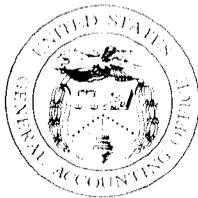


November 1989

FINANCIAL
INFORMATION

Costs Verified for
Extending Chilled
Water and Steam Lines
to Union Station





United States
General Accounting Office
Washington, D.C. 20548

Accounting and Financial
Management Division

B-236397

November 30, 1989

The Honorable George M. White
Architect of the Capitol

Dear Mr. White:

Pursuant to your request of March 29, 1989, we audited the records of the Union Station Redevelopment Corporation (USRC) to substantiate the accuracy of the costs reported and payments made for the design and construction of extending chilled water and steam lines to the Washington, D.C., Union Station. You requested this work in order that USRC may be reimbursed for an equitable share of these costs in accordance with the provisions of Public Law 100-480, insofar as the lines also will serve the proposed judiciary office building.

The Union Station Redevelopment Corporation reported incurring a total cost of \$4,320,085 for the design and construction of the chilled water and steam lines to serve Union Station. The total cost was divided into three categories as follows:

Chilled water line	\$3,227,000
Steam line	902,241
Other costs	190,844
Total	\$4,320,085

We further describe and explain these costs in appendix I.

Based on our review, we found that the total cost of \$4,320,085 reported by USRC was properly incurred and payment was correctly disbursed for the design and construction of the chilled water and steam lines to serve Union Station and the proposed judiciary office building.

Background

The Union Station Redevelopment Act of 1981, Public Law 97-125, 95 Stat. 1672, approved December 29, 1981, authorized the Architect of the Capitol to enter into an agreement with the Secretary of Transportation, or his or her designee, to furnish steam or chilled water or both from the Capitol Power Plant to the Union Station complex. Such an agreement was made with USRC (the Secretary's designee), effective

July 31, 1987. USRC financed the construction of the necessary extensions of the steam and chilled water lines to Union Station. According to the Architect of the Capitol, these lines are functioning satisfactorily.

Subsequently, the Judiciary Office Building Development Act, Public Law 100-480, 102 Stat. 2330 et sec., enacted October 7, 1988, authorized the Architect of the Capitol to contract for the design and construction of a building adjacent to Union Station to house agencies of the judicial branch and other occupants. Section 3(c) of that act provides that the proposed building may be connected to the Capitol Power Plant through construction of extensions to the chilled water and steam lines which serve Union Station. This act further mandates that the developer selected to construct the building will bear all of these costs and will also reimburse USRC for an equitable share of the costs incurred in extending the chilled water and steam lines to Union Station.

Objectives, Scope, and Methodology

The objective of this audit was to substantiate the total cost incurred and payments made for designing and constructing extensions of the chilled water and steam lines to Union Station so that USRC may be reimbursed for an equitable share of these costs as provided in section 3(c) of Public Law 100-480. The scope of our audit did not include determining the amount of an equitable share since the agreement between the Architect of the Capitol and USRC specified the amount as half of the reasonable construction costs.

We reviewed support for all costs incurred and payments made by USRC for the design and construction of the chilled water and steam lines. The information reviewed covered the period May 1986 through February 1989. All the records reviewed were maintained in USRC's Washington, D.C., offices.

Primarily, we reviewed the principal construction contract with Dick Corporation and the principal design contract with Harry Weese & Associates. Change orders to these contracts and other minor costs were also examined. Specifically, we reviewed the change orders to determine that work added to the Dick Corporation contract and to the Harry Weese contract was authorized and that the adjustment in the contract sum for the chilled water and steam lines agreed with the amounts finally paid by USRC.

Since the two primary contracts were lump sum contracts under which actual costs incurred do not affect payments to the contractors, we did

not review all of the contractors' detailed cost support material. We did, however, verify that the Architect of the Capitol accepted the work performed by the contractors in fulfillment of their obligations under the contracts. Also, we determined whether USRC staff correctly disbursed payments for costs incurred, and we tested for compliance with certain contract payment procedures. For example, one payment procedure required that an application and certificate for payment (AIA Document G-702) contain items such as a schedule of values allocated to the various portions of the work and evidence of the construction manager's review and approval.

To verify the accuracy of and support for USRC's costs, we obtained an itemized list of the costs incurred by USRC and traced the costs to supporting source documents which included contracts, USRC records, correspondence from contractors and subcontractors, invoices, etc. In addition, each expenditure was traced to a payment request and an application and certificate for payment. We also examined USRC's cancelled checks to verify that payment was actually made by USRC and received by the contractor.

