocated all natural gas expense to the steam business line. However, some natural gas is used in the production of chilled water and should be applied to that business line. Although this exercise is a first attempt at cost allocation by business line, HOTD can improve the methodology as more data becomes available.

B. Allocated completely to steam business line.

C. Allocated completely to chilled water business line. Of A37 chilled water sales, $1,508,310 is associated with USDA, $998,759 is from DoE, and $1,504,524 is related to SI. Note this sales breakdown obtained from HOTD supporting documentation exceeds financial system A37 figure by 0.6 percent.

D. Allocated based on business line percentage of total direct expense (85.7 percent to steam and 14.3 percent to chilled water).

E. Gas expense allocated completely to steam business line based on HOTD methodology. As mentioned in Note A, the audit team is aware of imperfections in this allocation methodology.

F. Water/sewage expense allocated 77.9 percent to steam and 22.1 percent to chilled water based on HOTD methodology.

G. Electricity expense allocated 6.2 percent to steam and 93.8 percent to chilled water based on HOTD methodology.

H. Oil expense allocated completely to steam business line based on HOTD methodology.

I. In FY 2005, a manual worksheet adjustment was made to GSA's financial statements to correct improper accounting for energy savings projects nationwide. A $14,066,519 adjustment was made for accumulated depreciation for HOTD's energy savings project number JDC00567. Of this adjustment, $4,688,840 was depreciation related to FY 2005 that must be added to the financial system depreciation of $6,766,362 to correctly reflect HOTD operations. First allocated this $4,688,840 for project number JDC00567 depreciation to chilled water. Then allocated remaining depreciation based on business line percentage of total direct expense (85.7 percent to steam and 14.3 percent to chilled water).

J. Adjusted total mechanical O&M expense category by adding in $800,000 of A42 expense that was erroneously recorded in FY 2006. Then applied maintenance allocation of 88 percent to steam and 12 percent to chilled water.

K. Project management expense includes 73.9 percent administrative-type expenses and 26.1 percent maintenance-type expenses. Applied administrative and maintenance allocations to each portion of project management expense.

L. Applied administrative allocation of 90.4 percent to steam and 9.6 percent to chilled water.

M. Applied security allocation of 88.3 percent to steam and 11.7 percent to chilled water.

N. Adjusted total other/miscellaneous expense category by moving 981 RWA overhead to revenue and adding in A38 energy savings performance contract expense for a total of $3,263,387. Allocated A38 expense completely to chilled water. Then applied administrative allocation of 90.4 percent to steam and 9.6 percent to chilled water.

O. Allocated based on business line percentage of total direct expense (85.7 percent to steam and 14.3 percent to chilled water).

P. In FY 2005, a manual worksheet adjustment was made to GSA's financial statements to correct improper accounting for energy savings projects nationwide. A $469,865 adjustment was made to interest expense A39 for HOTD ESPC project number JDC00567. This $469,865 interest expense must be added to the financial system interest of $3,978,489 to correctly reflect HOTD operations. Interest expense should be factored into HOTD's financial summary after the loss on operations, as interest expense is not a direct result of a given fiscal year's operations.

Q. In order to provide chilled water to the Smithsonian Institution (SI), HOTD began a chiller expansion/cogeneration project in 2000. The project was financed through alternative third-party financing as an energy conservation project. In a Memorandum of Agreement with HOTD, SI agreed to finance the chiller expansion portion of the project. SI remits $4,278,638 to HOTD annually for payment against the financing note. This assessment is intended to cover financing for the chiller portion of the project and is not related to actual chilled water operations. As a result, it is considered an offset to the project's interest expense.

R. The financial systems show a FY 2005 net loss for HOTD of $14,381,735. However, notes E, G, and K describe adjustments required to HOTD FY 2005 financial data. The correct net loss figure for HOTD in FY 2005 is $20,340,349 after adjusting interest ($469,865), depreciation ($4,688,840), and operations and maintenance ($800,000) expenses.

APPENDIX E

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