

U.S. Department of Labor

Board of Contract Appeals  
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April 1, 1996

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 In the Matter of : Case No. 93-BCA-12  
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 MIDWEST ENVIRONMENTAL CONTROL, INC. :  
 Appellant :  
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 Contract No. E-37801-2-00-82-20 :  
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For Appellant: Peter Welin, Esq.  
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Columbus, Ohio

For Government: Frank P. Buckley, Esq.  
Office of the Solicitor  
U. S. Department of Labor

Before: Levin and Miller, Administrative Judges

Levin, Administrative Judge:

DECISION AND ORDER

This matter is before the Board<sup>1</sup> on appeal by Midwest Environmental Control Inc., from a Contracting Officer's final decision denying three claims totaling \$229,140.90 arising out of an asbestos abatement project at a Department of Labor Job Corp Center complex at Minot, North Dakota. The complex, consisting of twenty-one buildings, was originally constructed in the 1940's as a Veteran's Administration Hospital facility. Its conversion to a Job Corp Center gave rise to contract No. E3701-2-00-82-20 requiring the removal of a considerable quantity of asbestos containing material (ACM), primarily pipe insulation, used in several buildings within the complex. Contract Modification No.

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<sup>1</sup>Due to a recent retirement, the Department of Labor Board of Contract Appeals presently consists of two members, pending the appointment of a third member pursuant to the Contract Disputes Act of 1978, (PL 95-563).

2 encompassed the demolition and removal of two large brick boilers located in the basement of Building 9 at the complex.

Midwest Environmental Controls (hereinafter, Midwest) first alleges the Contracting Officer improperly failed to compensate it for the removal of ACM on the horizontal piping found above the ceilings in the largest of the buildings at the site which formerly housed the main hospital. It next challenges the Contracting Officer's refusal to recognize the differing site condition it allegedly encountered in the process of demolishing the boilers; and finally it seeks relief from the Contracting Officer's denial of compensation for the removal of ACM containing breaching insulation from a flue which ran from the boiler room in Building 9 to an outside smokestack.

The Board has considered the entire record, including the testimony adduced at the hearing, documents in evidence, and the arguments of the parties proffered at the hearing and articulated in the post-hearing briefs. The Board's findings and conclusions are set forth below.

### Findings of Fact

#### A.

#### Introduction

1. On August 12, 1991, the Department of Labor (DOL) advertised for the solicitation of sealed bids for the asbestos abatement work under Contract No. E 3701-2-00-82-20. (GX. 37; Admitted in Ans.; IFB-91-DAA-39-JC).

2. The Department's solicitation provided that performance would begin within 14 days and be completed within 126 calendar days of the "notice to proceed." Interested contractors were required to submit their bids by September 17, 1991. (GX. 37).

3. The firm of Anderson, Wade and Whitty (AW&W) served as DOL's Architect/Engineers for the conversion project as a whole, but the firm was not experienced in the preparation of plans and specifications for asbestos abatement work. (Tr. 488). Architect Wayne Whitty was AW&W's project manager at the jobsite. (Tr. 454). He testified that AW&W was ultimately responsible for design and construction administration, but he delegated day-to-day technical problems arising during the abatement process to his consultant, Braun Intertec Environmental, Inc. (hereinafter, Braun Intertec.) (Tr. 634-37, 641-42).

4. AW&W secured the services of Braun Intertec to perform a scope of work survey and monitor on-site performance as the abatement work proceeded. (Tr. 455-56; Tr. 488, 492, 494).

Steve Carlson was Braun Intertec's project manager at the Job Corp Center. He visited the site, verified results of a previous ACM survey of the various buildings, and collected samples of unknown but suspect materials at the site. (Tr. 648-49). Carlson, then drafted many of the specifications for the asbestos abatement project (Tr. 647, 650), except Specifications 01013 and 01014, which he received from the government. (Tr. 735-37).

5. The firm of Daniel, Mann, Johnson, and Mendinhall/HTB, (hereinafter, DMJM/HTB) is a joint venture which provides technical support to DOL, and the Contracting Officer, in particular, on Job Corps Center construction projects, nationwide. (Tr. 815). James Rodgers was DMJM/HTB's Project Manager at the Minot Job Corps Center conversion project. (Tr. 816). In that capacity, he was responsible for assisting in the selection of the architects and engineers, preparing contract documents, evaluating bid solicitations, and monitoring construction activities. (Tr. 817).

B.  
Contract Documents

6. For the most part, the bidding documents provided to interested firms were prepared by Braun Intertec. These documents included Summary of Work specifications, together with Appendix A, which is a "Detail of ACM" in the various buildings derived from the asbestos survey as verified and updated by Carlson; Appendix B, which listed the analytical results from the laboratory analyses; and Appendix C, which included a schedule of drawings and blueprints. (GX. 37).

7. In parts pertinent to this appeal, the specifications provide that the scope of work included the removal of the following categories of ACM:

a. Building 1

- \* All thermal system insulation (TSI)...except as noted on Appendix A. Included in the project is the removal of all TSI located behind walls or ceilings.
- \* Transite cap and piping
- \* All asbestos-containing ceiling panels identified in Appendix A.

b. Building 9

- \* Breeching insulation
- \* Boiler insulation
- \* Outer seal coat on boiler brickwork
- \* A pipe and header insulation, except fiberglass insulation
- \* Other equipment insulation. (GX. 37).

8. Appendix A, Table I of the bidding documents provided a detailed list of square footage or linear footage of all visible ACM in each room of the buildings at the Complex, including Buildings 1 and 9. Bidders were advised in the introduction to Appendix A that piping behind walls and above ceilings was not listed in Table I. Consequently, rather than look to the Table for measurements of hidden ACM, bidders were referred to the as-built blueprints.

The introduction to Appendix A thus informed bidders: "It is suggested that the Contractor refer to the original as-built blueprints provided. As renovations have been relatively few, they are quite accurate in depicting hidden ACM." (GX. 37, Division I, pg. 49).

9. Appendix A, Table I, listed "Breeching insulation" totaling 870 ft.2 in the boiler room of Building 9. (GX. 37, Appendix A, Table I, pg. 14).

10. Appendix B which provided the laboratory analysis of various asbestos samples listed two types of boiler breeching insulation in Building 9. It listed "Boiler breeching insulation into stack," and Boiler breeching insulation North side of building." (GX. 37, Appendix B, pg. I-707-53). The sample results tables in Appendix B were to be used "only as a reference to Appendix A." (GX. 37, Appendix B, pg. 50).

11. Section 01010 of the Summary of Work states that the Project Manual, which included scope of work and Appendices A-C, "with the accompanied drawings and plans are intended to describe and illustrate all work necessary to perform the asbestos removal at the Minot Job Corp Center...." (GX. 37, Division 1, pg. 2).

12. Although it appears the Contracting Officer may have initially misunderstood the nature of the contractor's claim as a scope of work problem rather than a method of compensation dispute, (GX. 26, 27; Tr. 962-63), there is now no dispute between the parties that the scope of work defined by the

specifications as set forth in the Summary of Work included the removal of all ACM piping insulation from Building 1. (Compl. ¶ 9, Ans. ¶ 9; Tr. 44, 54-56, 165-66, 240, 507, 954-55, 991).

13. The contract contains a standard Differing Site Conditions Clause at Section 52.236-2(a). For ease of reference the clause is set forth in pertinent part below:

(a) The Contractor shall promptly, and before the conditions are disturbed, give a written notice to the Contracting Officer of

- (1) subsurface or latent physical conditions at the site which differ materially from those indicated in this contract, or
- (2) unknown physical conditions at the site, of an unusual nature, which differ materially from those ordinarily encountered and generally recognized as inhering in work of the character provided for in the contract.

14. The Contract also includes, at Section 01013 of its Summary of Work additional Differing Site Conditions clauses. That Section states:

The quantities and location of asbestos-containing and contaminated materials (ACM) indicated on the drawings and the extent of work included in this section are only estimates. Accordingly, minor variations ( $\pm 10\%$ ) in quantities of ACM within the limits of containment for each abatement phase are to be expected and considered as having no impact on contract price and time of this contract. Locations of ACM different than indicated on drawings but within the limits of containment are considered as having no impact on contract price and time of this contract. (GX. 37, General Requirements pg. 6).

15. Section 01014 of the General Requirements, Summary of Work contains Project Unit Price provisions. The terms are as follows:

A. The bidder shall set forth in his proposal the cost of all unit prices listed below. Should the work listed below be increased or decreased by more than 10 percent from the amounts shown on the contract drawings and/or



ACM, not shown on the blueprints. (Tr. 63; 495-96; 653-54). Testimony in the record reflects differing recollections concerning the government representatives' responses to those questions.

18. Whitty first learned at the pre-bid meeting that ACM was present on horizontal piping not reflected in the drawings. (Tr. 496). He believes, however, that Carlson suggested to the Contractors in attendance that, for purposes of bidding the hidden horizontal piping, they should assume a "logical route" from the risers to the fixtures. (Tr. 499-500, 503, 791-93, see also Tr. 820-25). Carlson states that he advised those in attendance that removal of ACM on horizontal piping should be included in the Contractor's "base bids." (Tr. 655), and they should prepare takeoffs which assume the "simplest route" from the risers to the fixtures (Tr. 654, 702-03).

19. Bruhl, in contrast, recalls the government representatives telling the contractors: "You have the tables, you have the drawings and anything that's not on that you have the unit prices," supplied with the bid in accordance with Specification Section 01014. (Tr. 63). Bruhl testified that any suggestion that horizontal piping above the ceiling should be included in the base bid was not discussed in his presence by the government representatives. (Tr. 237-38).

20. Attendance at the pre-bid site visit was not mandatory, and the meeting was not conducted in an organized fashion. (Tr. 496; 706). The Contractors were initially gathered in the entry lobby of Building 1 where the participants were introduced and a few questions were answered. Government representatives then walked the entire site, visiting all 21 buildings, with several of the contractors while other contractors left the group and inspected various site locations on their own. (Tr. 63-64, 497). The evidence is, therefore, insufficient to conclude that all contractors who attended the pre-bid site visit were present and heard Carlson's advise that base bids should include the horizontal piping above the ceilings.

D.  
Amendment No. 1

21. On or about September 12, 1991, prospective bidders received Amendment No. 1 to the Invitation for Bids. Item 7 of the Amendment, the pertinent portion for purposes of this appeal, added the following language at the end of Section 01011, Part E(2)(a), paragraph 1:

As indicated by provided as-built drawings. In

addition, the Contractor shall remove TSI on horizontal piping leaders from risers to heating units, and domestic distribution not specifically indicated on the drawings. This shall involve substantial demolition of ceilings.

22. Carlson testified that he drafted this amendment with the intention of addressing concerns expressed by contractors at the pre-bid meeting regarding how they should bid the hidden piping above the plaster ceilings in Building 1. (Tr. 653). He further testified that Amendment No. 1, Item 7 was "intended to clarify what they (the Contractors) were to bid on ..." (Tr. 653). He further explained that what the contractor's were told at the pre-bid meeting on September 4, 1991, "was largely what is contained in the addendum; that is, to again assume the piping must be present between the service risers and the fixtures they were servicing and not to necessarily assume that a certain route had been taken, but to simply assume the simplest route because we had no knowledge of the exact routing of the piping." (Tr. 654).

23. Whitty, Bruhl, and the Contracting Officer agree that Item 7 to Amendment No. 1 added nothing to the scope of work in Building 1, because Specification 01011(E)(2)(a) already included the requirement to remove all TSI from Building 1. (Tr. 240; 561; 926; 991-92).

24. Bruhl, in contrast, understood that Amendment No. 1, Item 7 was a correction of the representations in the bidding documents which had indicated that the as-built drawings, "are quite" accurate in depicting hidden ACM. (Tr. 68). (GX. 37, Div. I, pg. 49). Bruhl did not construe the Amendment as changing the scope of work or the method of compensation. Bruhl noted that those who attended the pre-bid meeting discovered the as-built drawings were not accurate in depicting horizontal piping, and Item 7 of the Amendment so informed those contractors who were not present.

25. Bruhl testified that the Amendment did not alter Midwest's bid preparation methodology. Midwest determined the quantity of ACM upon which it predicated a base bid for ACM removal in Building 1 by adding up the visible piping shown in Table I and the risers shown in the drawings. (Tr. 68-69).

26. Although Midwest provided no additional documentation of its bid preparation. (Tr. 212-13), with respect to the horizontal piping above the ceiling in Building 1, Bruhl testified that he anticipated payment under the Unit Price Section of the specifications. Bruhl explained that he

calculated, with respect to Building 1, the tables and drawings revealed 23,145 linear feet of ACM, which included 15,249 linear feet of ACM pipe insulation as depicted on Table I, and 7,896 linear feet of steam risers, returns, and domestic water risers as revealed in the drawings. (AX. A 18, Tr. 71-74). While the calculations documented in evidence were prepared on October 28, 1991, Bruhl confirmed that he used the same methodology in preparing his base bid. (See, Finding 25, supra).

27. On or about September 17, 1991, Midwest submitted its base bid for the Project in the amount of \$498,888.00, along with a schedule of unit prices in accordance with Section 01014 of the Specifications, as follows:

Piping Insulation (Removal) <3", >3" - <8", >8"	\$14.50, 18.80
Pipe Fitting Insulation (Removal) <3", >3" - <8", >8"	\$15.50, 19.80
Decon Units	\$950.00 each
Disposal	4200 yard (sic)
Preparation	\$ .75 SF
Ceiling Demolition	\$3.50 SF
Wall demolition	\$3.25 SF

(Complaint ¶ 21, Ans. ¶ 21; GX. 40).

28. Midwest received a Notice of Award and the contract was executed on October 11, 1991. (Compl. ¶ 24, Ans. ¶ 24). The Notice to Proceed followed on October 15, 1991, with the Project completion date set for March 3, 1992. (Compl. ¶ 25, Ans. ¶ 25).

#### E.

##### Removal of Asbestos Containing Material (ACM)

29. On October 31, 1991, Midwest arrived on site in Minot. (Compl. ¶ 26, Ans. ¶ 26). Its on-site supervisor from October 31, 1991 to Christmas, 1991 and from March 19, 1992 until the end of the Project was Lonnie Minor. Minor had been employed by Midwest for six years and had worked in the asbestos abatement industry for 9 1/2 years, serving as a supervisor on asbestos abatement projects for the previous 8 years.

30. On November 22, 1991, Midwest began work in Buildings 2 and 5. All ACM specified in Table I or on the drawings in Buildings 2 and 5 was removed by November 24, 1991. (Compl. ¶ 28, Ans. ¶ 28).

31. All ACM removed by Midwest in Buildings 2 and 5 was measured by Midwest and verified by Braun Intertec. The piping and fittings removed from Building 2 from November 22, 1991 through November 24, 1991, amounted to 1485 linear feet and 451 fittings, respectively. The piping and fittings removed from Building 5 from November 22, 1991 through November 24, 1991, amounted to 990 linear feet and 496 fittings, respectively. (Compl. ¶ 29; Admitted by Govt. at Ans. ¶ 29).

32. During the final inspection of Buildings 2 and 5 by Braun Intertec, it was discovered that insulated piping ran from the basement up into the interior walls of the floors above. This piping was neither included in Table I, nor indicated on the as-built drawings. (Compl. ¶ 30; Admitted by the Govt. at Ans. ¶ 30).

