

ARMED SERVICES BOARD OF CONTRACT APPEALS

Appeals of –)
)
James G. Davis Construction Corporation) ASBCA Nos. 58000, 58002
)
Under Contract No. W912BU-09-C-0018)

APPEARANCES FOR THE APPELLANT: Adam C. Harrison, Esq.
Eli Y. Robbins, Esq.
Harrison Law Group
Towson, MD

APPEARANCES FOR THE GOVERNMENT: Thomas H. Gourlay, Jr., Esq.
Engineer Chief Trial Attorney
James D. Mirynowski, Esq.
Maria E. Kolokithias, Esq.
Engineer Trial Attorneys
U.S. Army Engineer District, Philadelphia

OPINION BY ADMINISTRATIVE JUDGE THRASHER

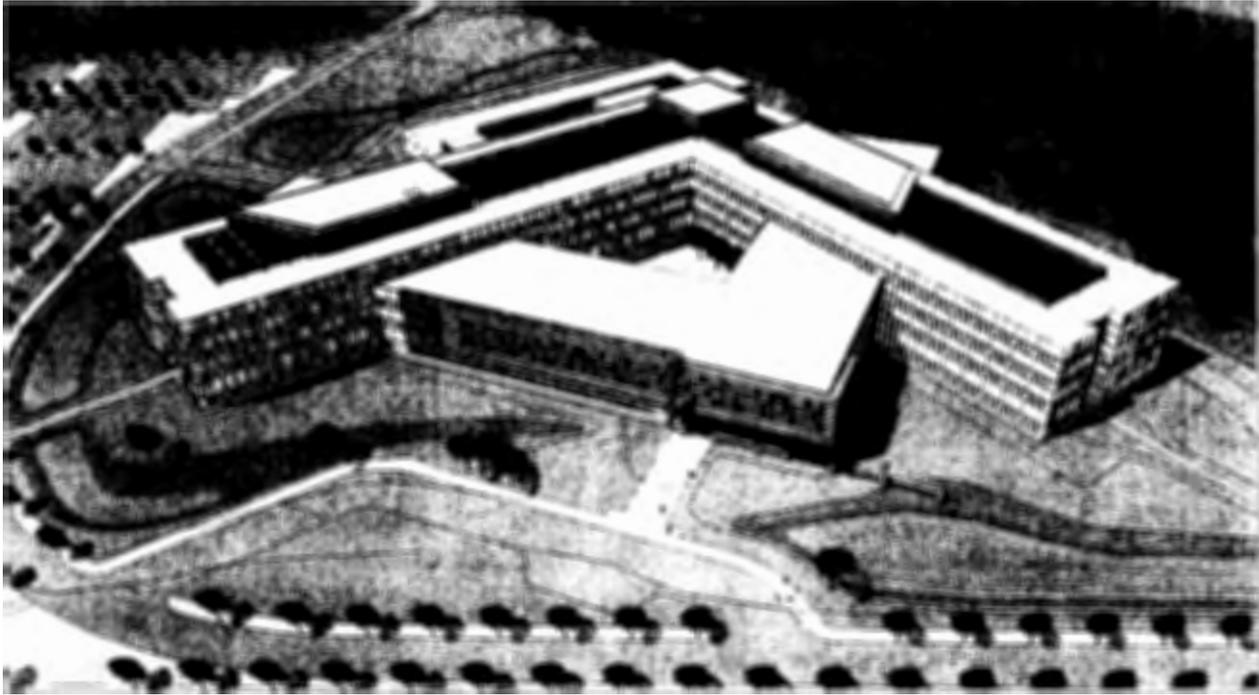
These appeals arise out of a contract between the U.S. Army Corps of Engineers (Corps) and James G. Davis Construction Corporation (Davis) to construct a building at Aberdeen Proving Ground, Maryland. Davis appeals on behalf of one of its subcontractors, HMI Insulation, LLC (HMI), for the cost of installing insulation on some segments of the building's Heating, Ventilation and Air Conditioning (HVAC) system. We have jurisdiction under the Contract Disputes Act (CDA) of 1978, 41 U.S.C. §§ 7101-7109. We decide entitlement only. For the reasons set forth below, we deny both appeals.

FINDINGS OF FACT

The Project

1. The Corps issued Invitation for Bids No. W912BU-09-B-0006 on 26 January 2009 to construct a Command Control/Communication Network Transportation (C2/CNT) East Facility (Building) on the C4ISR Campus at Aberdeen Proving Ground, Maryland (Project) (R4, tab 2). The building was large, approximately half a million square feet, consisting of a primary building (3 and 4 stories), a high bay building (2 stories) and a high bay link (tr. 2/158). The building was designed to be a multi-purpose computer facility for research, development and support of troop telecommunications and information technologies, which included certain spaces that

were designated mission critical with no HVAC failures permitted (tr. 2/157-58). Below is an artist's rendering of the project from the solicitation drawings:



(R4, tab 1, disc 12, 509B0006-DWGS-Vol 5.PDF)

The Project HVAC Systems

2. The designer of record for this project was the architect/engineering firm of EwingCole, and the project's HVAC system was designed by Mr. William C. Jarema, a EwingCole employee (supp. R4, tab 37 at 1). Mr. Jarema, who testified at the hearing as both a government fact and expert witness, explained that the individual components of the HVAC system are not unique but the way they are combined creates a unique system (tr. 2/159). Pertinent to these appeals, one unique feature of the HVAC system design is that there was no overall mechanism to control the temperature of the entire building with a single thermostat. Instead, the design required two systems to work together in series but not in parallel. One system pulls in outside air, preconditions the air in an Outside Air Unit (OAU) and then delivers it to the spaces to be conditioned. A second system of individual small units, "closets" located within each space to be conditioned, then conditions the air to the exact temperature for that space. The conditioned air is then returned to the OAU to be exhausted outside the building. (Tr. 2/164-65)

*OAU*s

3. Outside air enters the HVAC system through the eight OAU's located on top of the roof of the eight penthouses (supp. R4, tab 39, drawing H4.1).¹ Air is also returned to the OAU's to be exhausted to the outside. However, before the air is exhausted it passes through an enthalpy wheel. Specification § 23 82 02, ¶ 2.2.8.a requires the contractor to:

Provide an enthalpy wheel which will transfer both sensible and latent energy from exhaust air stream into outside air stream. In the summer, both heat and moisture shall be transferred from the outside air to the exhaust air. In the winter the transfer is to be reversed.