For the additional chilled water line construction cost of the public sewer work mentioned in appendix I, we compared the payment request, supporting memoranda, and the cancelled check. For the additional construction costs associated with the steam line (Change Orders 26A, B, C, D, and F), we reviewed the detailed cost information submitted by Dick Corporation for its subcontractor. The payment requests for these additional charges were also compared with paid checks which we verified.

To verify other costs applicable to steam line change orders (besides the Dick Corporation contract costs), that is, asbestos removal, easement for the steam line, and the fee for recording of the postal easement, we examined invoices from the appropriate vendors, payment requests, supporting memoranda, and cancelled checks.

A significant portion of the other costs category pertains to the Harry Weese & Associates design work which included payment to its subcontractors (Tippetts-Abbott-McCarthy-Stratton who prepared civil engineering plans, etc., and John J. Christie and Associates who prepared mechanical and electrical engineering calculations and plans). We compared the invoices, payment requests, various supporting data, project detail reports, and cancelled checks. Our audit work was done in accordance with generally accepted government auditing standards.

If you have any questions or desire further information regarding our audit, please contact Matthew Solomon on 226-2480.

Sincerely yours,

A handwritten signature in cursive script that reads "Dennis J. Duquette". The signature is written in black ink and is positioned above the printed name and title.

Dennis J. Duquette
Director, Agency Financial Audits

Summary of Costs for Chilled Water and Steam Lines

Chilled water line construction costs

Lump Sum Dick Corporation Contract	\$3,210,000
Construction work consisted of providing all materials, equipment, labor and incidentals necessary and convenient for construction of chilled water lines from the intersection of 2nd St. and Constitution Avenue, N.E., to the east side of Union Station at the intersection of 1st and F Streets, N.E., Washington, D.C. (Modification No. 7, Change Order #25)	
Public Sewer Work Performed by Water and Sewer Utility Administration, D.C. Department of Public Works (DCDPW)	17,000
Sewer utility work was performed by DCDPW at an amount much less than if the work had been done per an estimate submitted by the Dick Corporation.	
Subtotal	\$3,227,000

Steam line construction costs

Lump Sum Dick Corporation Contract	\$708,000
Construction work consisted of providing all materials, equipment, labor and incidentals necessary and convenient for constructing steam lines from the lower level of Union Station to the Architect of the Capitol (AOC) steam tunnel on the North Capitol Street side of the neighboring Post Office building. When constructing those lines, USRC provided for additional capacity to service the future judiciary office building. (Modification #9, Change Order #26)	
Work added via Request For Information #758 for relocation of chilled water service and chilled water return for steam line installation in the northwest lower level. (Modification #18, Change Order 26A)	8,701
Work added via Change Bulletin A-30 which revised steam pipe routing inside Union Station and revised the condensate pump in subbasement. The 8-inch line that travels east to the mechanical pit will serve the future judiciary office building. (Modification #18, Change Order 26B).	35,446
Work added via (1) Change Bulletin A-44 which required changes in pipe supports at ramp desired by the U.S. Postal Service and (2) Change Bulletin A-56 which required revising pipe support and pipe anchor detail to permit maximum height and also permit the location of the pipe lines farther out from the existing walls. (Modification #18, Change Order #26C).	40,000
Work added for steam tie-in and for replacement of the steam tee connection to service the train tracks level at Union Station. (Modification #18, Change Order 26D)	5,094
Revision of steam line tie-in for the steam tunnel at the Post Office building next to Union Station. This change was dictated by discovered field conditions as well as requirements of the AOC. (Modification #19, Change Order 26F)	105,000
Subtotal	\$902,241

(continued)

**Appendix I
Summary of Costs for Chilled Water and
Steam Lines**

Other costs

Asbestos removal from steam lines in the steam tunnel area at the neighboring Post Office building. (Waco, Inc.)	\$7,000 ^a
Prepared an easement and an exhibit for three dimensional easement for high pressure steam line through the neighboring Post Office building. (Kidde Consultants, Inc.)	2,177 ^a
Fee for recording the postal easement agreement. (Columbia Real Estate Title)	200 ^a
Design and construction services for AOC chilled water and steam lines - Harry Weese & Associates Contract No. 84-AE-001, amendment No. 7. (Work included civil engineering plans prepared by Tippetts-Abbett-McCarthy-Stratton and mechanical and electrical engineering calculations and plans prepared by John J. Christie and Associates.)	181,467 ^b
Subtotal	\$190,844
Total	\$4,320,085

^aCosts for asbestos removal, the survey/easement and the fee for recording the postal easement agreement pertain to the steam line.

^bDesign costs for Harry Weese and Associates pertain to both chilled water and steam.

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