33. At the weekly progress meeting held on December 9, 1991, the concealed piping in Buildings 2 and 5 was discussed. Braun Intertec pointed out that the piping was not indicated on the drawings or included in the "scope of work." AW&W referred Midwest to Amendment No. 1, Item 7 and directed Midwest to remove the concealed piping from behind the walls in Building 2. (Compl. ¶ 31; Admitted by the Govt. at Ans. ¶ 31).

34. Midwest removed 1079 linear feet of pipe insulation and 294 fittings and demolished 634 square feet of the walls in Building 2. Midwest also removed 588 linear feet of pipe insulation, 170 fittings, and demolished 243 square feet of walls to gain access to the concealed piping in Building 5. Midwest was eventually paid for the removal of the additional insulation and fittings and was paid for the demolition pursuant to Specification Section 01014 at the unit prices Midwest had submitted with its bid. (Compl. ¶ 32, Admitted by Govt. at Ans. ¶ 32).

35. As in the case of Buildings 2 and 5, Midwest removed asbestos pipe insulation and fittings from Building 6. This work began on November 23, 1991, and was completed on November 24, 1991. The amount of ACM and the number of fittings removed were measured and recorded by Midwest and verified by Braun Intertec. Between November 23, 1991 and November 24, 1991, Midwest removed 25 lineal feet of ACM and 162 fittings from Building 6. (Compl. ¶ 34, 37, Admitted by Govt. at Ans. ¶ 33, 34).

36. Midwest removed additional asbestos containing fittings concealed within the walls of Building 6 and demolished 280 square feet of wall to gain access to them. It was eventually paid for the additional fittings and for the demolition pursuant to Specification Section 01014 at the unit prices Midwest had submitted with its bid. (GX. 6, 12).

37. Midwest began work in Building 1 on December 11, 1991. Based upon its experience in Buildings 2, 5 and 6, Midwest first located the piping above the ceilings by cutting a hole in the center of the ceiling which permitted a worker to look above the ceiling and observe the piping route. Once the routing was determined, 1 1/2 to 2 1/2 foot wide sections of walls and ceiling were demolished to gain access to the ACM. (Tr. 308; Admitted by Govt. at Ans. ¶ 36.)

38. On or about December 15, 1991, Dale Bruhl contacted the Project Manager, James Rodgers, by telephone and explained that Midwest had encountered ACM in Building 1, in excess of 10% of that specifically indicated on the drawings and in Table I. Bruhl advised Rodgers that the excess was not included in Midwest's base bid, and he expected to be paid for its removal pursuant to the unit prices provided by Midwest. (Tr. 84-86). Rodgers asked Bruhl to write a letter explaining his position that a substantial amount of extra pipe insulation would have to be removed and priced according to the unit prices. Bruhl prepared such a letter dated December 20, 1991, to Wayne Whitty of AW&W with a copy to Stith, the Government Authorized Representative on the project. (Tr. 85-87; GX. 12, pg. 43, GX. 33).

39. On January 7, 1992, a progress meeting was held in the office of AW&W. Present at the meeting were Dale Bruhl and John Hartley, a Midwest supervisor at the jobsite, James Rodgers, Wayne Whitty, John Spilman, Braun Intertec's site representative, and an Air Monitoring Technician from Northern Safety Consultants. (Tr. 295). By letter dated December 30, 1991, Steven Carlson had provided comments to Wayne Whitty concerning Midwest's December 20th letter. GX No. 32. This letter states, in part:

At the pre-bid conference and in subsequent communications it was made clear that pipe insulation would be found in the walls and above the ceilings of Buildings 1 and 6, and that removal of these items was to be included in the base bid.

\* \* \* \* \*

I also wish to reiterate that the list provided the bidders in the specification package quantifies only materials visually accessible without breaking through walls or plaster ceilings. This is made clear in the preface to the quantities list. Therefore, these quantities are not to be relied upon in the cases of Buildings 1 and 6 for purposes of computing the 10 percent overage factor. Id.

40. The record shows that the last topic discussed at the January 7, 1992 meeting was the concealed piping in Buildings 1, 2, 5 and 6. (Admitted by the Govt. at Ans. ¶ 41). Whitty argued that Item 7, Amendment No. 1, covered this work for all four buildings and that it was included as part of the base bid. AW&W interpreted Amendment No. 1, as requiring the removal of all ACM piping under the base bid. In addition, all demolition, transportation, and disposal, regardless of how extensive in nature, would have to be performed under the base bid price. (Admitted by Govt. at Ans., ¶ 42-43). Although Item 7 was limited expressly by its terms to Building 1, Whitty interpreted it as applying to all buildings because, in his view, contractors present at the pre-bid site visit "were told that the horizontal piping for all buildings would be included by amendment." (Ans. ¶ 43).

The participants at the January 7 meeting further recognized, however, "that until all removal was completed in Building 1, the amount of piping in question and total costs associated with removal remained an unknown." Admitted Ans. ¶ 46; see also Tr. 89; Tr. 851.

41. The January 7, 1992 meeting failed to resolve the question of compensation regarding hidden ACM on horizontal piping in Building 1. (Tr. 90-91). Midwest was, however, directed to continue work, take accurate measurements and told that a determination of the scope of the extra work would be made once the exact amount of piping involved became known. (Admitted by Govt. at Ans. ¶ 47; Tr. 851). The only agreement reached at the January 7, 1992, meeting was to proceed with the work and to continue measuring the amounts of ACM removed, because the schedule did not permit a delay in the job to await a decision on a change order. (Tr. 241). Hartley understood that no agreement, with respect to the method of compensation, other than to agree to disagree, was ever reached at the January 7, 1992 meeting. (Tr. 296).

42. After the January 7 meeting, Midwest completed the wall and ceiling demolition work and commenced removal of asbestos in the basement of Building 1 on January 14, 1992. (Ans. ¶ 49).

E.

Measurement of ACM

43. Lonnie Minor, Midwest's on-site supervisor in Building 1, was responsible for exposing, measuring, and removing the pipe above the ceilings. (Tr. 306). At the end of each day, all pipe removed from each room, including horizontal, vertical risers, and exposed pipe, was measured by Minor and Hartley, and verified by Braun Intertec. (Tr. 308-11; Tr. 223-24; AX. A-18; see also, GX. 12, pg. 43). In addition, the fittings counts were verified by Braun Intertec. (Tr. 311-12).

Carlson testified that he thought John Spilman, Braun Intertec's on-site representative, measured only the horizontal piping in the ceiling of Building 1, (Tr. 667-68); however, he acknowledged that he did not know whether Spilman actually measured the risers as well. (Tr. 781-82).

44. Spilman's daily measurements were not offered into evidence, (Tr. 726-27, 784), and Spilman was not called to testify. Moreover, Carlson did not know whether Braun Intertec could determine how much total piping was removed from Building 1. (Tr. 798). The record shows, however, that Whitty relied upon Braun Intertec in concluding that the "actual" measurements from Building 1 did not include the risers (Tr. 470-71, 538, 540). The Contracting Officer also assumed the risers were not included in actual measurements of ACM removed from Building 1. (Tr. 1002).

45. The only credible evidence addressing whether risers were or were not included in the measurements of ACM removed from Building 1 was adduced through the testimony of Minor and Hartley. They testified that the measurements taken of ACM from Building 1 did indeed include the risers. They recorded all the piping found and verified their measurements with Spilman. Their measurements included the insulation on the risers, horizontal piping above ceilings, and all visible pipes. (Tr. 285-86; Tr. 306-10).

F.

Dispute Over Method of Payment  
For Removal of Hidden ACM

46. By letter dated February 4, 1992, Midwest reiterated its position that concealed piping above the ceilings of Building 1 was substantial. In that letter to Stith, Midwest explained:

As per our letter of December 20, 1991, we are continuing to calculate the footage of asbestos

insulation in all buildings. To date the actual amount of material in Building 1 alone is double that amount estimated in the original scope of work.

This discrepancy is, of course, significant and all measurements are being verified by Braun Intertec. We provided unit prices to apply to extra piping and fittings in our original bid. (GX. 29).

47. In late February, 1992, Bruhl called and spoke with the Contracting Officer, John Steenbergen, regarding the extra piping and payment. Steenbergen instructed Bruhl to keep working and continue to address the problem of hidden ACM with Whitty and Rodgers. (Tr. 94-95).

48. Whitty directed Midwest to prepare an estimate of the amount of piping which could have been expected above the ceilings based upon takeoffs from the as-built plans. He then suggested subtracting that amount which could have been expected from the amount actually removed in order to determine any extra ACM for which Midwest might be paid. (Tr. 526). Bruhl responded that the suggested method of determining Midwest's compensation was not going to be sufficient, because that was not the way Midwest had bid the job. (Tr. 107-08). Bruhl did, however, provide the estimates Whitty requested. (Tr. 526). At Whitty's request Braun Intertec provided similar estimates.

49. John Walsh, a Senior Project Manager with ICF was retained as a consultant by the Contracting Officer to examine the problems at the Minot site. On March 30, 1992, Walsh issued a report addressing the problem regarding the horizontal piping in Building 1. (GX. 20). In it, Walsh recommended that the Government estimate the linear footage of the horizontal piping based on the drawings, increase the amount estimated by ten percent, and pay Midwest for actual quantities documented that exceed that figure. (GX. 20, pp. 12 and 13; Tr. 372-378). While the Contracting Officer adopted this suggestion, (Tr. 958), the Contractor rejected it.

On March 19, 1992, Midwest, based upon the as-built drawings of Building 1, estimated as previously requested by Whitty, 8053 linear feet of horizontal piping above the ceilings in Building 1 and 1611 associated fittings. (GX. 9).

50. On April 1, 1992, Braun Intertec submitted to Whitty its estimate of the horizontal piping in Building 1. The estimate was prepared by Robert Lanz, a technician who had no project design experience, but had worked as a drafter for Braun Intertec for approximately 2 years. (Tr. 718-19).

Lanz had not visited the site, but was told by Carlson to assume, in preparing his estimate, that there were 4 fittings per fixture, and four feet of piping for each run out from a riser for a domestic water service, as well as each run of the heating system service loop. (Tr. 720-21). Id. Using this methodology, Braun Intertec estimated for all floors except the basement of Building 1, 16,009 linear feet of horizontal piping and 5548 fittings. Braun Intertec's estimate also noted that Midwest's calculations were based on the wrong scale and failed to include the north wing of Building 1. Id. Braun Intertec calculated that Midwest's error in failing to employ the correct scale resulted in an estimate which was 12% less than indicated at correct scale, and that its failure to include the North Wing or "Unit B" resulted in an additional 20% of piping which Midwest failed to include. (GX. 9; Tr. 350-51, 725, 749-51).

51. Corrected to scale and including the North Wing, Braun Intertec noted that Midwest's estimate should have been 10,630 linear feet. (Tr. 751;  $8053 \times 1.32 = 10630$ ). The Contracting Officer "dismissed" Midwest's estimates in their entirety (Tr. 973), and accepted instead Braun Intertec's estimates of the horizontal piping (Tr. 966-67).

52. Braun Intertec's estimates, however, are not without difficulties. The estimates were supposedly predicated upon conservative assumptions designed to provide "minimum quantities." (Tr. 748, 802). Accordingly, the 16,009 linear feet of piping estimated was expressly limited to the horizontal pipe runs above the ceilings in Building 1. (GX. 9). It did not include 11,340 linear feet of piping in the basement, 83 linear feet in the penthouse, and did not include 12614 linear feet of risers which were depicted on the drawings. (Tr. 683, 802, 805). (GX. 50). Consequently, when piping in the basement, penthouse, and risers are added to Braun Intertec's piping estimate, it would appear that Building 1 should contain about 40,046 linear feet of piping. (Tr. 683, 780-81, 805), 23,954 feet of which was depicted in the Tables and/or drawings.

53. Yet, the record shows that the total amount of piping measured, verified, and removed from Building 1, including risers, piping in the basement, and horizontal piping above the ceilings, was 31,808 linear feet. Braun Intertec's horizontal piping estimates, when added to the piping shown in Table I and the drawings, results in a quantity of piping in Building 1 which exceeded, by approximately 33%, the total piping actually removed and measured by Braun Intertec. The Contracting Officer, moreover, mistakenly believed that the 31,808 linear feet of measured piping removed from Building 1 did not include the risers. (Tr. 1002, See also, Tr. 810).

54. In addition, Carlson could not provide an explanation for the method used by Whitty or the Contracting Officer in calculating the scope plus 10% figure which excluded the risers and penthouse (Tr. 800, 805; see, GX. 3), unless the "scope of work" was redefined as limited to the horizontal piping. (Tr. 854-59; See also, Tr. 968, 970, 1000. Yet, as noted in Finding 12 supra, all parties agree the scope of work included all ACM not just horizontal piping.

55. All work was completed in Building 1 by Midwest on March 14, 1992. Midwest maintains that a total of 31,892 linear feet and 9,318 fittings were removed from the structure. Braun Intertec's corresponding numbers which it verified are 31,808 and 9,321 fittings, respectively. At the hearing, Bruhl agreed to accept the actual measurements and counts as verified by Braun Intertec. (Tr. 230). Demolition of walls and ceilings required to expose piping not on Table I or indicated on the drawings amounted to 10,369 square feet. (Tr. 234). Midwest's claims for demolition totaled 11,664 linear feet associated with removal of 6,433 linear feet of horizontal piping. (GX 9, pg. 7).

56. To determine the quantity of piping included in its base bid, Midwest estimated that it would be required to remove 15,249 linear feet of visible piping which was contained in Table I and 7,896 linear feet of risers which were shown on the drawings. Midwest also anticipated removing 4,808 fittings in Building 1. (Tr. 225-228; AX. A18). Thus, Midwest calculated that the total amount of asbestos-containing pipe insulation indicated on the as-built plans and in Table I for Building 1 was 23,145 feet. (Tr. 233; App. Ex. A-18; GX. 12, p. 3). Midwest then multiplied the total ACM shown on the as-built plans and Table I by 1.10 to determine the amount of asbestos-containing pipe insulation Midwest contends that it agreed to remove in Building 1 as part of its base bid price. Midwest, therefore, alleges that its base bid involved the removal of 25,459 linear feet of ACM. (Tr. 233; GX. 12, p. 3).

57. A transite stack that ran from the roof to the second floor was discovered during the abatement process in Building 1. This stack was approximately 12" in diameter and 65' long. The presence of this asbestos containing duct was not indicated on the drawings, nor was it listed in Table I. The drawings only indicated the presence of a hood on the roof. Midwest removed this transite stack as part of the abatement process. Hartley measured the length of stack removed and verified that measurement with Braun Intertec. (Tr. 287). Carlson would have recommended this item for payment as an extra. (Tr. 742-44).

58. The total number of asbestos-containing fittings removed from Building 1 was 9,321. (GX. 3). Midwest anticipated removing 4,808 fittings, and the Board finds that the total number of asbestos-containing fittings as shown on the drawings and in Table I is 4,808. (GX 37, Table I, Tr. 228, 234; AX. A-18). Midwest then multiplied the number of fittings it anticipated by 1.10 to determine the amount of asbestos-containing pipe fittings Midwest alleges that it agreed to remove in Building 1 as part of its base bid price. In this instance, it calculates the scope of work plus 10% as totaling 5,288 fittings. (Tr. 234; GX. 12, p.3).

59. Midwest alleges that the amount of demolition performed to gain access to the alleged 6,433 linear feet of ACM in the ceilings of Building 1 involved 11,664 square feet. (GX. 12, p. 3).