(R4, tab 1, disc 12, folder vol. 3, § 23 82 02, ¶ 2.2.8.a. at 9)

4. The OAU's regulate the air flowing from the OAU within certain temperature and humidity parameters set by the contract. Specification § 23 82 02, ¶ 2.2.9, Operating Controls, describes control of the OAU's stating in pertinent part at ¶ 2.2.9c.1:

The dehumidifier shall provide [sic] the scheduled leaving air dew point or less year round and be capable of providing natural discharge air to the space with free hot gas reheat energy at all dehumidification conditions. Controls shall automatically operate the dehumidification heat recovery system in response to system requirements and adjust its output to maintain specified conditions. The heat recovery unit shall be capable of rejecting 75% of the total heat of rejection (THR) to the air to maintain discharge air temperature at setpoint (70 degree F) or to a water-cooled condenser/water loop on a call for cooling.

(R4, tab 1, disc 12, folder vol. 3, § 23 82 02 at 10) Thus, the enthalpy wheel exchanges energy (air) between the incoming and outgoing air to set temperature and humidity parameters. The specific temperature and humidity parameters are found on the OAU Schedule on drawing H4.1. (Supp. R4, tab 39, drawing H4.1)

Heat Recovery System vs. Energy Recovery System

5. Although Specification § 23 82 02, ¶ 2.2.9c.1 employs the terms "heat recovery system" and "heat recovery unit" in reference to the operating parameters of the OAU's,

¹ Only three of the penthouses are relevant to these appeals: the North, Southwest and East penthouses (supp. R4, tab 39, drawings H5.2, H5.3, H5.4).

Davis' expert witness, Mr. Kenneth McLauchlan, testified that there is no "heat recovery system" on this project. He opined instead that the OAUs are "energy recovery systems" as defined by industry standards but are not "heat recovery systems." As he explained, a "heat recovery" system is different from an "energy recovery system" in that it seeks to use high temperature exhaust to preheat the incoming outside air. In contrast here, the enthalpy wheel transfers energy from the returning air to the incoming air; heat in the winter and cool air in the summer. (Tr. 1/211-12) Mr. Stephen Prosser, an HMI employee, similarly testified that the enthalpy wheel transfers energy and that there is no "heat recovery system" on the project (tr. 1/154). Although the government's expert witness and designer of the system, Mr. Jarema, agreed that the enthalpy wheel in the OAUs transfers energy between the intake and exhaust air streams as described in the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE) Standard 62.1 definition of energy recovery ventilation system, he did not assert they are also "heat recovery systems" (tr. 2/177).

HVAC Ductwork Insulation Drawings²

6. Three areas of the HVAC ductwork are pertinent to these appeals: ductwork labeled on the drawings as Outside Air (OA) running horizontally through the corridors, Exhaust Air (EA) running horizontally through the corridors and EA labeled vertical ductwork running through the mechanical shafts.³ Drawing HG01 defined abbreviation OA as outside air and EA as exhaust air but did not specifically further define these terms. (Supp. R4, tab 39) The original solicitation drawings did not include the OA and EA notations (supp. R4, tab 38). These terms were added to revisions of the solicitation mechanical drawings by Mr. Jarema during the bidding process to clarify the special requirements of the solicitation (tr. 2/167).

OA Labeled Ductwork Running Horizontally Through the Corridors

7. The OA labeled ductwork system in the drawings indicates air entering the penthouse, flowing through the OAU and then being distributed down and throughout the building running vertically down through the floors through a mechanical shaft between the floors. At each floor, the ductwork branches off horizontally. This branch ductwork (labeled on the drawing as OA) travels through the corridors of the building to mechanical rooms on each floor. (Supp. R4, tab 39 at areas highlighted in blue) The OA

² The parties refer to drawings, plates and schematics interchangeably. For purposes of clarity, we will refer to all these documents as drawings.

³ The pertinent ductwork shown on the drawings at supp. Rule 4, tab 39, were color coded by the government for purposes of this appeal. The pertinent drawings are Volume 5-Mechanical Drawings H2.1.A.1, H2.1.B.1, H2.1.C.1, H2.1.D.1, H2.2.A.1, H2.2.B.1, H2.2.C.1, H2.2.D.1, H2.3.A.1, H2.3.B.1, H2.3.C.1, H2.3.D.1, H2.4.A.J, H2.4.B.1, and H2.4.C.1.

ductwork runs along the ceiling of the corridors. Because there is no dropdown ceiling under the ductwork, the ductwork is exposed to the temperature of the air in the corridor. By industry practice, this ductwork would normally be referred to as supply air ductwork and the drawings indicate the project included some supply air ductwork that were not labeled OA (supp. R4, tab 39 at areas highlighted in red).

EA Labeled Ductwork Running Horizontally Through the Corridors

8. Once the air is distributed throughout the building, the air is returned to the OAU through the ductwork system labeled on the drawing as EA. These horizontal runs of ductwork, for the most part, travel parallel to the OA ductwork through the same corridors of the building to mechanical shafts. (Supp. R4, tab 39 at ductwork highlighted in green)

EA Labeled Ductwork in the Vertical Mechanical Shafts

9. The horizontal ductwork enters the mechanical shaft and connects to vertical ductwork (labeled on the drawing as “EXH”) that brings the air back up to the penthouse. There is a notation beside each of the EXH symbols on the drawings indicating a dimension and EA UP. (See supp. R4, tab 39, drawing H2.4.B.1)⁴ Once the vertical ductwork reaches the penthouse, it makes a 90° left turn to horizontal, and runs back to the OAU. The air enters the OAU where the enthalpy wheel recovers heat and moisture from the air. Once the air passes through the enthalpy wheel, the air is exhausted outside the building. (App. supp. R4, tab 5)

HVAC Ductwork Insulation Specifications

10. Specification § 01 11 00, ¶ 1.4.8.1, Air Distribution Systems, at subparagraph 1, states in pertinent part, “All ductwork shall be insulated” (supp. R4, tab 18 at 8).

11. The relevant mechanical insulation requirements for the project are contained in Specification § 23 07 00, ¶ 3.3.1.1, which lists the ductwork and casings that are to be insulated. Specification § 23 07 00 provides, in pertinent part as follows:

3.3.1.1 Listing of Ductwork and Casings to be Insulated

- a. All air conditioning system supply air ductwork, casings and plenums except:

⁴ There are two ducts in each vertical shaft. One is labeled OA UP. However, these ducts are not the subject of these appeals.