60. The 65 feet of transite piping was classified as piping greater than 3 inches in diameter for purposes of applying the unit prices. (Tr. 249; Ex. A-19; GX. 12, p. 3).

61. Midwest alleges the amount of disposal for the piping above the ceilings of Building 1 was 234 cubic yards, calculated on the basis of how many cubic yards Midwest estimated would constitute the amount of pipe removed from Building 1. (AX. A-19). Midwest has been compensated for 32 cubic yards of disposal, leaving 202 cubic yards in dispute. (GX. 6).

62. After completing all of its work on the Project, Midwest prepared and submitted, as part of a comprehensive Request for Additional Compensation, a claim for additional asbestos abatement work in Buildings 1, 2, 5 and 6 in the amount of \$240,909.25. This Request was submitted to AW&W with a copy to the Contracting Officer on July 3, 1992. (Compl. ¶ 77, Ans. ¶ 77; GX. 12).

63. On July 15, 1992, Whitty provided his comments and recommendations to the Government Authorized Representative concerning Midwest's request for additional amounts for removal of ACM from horizontal piping in Building 1. (GX. 9, pp. 7-15). He summarized his position, in part, as follows:

AWW's position regarding the Scope of Work to be included in the Lump Sum Base Bid Proposal has remained consistent from our initial discussions with M.E.C. and U.S. D.O.L. representative. AWW has consistently referred M.E.C. to the Contract Documents including the Addenda, and has informed M.E.C. that the piping

concealed behind the walls and ceilings are part of the original Scope of Work and are to be included in the Lump Sum Base Bid Proposal. (GX. 9 at 13).

The letter contained a breakdown of estimates and actual horizontal piping and fittings removed from Building No. 1, as follows:

	<u>Estimate</u>		<u>Actual</u>	
	<u>Braun Intertec</u>			
	Piping (LF)	Fittings	Piping (LF)	Fittings
Subtotals	16,009	5,548	20,648	5,850
Basement				
All visible	11,340	3,471	11,340	3,471
Subtotals	27,349	9,019	31,808	9,321
+ 10%	2,734	901	Actual	Actual
Totals	30,083	9,920	31,808	9,321

(GX. 9 at 14).

Whitty calculated the difference between the Braun Intertec Estimate and Actual Quantities as follows:

Piping: + 1725 Linear Feet (LF)  
 Fittings: - 599 (within - 10%).

64. Employing the methodology recommended by Walsh, (See, Finding 49) and Braun Intertec's estimates, Whitty calculated that Midwest was entitled to additional compensation for removal of 1,725 linear feet of ACM. Id.

65. On October 30, 1992, the Contracting Officer determined that Midwest's request for additional sums for Building Nos. 2, 5 and 6 was acceptable and granted its request in the amount of \$33,291.75. (GX. 3). The Contracting Officer also followed Whitty's recommendation and granted the request for an additional sum for Building 1 in the amount of \$28,179.50 for the removal of 1,725LF of piping. Id.

## II.

### *Boiler Removal Claim*

66. Building 9 contained two large boilers, each of which was approximately 10 feet wide, 15 to 18 feet long, and 15 feet high. (Tr. 114). The outer side walls of the boilers were red brick, while the outer front and rear walls were white brick. (Tr. 114, 292). A steel framework coated with an insulating

outer seal encompassed the outside of all of the brick walls. (Tr. 114, 300).

67. The original contract required Midwest to remove ACM from "Boiler insulation" and an "Outer seal coat on boiler brickwork." GX. 37, Section 01011, E.2.i., p. 4. Table I of Appendix A, captioned "Asbestos Survey Results," listed "Boiler insulation" among the items in Building Number 9 which contained asbestos. GX. 37, Appendix A, Table I, p. 14. Table II of Appendix B, captioned "Bulk Asbestos Analytical Results," indicates that Sample Number 15, referred to as a "Black tarry outer coat" on boiler number 2, contained asbestos. GX. 37, Appendix B, Table II. Appendix B indicated that Sample Numbers 9-1-4 and 9-1-7, referred to as "Boiler Insulation, West Boiler" and "Boiler Insulation, East Boiler," respectively, contained asbestos. GX. 37, Appendix B, p. I-707-53. Appendix B further indicated that Sample Number 9-1-10, referred to as "Insulation sealant between bricks on boilers," contained asbestos. GX. No. 37, Appendix B, p. I-707-53.

68. The original scope of the contract required the removal of the outer coat of sealant and asbestos coating on the top dome of the boilers. (Tr. 113-14).

A.

Discovery of ACM

69. Shortly after the abatement work in Building 9 commenced in November, 1991, Midwest discovered that the walls of the two boilers contained a suspicious insulation material. Compl. ¶ 59; Ans. ¶ 59. Apparently, when the doors of the boilers were opened on November 18, 1991, Spilman and Minor detected the white substance, (Tr. 114-15), and agreed it should be analyzed. As a result, samples of the white material were taken by Northern Safety Consultants which determined that the material contained asbestos. (Tr. 115, 117).

70. After testing confirmed the presence of asbestos within the walls of the boilers, AW&W asked Midwest to provide a proposal to dismantle and remove the two boilers in Building 9. (Tr. 116).

B.

Pre-Bid Inspection

71. Bruhl formulated Midwest's proposal with the assistance of his on-site supervisor, Lonnie Minor. Both Bruhl and Minor visually inspected the boilers. Bruhl testified that two key elements in his bid formulation were the time needed to dismantle

the boilers, and construction of the boilers, and, in assessing these elements, three factors were crucial. He was interested primarily in the type and weight of brick used, the quantity of brick, and the manner in which the bricks were laid in or mortared together. (Tr. 275).

72. Bruhl spent approximately 20 minutes physically inspecting the boilers. (Tr. 218). In addition, he examined the as-built plans which indicated the boiler walls consisted of 3 to 4 layers of brick, 2 of which were firebrick. (Tr. 126).

73. Lonnie Minor did not examine the plans, but he did conduct a thorough on-site inspection. (Tr. 338).

74. Minor's examination included an assessment of the boilers' length, width, height, the bulk of the brick, how much brick would be removed, and how many seams of asbestos were within the boilers. (Tr. 338-39). Although he was unable to climb inside the boilers, he used a flashlight to inspect the interior walls which appeared to be the same type of brick used to construct the exterior walls. (Tr. 339). He also noted seams between the bricks indicating they were mortared together, but he was unable to visually determine if the bricks were hard-mortared. Minor was aware that the type of boiler construction he was observing was not typical of the type he had encountered on other jobs. In his experience, for example, inside walls usually consisted of refractory brick, loosely laid in place, although occasionally they have "a thin layer of a hard brick to protect the interior." (Tr. 339-340).

75. From his inspection, Minor also determined that the boiler walls were approximately 3 feet thick, (Tr. 341), and that the outer layer of brick had broken away in some places, revealing asbestos underneath. (Tr. 346).

76. The record shows that Midwest had previously worked on many boilers. (Tr. 125). Indeed, Minor had personally worked on the demolition of 30 to 40 boilers in Michigan, Ohio, Illinois, and Indiana. (Tr. 326). In Midwest's experience, the typical boiler construction entailed a layer of heavy structural common brick, followed by interior layers of unmortared, lightweight, refractory brick. (Tr. 126-27). In places where the outer layer of brick had broken away, it was evident that these boiler walls were not constructed in the manner Midwest had come to expect as typical. Rather than an interior layer of lightweight refractory brick beneath the outer wall, these boilers revealed a layer of asbestos. (Tr. 346).

C.

### The Bid

77. On December 11, 1991, Midwest provided AW&W with a written proposal to dismantle and dispose of the two boilers in Building 9 as ACM contaminated debris for \$47,520.00. (AX No. 27; Tr. 117).

78. By letter dated January 16, 1992, Midwest submitted a revised proposal for demolition of the boilers. This proposal, submitted to Rogers, contemplated the expenditure of 1,144 man-hours for the labor, and the use of 3,200 disposal bags. The cost of the proposal was revised to \$44,204.19. (GX. 31). Bruhl testified that disposal bags are doubled, and as a result, the proposal contemplated removal of 1,600 bags of asbestos contaminated materials. (Tr. 127).

79. On January 22, 1992, Midwest was given verbal notice to proceed with the work pursuant to the revised proposal of January 16, 1992. (GX. 30). On March 12, 1992, Modification No. 2 to the contract was executed. The modification provided that the work contemplated therein would be completed by Midwest for a cost not to exceed \$44,204.19. (See also, Tr. 185-86). The firm-fixed price of the contract was increased to \$551,978.36. (GX. 37).

### D.

#### Differing Site Conditions

80. Bruhl stated that after Midwest began working on the boilers, he received a call from John Hartley, the foreman on the project, informing him that he was encountering unusual conditions. (Tr. 124-25). Instead of walls 3 to 4 layers thick, the side walls of the boilers were 9 to 10 layers of brick, while the front walls contained 4 or 5 layers. Hartley reported further that all of the brick was heavy brick, not "lighter furnace bricks," (Tr. 291-92); and it was all mortared together. (Tr. 126). In describing the boilers in Building 9, Bruhl testified:

"when we got past the first layer of brick, there was asbestos insulation which we knew was there. The next layer is still common building block--heavy brick. It's not the light weight refractory brick. We took that one off, and there's another layer of asbestos, and another layer of firebrick. And that one off and then another one. (Hartley) said these bricks weigh--they're heavy. They're heavy. They're consistent throughout". (Tr. 125).

In addition, the difficulty of the job was exacerbated by the fact that the interior bricks were mortared together, thus requiring the use of air chisels and sledge hammers. (Tr. 125, 290). Bruhl testified that the bricks were "[m]ortared just like you're building a thick wall to stand, not to insulate but to actually support itself." (Tr. 269).

81. Hartley testified that as the bricks were removed from the boiler, they were bagged and taken from the boiler room. While Midwest expected to place twenty to thirty lightweight bricks in each bag, (Tr. 328), Hartley explained, due to the weight of bricks encountered, only 3 to 6 bricks could be placed in the disposal bags. (Tr. 290). Consequently, Midwest used more than 26,000 disposal bags to remove contaminated brick from the boilers. (GX. 11).

82. When the heavier, mortared bricks were encountered, Hartley considered alternatives to the bag method of disposal and consulted with Braun Intertec. (Tr. 291-93).

83. One method Hartley and Braun Intertec considered involved demolition of the boilers in a controlled environment, and removal of visible asbestos from the debris. The bricks would then be cleaned of visible asbestos, coated with lockdown encapsulant, and removed as non-ACM. Hartley testified that Braun Intertec rejected this approach, because it did not seem feasible to clean and encapsulate the brick. In the confined space of the boiler room, Braun Intertec was concerned that cleaned and encapsulated brick would be re-contaminated as each subsequent layer of brick and asbestos was removed. (Tr. 132-34, 293), 329, 332-33). Hartley added that, although Braun Intertec did not tell an abatement contractor how to complete a job, Braun Intertec did advise the Contractor when it considered its methods impermissible. (Tr. 296).

84. By letter dated March 21, 1992, Midwest informed Al Stith, the Government Authorized Representative, that it had encountered differing site conditions in connection with the boilers in Building 9. (GX. 23; Tr. 129). It reported that the internal structure of the walls of the boilers was far more massive than originally estimated, and necessitated the disposal of all the brick as contaminated materials. While Midwest had originally estimated using 3,200 disposal bags, it now anticipated using 20,000 bags in addition to the 16,310 bags that had already been used. Midwest also indicated that an additional 1200 man-hours would be required for completion of the project. (GX. 23).

E.

## DOL Evaluation of Conditions

85. In a letter dated March 23, 1992, the Contracting Officer informed Midwest that a site visit would be conducted on March 26, 1992. John Steenberg, the Contracting Officer, testified that he made arrangements to send John Walsh, a Senior Project Manager with ICF Kaiser Engineers, to the site to get "...an independent person to try and evaluate what the situation was." Tr. 941. The Contracting Officer further instructed Midwest to continue with its performance pending the results of the site visit. (GX No. 22). On March 27, 1992, the Contracting Officer notified Midwest by letter that he was considering terminating the contract for default due to a failure to perform within the time specified in Modification 2. (GX. 21).

86. The record shows that John Walsh, was, in March, 1992, employed as a branch manager with Asbestos Abatement Services in Bethesda, Maryland. (Tr. 366). Walsh had extensive experience in the design of asbestos removal projects from boilers slated for demolition. (Tr. 366-67). Walsh was contacted by Bonita Beaudoin of DMJM/HTB, on behalf of Steenberg. Ms. Beaudoin requested that Walsh visit the Minot site on March 26, 1992, and prepare a report discussing his findings and opinions regarding the various disputes in respect to the horizontal piping and the boiler demolition which had arisen between Midwest and the Government. (Tr. 369-70; GX. 20).

87. Walsh inspected the condition of the boilers and the boiler room. At the time of his examination, one boiler had been partially demolished and the other was largely intact. (Tr. 378). In Walsh's opinion, the boiler walls were neither unusually thick, (Tr. 381); nor did he consider unusual the number of brick layers comprising the boiler walls. (Tr. 381). He acknowledged on cross-examination, he may have been mistaken in referring to photos shown to him at the hearing as depicting the width of the boilers' side walls when, in fact, the photos depicted an interior dividing wall of the boilers. (Tr. 378-84, 418-23). He testified, however, that the fire brick used in the boilers was not unusually heavy for the type of boilers in question. (Tr. 386, 388).

88. Walsh examined the boiler bricks, (Tr. 385), and found most measured  $9 \frac{1}{2} \times 4 \frac{1}{2} \times 2 \frac{1}{2}$  inches and weighed eight pounds each. (Tr. 385). Walsh contacted the Brick Institute of America and spoke with Tina Subacic, an engineer employed at the Institute. (Tr. 385). Walsh told Ms. Subacic where the boilers were located, when they were built, and provided her with a general description of the size and color of the bricks. (Tr. 385). She informed Walsh that bricks of this type should weigh

between 7 ½ and 8 ½ pounds each. (Tr. 385). Walsh further indicated that he had never been involved with a boiler which contained lightweight refractory bricks of the type demonstrated by Midwest's Exhibit Number 30. (Tr. 388-89). Walsh's notes contain a notation, in someone else's handwriting, referencing the "Ceramic Institute" and "23 ounces." (Tr. 428-30). The record reveals nothing more specific about the meaning of this notation.

89. In Walsh's opinion, Midwest could have determined how the boilers were constructed by destructive testing, reviewing the as-built plans, and measuring wall thickness from the inner and outer edges of the boiler. (Tr. 438-39). Walsh believes such procedures are necessary, because, in his experience, no two boiler demolition jobs are exactly alike, and, these methods provide essential pre-bid information. (Tr. 439).

90. Mr Walsh also reviewed the bag disposal method Midwest was then using to remove the contaminated debris from the boiler room. In his opinion, the method previously proposed by Hartley, and rejected by Braun Intertec, involving the cleaning, lockdown and disposal of the brick as non-asbestos, containing debris, was entirely appropriate. (Compl. ¶ 72, Ans. ¶ 72, Tr. 43, See, AASI report ¶ I-1456-13). As proposed by Walsh, Braun Intertec then agreed to permit this method of abatement. (Tr. 353).

91. After Midwest was authorized to utilize the encapsulant method suggested by Walsh, bricks which showed no visible signs of asbestos contamination were placed in a pile and sprayed with a lockdown material while the boiler room was still under containment. After the air had settled down, air clearance testing was conducted.<sup>2</sup> (Tr. 353).

92. Upon receipt of clearance for the air sample, boiler room containment was lifted, the doors opened, and the remaining bricks were removed as non-contaminated debris with a Bobcat loader. (Tr. 354).

93. All asbestos abatement work was completed in Building 9 on April 4, 1992. All work involving the boilers was completed on April 16, 1992. Compl. ¶ 76; Ans. ¶ 76.

94. After completing its work on the project, Midwest prepared and submitted, as part of a comprehensive Request for Contract Modification, a claim for additional costs beyond the

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<sup>2</sup>The propriety of such air sampling techniques were not addressed in this proceeding.

not-to-exceed amount to perform asbestos abatement of the boilers. The claim request was for \$44,696.73. (Compl. ¶ 77; Ans. ¶ 77; GX No. 11). Bruhl testified that Midwest formulated the request by breaking down all of the costs it had tabulated to arrive at an actual cost. To this total, it added insurance, bonding, overhead, and profit. The total of these items was \$88,900.22. The original proposal amount of \$44,204.19 was subtracted from this figure to arrive at the additional amount claimed. (Tr. 143).

95. On October 30, 1992, the Contracting Officer denied Midwest's request for modification, because he found that Midwest's contentions that the brick was heavier than normal and unforeseeable were not supported and could not be verified. GX No. 3.

### III.

#### Breeching Insulation

##### A.

#### Scope of Work

96. The record shows that during the process of abating the asbestos in the boiler room in Building 9, Midwest discovered asbestos containing insulation in the exhaust ductwork running from the inside of an outer wall of Building 9 to a smokestack located outside of Building 9. (Tr. 306, 314-15). Minor testified that the abatement process had to commence, and piping in the basement of Building 9 had to be removed, before it was possible to see the ACM inside the breeching extending from the wall of Building 9 to the smokestack. (Tr. 316). Since the breeching itself was a double-walled duct with ACM sandwiched between the inner and outer walls, (Tr. 317) exterior visual observation revealed only the metal ductwork.

97. Section 01011 E.2.i. of the contract listed "Breeching insulation" among the items in Building 9 which was to be removed. (GX No. 37, Division 1, Section 01011, p.4). Appendix A of Table I of the specifications, which is titled, "Asbestos Survey Results," lists 870 square feet of ACM breeching insulation in the boiler room. (GX No. 37, Appendix A, Table I, p. 14). Table II in Appendix B, labeled, "Sample Results," lists Sample No. 9-1-5, identified as "Boiler breeching insulation into stack, and boiler breeching insulation north side of building," as containing asbestos. (GX No. 37, Appendix B; Table II, p. I-707-53). The sample results in Appendix B were to be used "only as a reference to Appendix A." (GX. 37, AX. B, pg. 50).

98. The record shows that while breeching insulation was mentioned in the Appendix, the particular breeching insulation

which is the subject of this appeal, was not listed in Table I or the contract drawings for Building 9. Steven Carlson of Braun Intertec developed the specifications for the asbestos abatement project (Tr. 645, 647), and testified that all of the quantities shown in Table I of Appendix A were visible materials. (Tr. 676, see also Tr. 146).

99. Carlson testified that Braun Intertec estimated 870 square feet of breaching insulation in Building 9 as listed in Table I, (Tr. 675), and Minor testified that virtually all of the breaching listed in Table I had been removed by the time the ACM in the breaching duct to the smokestack was discovered. (Tr. 315-16).

B.  
Notification

100. Immediately after discovering the insulation in the breaching between the boiler house and the smokestack, Minor advised John Spilman, Braun Intertec's on-site representative. Minor was not sure he should remove the newly discovered insulation and according to Minor, he raised the matter with Spilman. (Tr. 317).

101. The record shows that Spilman spoke with architect Whitty about the breaching insulation. Carlson testified that Spilman acted as "a relay of information between parties and also to act as an observer to document quantities, observe work practices and so forth...." (Tr. 766).

It was Minor's impression that Spilman was concerned about the removal of the breaching insulation between the Building 9 and the smokestack, and that he informed Whitty of that concern. (Tr. 765-66). Carlson did recall that Spilman relayed a concern to him that the work involving the breaching was outside the scope of the contract. (Tr. 765).

102. At the recommendation of Spilman, he and Minor visited Whitty at his office for a determination in respect to whether the newly discovered asbestos containing material was to be removed. (Tr. 317-18). Minor testified that Whitty subsequently directed him, through Braun Intertec, to remove the breaching insulation in question. (Tr. 318).

Whitty disputed this scenario. He testified that he first learned of the issue regarding the removal of insulation from the breaching between Building 9 and the smokestack when it was raised by Minor at a progress meeting on January 7, 1992. (Tr. 483). Whitty further denies that he directed Midwest to perform

this work, (Tr. 484) and he denies that representatives of Braun Intertec would have had the authority to direct Midwest to do the work without consulting him. (Tr. 485).

103. James Rodgers, the project manager for the Department of Labor's technical support contractor, testified initially he had not considered whether the Contractor was responsible for removal of this breeching ductwork, because no one knew that the portion of the breeching contained ACM. (Tr. 854). Whitty viewed it as questionable whether the removal of the breeching insulation between Building 9 and the smokestack was covered in the scope of work on the contract. (Tr. 484).

C.  
Completion of Work

104. Midwest performed the work necessary to remove the breeching insulation on December 12, 13, and 16, 1991. (GX 10). Minor testified that the work entailed cutting out the interior metal lining of the breeching and then removing the ACM sandwiched between the inner and outer metal linings. (Tr. 319).

105. Minor and Carlson testified that, in addition to observing and inspecting the work as it progressed, Spilman performed a visual inspection of the flue after the work had been completed. (Tr. 319, 765).

D.  
Rejection of Claim

106. Midwest submitted a claim for \$5006.17 to AW&W and to the Contracting Officer for the removal of the breeching insulation between Building 9 and the smokestack in a Request for Contract Modification. (GX. No. 10; Compl. ¶ 77; Ans. ¶ 77).

107. In a July 15, 1992, letter to Al Stith, GAR, Whitty stated, "No Notice of Differing Site Conditions' was initiated by the contractor, no directive was given by Wayne Whitty to cut away the steel and remove the asbestos insulation and no indication was given by [Midwest] that additional compensation would be requested." (GX No. 7).

108. In a letter to Bruhl, dated October 30, 1992, the Contracting Officer denied Midwest's claim of \$5006.17 for removal of breeching insulation between Building 9 and the smokestack on the grounds: "First, the work was done without the approval of the Contracting Officer. Second, the work took place

in mid-December and is complete, offering the Government no chance to review this work." (GX No. 6).

## Discussion

### I. Hidden ACM

Although the parties address a number of ancillary issues in their briefs on appeal, the key issue is whether the Summary of Work specifications, as amended, required Midwest to include in its base bid the cost of removing hidden ACM above the ceilings in Building 1. Arguing in the alternative, Midwest believes the language triggering application of unit pricing provisions set forth at Specification 01014 is ambiguous, and invokes the doctrine of contra proferentem, thus urging the Board to construe the ambiguities against the Contracting Officer. Alternatively, Midwest contends the Contracting Officer issued Amendment No. 1, Item 7, following the pre-bid site inspection to correct previous representations in contract documents concerning the accuracy of the as-built drawings. Amendment No. 1, Item 7 acknowledged the presence of ACM above the ceilings in Building 1 not otherwise depicted in contract documents and, Midwest contends, it led bidders to believe that unit pricing applied to ACM above the ceilings. Midwest, therefore, seeks compensation for removal of asbestos in excess of the quantity shown on the drawings and Appendix A, Table I plus 10%.

In the Contracting Officer's view, there is nothing ambiguous in these contract documents.<sup>3</sup> Section 01011 E(2)(a) required the removal of all ACM from the piping in Building 1, and Midwest, as the Contracting Officer notes, does not contend

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<sup>3</sup>The Contracting Officer citing Metropolitan Board of Trade, 74-2 BCA ¶10,681, contends that the doctrine of contra proferentem applies to disputes concerning the scope of work, not the method of payment for tasks falling within the scope of work. (App. Br. at 3, fn 3). The Contracting Officer's reliance on Metropolitan Board of Trade, is misplaced. While the parties here may have negotiated the unit prices and the base bid, the terms which dictated when unit pricing applied, including Specifications 01013 and 01014 were prepared by the Government and provided to Mr. Carlson of Braun Intertec for insertion into the Specifications he was assigned to draft. They were not negotiated provisions. (See, Finding 4, supra). The rationale of the Board in Metropolitan Board of Trade is not applicable under such circumstances.

otherwise. Amendment No. 1, Item 7, therefore, did not alter the scope of work as originally contemplated by the Summary of Work specifications. Nor does the Contracting Officer believe there is any ambiguity in provisions regarding the application of unit pricing. Section 01014 applied unit pricing to work which exceeded by more than 10% the "work shown on contract drawings and or specifications." The Contracting Officer contends that the ambiguity Midwest perceives arises from Midwest's interpretation of the word "specifications" in Section 01014 to mean "Table I" of Appendix A in which measurements of visible ACM were provided. Thus, correcting what he deems to be Midwest's faulty interpretation of the word "specifications," the Contracting Officer asserts "Section 01014 is not ambiguous." (App. Br. at 6).

In determining the method of payment for abatement of the ACM above the ceilings in Building 1, the Board looks first to contract as a whole to give meaning to all of its provisions while rendering none meaningless. United Pacific Ins. Co. v. U.S., 204 Ct. Cl. 686 (1974). The courts and boards alike consistently seek to interpret the provisions of a contract as coordinate, not contradictory. See, Union Management Corp. v. U.S., 375 F.2d 804 (1967); River Road Construction, Inc., 94-1 BCA Para. 26,386 (1993); Fermin O. Gonzalez, 80-1 BCA Para. 14,254 (1980).

The Project Manual provided to the prospective bidders contained the specifications, tables, appendices, and as-built plans which constitute the contract documents pertaining to the ACM abatement in the main hospital facility identified as Building 1 of the complex. There is, as previously noted, no dispute that this building was scheduled for demolition, and Section 01010 defined the scope of work as including the removal of all ACM from the structure.

From the outset, the scope of work was clear to the parties. Yet, the inclusion of all ACM in the scope of the abatement project yields no insight into the crucial question regarding the total quantity of ACM a bidder might encounter. Thus, the contract drafters, mindful of the necessary correlation between the price of abatement and the quantity of ACM, provided further guidance.

The introduction to the Summary of Work specifically refers to the drawings and plans as describing and illustrating "all work necessary to perform the asbestos removal." In addition, Section 01011(E)(2)(a) covering Building 1 expressly incorporated Appendix A, entitled "Detail of ACM in Buildings," and it is Appendix A which initially distinguished the visible from the

hidden ACM involved in the scope of work. The introduction to Appendix A provides bidders with the results of Braun Intertec's survey of visible ACM in Building 1. Table I of Appendix A lists, room by room throughout seven floors of Building 1, Braun Intertec's measurements of visible ACM, rounded to the nearest five foot increments of visible ACM, and Braun Intertec's count of the visible asbestos containing fittings. Bidders were able to quantify the amount of visible ACM in Building 1 simply by adding up Braun Intertec's Table I piping measurements and fittings counts. In this respect, contract documents contain no ambiguities regarding the quantity of visible ACM subject to abatement.

Now a second, and equally important, category of ACM was expressly mentioned in Appendix A. Contractors were advised of the presence of hidden piping behind walls and above ceilings not listed in Table I. To determine the quantity of hidden ACM in this category, Appendix A referred bidders to the original as-built blueprints included in the Project Manual. These plans were expressly described as "quite accurate in depicting hidden ACM." GX. 37, Appendix A, pg. 41).

Relying upon the Project Manual, then, bidders were clearly and unambiguously advised that the quantity of ACM in the Building 1 abatement project could be estimated fairly accurately by adding the visible ACM to measurements of steam risers and returns and domestic water risers containing ACM hidden in the walls and ceilings but depicted in the as-built blueprints.

In addition to the specific reference sources provided in Appendices A and C for calculating the quantity of ACM the Building 1 abatement entailed, the Summary of Work contained what the contract documents referred to as a "Differing Site Condition" provision. To be sure, the contract contained the standard provisions typically involving Type I and Type II differing site condition clauses. (See, Section 52.236.2(a) (1) and (2)). This contract, however, included, as Section 01013, a third "Differing Site Conditions" provision addressing quantities and location of ACM.

Referring to the drawings and the "extent of work included in this section" as estimates, Section 01013 provided that minor variations of  $\pm 10\%$  in quantities of ACM within the limits of containment would have no impact on contract price. While stated in terms of "minor variations" which would not affect contract price, references to drawings and extent of work estimates together with the caption of this paragraph identifying it as a "Differing Site Conditions" provision would easily lead a prudent contractor to the reasonable inference that quantities of ACM

which exceeded by more than 10% those depicted in drawings and estimates provided in the contract documents would be treated as a "Differing Site Condition." Moreover, this Differing Site Condition section was followed immediately by Section 01014, the Project Unit Prices provisions which advised; "should the work listed below be increased or decreased by more than 10 percent" from amounts shown on contract drawings and/or specifications, upon written notice from the owner's representative unit prices would apply.

In his brief on appeal, the Contracting Officer virtually ignores Section 01013, and challenges Midwest's interpretation of Section 01014, because Midwest reads the section as applying unit prices to work in excess of 10% of that indicated on the "drawings and Table I." The Contracting Officer notes that Section 01014 states "unit prices apply only when the work is in excess of that required by the drawings and specifications." (Gov't. Brief at 6). Thus, the Contracting Officer argues that Midwest fundamentally misinterpreted the contract to the extent that Midwest construes the word "specifications" in Section 01014 to mean "Table I."

Yet, the term "specifications" as used in Section 01014 is ambiguous. Both parties agree that the scope of work defined by the specifications encompassed "all" ACM in Building 1, including Table I visible ACM, ACM which was not visible but which was depicted in the drawings, and ACM which was not visible and which was not depicted in the tables or the drawings. As used in Section 01014, however, the term "specifications," is qualified by the caveat that unit pricing applies to amounts in excess of 10% of those "shown" on the drawings and specifications. This caveat reveals that the term "specifications" in Section 01014 was not synonymous with the scope of work under Section 01011(E)(2)(a). Indeed, were we to accept the Contracting Officer's interpretation of "specifications," as used in Section 01014, there could never be an "increase" in work pursuant to the Project Unit Prices provision. United Pacific Ins. Co., supra. According to the Contracting Officer, Sections 01013 and 01014 should be read as applying unit prices to quantities of ACM in excess of 10% of a base bid requirement to remove all the asbestos from Building 1.<sup>4</sup> Clearly, that is not the intent of the Unit Pricing Section. See, Union Management, supra.

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<sup>4</sup>It appears that the Government has considered the building as whole as the basis for calculations used in determining the ±10% triggering quantity under Section 01014 (See, GX 9. pg. 3; Tr. 800-01).