1. Ductwork exposed in air conditioned spaces served by the ductwork
- b. Air conditioning system return air and relief air ductwork, casings and plenums located in:
1. Mechanical equipment room and penthouse
 2. Ceiling space or plenum where there is roof above.
 3. Shaft with exterior wall(s) or shaft passing through non-air conditioned space.
 4. Non-air conditioned space, including shaft not surrounded by air conditioned spaces on all sides and ceiling space or plenum with non-air conditioned space either above or below.
-
- m. Outside air ductwork, casings and plenums.
-
- o. Heat recovery system exhaust ductwork on inlet air side of heat recovery coil/unit.
-
- t. Indoor exhaust/relief plenums and ductwork from fan discharge to louver or exhaust hood/gooseneck.

(R4, tab 7 at 27-28)

ASHRAE Standards

12. Some of the terms used in Specification § 23 07 00, ¶ 3.3.1.1 are not defined within the contract but are industry terms-of-art. The terms-of-art, relevant to this appeal, include: “Outside Air,”⁵ “Supply Air,” “Return Air,” “Exhaust Air,” “Air Conditioning System,” and “Heat Recovery System” (supp. R4, tab 34 at 3-4). These terms are defined

⁵ ASHRAE Standard 62.1 does not define the term “Outside Air” but does define the term “air, outdoor” (supp. R4, tab 34 at 3-4).

by ASHRAE Standard 62.1, Ventilation for Acceptable Indoor Air Quality, which is considered an industry standard in the HVAC industry and was applied to this project. In this regard, Mr. Jarema explained in his testimony that ASHRAE does not apply in every project but most building codes now use it as a guide for designing ventilations systems and that he used it as a guide on this project. He also stated that one could look to ASHRAE 62.1 to define the terms “outside air,” “exhaust air,” “supply air,” “return air,” “air conditioning system” and “energy recovery ventilation system.” (Tr. 2/175-77)

13. Relevant to these appeals, ASHRAE Standard 62.1 defines the following industry terms-of-art:

air conditioning: the process of treating air to meet the requirements of a conditioned space by controlling its temperature, humidity, cleanliness, and distribution.

air, ambient: the air surrounding a building; the source of outdoor air brought into a building.

air, exhaust: air removed from a space and discharged to outside the building by means of mechanical or natural ventilation systems.

....

air, outdoor: ambient air that enters a building through a ventilation system, through intentional openings for natural ventilation, or by infiltration.

....

air, return: air removed from a space to be then recirculated or exhausted.

air, supply: air delivered by mechanical or natural ventilation to a space, composed of any combination of outdoor air, recirculated air, or transfer air.

....

energy recovery ventilation system: a device or combination of devices applied to provide the outdoor air for ventilation in which energy is transferred between the intake and exhaust airstreams.

(Supp. R4, tab 34 at 3-4)

14. In addition, Specification § 23 07 00, ¶ 3.3.1.1a.1 refers to “Ductwork exposed in air conditioned spaces served by the ductwork” as ductwork that is not required to be insulated (R4, tab 7 at 27). However, the contract does not define the term “air conditioned spaces served by the ductwork” or provide any guidance with respect to when a space is “served by the ductwork.” In reference to this provision, Mr. McLauchlan testified that the air coming from the OAU is conditioned air because the enthalpy wheel controls both the temperature and humidity of the air to set parameters (tr. 1/179–85). In contrast, Mr. Jarema testified that the OAUs do not condition the air because they perform no air conditioning or heating function and do not control the temperature in the building; only the closets perform this function (tr. 2/170-71).

Davis' Bid

15. Mr. Prosser, HMI, prepared the HVAC segment of Davis' bid on the project (tr. 1/31).⁶ Mr. Prosser testified he reviewed the drawings and specifications but based the proposed bid primarily on the specifications. He reviewed the revised drawings, noting the OA and EA labeled ductwork, but interpreted the designations as merely indicating the source or destination of the air flow; OA indicating it was coming from the OAU and EA that it was returning to the OAU (tr. 1/163-64). He viewed the OA labeled ductwork as supply and the EA labeled ductwork as return ductwork (tr. 1/51-54). He did not include a price for insulation for the ductwork in the corridors labeled as OA or EA because his reading of the specifications was that ductwork ran through corridors and the shafts were conditioned and therefore were not required to be insulated (tr. 1/57-62). He interpreted Specification § 23 07 00, ¶ 3.3.1.1m only to require insulation on the air ducts in the penthouses on the louver to the unit (tr. 1/72). He also testified that he often reviews specifications that include requirements that don't exist on a particular project (tr. 1/63-64).

The Contract

16. Contract No. W912BU-09-C-0018, as amended, was awarded to Davis on 20 April 2009 (R4, tab 2 at 2). Receipt of Notice to Proceed was acknowledged by Davis on 26 June 2009 (R4, tab 3). Following award, Davis entered into a subcontractor agreement with Delcard Associates, Inc., (Delcard) for the provision of HVAC services. On 16 June 2009, Hudak executed a “Standard Form Subcontract Agreement” with

⁶ As a fourth tier subcontractor, his bid estimate was submitted by Hudak Mechanical Insulation (Hudak), Davis' third tier subcontractor. In addition, his bid estimate was also submitted to three or four other companies also bidding on the project. (Tr.1/76)

Delcard requiring it to furnish and install the insulation for the HVAC system on this project in accordance with plans and specification prepared by EwingCole dated 20 January 2009 (supp. R4, tab 28).⁷ HMI (Mr. Prosser) began the HVAC work in June 2010 (tr. 1/141). On 13 August 2010, Hudak filed for bankruptcy protection pursuant to Chapter 11 of the United States Bankruptcy Code. Subsequently on 20 October 2010, Hudak assigned its rights in the subcontract with Delcard to HMI which was recognized by a Consent to Assignment of Subcontract Agreement executed by Delcard (supp. R4, tab 29).