While a contractor could have, for example, removed less than 90% of all ACM in Building 1, and thereby trigger a unit price decrease, it would not be possible to abate 10% more than all of the asbestos the building contained. To afford full meaning to  $\pm 10\%$  quantity provisions in both the Differing Site Conditions paragraph (Section 01013) and the Unit Pricing provisions of Section 01014, the contractor's base bid had to be predicated upon a reasonably ascertainable estimate of the quantity of ACM, which, in this instance, was considerably less than the totality of ACM in the Building. We conclude from our review of the contract documents that bidders were directed to use Appendix A, Table I and the drawings which depicted steam risers and returns and domestic water risers in calculating the base quantity of ACM in Building 1. The references to  $\pm 10\%$  increases and decreases in quantities of ACM as referenced in both Sections 01013 and 01014 should be calculated from the base quantities measured and counted from these two sources.<sup>5</sup>

The Board appreciates the Contracting Officer's desire to forestall any interpretation of the contract which strays from the precise language employed, but the Contracting Officer may be forcing an interpretation which is a bit too literal here. At the outset, we noted our reluctance to read this contract in a manner which would render meaningless any provision at issue. Yet, if we accept the notion that the word "specifications" as used in Section 01014 is synonymous with the scope of work set for at Section 01011(E)(2)(a), as the Contracting Officer argues, not only would the reference to the "contract drawings" in that Section be superfluous, but Section 01013 and the Unit Pricing provisions at Section 01014(B) would be meaningless in the context of the abatement work in Building 1. United Pacific, supra; Union Management, supra; River Road Construction, supra; Fermin Gonzalez, supra. To this extent the term "specifications", as used in Section 01014, is indeed ambiguous.

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<sup>5</sup>What is identified in this contract as a Differing Site Conditions provision at Section 01013 is similar to a "Variations in Estimated Quantities" provision of a type interpreted by the Corps of Engineers Board of Contract Appeals in Dunbar & Sullivan Dredging Co., 73-2 BCA Para. 10,285 (1973). Indeed, the caption of Section 01013 itself supports the contractor's interpretation that variations in excess of  $\pm 10\%$  from quantities "indicated on the drawings" and the "extent of work" estimates constituted a differing site condition which would be paid pursuant to Section 01014 which incorporated the notion that unit pricing would apply to quantities of ACM which were  $\pm 10\%$  or more of quantities estimated from Table I and depicted in the drawings.

When a conflict of interpretation is presented to the Board, the meaning of the words included in a contract is derived by a two-step process. The Board must determine first whether an ambiguity exists. John C. Grimberg Co., Inc. v. United States, 7 C. Ct. 452, 456, aff'd, 785 F.2d 325 (Fed. Cir. 1985). If an ambiguity is immediately apparent, it is a patent ambiguity, and the contractor is under a duty to seek clarification. George E. Newsom v. United States, 230 Ct. Cl. 301, 303, 676 F.2d 647, 650 (1982). U.S. v. Turner Construction Co., 819 F.2d 283 (Fed. Cir. 1987); Community Heating and Plumbing v. Kelso, 987 F.2d 1575 (Fed. Cir. 1993). Although a contractor may have some responsibility to inquire about a patent discrepancy, omission, or conflicts in the provisions, it is not normally required to seek clarification of "any and all ambiguities, doubts or possible differences in interpretation." WPC Enterprises, Inc. v. United States, 163 Ct. Cl. 1, 6, 323 F.2d 874, 877 (1964) (disapproved on other grounds, United States v. Anthony Grace & Sons, Inc., 384 U.S. 424, 430-31 n. 6 (1966)). If a contractor does not inquire about a clearly patent ambiguity, the ambiguity will be construed against it.

If, on the other hand, the ambiguity is not patent, the ambiguity will be interpreted against the drafter of the contract, as long as the other party's interpretation is reasonable. E.g., Perry & Wallis, Inc. v. United States, 192 Ct. Cl. 310, 316, 427 F.2d 722, 726 (1970). To the extent the terms are latently ambiguous, invocation of the doctrine of contra proferentem against the drafter may be appropriate. Gaston & Assoc. v. U.S., 27 Fed. Cl. 243 (1992). The alternative interpretation, however, must be within the "zone of reasonableness." Bishop Engineering Co. v. U.S., 180 Ct. Cl. 411 (1967); WPC Enterprises, Inc., 163 Ct. Cl. at 6; Emerald Maintenance, Inc., 94-1 BCA ¶26,481.

The record shows that the project architect retained the services of Braun Intertec to develop the Project Manual including most of its specifications governing asbestos abatement work at the site. (Tr. 647-50).<sup>6</sup> The record further shows that, although the Project Manual described the as-built blueprints as fairly accurate in depicting hidden ACM, Carlson, who drafted many of the specifications for Braun Intertec, was unsure whether he was aware, based upon his prior survey of the site, that horizontal piping was present but not shown on the drawings. (Tr. 702, 710-11). From the bidders' prospective, however, the issue

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<sup>6</sup>It appears that the government, not Braun Intertec, drafted Sections 01013 and 01014. (See, Finding 4, supra).

of horizontal piping was first raised at the pre-bid site investigation conducted on September 4, 1991.

We have considered Carlson's testimony that he orally advised several of the Contractors who attended the pre-bid meeting to "assume simple connections from risers to fixtures" and include that in their base bid (Tr. 702-03). Yet, Bruhl attended the pre-bid site meeting and he did not recall Mr. Carlson discussing this bidding methodology. The meeting was informal, and attendance was not mandatory. There were occasions when Carlson toured the site with some but not all contractors, and the record does not show precisely when Carlson may have suggested the bidding methodology he recommended in dealing with the hidden horizontal piping. (Tr. 703-05). Indeed, Carlson did not retain a record identifying who may have been present when he discussed this aspect of the job. Thus, having had an opportunity to observe Bruhl's appearance and demeanor in testimony at the hearing, we find credible his testimony that Carlson did not suggest in his presence that Contractor's perform take-offs of the horizontal piping which assume simple connections from risers to fixtures and include such estimates in their base bids.

But whether or not all contractors who attended the pre-bid walk through were privy to Carlson's discussions,<sup>7</sup> and indeed at least one bidder did not visit the site (Tr. 778), Carlson did testify that formal steps were taken to "clarify what they (the Contractors) were to bid on." (Tr. 653).<sup>8</sup>

Subsequent to the walk-through, Carlson drafted Amendment No. 1, Item 7. According to Carlson, what the Contractors were told during the walk-through "was largely what is contained in the addendum; that is, to again assume that piping must be present between the service risers and the fixtures they are servicing and not necessarily assume that a certain route had been taken, but to simply assume the simplest route because we had no knowledge of the exact routing of the piping." (Tr. 654.

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<sup>7</sup>Other bidders were contacted by the Contracting Officer to determine their understanding of the scope of work; however, they were not specifically asked whether they included the horizontal piping above the ceiling in their base bids. (Tr. 668-69).

<sup>8</sup>The government, of course, assumes no responsibility for any understanding or representations concerning conditions in Building 1, during discussions at the walk through before the award of the contract. (GX. 37, Section 52.236-3(b)).

See also, Tr. 703, 789-93). The Amendment, which is undated, added the following language to Section 01011(E)(2)(a):

As indicated by provided as-built drawings. In addition, the Contractor shall remove TSI on horizontal piping leaders from risers to hearing units, and domestic distribution not specifically indicated in the drawings. This shall involve substantial demolition of ceilings." (GX. 36).

The parties agree, and the Board so finds, that this Amendment added nothing to the scope of work previously required by the Project Manual. What it expressly accomplished was to alert bidders that the drawings which had previously been described as being quite accurate in depicting hidden ACM, were, nevertheless, deficient in respect to revealing the hidden ACM on horizontal piping. The Amendment did not, however, include information allegedly discussed at the walk-through such as Carlson's suggestion that the horizontal piping take-offs should be included in the base bid. Nor did it contradict other provisions which led the Contractor reasonably to formulate his base bid using Table I estimates together with the risers and returns hidden in the walls and ceilings but shown on the as-built blueprints.

While Bruhl acknowledged it would have been possible to prepare takeoffs estimating the amount of horizontal piping (Tr. 168), he testified that he did not consider it necessary because the Amendment, in pertinent part, pointed out that the drawings were not as accurate as previously represented, and, to that extent, provided notice that unit pricing would apply. The Amendment did not affect the scope of work, and Bruhl reasonably believed variations from Table I and piping shown in drawings which exceeded 10% were covered by the unit pricing provisions. (Tr. 57-59, 68-69, 260).

The Board finds merit in the Contractor's contentions. Unlike amendments issued by the government and considered by the courts in Sofarelli Associates v. U.S., 1 Cl. Ct. 241 (1982) and Merando, Inc. v. U.S., 475 F.2d 601 (Ct. Cl. 1973), the Amendment issued in this instance did not change the scope of work or alter the as-built blueprints. In Merando, for example, the revised drawings detailed work outside the contract "limit line," while Sofarelli involved a dispute over conduit and wiring required to operate remotely mounted fan speed switches. In both cases, the courts concluded that deficiencies which added to the scope of work or represented a change in the plans, constituted such "obvious omissions" in the amendments in light of the contracts,

as a whole, that the contractors were remiss in failing to seek clarification.

The amendment before us, in contrast, disclosed a third category of ACM which included asbestos not shown on Table I and not indicated on the as-built plans, but it left intact both the "Differing Site Conditions" provision at Section 01013 and the "Project Unit Prices" specification, at Section 01014. Since the horizontal piping discussed in the Amendment was not included in either Table I or the as-built plans as described in Sections 01013 and 01014, the Amendment itself could reasonably be construed, as the Contractor contends, as notice that unit pricing would apply. In contrast, if the Amendment was intended to advise contractors, as they were allegedly instructed at the pre-bid meeting, to include the hidden horizontal piping in their base bids, it simply failed to communicate such a requirement. Moreover, Section 01013 or 01014, to which the Amendment logically related, affirmatively contemplated variations in estimates, and were intended to encompass variations in quantities of ACM which exceed 10% of the quantities shown in Table I and the as-built plans. Thus, the Amendment, as drafted, was entirely consistent with the application of unit pricing to the ACM in question. As a result, any ambiguity with respect to contractor compensation for the hidden horizontal piping was latent in nature.

The Board concludes that the removal of ACM not depicted in the drawings or listed in Table I was subject to unit pricing. Sections 01013, 01014, and Amendment No. 1, Item 7 gave rise to a latent ambiguity concerning the method of compensation for such hidden ACM, and the Board further finds that Midwest's interpretation that unit pricing applies to such ACM is comfortably within the zone of reasonableness articulated in WPC Enterprises, Inc. v. U.S., 323 F.2d 874, 877 (Ct. Cl. 1963).<sup>9</sup>

## II.

### Boiler Demolition

Midwest requests an equitable adjustment pursuant to Section 52.236.2, the standard Differing Site Conditions clauses of the

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<sup>9</sup>As we noted previously, this interpretation is entirely consistent with the Contracting Officer's use of unit pricing to compensate Midwest for removal of ACM in Buildings 2, 5, and 6 not shown in Table I on the drawings. See also, Blount, Inc., 93-1 BCA ¶25,474, (applying unit pricing to ACM removal in amounts which varied from contract drawings).

contract, for work it performed on the boilers located in the basement of Building 9. Midwest and the Government executed a not to exceed, fixed price contract for \$44,204.19 to dismantle and dispose of the boilers. After work commenced, Midwest encountered what it describes as unanticipated conditions. Specifically, the bricks in the interior of the walls of the boilers were heavier and denser than Midwest expected and were mortared together rather than laid-in loosely. In addition, the walls were thicker than indicated in the drawings. As a result, Midwest requests an equitable adjustment for extra work it did not anticipate in the amount of \$44,696.73, plus interest on the claimed amount, accrued from the date this claim was certified to the Contracting Officer. The Contracting Officer denied the claim. In his view, the site neither differed from contract indications nor presented unknown or unusual conditions. Rather, the Contracting Officer argues, Midwest did not conduct an adequate inspection of the boilers pursuant to the Contract's Site Investigation clause.

As previously discussed, the Differing Site Conditions clause of the contract upon which Midwest relies, provides, in part:

(a) The Contractor shall promptly, and before the conditions are disturbed, give a written notice to the Contracting Officer of (1) subsurface or latent physical conditions at the site which differ materially from those indicated in this contract, or (2) unknown physical conditions at the site, of an unusual nature, which differ materially from those ordinarily encountered and generally recognized as inhering in work of the character provided for in the contract. Section 52.36-2(a).

This clause fosters a public policy which permits the government to moderate its costs while simultaneously compensating bidders who encounter conditions "not envisioned when preparing bids and not readily apparent from site observation or obtainable data." Spirit Leveling Contractors v. United States, 19 Cl. Ct. 84, 93 (1989) (citing Stock & Grove, Inc. v. United States, 204 Ct. Cl. 103, 136 (1974)).

Cases involving differing site conditions generally fall within two categories: Type I cases involving situations in which a contractor finds actual conditions different from those indicated in contract documents, and Type II cases which involve actual conditions of an unusual and unforeseeable nature. Since

Midwest has chosen not to restrict its arguments to those associated solely with either a Type I or Type II claim, the Board has reviewed Midwest's claim in the context of both categories.<sup>10</sup>

A.  
Differing Site Condition

To prevail on a Type I claim, Midwest "must prove, by a preponderance of the evidence, that the conditions described or indicated in the contract were materially different from those encountered during performance." Stuyvestant Dredging Co. v. United States, 11 Cl. Ct. 853, 858 (1987). To effectuate such a showing, Midwest must satisfy each of six elements developed by the Courts and various Boards over time and compiled by the Court in Weeks Dredging and Contracting v. U.S., 13 Cl. Ct. 193, 218 (1987).<sup>11</sup> Thus, Midwest must show:

(1) The contract documents affirmatively indicated or represented the conditions which form the basis of the claim;

(2) the contractor acted as a reasonably prudent contractor in interpreting the contract documents;

(3) the contractor reasonably relied on the contract indications;

(4) the conditions actually encountered within the contract site area differed materially from the conditions indicated in the same contract area;

(5) the actual conditions were reasonably unforeseeable; and

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<sup>10</sup>The demolition of the boilers was not contemplated by the scope of work encompassed by the original specifications. Midwest, therefore, correctly refrains from contending that "Differing Site Condition" provisions of Specification 01013 apply to the boiler removal contract.

<sup>11</sup>See also, P.J. Maffei Bldg. Wrecking v. United States, 732 F.2d 913, 916 (Fed. Cir. 1984); William F. Klingensmith, Inc. v. United States, 731 F.2d 805, 809 (Fed. Cir. 1984); Arundel Corp. v. United States, 515 F.2d 1116, 1128 (Ct. Cl. 1975); Foster Construction C.A. v. United States, 435, F.2d 873, 875, 880 (Cl. Ct. 1970); United Contractors v. United States, 368 F.2d 585, 594 (Ct. Cl. 1966); Stuyvestant Dredging Co., 11 Cl. Ct. at 857-58; Mojave Enterprises v. United States, 3 Cl. Ct. 353, 357 (1983)).

(6) the contractor's claimed excess costs must be solely attributable to the materially different conditions within the contract site.

The Board views the representations contained in the contract documents from the perspective of a reasonably prudent contractor to determine how such a contractor would act under the circumstances. P.J. Maffei, supra at 917. In essence, the contract documents must contain reasonably plain or positive indications sufficient to justify reliance by a contractor. Pacific Alaska Contractors, Inc. v. United States, 436 F.2d 461, 469 (Ct. Cl. 1971). Under circumstances in which a contractor has notice that actual conditions are different from those described, he cannot obtain relief. In summary, Midwest must act reasonably in relying on contract documents. Shank-Arturovich v. United States, 13 Cl. Ct. 346, 350 (1987).

In the instant case, contract drawings represented that the walls of the boilers were comprised of three layers of brick. There was an indication that the external layer of brick was 8-inches thick, the middle layers of fire brick 4 ½-inches thick, and an inner layer of fire brick 9-inches thick. (Tr. 264). There were no other representations made regarding the construction of the boilers' walls. Indeed, the contract documents contain no indication or reference to the weight or density of the bricks used to construct the boilers. Nor is there an indication from which it could reasonably be concluded whether or not the bricks within the walls were mortared, hard mortared, or simply laid-in loosely or stacked. Thus, the contract documents do not contain a positive representation, and "mere silence does not of itself establish any right of recovery." Jen-Beck Assoc., VA BCA No. 2121, 86-3 BCA 19,056. Indeed, as the Federal Circuit noted in P.J. Maffei, "while it is true that a contract 'indication' need not be explicit or specific, the contract documents must still provide sufficient grounds to justify a bidder's expectation of latent conditions materially different from those actually encountered." P. J. Maffei at 916.

In demolishing these Boilers, Midwest encountered 9 to 10 layers of brick which were not only heavier than anticipated, but were hard-mortared not loosely stacked. While the contractor may have concluded from the drawings that the government was positively representing the number and thickness of the layers of brick in the walls of the boilers, contract documents are devoid of indications from which the weight, density, or method of connecting the bricks could be reasonably assumed. Since the contract documents contain neither a positive indication of the weight or density of the bricks, nor an indication that the

bricks inside the walls were loosely stacked, this aspect of Midwest's Type I differing site condition argument must fail.

As we noted, however, the walls of the boiler were indeed thicker than the drawings depicted, thus yielding more bricks than Midwest expected. Yet, the fifth prong of Weeks, requires Midwest's reasonable reliance on the indications of conditions described in the contract. Although, as Midwest contends, a site investigation prerequisite to Type I Claim is not onerous, as the Weeks court observed, the contractor is "held accountable to discover and pursue reasonable indications as here, which would put a reasonably prudent contractor...on notice that there may be... conditions different from those indicated in the contract." Weeks at 238. Reasonable reliance in this context takes into consideration the information Midwest gleaned from the pre-bid site investigation it actually conducted. As the Weeks court observed:

Under circumstances in which a contractor "knows or has opportunity to learn the facts, he is unable to prove...that he was misled by the contract documents." Spirit Leveling Contractors v. U.S., 19 Cl. Ct. 84, 94 (1989) citing Vann v. U.S., 420 F.2d 968, 982 (Ct. Cl. 1970). "Unlike our previous discussion of contract indications, this test does not revolve solely around that information which the government provided in the contract documents. Rather, it depends critically upon all the information--including any reasonably discoverable outside information--which was available to the contractor at the time of bidding. Hunt & Wilet, Inc., 351 F.2d at 985-86; Flippin Materials, 312 F.2d at 414. Thus, to a large extent, what the contractor knew or should have known about the subsurface materials depends upon the reasonableness of its pre-bid site investigation. In this regard, while we generally cannot expect a contractor "to discover hidden subsurface conditions," Foster, 435 F.2d at 888, we must not ignore the fact that a reasonable site investigation may be a lesser or greater burden depending upon the unique facts and circumstances of each case. Weeks Dredging, 13 Cl. Ct. at 236.

Thus, the record shows that Lonnie Minor, during the process of removing the ACM piping in the boiler room first suspected the presence of "layers" of asbestos in the boiler walls. (Tr. 346). He ordered testing of the mortar which yielded results positive for asbestos. (Tr. 337). Based upon this discovery, and the site inspection which followed, Modification #2 requiring demolition of the boilers as ACM was executed.

The record identified Minor as Midwest's on-site supervisor. Both he and Bruhl inspected the boilers in Building 9. (Tr. 218, 338). Minor estimated the length, width, and height of the structures, and was also able to estimate the thickness of the boiler walls. By visual inspection, he could see that the walls were approximately three feet thick, (Tr. 341), but he could not ascertain whether the walls were solid brick simply from an estimate of thickness. Nevertheless, the actual thickness of the walls was manifestly inconsistent with wall thickness depicted in the as-built plans.

Further, although we are mindful of Midwest's contention that simply knowing the thickness of a wall would not indicate the composition of the wall's interior, under a Type I analysis we must observe that Midwest failed to demonstrate that the contract contained an indication of the composition of the walls' interiors. As the record shows, Minor's assignment in assisting Bruhl's bid preparation involved a determination of the dimensions of the boilers to ascertain "how much brick I thought would come out," (Tr. 338). While Minor did not examine the plans, Bruhl studied them in the context of the information derived from his own brief site investigation and the information provided to him by Minor. (Tr. 348, 181). Moreover, even if Minor thought the walls were hollow or simply stacked with lightweight brick (Tr. 341-42), his task was to estimate the dimensions of the boilers and relay his findings to Bruhl. Under these circumstances, Midwest's failure to coordinate Minor's information with Bruhl's study of the plans (Tr. 181) is not reasonably justifiable. The information in Midwest's possession rendered obvious the errors or ambiguities in the as-built plans. Thus, Midwest knew or should have known not only that the walls were 3 feet thick, but also the as-built plans did not accurately depict the width of the walls of these boilers. Furthermore, Midwest has not shown that the boiler plans depict any significant hollow spaces within the boiler walls. Accordingly, the contract contained no indication other than construction of solid brick walls throughout. Any assumption to the contrary by the contractor is, therefore, not traceable to contract representations. Since Midwest had actual notice that conditions were different from those described, it has failed to establish

that it was misled by the contract. See, Spirit Leveling, supra at 94.

B.

Midwest's site investigation is also relevant to its claim predicated upon a Type II differing site condition. As noted in Hercules Construction Co., 88-2 BCA ¶20,527, a Type II evaluation contemplates knowledge on the part of a Contractor derived from sources other than the contract, such as information acquired in the course of a site investigation. Consequently, a condition readily discoverable at a pre-bid site investigation is not "unknown" within the meaning of Type II claim. (See generally, McClure, Differing Site Conditions' Evaluating the Material Difference, 15 Pub. Cont. L.J. 138 (1962)).

At the hearing and in its brief, Midwest repeatedly stressed that the number of layers of brick, the weight of the brick, and the fact that the bricks were hard-mortared constituted an unknown, unforeseeable, and highly unusual condition. Midwest argues that it had never encountered boilers with walls constructed of heavy, dense firebrick throughout, nor had it ever encountered one in which the interior of the walls were mortared. Midwest proffered testimony that typical boiler construction entailed a layer of heavy, mortared, common brick, followed by inner layers of unmortared, lightweight insulating fire brick, and, in some instances, an interior layer of common brick. The Government's asbestos abatement expert, John Walsh, testified, in contrast, that the thickness of the boiler walls was not unusual, and further, he had never worked with a boiler which utilized light weight firebricks. Moreover, Walsh testified that the firebricks used inside these boilers were not unusually heavy. He further noted that it was not unusual to find boiler walls which contained mortared firebrick.<sup>12</sup>

The record shows that Minor viewed the interior of the boilers, as distinguished from the interior of the walls, and determined that the interior bricks were mortared although he could not visually determine if they were hard-mortared. (Tr.

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<sup>12</sup> The Board has reviewed the evidence in respect to whether or not the type of brick used, or the method of boiler construction, involving the mortaring of bricks inside the walls, constituted unusual conditions. (See, Findings 74, 76, and 87, 88, supra). We find, in light of the conflicting testimony, that the Contractor has, on balance, failed to establish that the walls of these boilers were constructed in an unusual fashion for a hospital complex in Northern North Dakota, built in the 1940's.

339-41). While he testified that the interior of the boiler appeared consistent with what he expected to see, (Tr. 339, 341), he further acknowledged that, in his experience, bricks in the interior of a boiler "typically" are not mortared together. (Tr. 340). Minor further suspected the presence of asbestos layers within the walls of the boilers. He testified that he observed, in December of 1991, before the bid was prepared, places where the outside layer of brick had broken away. In these places, where Midwest's experience would have predicted a layer of loosely laid-in lightweight brick, Minor observed instead a "layer of white fibrous material." (Tr. 346).

Based upon his visual observations of mortaring between the bricks lining the interior of the boilers, and his detection of damaged areas of the outer walls which had broken away revealing a layer of white fibrous material where lightweight brick was expected, Minor's experience should have alerted him that these boilers were not typical of boilers the contractor had previously demolished. Moreover, this information coupled with the estimates of the actual width of the walls which exceeded the width depicted in the as-built drawings, should have suggested to a reasonably prudent contractor, experienced in boiler demolition, that actual conditions were not only different from those indicated in the contract documents, (See, Weeks Dredging, Supra, 238), but were unusual from standpoint of Midwest's past experience.

While Midwest argues that it had no reason to pursue a more detailed inspection based upon its examination of the boilers and drawings, the evidence suggests otherwise. In contrast with such cases as Southern Calif. Roofing Co., PSBCA No. 1737, 2023-2035, 88-2 BCA Para. 20,803 (1988), in which there were no visible indications of unusual subsurface conditions, in this instance, Midwest seemingly ignored several visible signs that these boilers were not typical of boilers it had previously demolished. See, J.M.J. Investments, 91-3 BCA ¶24,072; Burgos Construction Co., Inc., 91-2 BCA ¶23,706.

Given the discrepancies between the actual width of the walls and the plans,<sup>13</sup> and taking into consideration the presence

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<sup>13</sup>We note that the Veterans Administration Board in Hercules Construction Co., 88-2 BCA ¶20,257, determined that a contractor had no duty, pre-bid, to inquire about the "nature" of a wall to be demolished merely because it was wider than some other walls in the building. The Hercules Board noted, however, that many of

of a layer of material other than lightweight brick revealed behind the outer layer in places where exterior brick had broken away, the Board concludes Midwest failed to act reasonably when it failed to investigate the patent discrepancies it was encountering and to determine the composition of the second layer of brick. Since the worksite was already under full containment, Midwest could have, without any significant destructive testing, scraped or chipped away the white fibrous material exposed in places where the outer layer had broken away, revealing the second layer of brick. As exposed, it would not have been difficult to chip a piece of the second layer of brick to determine whether it was heavy dense brick as contained in Midwest's Exhibit 29 or porous, lightweight insulating brick as typified by Midwest's Exhibit 30. That limited inquiry alone would have revealed a second layer of heavy dense mortared brick, where lightweight, porous, loosely stacked brick was expected.

Midwest argues that it was not required to poke holes, make cuts, or engage in destructive testing to discover latent defects, Alart Plumbing Co., 84-1 BCA ¶17,229; Southern California Roofing Co., 88-2 BCA ¶20,803; Midwest Industrial Painting of Florida, Inc., 90-3 ¶23,094; Schumate Constructors, Inc., 90-3 BCA ¶22,946. In this instance, however, a visible inspection of conditions revealed crucial signs that these boilers were not constructed like others the Contractor had encountered. The fact these red flags did not persuade Midwest to examine the boiler construction more closely leads this Board to conclude Midwest failed to act in a prudent manner. Under such circumstances, an adequate inspection, including scraping and chipping or gouging out samples of the second layer of dense mortared brick would not exceed the effort a prudent contractor could be expected to expend, and it would have alerted Midwest to the existence of dense and mortared brick beneath the outer layers. Southwest Marine, Inc., 85-3 BCA Para. 18,226; Atlantic Dry Dock Corp., 89-2 BCA ¶21,727; Fred Burgos Construction Co., Inc., 91-2 BCA ¶23,706; Metal Trades, Inc., 91-2 BCA ¶23,982.

In summary then, a reasonable inspection of these boilers, under the circumstances, would have revealed walls consisting of an outside layer of mortared, dense brick, followed by a layer of

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the walls in the building differed in width and this was not uncommon in hospitals. In contrast, we are not comparing the walls of the boiler with other walls in the building, but rather the actual width of boiler walls with the as-built boiler plans. In this instance the as-built plans patently differed from the actual construction.

white fibrous material, and another layer of mortared, dense brick. Further, the layer exposed to the interior of the boiler consisted of mortared brick which, although blackened from use, "looked like some of the brick on the outside." (Tr. 339). We recognize these walls consisted of many layers more than the three layers which an inspection would have exposed. Yet by revealing conditions inside the walls different from the loosely laid-in, lightweight firebrick Midwest expected, a reasonable inspection would have alerted Midwest to the significantly increased risk of proceeding upon the assumption that any of the layers actually consisted of lightweight, loosely laid-in brick.

We find that Midwest was responsible for the discovery and pursuit of reasonable indications, here present which would put a prudent contractor, experienced in boiler demolition, on notice that the interior of the walls of the boilers may have been constructed in a manner different from those it had previously encountered, and must be bid accordingly. Since Midwest failed to act in prudent manner in respect to its inspection of these boilers, we find we must deny its claim for equitable adjustment.

### III.

#### Breeching Insulation

Midwest also claims an equitable adjustment of \$5,006.21 for work performed which it alleges was outside the scope of the contract. The work in question entailed the removal of ACM breeching insulation inside a duct which extended through the wall of Building 9 to an exterior smokestack. Midwest claims that the Contracting Officer's representatives approved the work, and, as approved, it is compensable under the contract's changes clause. The Government contends in the alternative, that the work was not outside the scope of the contract, and Midwest, in any event, failed to provide proper notice that it considered the work to be outside the contract's scope.

#### A.

##### Scope of Work

As the government contends, the contract referred to "Breeching insulation" among the categories of ACM which were to be removed from Building 9. The specifications expressly referenced the presence of 870 square feet of asbestos containing breeching insulation in the boiler room. Contract documents also note the existence of asbestos contaminated "Boiler breeching insulation into stack." In the Contracting Officer's view, the reference in Appendix B to Sample No. 9-1-5 breeching insulation "into stack" can have "no other reference than to the smoke stack

outside the building." (CO Brief at 21). Citing these references, the Contracting Officer contends that the removal of the breaching insulation in question was work plainly included within the scope of the contract. As such, the Government maintains that any claim for additional compensation must be denied.

The record shows that sample results enumerated in Appendix B should be used "only as a reference to Appendix A." (GX 37). The quoted caveat would, therefore, reasonably lead a prudent Contractor to conclude that Sample No. 9-1-5 of Appendix B appeared in Table I listings as boiler room "breaching insulation" in Building 9. Further, the amount of such breaching quantified in Table I was 870 square feet, all of which was included in the visible ACM breaching which ran from the boilers to the boiler room wall inside Building 9. The Contracting Officer fails to provide a rationale for using Appendix B in a manner contrary to the express limitation contained in its introductory paragraph as a reference to the visible ACM listed in Appendix A. The breaching with which we are here concerned was neither visible nor inside Building 9.

Under these circumstances, the notation in Appendix B "breaching insulation to stack" viewed as a reference to Appendix A, reasonably construed, refers to the visible breaching insulation which led to the smokestack but which ran from the boilers to the interior boiler room wall. As a reference to Appendix A, it would not and could not include the extension of breaching insulation through the wall to the smokestack itself since none of that insulation was visible until demolition of the boiler room was well underway.

Indeed, not only is it unlikely the composition of this inner layer of breaching insulation in this portion of the flue could have been determined by any reasonable investigation at the time Appendix B was prepared, it was not within the confines of Building 9 or the specifications applicable to Building 9.

Thus, Steven Carlson, the Braun Intertec-Intertec supervisor who drafted most of the specifications for the entire asbestos abatement project, agreed that this insulation was not included in the 870 square feet of breaching insulation listed as visible asbestos in Table I of Appendix A.