Coordination Drawings, Shop Drawings and Meetings

17. The contract specification required the contractor and any of its subcontractors, including HVAC subcontractors, to participate in creating and updating a composite set of coordination drawings (supp. R4, tab 18 at 15, § 1.6). The purpose of the coordination drawings was to pre-plan installation of various segments of the project, specifically including HVAC, and to identify any coordination problems with any other trades working on the project (*id.*, § 1.6.1). Delcard subcontracted with CadTech, Inc., to produce its coordination drawings which were submitted by Davis to the Corps in October 2009 (supp. R4, tab 19). Mr. Michael Rew, CadTech's Senior Coordinator, testified that the coordination drawings prepared by his company on this project depicted insulation on the OA and EA ductwork in the form of dashed lines following the length of both sides of the ductwork (tr. 2/91-95; supp. R4, tab 19), and the representation was "the standard method to indicate insulation on ductwork" (tr. 2/101). We find that the coordination drawings, which Davis submitted to the government during performance, depicted insulation required on all OA and EA labeled ductwork at issue in these appeals. These drawings also depicted insulation on some segments of the supply air ducts which were not labeled OA and did not require such insulation (supp. R4, tab 39, drawing H2.1.B.1 highlighted in red, tab 19 at TCD-1B-01, TCD-1B-02, TCD-1B-03, TCD-1B-04).⁸

18. Coordination meetings were held concerning the effort to prepare the required coordination drawings and to identify any coordination problems between the various

⁷ Delcard did not execute the agreement until 10 February 2010, seven months later and almost one year after the contract was executed between the Prime and the government (supp. R4, tab 28).

⁸ Drawing H2.1.B.1 generally depicts the first floor ductwork in Project Segment B. The areas highlighted in red depict the government's interpretation of supply air ductwork that are exposed in a corridor that serves the corridor i.e., that fall within the exception of Specification § 23 07 00, ¶ 3.3.1.1a not requiring insulation. (Supp. R4, tab 139) A comparison of the coordination drawings TCD-1B-01, TCD-1B-02, TCD-1B-03, and TCD-1B-04, indicates these drawings depict the same ductwork to require insulation (supp. R4, tab 19).

trades working on the project (supp. R4, tab 18 at 15, § 1.6.1). These meetings took place between fall of 2009 and mid-February 2010. The minutes of these meetings indicate attendees included representatives of the Corps, EwingCole, Davis, Delcard and CadTech, among other subcontractors. (Supp. R4, tab 21) Mr. Rew who prepared the drawings, testified he did not recall HMI attending the coordination meetings but that HMI's absence was not unusual because HVAC trades rarely attend these meetings (tr. 2/114-15).

19. In addition to the coordination drawings, Specification § 01 33 00, ¶ 1.1.1 SD-02, required Davis to submit various shop drawings pursuant to the listing in the Submittal Register under the contract (R4, tab 1, disc 12, folder vol. 2, § 01 33 00 at 2). CadTech also prepared the shop drawings on behalf of Delcard which were submitted to the government by Davis. Mr. Rew testified he depicted insulation in the form of dashed lines following the length of both sides of the OA and EA ductwork on the shop drawings based upon his reading to the specifications. (Supp. R4, tab 20; tr. 2/96-97) We find that the shop drawings, which Davis submitted to the government during performance, depicted insulation required on all OA and EA labeled ductwork at issue in these appeals.

Preparatory Meeting and Mechanical Systems Submittal Reviews

20. On 25 January 2010, Davis forwarded Hudak/HMI's Thermal Insulation for Mechanical Systems submittal to EwingCole for review pursuant to Specification § 23 07 00, ¶ 1.3, Submittal (supp. R4, tab 23 at 2). EwingCole approved the submittal (23 07 00-001 Rev 01, Thermal Insulation for Mechanical Systems) on 8 February 2010 with comments (*id.* at 1). One of the comments stated, "Insulate all relief air ductwork, all exhaust ductwork on the discharge side of the Outside Air Units and all ductwork carrying outdoor air, including all supply ductwork from Outside Air Units, per specification paragraph 3.3.1" (*id.* at 6 note 7).

21. On 8 April 2010, Davis forwarded submittal review 23 07 00-001, Rev 02-Thermal Insulation to EwingCole (supp. R4, tab 24 at 2). EwingCole reviewed the submittal and responded on 27 April 2010 with comments. Two of the comments repeated the previous comments related to insulation of the exhaust ductwork on the discharge side of the OAU's and outside air supply ductwork from the OAU's (*id.* at 6 notes 3-4). Mr. Prosser testified that his review of the comment related to the outside air supply from the OAU's was the first time he realized there might be a different interpretation of the insulation specifications related to the ductwork in the corridors because it referred to supply air from the OAU's, despite the fact the comment from the first submittal on 8 February 2010 did as well (*see* supp. R4, tab 23 at 6 note 7). As a result of this realization, Mr. Prosser approached Delcard and asked what the government meant by these comments. Delcard responded that they had to insulate the ductwork in

the hallways. Mr. Prosser's question and Delcard's response was elevated to Davis and ultimately led to the submittal of Request for Information (RFI)-0889. (Tr. 1/79-81)

22. On 13 April 2010, a Preparatory Meeting was held pursuant to Specification § 01 45 01, ¶ 3.6.1, Preparatory Phase, requiring completion of such a meeting prior to starting a definable feature of work, namely, Thermal Insulation for Mechanical Systems (R4, tab 1, disc 12, folder vol. 2, § 01 45 01, ¶ 3.6.1 at 5-6). Present at the meeting were representatives of the Corps, Davis, Delcard and HMI (Mr. Prosser). As part of this meeting pursuant to section II of the agenda, all submittals were checked for approval, which included shop drawings. In addition, as indicated in section IV of the agenda, the plans and applicable specifications were also reviewed. (Supp. R4, tab 25) The 13 April 2010 Corps Quality Assurance Report of the meeting does not reflect any disagreement relating to the extent of the contract's insulation requirements (supp. R4, tab 26; tr. 2/35-37).

RFI-0889

23. On 17 June 2010, the Corps received RFI-0889 from Davis seeking clarification of the insulation requirements of the contract, as follows:

DAVIS feels that the following areas of specification 23 07 00 are unclear.

I.) Exposed Supply Air Ductwork.

Please confirm that per section 3.3.1.1 (a.)(1.), all supply air ductwork exposed in conditioned spaces will not be insulated. This includes all OA supply air duct located in the corridors. The OA ductwork (from louver to OAU), casings, and plenums in the Penthouses will be insulated with Type D1 insulation.

II.) Return Air Risers in Shafts.

Please confirm that per section 3.3.1.1 (b.)(4.), all return air duct located in the interior shafts (which are conditioned on all sides) will not be insulated.

....

IV.) Discharge Side of the OAU Clarification

Ewing Cole's Note #3 in the returned submittal 23 07 00-1.1 states "Insulate all exhaust ductwork on the discharge side of the OAUs."

Please confirm that DAVIS is correct in providing Type D1 insulation on the ductwork from the OAU to the louver in the penthouse as this is our understanding of the "exhaust ductwork on the discharge side of the OAU" referenced.

(R4, tab 9)

24. On June 28, 2010, the Corps responded to each item, stating in pertinent part:

I. Incorrect. All O/A Supply ductwork in corridor shall be insulated. Section 3.3.1.1-a-1 only permits ductwork serving the space it is in to be uninsulated. All ductwork scheduled to be painted shall be provided with paintable ASJ.

II. Incorrect. Most, if not all, shafts on the project have non-air conditioned spaces either directly above or below shaft.

....

IV. Correct.

(Note: All OAU ductwork in Penthouse to be insulated: Supply Air duct - 3.3.1.1a; Return Air duct - 3.3.1.1b; Outside Air duct - 3.3.1.1m; Exhaust Air duct - 3.3.1.1t).

(R4, tab 9 at 1-2)

Request for Equitable Adjustment

25. On 29 July 2010, Davis submitted HMI's Request for Equitable Adjustment (REA) No. 157 for an alleged change due to the Corps' response to RFI-0889 in pertinent part regarding the insulation requirement related to insulating the outside air in exposed corridors and return ducts in the shafts. The REA requested an equitable adjustment in the amount of \$470,871.⁹ (R4, tab 10A)

⁹ The total of \$470,871 included \$339,458 to insulate the outside air ducts in exposed corridors, \$44,464 for increasing the fiberglass board thickness and \$20,042 to

26. The Corps responded to the 29 July 2010 REA (157) on 9 August 2010 with a finding of no merit (R4, tab 11).

27. The Corps internally clarified its position on 6 August 2010 by developing a revised response to RFI-0889 which stated its position in more detail (supp. R4, tab 27).¹⁰

28. On 8 July 2011, Davis submitted an uncertified request for a contracting officer's final decision (COFD) for the insulation of OA ductwork and insulation of EA ductwork in the shafts in the amount of \$419,043 (R4, tab 14).¹¹ The request was later certified by letter dated 1 August 2011 (R4, tab 15).

29. On 31 August 2011, Davis filed REA No. 399, on behalf of HMI, requesting an equitable adjustment of \$479,444 for insulation of the exhaust air ducts (R4, tab 10B at 13).

30. On 22 September 2011, the government responded to REA No. 399, finding it had no merit (R4, tab 10B at 11).

31. The contracting officer issued a COFD on 22 November 2011, denying Davis' 1 August 2011 claim (finding 28) in its entirety (app. supp. R4, tab 1).

32. On 5 December 2011, Davis submitted a certified claim and requested a COFD related to REA No. 399 for the insulation of EA labeled ductwork running horizontally through the corridors. The request stated that, Delcard, Davis' subcontractor, split the REA into two parts: REA No. 399A in the amount of \$398,900 and REA No. 399B in the amount of \$80,543. Davis only requested a decision on 399A. (R4, tab 10B at 1) The contracting officer issued a COFD on 19 January 2012, denying Davis' claim (app. supp. R4, tab 2).

33. Davis appealed both COFDs to the Board on 16 February 2012. The appeal from the 22 November 2011 final decision, regarding the insulation of OA ductwork and

insulate return air ducts in shafts. The remaining amounts were Davis mark-ups. (R4, tab 10A at 2)

¹⁰ Appellant objected to admission of this document into evidence during the hearing. We overruled appellant's objection retaining it in evidence but stated we would give it whatever weight, if any, in our decision it was due (tr. 1/11-12). We give it no weight in our decision. It was only transmitted internally within the Corps. We do not find it to be useful in assisting us in discerning the meaning of the contract terms at issue. It is only included in our findings of fact for completeness.

¹¹ The claim dropped the request for \$44,464 (plus Davis mark-ups associated therewith) for increasing the fiberglass board thickness.

insulation of EA ductwork in the shafts, was assigned ASBCA No. 58000 and the appeal from the 19 January 2012 final decision, the insulation of EA ductwork in the corridors, was assigned ASBCA No. 58002.

DECISION

These appeals turn upon our interpretation of the contract specifications and drawings for insulating the project's HVAC system, which is a legal, not a factual, determination. *Fortec Constructors v. United States*, 760 F.2d 1288, 1291 (Fed. Cir. 1985). A threshold question is whether the plain language of the contract "supports only one reading or supports more than one reading and is ambiguous." *NVT Technologies, Inc. v. United States*, 370 F.3d 1153, 1159 (Fed. Cir. 2004). If a contract is susceptible to more than one reasonable interpretation, it is ambiguous. *Hills Materials Co. v. Rice*, 982 F.2d 514, 516 (Fed. Cir. 1992). Such a determination begins with an examination of the plain language of the contract to discern the objective intent of the parties. *Valley Apparel, LLC*, ASBCA No. 57606, 12-1 BCA ¶ 35,013 at 172,052 (citing *M.A. Mortenson Co. v. Brownlee*, 363 F.3d 1203, 1206 (Fed. Cir. 2004)). Any examination of the contract language must interpret the contract as a whole giving reasonable meaning to all terms of the contract. *Hercules Inc. v. United States*, 292 F.3d 1378, 1381 (Fed. Cir. 2002).

The specific ductwork systems at issue are: (1) the HVAC supply-air ductwork running horizontally through the corridors on the project labeled on the drawings as OA (finding 7); (2) the HVAC return-air ductwork running horizontally through the corridors on the project labeled on the drawings as EA (finding 8); and (3) the HVAC return-air ductwork running vertically through mechanical shafts located in the interior areas of the project also labeled on the drawings as EA (finding 9). We will address each in turn.

Insulation of OA Labeled Ductwork Running Horizontally through the Corridors

Appellant contends the contract specifications did not require insulation of the OA labeled HVAC ductwork running through the corridors because that ductwork falls within an exception found in the contract at Specification § 23 07 00, ¶ 3.3.1.1a, which reads:

3.3.1.1 Listing of Ductwork and Casings to be Insulated

- a. All air conditioning system supply air ductwork, casings and plenums except:

1. Ductwork exposed in air conditioned spaces served by the ductwork.

(App. br. at 18-19; finding 11)

In support of its argument, appellant asserts that an interpretation of § 23 07 00, ¶ 3.3.1.1a.1 can only be, and should be, determined by looking to industry standards and customs because the government does not define the terms *air conditioning*, *supply air* and *spaces served by the ductwork*. Since these terms are not defined within the contract, appellant argues, the Board should look to trade usage to define the terms. Appellant's logic is that if you look to trade usage for guidance, the Board should specifically look to the definitions within ASHRAE 62.1. If ASHRAE 62.1 definitions are applied, the ductwork in question would in industry terms be referred to as supply air and the corridors through which the ductwork are located would be defined as air conditioned spaces (ASHRAE 62.1) (app. br. at 14-18; findings 12, 13).