For all of the foregoing reasons, the Board concludes that removal of breaching insulation inside the flue between Building 9 and outside smokestack was not within the scope of work defined by the contract. We therefore, turn to the Contracting Officer's contention that Midwest failed to obtain approval for the work

and failed to afford the government a chance to review its work. (GX 6, pg. 3). The merits of Midwest's appeal of those issues are considered below.

B.  
Notice and Approval

The Contracting Officer argues in his brief that Midwest's claim must be denied because it failed to provide notification that it considered the removal of the breeching insulation additional work beyond the scope of the contract. The Contracting Officer argues further that the Contractor deprived him of the opportunity to determine whether the work was indeed within the scope, and, if not, whether he wanted the work performed. (Co. Brief at 21-22). Although the Contracting Officer fails to cite a single case in support of his contentions, the Board finds his arguments otherwise lacking in merit.

As the Contractor emphasizes, the Changes Clause contained in the contract at Section 52.243.4 (GX 37, pg. 23 IV) has been liberally construed by the Courts. Thus, in Hoel-Steffen Construction Co. v. United States [17 CCF ¶81,203] 456 F.2d 760 (Ct. Cl. 1972), the Court refused strictly to apply the 20-day limitation where the Government knew of the facts that constituted a constructive suspension of work. Various Boards have invoked the Court's rationale in declining rigidly to enforce the limitations, where, among other circumstances, the Government has actual or imputed knowledge of the facts giving rise to the claim, (R.R. Tyler, 77-1 BCA ¶12,227); or notice to the Contracting Officer would have been useless (Mil-Pak Co., Inc., 76-1 BCA ¶11,836), or where there has been no prejudice to the Government. Central Mechanical Construction, 85-2 BCA ¶18,061.

Prejudice usually involves either impairment of the Government's ability to prepare or present a defense to the claims or impairment of the Government's ability to take management measures to avoid or mitigate delays or costs. Powers Regulator, 80-2 BCA ¶14,463.

The record shows that Minor discovered the breeching insulation, but did not immediately remove it. Uncertain whether it was included in the specifications, Minor discussed his concerns with Spilman. Spilman was unable to clarify the matter, and thus suggested that he and Minor consult with the Project Architect, Whitty.

Minor testified that he and Spilman visited Whitty's office before the additional breeching was removed and the purpose of the visit was to obtain Whitty's determination whether or not to remove it. Minor testified that Whitty later authorized the work through Braun Intertec. Although Whitty did not recall discussing the breeching insulation question before the work commenced, he added that he did not authorize its removal and testified that Braun Intertec lacked the authority to instruct Midwest to proceed.

The Board finds that upon discovery of the ACM breeching insulation, Midwest halted operations and consulted Braun Intertec and Whitty. While Whitty does not recall discussing the breeching or issuing the approval to proceed, the record shows that Spilman informed Carlson that removal of the breeching probably exceeded the scope of the contract. It further shows Spilman consulted with Whitty frequently, and Carlson thought Spilman discussed the extra work with Whitty. Under these circumstances, Minor's testimony that both Braun Intertec and Whitty were advised and consulted before the work proceeded is credible. Moreover, on the facts before us, we hold that Spilman, Carlson and Whitty had knowledge of the breeching insulation question, and this knowledge must be imputed to the Contracting Officer.

The Contracting Officer, and Whitty, the Project Architect, testified that they relied on Braun Intertec for technical day to day aspects of the abatement work as well as drafting contract specifications for the work. The Board finds that Midwest resumed the work of removing the breeching after it was given authorization to proceed by Braun Intertec which acted in consultation with the Project Architect. In the circumstances of this case, Braun Intertec's authorization to proceed was tantamount to the act of approval. Braun Intertec's instruction, in consultation with the architect, was a constructive change, and the Contracting Officer had constructive, if not actual, timely notice of the change. Switlik Parachute Co., Inc., 74-2 BCA ¶10,970; R. C. Hedreen Co., 77-1 BCA ¶12,521. See also Hartford Accident and Indemnity Co., 323, 78-1 BCA ¶12,928.

We also conclude that the government was not prejudiced in this instance. The record shows that technical issues arising out of this abatement project were not susceptible of decision by the Contracting Officer except in reliance on the technical expertise of his consultants. Our reading of the entire record persuades us that the Contracting Officer was unlikely to act contrary to the advice of his consultants, and, on this project, the Contracting Officer was removed from the project by layers of consultants. Thus, we find on this record no prejudice to the

government as a consequence of the extra work authorized by the on-site consultants. The suggestion that perhaps the Contracting Officer would not have wanted the work performed, and had no opportunity to review the work, is not plausibly supported by the record.

The Contracting Officer cannot insulate himself from the operating level by layers of managers, architects, and consultants, then disclaim responsibility for the actions of one of his agents because the Contractor failed to give him notice. Switlik, supra; Whitaker, 94-2 BCA ¶26,643. The Contracting Officer's technical support consultants were on site, knew of the presence and location of the ACM involved here, authorized its removal before the work began, and monitored the Contractor's work as it progressed. Considering the record as a whole, we are unable to find a credible basis for concluding that the Contracting Officer would have been likely not to approve the work when his on-site asbestos consultants concluded that the ACM breaching insulation should be removed and the monitored the work as it progressed. We find it difficult to avoid concluding that the government has failed to demonstrate any prejudice under these circumstances. We, therefore, find that Midwest provided adequate timely notice of the extra work, and, thereafter, received authorization to proceed with the abatement of breaching insulation in the flue between Building 9 and the smokestack.

#### IV. Unit Pricing

The Board has concluded that, while the scope of work set forth in the specifications encompassed all of the ACM in Building 1, contract documents contemplated payment for removal of hidden ACM, not listed in Appendix A, Table I or in the as-built drawings, based upon the contract unit prices. As previously determined, those unit prices are:

Piping insulation (removal) <3", >3"-<8", >8"	\$14.50, \$18.80
Pipe fitting insulation (removal) <3", >3"-<8", >8"	\$15.50, \$19.80
Decon Units	\$950.00 each
Disposal	4200 yard (sic)

Preparation	\$ .75 SF
Ceiling Demolition	\$3.50 SF
Wall Demolition	\$3.25 SF (Finding 27, <u>supra</u> )

A.  
Quantifying Hidden ACM

We have determined that the contractor's base bid included the removal of all ACM insulation on pipe and fittings listed in Table I or shown on the as-built drawings plus 10%, and that the remainder of ACM removed from Building 1 must, therefore, be based upon unit prices. To determine the quantity of hidden ACM it is first necessary to quantify the ACM on Table I and depicted in the as-built plans. In this respect, several additional findings of fact are pertinent.

I.  
Table 1.

The visible pipe insulation ACM listed in Table I encompassed in the base bid for Building 1 includes the following:

<u>Floor</u>	<u>Lineal footage</u>
Basement	11,340
1st	1,866
2nd	1,077
3rd	296
4th	412
5th	45
6th	50
7th	80
Penthouse	<u>83</u>
TOTAL	15,249

GX 37

2.  
Hidden Piping Depicted in As-Built Plans

The specifications also include in the base bid vertical piping shown on the as-built blueprints. The as-built heating plans depict the steam risers and returns, identified "s" and "r" on the plans, (See, Tr. 789), and plumbing plans describe the domestic water risers. The parties disagree in respect to the measurements of risers and returns derived from the plans.

a.

Domestic Water Risers

The Contracting Officer calculated 4,190 linear feet of domestic risers. For purposes of his estimate, he allegedly counted the risers and assumed 12 foot high floors.<sup>14</sup> The following summarizes his findings:

<u>Floor</u>	<u>Number of Domestic Risers</u>	<u>Linear Footage</u>
1st	97	1,164
2nd	77	924
3rd	54	648
4th	48	576
5th	51	612
6th	21	254
7th	1	<u>10.5</u>
TOTAL	349	4,188.5

GX 50

In contrast, Midwest provided total footage of domestic risers as follows:

<u>Floor</u>	<u>Linear Footage</u>
1st	--
2nd	660
3rd	612
4th	636
5th	636
6th	252
7th	<u>48</u>
TOTAL	2,856

AX. A-18

Between the 2nd and 7th floors, then, the Contracting Officer calculated 3,024.5 feet of domestic water risers while the Contractor measured 168.5 feet less or 2,856 feet.

The record shows that the domestic risers include the hot water, hot water recirculating, and cold water pipes. (Tr. 767,401-02). The Board has independently reviewed the as-built plumbing plans in the context of evidence presented by the

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<sup>14</sup>The actual heights were slightly less, averaging 11'11" from floor 1 through 6. The 7th floor was reported at 10.5'. In the absence of any objection by the Contractor, we have accepted 12' floor height, as estimated by the Contracting Officer.

parties. With respect to the first floor, the Contracting Officer contends there are 97 risers totaling 1,164 feet, while Midwest counted no risers. The Board finds that the plumbing plans support a count of 91 risers or six fewer than the 97 risers alleged by the Contracting Officer.

Now, the Board is mindful of the possibility some of the risers on the first floor may have been visible. If so, inclusion here would result in a double counting of the footage they represent. Yet, the Contractor has failed to support a rationale for including no first floor risers in its calculations, nor has it established that all, or indeed any particular risers were, in fact, visible. The Board is unable to conclude from a review of the plans or other record evidence that any or all such first floor risers were either visible or included in Table I, and Bruhl's testimony provides no justification for the omission of first floor risers. (Tr. 69-72. See, also, Tr. 312-14). If the Contractor had a basis for excluding first floor risers from its base bid, it has failed to bring it to the Board's attention. We find no ground for excluding from the base bid a total of 1,092 feet of domestic risers shown on the first floor plans. Unit pricing is, therefore, not applicable to this ACM.

With respect to the second floor, the Contracting Officer noted 77 risers totaling 924 feet, while the Contractor estimated 660 feet. If the Contractor allowed a 12' floor height, the number of risers on the second floor corresponding to his estimate would be 55. We have determined, however, that the plans support a conclusion that the number of hot water, hot water recirculating, and cold water risers totaled 74 on the second floor, and therefore, support 888 feet of risers on that floor.

On the third floor, the Contracting Officer noted 54 domestic risers, while in the Contractor, as derived from his 612 foot estimate apparently counted 51 such risers. In this instance, the Board has found 54 risers on the third floor plumbing plan for Building 1, Unit "A". The record, therefore, supports the Contracting Officer's calculation of 648 feet of domestic risers on that floor.

On the fourth floor, the Contractor found a total of 612 feet of risers. The Contracting Officer noted 48 risers, or 576 feet. The Board finds evidence of 51 risers which corresponds to the Contractor's estimate of 612 feet of domestic piping on the fourth floor. Similarly, on the fifth floor, the Contracting Officer noted 51 risers totaling 612 feet, while Midwest noted 636 feet or 53 risers. The Board finds evidence in the plans of

51 risers or 612 feet of vertical domestic risers on the fifth floor. Midwest reported 264 feet of risers on the sixth floor. The Contracting Officer noted 21 risers totaling 252 feet. The plans show 21 domestic risers on the sixth floor totaling 252 feet.

With respect to the 7th floor and Penthouse, the Contracting Officer noted risers totaling 10.5 feet, while Midwest noted 48 feet. The Board is cognizant of the difficulties involved in determining the precise length of the risers on this floor, and on other floors where water lines terminate at equipment such as sterilizers and dishwashers. (See, Tr. 773-74). We have, therefore, reviewed the plans and testimony in concluding that the Contracting Officer's estimate of risers, totaling 10.5 feet, on the seventh floor is not only a conservative estimate, but it seems consistent with the special problems associated with estimating the domestic risers on the 7th floor. The Contracting Officer's estimate favors the Contractor, and the Board finds convincing evidence to support it.

For all of the foregoing reasons, then, the Board concludes that the domestic risers, including hot water, hot water recirculating, and cold water lines, totaling 4,114.5 feet are shown on the as-built plans, and are, therefore, included in the base bid.

b.

Steam Risers and Returns

A second category of vertical piping shown on the as-built plans included the steam risers and returns. The Contracting Officer calculated 8,434.5 linear feet of steam risers and returns. Again, he assumed floors 1-6 were 12 feet high and alleged the following number of risers.

<u>Floor</u>	<u>Number of Risers</u>	<u>Linear Footage</u>
1st	161	1,932
2nd	155	1,860
3rd	120	1,440
4th	103	1,236
5th	110	1,320
6th	48	576
7th	<u>6</u>	<u>63</u>
TOTAL	703	8,434.5

The Contractor provided total footage of steam risers and returns as follows:

<u>Floor</u>	<u>Linear Footage</u>
1st	---
2nd	912
3rd	912
4th	956
5th	912
6th	936
7th	<u>432</u>
TOTAL	5,040

The record shows steam and return lines are separate pipes, (Tr, 767-68), and are designated on the heating plans as "s" and "r". (Tr. 789). The Contracting Officer contends that there are 161 steam risers and returns on the first floor while the contractor lists none. The Board has independently reviewed the as-built heating plans. As we noted with respect to the domestic water risers, the Contractor has failed to account for first floor risers and failed to provide a rationale for excluding these risers from its base bid calculations. Heating risers are shown in the plans, and we are, again, unable to determine which, if any, were visible, and, thus, included in Table I. Consequently, based upon our independent review of the record, and in the absence of evidence to the contrary adduced by the Contractor, the Board finds support for a total of 143 steam risers and returns totaling 1,716 linear feet, on the first floor.

The Contracting Officer counted 155 steam risers and returns totaling 1,860 feet of piping on the second floor. The Contractor calculated 912 feet corresponding to the equivalent of 76 steam risers and returns. The Board finds support in the heating plans for a total of 130 steam risers and returns on the second floor of Building 1 totaling 1,560 linear feet. The Contractor again calculated 912 feet of steam risers and returns on the third floor, while the Contracting Officer counted 120 such risers totaling 1,440 feet. The Board finds record support in the plans for 100 steam risers and returns totaling 1,200 feet on the third floor.

The Contractor calculated 936 feet of heating risers and returns on the fourth floor while the Contracting Officer counted 103 such risers totaling 1,236 feet. The Board finds record support in heating plans for 90 steam risers and returns totaling 1,080 feet on the fourth floor.

On the fifth floor, the Contracting Officer calculated 110 risers totaling 1,320 feet. The Contractor reported 912 feet of steam risers and returns on that floor. The Board finds record

support for a total of 92 steam risers and returns on the fifth floor totaling 1,104 feet.

The Contractor calculates 936 feet of heating risers and returns on the sixth floor, while the Contracting Officer reported 48 risers and returns totaling 576 feet. The Board finds support in the heating plans for 40 risers totaling 480 feet on the sixth floor.

On the 7th floor, the Contracting Officer found 6 risers and returns totaling 63 feet, whereas the Contractor calculates 432 feet. As previously noted, the plans for the seventh floor are not like those depicting the lower floors. We note, for example, that steam risers and returns are not designated as "s" or "r", may not pass through to the penthouse, and may terminate at some of the equipment on the seventh floor such as the sterilizer. Consequently, in ascertaining the total footage of steam risers and returns on the seventh floor, the Board finds the record testimony more persuasive than GX 50. Thus, in four of the six places where the Contracting Officer initially concluded risers and returns were present, his interpretation of the plans may have been incorrect. Only one riser and one return could be confirmed. (Tr. 769-773). Moreover, we find no record support for the Contractor's calculation that 63 feet of vertical risers are shown on heating plans for the seventh floor of Building 1. Based on the testimony then, the Board concludes that the seventh floor contained 1 steam riser and a return totaling 21 feet. (Tr. 768-773).