Appellant further argues that ASHRAE 62.1 defines the terms *air conditioning* and *supply air* as used in § 23 07 00, ¶ 3.3.1.1a.1. ASHRAE 62.1 defines "***air conditioning***" as "the process of treating air to meet the requirements of a conditioned space by controlling its temperature, humidity, cleanliness, and distribution" (finding 13). Applying this definition, appellant asserts the OAU's on the project are air conditioners within the definition of ASHRAE 62.1 because they control the temperature, humidity, cleanliness and distribution of air flowing through the building (app. br. at 14-6). "[A]***ir, supply***" is defined as "air delivered by mechanical or natural ventilation to a space, composed of any combination of outdoor air, recirculated air, or transfer air" (app. br. at 17; finding 13). Appellant argues that the ductwork in question also falls within the coverage of this section because it specifically refers to "supply air ductwork" and this ductwork is substantively supply air ductwork despite the fact the government labeled it OA (app. br. at 17).

Appellant recognizes that unlike the terms "air conditioning" and "air, supply," the phrase "air conditioned spaces served by the ductwork" is neither defined by the contract nor ASHRAE but asserts that an interpretation based upon industry practice and custom gleaned from ASHRAE 90.1 exempts ductwork installed in exposed, conditioned, corridors from the insulation requirement. Appellant's logic on this point is as follows:

ASHRAE Standard 90.1 discusses, among other things, the minimum duct insulation R-Value for combined heating and cooling supply and return ducts required to meet the energy goals enunciated in ASHRAE Standard 90.1. Table 6.8.2B in ASHRAE Standard 90.1 directs that supply-air and return-air ductwork located in indirectly conditioned space does not need to be insulated. ASHRAE Standard 90.1 uses a corridor

as the prime example of a space, that is indirectly conditioned by ductwork serving that space, wherein exposed ductwork installed in that space would not need to be insulated. This is precisely the exemption enunciated in Contract § 23 07 00 3.3.1.1.a.1. Thus, while the Contract is silent with respect to what is meant by the phrase “air conditioned spaces served by the ductwork,” the industry standard and trade custom, which must be referenced in order to interpret the Contract, clearly exempts ductwork installed in exposed, conditioned, corridors from the insulation requirement.

(App. br. at 18) (Footnotes omitted)

In contrast to appellant’s reliance upon Specification § 23 07 00, ¶ 3.3.1.1a.1, as viewed through the lens of industry standards and customs, the government relies upon a plain reading of Specification § 23 07 00, ¶ 3.3.1.1m, which simply states:

3.3.1.1 Listing of Ductwork and Casings to be Insulated

....

m. Outside air ductwork, casings and plenums.

(Finding 11) The drawings label the ductwork in question as OA, which is defined on the drawings as “outside air.” The government argues a plain reading of this provision unequivocally requires all ductwork labeled as OA in the drawings be insulated, with no exceptions and without resort to industry standards. In addition, the government argues this interpretation is consistent with the exception appellant relies upon in 3.3.1.1a.1 because the intent of that provision was to address project supply air ductwork depicted on the drawings that was not labeled OA, which the government identifies. (Gov’t br. at 12; finding 7)

We agree with the government that there is no need to refer to industry standards on this issue; a plain reading of the contract language is sufficient to glean the parties’ intent. Here the government explicitly stated that all “[O]utside air ductwork, casings and plenums” would be insulated, specifically labeled the ductwork intended as OA and defined OA in the drawings as outside air (findings 6, 11). We conclude the contract language to be unambiguous. If the language of the contract is clear and unambiguous, as is the case here, our review is generally limited to the contract itself. *See TEG—Paradigm Environmental, Inc. v. United States*, 465 F.3d 1329, 1338 (Fed. Cir. 2006) (“[Unambiguous language] must be given its ‘plain and ordinary’ meaning and the court may not look to extrinsic evidence to interpret its provisions.”). However, even when a contract is unambiguous, there may be some instances when it is appropriate to turn to

one common form of extrinsic evidence—evidence of trade practice and custom. *Hunt Construction Group, Inc. v. United States*, 281 F.3d 1369, 1373 (Fed. Cir. 2002). Appellant’s case relies heavily upon trade practice and custom arguing that the OA ductwork in question, based upon trade practice and custom, is substantively supply air ductwork despite the fact they are labeled OA and, therefore, fall within an exception to the insulation requirements at Specification § 23 07 00, ¶ 3.3.1.1a (app. br. at 18-19; finding 11). This argument relies upon trade standards to supply the definition of two terms and trade practice to define a third term that are not defined in the contract.¹² To the extent appellant argues that we should substitute trade practice and custom for the OA ductwork requirement as written, as seems to be the case, we reject that argument. The government has the right to demand strict compliance with its requirements which can vary from the norm in the trade. *Jowett, Incorporated v. United States*, 234 F.3d 1365, 1369 (Fed. Cir. 2002) (citing *Wright Construction Company v. United States*, 919 F.2d 1569, 1572-73 (Fed. Cir. 1990)), (stating that affidavits describing common industry practice of not insulating air supply ducts in ceilings found to be irrelevant where the language of the contract is unambiguous on its face because the government can vary from the norm in the trade when contracting). Since we have concluded the plain language of the contract is unambiguous, trade practice and custom may not be used “to create an ambiguity where a contract was not reasonably susceptible of differing interpretations at the time of contracting.” *Metric Constructor v. National Aeronautic and Space Administration*, 169 F.3d 747, 752 (Fed. Cir. 1999).

In addition, “evidence of trade practice and custom does not trump other canons of contract interpretation, but rather cooperates with them;” we must interpret the contract language in a manner that gives meaning to all its provisions. *Metric*, 169 F.3d at 753. Appellant’s interpretation effectively renders the OA label and definition in the drawings meaningless. In contrast, the government’s interpretation gives meaning to all the terms. Although the majority of supply air ductwork was labeled OA, there were supply air ducts on the project that did not require insulation and were not labeled OA and fell within the meaning of Specification § 23 07 00, ¶ 3.3.1.1a (finding 7).

¹² Appellant points out three terms within the exception, “air conditioning”, “supply air”, and “air conditioned spaces served by the ductwork” that are not defined within the contract and urges us to look to trade practice and custom to define these terms: the definitions of the first two are found in an industry standard, ASHRAE 62.1, and the third in industry practice found in ASHRAE 90.1. As to the third definition, appellant asserts that “industry standard and trade custom...clearly exempts ductwork installed in exposed, conditioned, corridors from the insulation requirement.” (App. br. at 14-19; findings 12, 13, 17)

Therefore, our plain reading of the contract as a whole, leads us to the conclusion appellant was required to insulate all OA labeled ductwork per Specification § 23 07 00, ¶ 3.3.1.1m.¹³

Insulation of EA Labeled Horizontal Ductwork in the Corridors and the EA Labeled Vertical Ductwork in the Interior Mechanical Shafts

1. EA Labeled Horizontal Ductwork in the Corridors

Appellant argues that the EA labeled ducts are mislabeled and are in fact return air ducts by the common usage in the HVAC industry and the definition in ASHRAE 62.1. Furthermore, appellant notes they also do not fall within the only requirement that specifically refers to return air ducts, § 23 07 00, ¶ 3.3.1.1b. As a result, appellant argues there is no specific requirement in § 23 07 00, ¶ 3.3.1 to insulate the horizontal EA return ductwork in the corridors as there is under § 23 07 00, ¶ 3.3.1.1a, which specifically required supply air ducts to be insulated. (App. br. at 20-22)

The government counters that the contract requires all exhaust, EA labeled, ductwork to be insulated pursuant to specifications § 23 07 00, ¶ 3.3.1.1o and § 23 07 00, ¶ 3.3.1.1t (gov't br. at 14). Specification § 23 07 00, ¶ 3.3.1.1o requires insulation on, “[H]eat recovery system exhaust ductwork on inlet air side of heat recovery coil/unit” (finding 11). The government argues that the drawings indicate all EA ductwork is on the inlet air side of the OAU, arguing the OAU is a “heat recovery system” and “heat recovery coil/unit” as addressed by this provision (gov't br. at 14). In support of this argument, the government points out that specification § 23 82 02, ¶ 2.2.9c.1 uses the terms “heat recovery system” and “heat recovery unit” in reference to the OAU’s operating parameters (gov't br. at 14; finding 4).

Appellant does not dispute that all EA labeled ductwork is on the inlet air side of the OAU but responds by arguing that the OAU is not contemplated by Specification § 23 07 00, ¶ 3.3.1.1o because the OAU is not a “heat recovery system” nor a “heat recovery coil/unit” (app. reply br. at 7-9). Both Mr. Prosser, appellant’s HVAC subcontractor, and Mr. McLauchlan, appellant’s expert witness, testified the OAUs are not “heat recovery systems” as defined by industry standards but are instead an “energy recovery system” and in fact there is no “heat recovery system” on the project. The government failed to rebut this testimony. Although the government disagrees, Mr. Jarema, the government’s expert witness and the individual who designed the HVAC

¹³ Given our conclusions here, there is no need to address the parties’ arguments related to the weight to be given the coordination and shop drawings as they relate to the OA labeled ductwork since consideration of those drawings does not enter into our decision. Additionally, there is no need to address appellant’s arguments related to application of the doctrine of *contra proferentum*.

system on the project, agreed with Mr. McLauchlan that the OAU's are "energy recovery systems" but did not assert they are also "heat recovery systems." (Finding 5)

The government also argues that Specification § 23 07 00, ¶ 3.3.1.1t requires insulation on the "Indoor exhaust/relief plenums and ductwork from fan discharge to louver or exhaust hood/gooseneck." However, the government does not explain why Specification § 23 07 00, ¶ 3.3.1.1t requires insulation other than to reference the drawings marked EA (gov't br., summary table at 16). Appellant's response is that Specification § 23 07 00, ¶ 3.3.1.1t is inapplicable to the ductwork in the corridors; it only applies to the exhaust ductwork in the penthouse, from the discharge to exhaust louver (app. reply br., matrix at 7).

2. Insulation of EA Labeled Ductwork in the Interior Mechanical Shafts

As with the EA labeled horizontal ductwork, appellant argues that it applied industry standards when it developed its bid and considered the EA labeled ductwork in the interior mechanical shafts to be return air based upon common usage in the HVAC industry and the definition in ASHRAE 62.1. Additionally, they do not fall within the only requirement that specifically refers to return air ducts, § 23 07 00, ¶ 3.3.1.1b (app. br. at 19-20). Specifically, Specification § 23 07 00, ¶ 3.3.1.1b.3 requires return-air ductwork installed in a "[s]haft with exterior wall(s) or shaft passing through non-air conditioned space" to be insulated. Thus appellant asserts, pursuant to the express requirement of Specification § 23 07 00, ¶ 3.3.1.1b.3, the only return-air ductwork installed in mechanical shafts which needed to be insulated was that ductwork installed in mechanical shafts that either had an exterior wall or that passed through non-air conditioned space. Based upon this logic, appellant argues:

The mechanical shafts provided the vertical connection between each of these penthouses to the floors of the building. All of the mechanical shafts on the Project were located in the interior of the Project building, and as such, none of the mechanical shafts had any exterior walls. Moreover, since the mechanical shafts were located in the interior of the building, and the building was completely air conditioned, the mechanical shafts were necessarily surrounded by air conditioned space. Therefore, the requirements of Contract § 23 07 00 3.3.1.1.b.3 did not require Davis to insulate the vertical return-air ductwork installed in the mechanical shafts on the Project.

(App. br. at 23) (Footnotes omitted)

As with the EA labeled horizontal ductwork, the government adamantly rejects appellant's assertion that the ductwork at issue is return air or that the spaces are air conditioned. The government's position is that appellant was required to insulate all EA labeled ductwork in the interior mechanical shafts. As with the EA labeled ductwork in the corridors, the government relies upon Specifications § 23 07 00, ¶ 3.3.1.1o and § 23 07 00, ¶ 3.3.1.1t (gov't br. at 13).

In response regarding Specification § 23 07 00, ¶ 3.3.1.1o, appellant argues this section only requires insulation on "[h]eat recovery system exhaust ductwork on inlet air side of heat recovery coil/unit" and since there is no heat recovery system on the project, this section is inapplicable (app. reply br. at 8).