For all of the foregoing reasons, the Board finds a total of 597 steam risers and returns, totaling 7,161 feet as shown on the heating plans for Building 1.

C.

Total Piping Depicted on  
Table I and As-Built Plans

Considering Table I, the as-built plans, and the record as a whole, the Board concludes that the Contractor's base bid, pursuant to the Contract specifications and the Appendices thereto, required the removal of 15,249 feet of visible piping (Table I), 4,114.5 feet of domestic water risers, (as built plumbing plans), and 7,161 feet of steam risers and returns (as-

built heating plans), totaling 26,524.5 feet, plus 10%, or 29,177 linear feet of ACM pipe insulation.<sup>15</sup>

B.

Hidden Horizontal Piping  
Subject to Unit Pricing

The record further shows, and we have previously found, that all of the ACM in the piping insulation, whether visible and listed in Table I, hidden in the walls, floors or ceilings but shown in the as-built plans, or hidden in the ceilings and not shown in Table I or the as-built plans, was removed, and measured by Midwest and verified by Braun Intertec. The total of the actual measurements amounted to 31,808 linear feet. (See, Finding 54, supra, Tr. 286, 309). Consequently, pursuant to Specifications 01013 and 01014, unit pricing is applicable to a total of 2,631 linear feet. (31,808 actual - 29,176 (Table I + as-built plans + 10%). Since the Contracting Officer had previously allowed an additional 1,725 LF for piping in Building 1, the Contractor is entitled to unit pricing for removal of 907 linear feet of horizontal piping in the ceilings of Building 1 at the unit price of \$14.50 per foot. The Board approves the sum of \$13,151.50 for this work.

C.

Transite Stack

The Contractor also claims \$1,222.00 for the removal of 65 feet of 12" transite pipe at the unit price of \$18.80. While the transite piping and vent cap were included in the specifications, the Project Architect conceded that "it could not have been determined to have extended from the second floor to the roof from visual observation." (GX 9, Whitty letter, July 15, 1992, pg. 9) As such, that portion of the transite stack which was not visible would not have been included in Table I, and the Contracting Officer has failed to show where the non-visible portion of transite stack was otherwise depicted on the as-built plans. (See, Tr. 258). Pursuant to Sections 01013 and 01014, the Board grants the appeal for the amount claimed.

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<sup>15</sup>The scope of work as calculated by the contractor totaled 25,459 feet. (Tr. 233), but as noted above, the Contractor failed to account for the first floor risers in its calculations.

D.  
Fittings

The contract unit price for fittings containing ACM not listed on Table I or shown in the as-built drawings was \$15.50. The record shows that Table I listed 4,808 visible fittings. Since none were shown on the as-built drawings, the Contractor added the 10% variation factor to the number of fittings shown on Table I, and concluded that the scope of work required removal of 5,288 fittings. (Tr. 234). As previously noted, the actual number of fittings removed from Building 1 totaled 9,321. (GX 3). Thus, the Contractor, seeks unit pricing for 4,033 fittings.

The Contracting Officer did not specifically address the question of fittings either in his Proposed Findings of Fact or in his post-hearing brief to the Board. At the hearing, however, witnesses who appeared on behalf of the Contracting Officer testified that the government calculated the scope of work by adding the visible fittings in the basement of Building 1, totaling 3,471 fittings, to an estimate of the number of fittings on the floors above. The estimate, predicated on the assumption that there were four fittings per fixture, resulted in a total count of 5,548 units on floors 1 through the penthouse. The Contracting Officer defined the scope of work as requiring the removal of 9,920 fittings which included the 9,019 estimated plus 10%. (See, GX 9). In his final decision, the Contracting Officer concluded the scope of work fell within 10% of the number of fittings actually removed, and, therefore, unit pricing was not available.

The question before the Board, however, it is not whether the Contracting Officer's assumption that four fittings served each fixture is either a logical or conservative estimate. The Contractor does not challenge the logic of assuming four fittings per fixture. Rather, it challenges the contract basis for the Contracting Officer's pricing methodology. Midwest argues that the total number of fittings shown on Table I and the drawings is 4,808. Accordingly, pursuant to Sections 01013 and 01014, Midwest contends its base bid, taking into consideration the  $\pm 10\%$  variation factor, included the removal of 5,288 fittings, as shown on Table I plus 10%. The Contractor, therefore, contends that compensation for removal of additional fittings should have been based on the unit price of \$15.50.

We have previously discussed Sections 01013 and 01014 in the context of hidden horizontal piping not listed in Table I or depicted in the drawings. The rationale for invoking unit pricing to the removal of such piping is equally applicable here. While the Contracting Officer has demonstrated that a fairly

accurate count of the number of fittings could have been estimated; the contract, as drafted, did not require the bidders to formulate such an estimate.

Sections 01013 and 01014 applied unit pricing, not merely to horizontal piping, but to all ACM not listed in Table I or shown in the drawings. These provisions, therefore, applied to the fittings. Consequently, while alternative methods of estimating a base bid were possible, the base bid formula employed by the Contractor is compatible with the methodology contemplated by the specifications.

Thus, Table I included the following count of fittings:

<u>Floor</u>	<u>Number of Fittings</u>
Basement	3,471
1st	607
2nd	369
3rd	77
4th	164
5th	28
6th	34
7th	42
Penthouse	<u>16</u>
Sub-total	4,808
	Plus 10%
	5,288

The scope of work, therefore, included removal of 5,288 fittings.

Since the record shows that a total of 9,321 fittings were removed from Building 1, Midwest is, accordingly, entitled to recover for removal of 4,030 fittings at the agreed upon unit price of \$15.50 or \$62,511.50.

#### E. Demolition

Midwest claimed \$40,824.00 for 11,664 sq. ft. of demolition at the unit price of \$3.50 per square foot. This demolition was associated with the removal of 6,433 linear feet of horizontal piping which the Contractor claimed was subject to unit pricing. (GX 9, pg. 7). We have concluded, however, that Midwest is entitled to compensation for an additional 907 linear feet of horizontal piping above the ceiling. The demolition necessary to remove this pipe is also subject to unit pricing.

As the Veterans Affairs Board noted in Blount, Inc., supra, the calculation of demolition costs can be "most difficult." In this instance, no direct measurements of the demolition involved in the abatement of 907 linear feet of ACM are available in the record. We have therefore employed a jury verdict-type alternative formula for determining the quantity of demolition compensable at the unit price. We accept, for purposes of this calculation, the Contractor's measurement that 11,664 square feet of demolition was required to remove 6,433 linear feet of piping, (GX 9) and we note the Contracting Officer did challenge this relationship. The proportionate quantity of demolition associated with the removal of 907 linear feet of piping in the ceiling of Building 1 is 1,644.5 square feet. We assume, in the absence of contrary record evidence, that demolition necessary to provide access to the piping also exposed the fittings. At the contract unit price of \$3.50 per square foot, then, Midwest is entitled to recover \$5,755.75 for 1,644.5 square feet of demolition.

F.  
Disposal

Midwest claims \$8,484.00 for 202 cubic yards of debris based upon a unit price of \$42.00 per cubic yard.<sup>16</sup> As explained in its Proposed Findings, the disposal of 202 cubic yards represented piping above the ceilings, and "was derived from Midwest's best calculation of how many cubic yards would constitute the amount of pipe removed from Building 1." (See, Contractor's Post-hearing Brief, Proposed Finding 81, pg. 23, Tr. 34).

The Contracting Officer did not address the issue of disposal in his Proposed Findings or his Brief to the Board. The record shows, however, that the Project Architect concluded "Disposal should be included in the linear foot unit price. Although a unit price was requested for disposal costs, generally the unit price for removal includes disposal." (GX 9, Whitty letter dated July 15, 1992, pg. 9). The Contracting Officer subsequently allowed additional compensation for 1,724 linear feet of piping "Plus demolition and disposal." GX 6.<sup>17</sup>

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<sup>16</sup>Although the Contractor's unit pricing proposal showed a disposal unit cost of 4200 yards, the parties recognize and the Board here finds that the correct unit cost for disposal is \$42.00 per cubic yard. GX 12, pg. 3, 47; GX 3, pg. 5.

<sup>17</sup>Midwest originally claimed 234 cubic yards of disposal, but it has been paid for the disposal of 32 cubic yards

Specification 01011 entitled "Work Covered By Contract Documents" specifically provides:

The Contractor's scope of work also includes the following...:

1. Work area preparation ...
2. Removal of the following categories of ACM ...
3. Packing, labeling, transporting, and disposal of all contaminated mater (sic).

Consequently, Midwest was responsible for the disposal of all ACM pipe insulation listed in Table I or shown in the as-built plans as part of its base bid.

Midwest is, however, entitled to recover, at the unit price of \$42.00 per cubic yard, the costs associated with disposal of the 907 linear feet of piping we have previously determined exceeded the base bid. Again, no direct measurements of disposal associated with removal of 907 feet of horizontal piping are available in this record. Consequently, we have again formulated a method of compensating Midwest based upon the extrapolation of proportionate disposal costs associated with 907 feet of piping. Midwest originally claimed disposal of a total of 234 cubic yards of ACM associated with the abatement of 6,433 linear feet of pipe in the ceilings of Building 1. (See, e.g., GX 9, pg. 7, Tr. 234). The proportionate disposal of 907 linear feet amounts to 32.99 cubic yards at \$42.00 per cubic yard or \$1,385.58 for which the Board finds Midwest entitled to recover.

#### G.

##### Breeching Insulation

An equitable adjustment under the changes clause is intended to compensate a contractor for the reasonable cost of performing the change, which is usually his actual costs, plus overhead and profit. Bruce Construction Corp. v. U.S., 163 Ct. Cl. 97 (1963); Tibbetts Mechanical Contractors, 90-3 BCA para. 23, p. 55.

Midwest claims \$5,006.17 for removal and disposal of ACM in the duct between Building 9 and the smokestack. A breakdown of the claim shows Midwest attributed \$1,223.04 to labor and \$2,590.18 to materials and \$1,192.95 to insurance, overhead, and profit. (GX 10). The work was performed in 3 days using four workers and one supervisor. The Board has analyzed Midwest's

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associated with the removal of this ACM, leaving 202 cubic yards in dispute. (See, finding 62, supra).

claim and, for the reasons set forth below, has adjusted its itemized costs associated with this work as follows:

<u>Labor</u>	<u>Hours</u>	<u>Rate/Hr.</u>	<u>Cost</u>
4 workers/3days	96 man-hours	\$ 7.99	\$ 767.04
Supervisor/3 days	24	16.50	<u>396.00</u>
SUB-TOTAL			\$1,163.04

<u>Materials</u>	<u>Quantity</u>	<u>Unit Cost</u>	<u>Cost</u>
Cloth gloves	24 pairs	.48	\$ 11.52
Tyvck suits	12	2.25	27.00
Duct Tape	9	3.25	29.25
Disposal Bags	180	.40	72.00
½ face filters	12	9.72	116.64
Oxygen	2 tanks	19.40	38.80
Acetylene	2 tanks	26.89	53.78
Torch Tip	1	3.87	3.87
Disposal	30 yards	42.00	1,260.00
Consultant	3 days/1/2 daily rate	150.00	<u>450.00</u>
SUB-TOTAL			\$2,062.86
TOTAL			\$3,225.90

(See, GX 10)

Although the Contracting Officer did not comment in his post-hearing brief upon any specific aspect of itemized costs attributable to the abatement of the breeching insulation, the Board notes that Midwest has claimed materials and labor for this work amounting to \$3,813.22. (See, GX 10). The total labor and materials as corrected above by the Board is \$3,225.90.

The Board has reviewed Midwest's daily time sheets for the days the breeching work was performed, December 12, 13, and 16, 1991. This discrepancy between itemized costs and the total labor and materials costs claimed by the Contractor may be traced to the time sheet for December 16, 1991. Total materials cost for that day amount to \$1,887.51 not \$2,295.19 as shown on the time sheet. Labor costs total \$407.68. Labor and materials, expended on December 16, 1991, therefore, total \$2,295.19, not \$2,702.87 as claimed. It appears that the labor cost, amounting to \$407.68 listed on December 16, was double counted.

Similarly, Midwest listed a 3-day total of 12 ½ face filters at \$9.72 a piece for which it claimed a total of \$233.28. The

Board has corrected the cost of ½ face filters to \$116.64. (12 x \$9.72). Midwest also claimed a total of \$30.00 for 12 tyvek suits. Midwest itemized the cost of each suit at \$2.25; therefore, the Board has corrected the total for those suits to \$27.00 (12 x \$2.25).

In addition, Midwest claimed a rate of \$19.00 per hour for its supervisor. Certified time records in evidence, however, indicate that during the period this work was performed in December, 1991, none of Midwest's supervisors earned \$19.00 per hour. Hartley earned that rate of pay during the week ending January 4, 1992, however, Minor earned \$16.50 per hour during the week ending December 21, 1991. (GX 41). Midwest's labor claim is adjusted downward accordingly from \$456.00 to \$396.00.

In addition, to labor and materials, Midwest claimed three additional items calculated as a percentage of labor and materials including bonding and insurance, overhead, and profit. (See, Freeman-Dorling, Inc., 89-2 BCA ¶21,882, at 110, 089-90). These items must be corrected to reflect our adjustments above.

<u>Item</u>	<u>Percentage</u>	<u>Cost Claimed</u>	<u>Corrected</u>
		\$3,813.22	\$3,225.90
Bonding and			
Insurance	8.5%	324.12	274.20
Subtotal		4,137.34	3,500.10
Overhead	10%	413.73	350.01
Subtotal		4,551.07	3,850.11
Profit	10%	<u>455.10</u>	<u>385.01</u>
TOTAL		\$5,006.17	\$4,235.12

Having reviewed Midwest's itemized costs for removing the breeching insulation in the duct running from the wall of the boiler room in Building 9 to the smokestack, and noting that, other than denying liability generally, the Contracting officer has not challenged the reasonableness of any of the specific costs itemized, we approve recovery on this claim in the amount of \$4,235.12.

H.  
Interest

The Disputes Section clause 52.233-1 of the Contract provides, in part, as follows:

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(g) The Government shall pay interest on the amount found due and unpaid from (1) the date the Contracting Officer receives the claim (properly certified if required), or (2) the date payment otherwise would be due, if that date is later, until the date of payment. Simple interest on claims shall be paid at the rate fixed by the Secretary of the Treasury as provided in the [Contract Disputes] Act, which is applicable to the period during which the Contracting Officer receives the claim and then at the rate applicable for each 6-month period as fixed by the Treasury Secretary during the pendency of the claim.

The Government does not dispute that Midwest properly and duly certified its claim to the Government on December 14, 1992. Midwest is, therefore, entitled to interest based upon the revised calculations of the amount of all three claims totaling \$88,261.85 as approved by the Board commencing December 14, 1992.

V.  
Decision

For all of the foregoing reasons, the appeal is sustained, in part, as follows:

Hidden Horizontal Piping	\$13,151.50
Transite Stack	1,222.00
Fittings	62,511.50
Demolition	5,755.75
Disposal	1,385.58
Breeching Insulation	<u>4,235.12</u>
TOTAL	\$88,261.45

Midwest's claims in the amount of \$88,261.85 plus interest commencing December 14, 1992, are, hereby, granted. In all other respects, the claims are denied.

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STUART A. LEVIN, Judge  
DOL/BCA

Concur

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EDWARD TERHUNE MILLER,  
Chairman, DOL/BCA

SAL:jeh