Regarding Specification § 23 07 00, ¶ 3.3.1.1t, appellant argues the terms of this provision only require it to insulate "[i]ndoor exhaust/relief plenums and ductwork from fan discharge to louver or exhaust hood/gooseneck." In support of this position, appellant identifies two examples from the drawings where insulation would be required by this provision¹⁴ but also argues there is no requirement to insulate the mechanical shafts because they do not run from the exhaust fan discharge (which is inside the OAU) to the exhaust louvers or exhaust hood/gooseneck. (App. reply br. at 9-10)

Unlike the OA labeled ductwork, we are unable to determine the parties' intent from a plain reading of contract provisions related to the EA labeled ductwork. If it was the government's intent to insulate all EA labeled ductwork, it could have simply stated that in the specifications, as it did with the OA labeled ductwork. By not doing so, it left the EA labeled ductwork insulation requirements open to possible alternative interpretations. As a result, we must determine if the contract provisions are ambiguous. As stated previously, a contract provision is only ambiguous if it is susceptible of more than one reasonable interpretation. *Metric Constructors, Inc. v. NASA*, 169 F.3d 747, 751 (Fed. Cir. 1999); *Edward R. Marden Corp. v. United States*, 803 F.2d 701, 705 (Fed. Cir. 1986).

Appellant argues the government has failed to provide a reasonable interpretation that differs from the one employed by appellant in submitting its bid (app. br. at 24). In addition, appellant argues in the alternative that even if we should find the government's interpretation reasonable and the contract provisions ambiguous, it would still prevail based upon the doctrine of *contra proferentum*, which would require ambiguities in the contract language to be construed against the drafter, the government (app. br. at 25).

In contrast, the government maintains the language of the contract is unambiguous and consistent with its interpretation. However, it goes further to argue that appellant is

¹⁴ (See app. reply br. at 10 n.40)

now precluded from taking a position that differs from its interpretation of the insulation requirements during performance (findings 17-19), when it submitted its contractually required coordination and shop drawings depicting insulation in agreement with the government's interpretation. The government relies upon *Max Drill, Inc. v. United States*, 427 F.2d 1233, 1240 (Ct. Cl. 1970), and *Midland Maintenance, Inc.*, ENG BCA No. 6087, 96-2 BCA ¶ 28,301, for the proposition that "where the contracting parties' interpretations of the requirements of the contract are in unison prior to the controversy, that interpretation is binding on the parties." (Gov't br. at 16-17) In support of this argument, referencing the coordination and shop drawings, the government notes:

In the present case, Davis commissioned and received coordination drawings and shop drawings of the HVAC ductwork, as required by the contract, which indicated the presence of the insulation now at issue. Davis submitted these drawings to the Government and Davis utilized these drawings in multiple coordination meetings without ever questioning the need for the extensive insulation the drawings indicated. The eventual questions surrounding the insulation requirements of the contract simply did not exist prior to the insulators arrival on site.

(Gov't br. at 17) (Citations omitted)

In response, appellant urges us to give no weight to the coordination and shop drawings in arriving at a decision on the EA labeled ductwork¹⁵ based upon two¹⁶ arguments (app. reply br. at 14). First, appellant argues that the government's reliance on the coordination and shop drawings is misplaced because these drawings are created and submitted after award and do not define the scope of the work as the government proposes. Instead, the purpose of these drawings was to pre-plan various installations of various segments of the project, specifically including HVAC, and identify any coordination problems between the various trades working on the project. As a result, appellant argues, these drawings have no relevance to defining the scope of work under the contract. (App. reply br. at 11-12; finding 17)

Second, appellant asserts the government's reading of *Max Drill* and *Midland Maintenance*, that an ambiguity in a contract should be resolved by looking at the parties'

¹⁵ Appellant objected to admission of these documents during the hearing. We overruled appellant's objection retaining them in the record but stated we would give them whatever weight, if any, they are due in our decision (tr. 1/8-11).

¹⁶ Appellant also proposed a third argument but it was only directed to the OA labeled ductwork based upon the coordination drawings labeling some areas as insulated but were areas the government maintains were not required to be insulated.

interpretation prior to the controversy, is incorrect. Appellant argues the cited cases address whether a parties' interpretation is reasonable to determine if an ambiguity exists; not to resolve any ambiguities that may exist (app. reply br. at 14-18).

We found that the coordination and shop drawings depict insulation in agreement with the government's interpretation requiring insulation of all EA labeled ductwork (findings 17, 19). We need not address appellant's now proffered interpretation because we conclude that appellant did not rely upon its current interpretation during the bidding process or performance. Our findings confirm appellant's contemporaneous interpretation of these contract provisions during performance matched the government's current interpretation and that interpretation was communicated to the government through its submittals (findings 17, 19). It was only later, when appellant's fourth tier subcontractor interpreted these provisions differently, that appellant adopted a different position (findings 20, 21). The parties' conduct during performance is persuasive evidence that we should construe the contract now as was performed by the parties then; we give great weight to the parties' contemporaneous words and conduct in attempting to resolve ambiguous provisions of a contract. *Julius Goldman Egg City v. United States*, 697 F.2d 1051, 1058 (Fed. Cir. 1983); *Head, Inc.* ASBCA No. 39824, 92-1 BCA ¶ 24,755 at 123,518; *Curry Contracting Company, Inc.*, ASBCA No. 53716, 06-1 BCA ¶ 33,242 at 164,754.

Therefore, we conclude that appellant was required to insulate all exhaust, EA labeled, ductwork pursuant to Specifications § 23 07 00, ¶3.3.1.1o and § 23 07 00, ¶ 3.3.1.1t.

CONCLUSION

For the reasons stated, the appeals in ASBCA Nos. 58000 and 58002 are denied.

Dated: 19 November 2014



JOHN J. THRASHER
Administrative Judge
Armed Services Board
of Contract Appeals

(Signatures continued)

I concur

I concur



MARK N. STEMPLER
Administrative Judge
Acting Chairman
Armed Services Board
of Contract Appeals



RICHARD SHACKLEFORD
Administrative Judge
Vice Chairman
Armed Services Board
of Contract Appeals

I certify that the foregoing is a true copy of the Opinion and Decision of the Armed Services Board of Contract Appeals in ASBCA Nos. 58000, 58002, Appeals of James G. Davis Construction Corporation, rendered in conformance with the Board's Charter.

Dated:

JEFFREY D. GARDIN
Recorder, Armed Services
Board of Contract Appeals