ARMED SERVICES BOARD OF CONTRACT APPEALS

Appeal of --	)	
	)	
American Mechanical, Inc.	)	ASBCA No. 52033
	)	
Under Contract No. DACA85-93-C-0066	)	

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OPINION BY ADMINISTRATIVE JUDGE TODD

This appeal arises from the contracting officer's denial of claims for equipment calibration research, miscellaneous extra work in updating the computer control system for a water treatment plant, claim preparation costs, and travel and living expenses. The Board is to decide both entitlement and quantum.

FINDINGS OF FACT

1. On 30 September 1993, the U.S. Army Corps of Engineers, Engineer District, Alaska (the Government or the Corps or ACOE) awarded Contract No. DACA85-93-C-0066 (the contract) to appellant American Mechanical, Inc. (AMI) of Fairbanks, Alaska to provide a new computer control system to bring the water treatment plant at Fort Richardson, Alaska into compliance with mandatory water treatment regulations. The system was to include sufficient instrumentation to allow monitoring and control of the water and remote facilities from a central location in the plant or alternatively from the power plant. The total contract price was $2,650,554.00. The period of performance was 365 days after the contractor's receipt of the notice to proceed. (R4, tab 72 at 9-10, SCR-1) On 9 February 1994, appellant entered into a subcontract with Phoenix Control Systems, Inc. (PCSI), of Phoenix, Arizona for the design, material, labor, equipment, and installation of the computer control system. The total subcontract price was $498,888.00. (R4, tab 70 at 4-6)

2. The contractor accepted "complete responsibility to achieve successful automation of the water treatment plant." (R4, tab 72 at § 01010-2, ¶ 1.3) The modifications and additions to upgrade the plant involved the filter backwash pumps, plant instrumentation and controls, fire alarm system, and video camera systems. The contractor was responsible for scheduling, procurement, shipping, receiving, storage, demolition, removal, installation, supporting, and testing of all equipment and materials required for the project. (*Id.*) The seller, the provider of the control system, was required to furnish all labor, equipment, materials, and services to install and wire the PC-based control system, which is the subject of this appeal, in accordance with requirements in Section 15980 of the contract specifications (*id*. at § 15980). The seller was to provide and be responsible for implementation of all control system software, programs, configuration, documentation, and other engineering services necessary to meet the functional requirements detailed in the specifications (*id*. at § 15980-SP1-34, ¶ 2.5.5).

3. The required delivery of technical data and computer software was detailed in the specifications (*id*. at § 15980-SP1-10, ¶ 1.7). Factory acceptance was required before the control system could be shipped to the project site. The specifications provided that the factory acceptance test was to include performance testing of the integrated system to demonstrate that all hardware, standard software, and custom software functioned properly. (*Id*. at § 15980-SP1-14, ¶ 1.8.2) After delivery, installation, and wiring of all components and systems at the project site, field testing was required (*id*. at ¶ 1.8.3).

4. The contract included the following requirements for project coordination:

> The Contractor shall coordinate construction activities included under all Sections of this specification to assure efficient and orderly installation of each part of the Work.
>
> . . . .
>
> The Contractor shall coordinate installation of different components to assure maximum accessibility for required maintenance, service and repair.

(*Id*. at § 01040-1, ¶ 1.2)

5. The contract contained standard contract clauses, including the clauses at FAR 52.233-0001, DISPUTES (DEC 1991); FAR 52.236-0005, MATERIAL AND WORKMANSHIP (APR 1984); FAR 52.243-0004, CHANGES (AUG 1987); and FAR 52.243-7001, PRICING OF CONTRACT MODIFICATIONS (DEC 1991) (*id*. at I-4, I-5).

6. The Corps engaged Stone & Webster Engineering (Stone & Webster) of Denver, Colorado to design the project. Stone & Webster was responsible for investigating the

conditions at the plant, determining the needs of the operator, and preparing detailed specifications and drawings for the construction. (R4, tab 70 at 4; tr. 64, 177, 468, 567) Mr. Thomas Johnson was the Corps administrative contracting officer and resident engineer. The Corps project engineer was Mr. Ron Flodin (ex. A-133; tr. 134). The water treatment plant was operated by civilian Army personnel of the Department of Public Works (DPW) (tr. 190). Messrs. Bill Garnand and Steve Heitmeyer were the principal DPW water treatment plant personnel involved in the project (tr. 195, 529). Mr. Jesse Wilson was the DPW official responsible for operation of the power plant (tr. 77). The Army Signal Corps was responsible for the Dial Central Office (DCO), which was the central switching office for the base telephone system exchange (exs. A-104, -133; tr. 190-91, 216).

7. On 25 October 1993, the Corps issued its notice to proceed. According to its receipt by the contractor on 26 October 1993, the original contract completion date was 26 October 1994. (Ex. A-133) The contract completion date was extended as a result of contract modifications to 20 November 1995 (R4, tab 70, Mod. No. P00013).

8. Mr. John Wentz was the project manager/contract administrator for appellant AMI (tr. 171). Mr. Dusan Kovac was the project superintendent (tr. 237, 451). Mr. Otto Johansen, an AMI employee, was the contractor's quality control representative (CQC) on the project. Mr. Eric Cowling, a registered professional engineer in Alaska, replaced him as AMI's CQC beginning 1 April 1995 (ex. A-1,[1] rpt. 298; tr. 172, 342-43, 370-71). Mr. Edward J. ("Skip") Schultz was the project manager for PCSI, the computer control system subcontractor (ex. A-42; tr. 295).

9. PCSI visited the site on 23 February 1994 and returned during the period 9-12 May 1994 (ex. A-1, rpts. 28, 82-85). During the first months of the contract, PCSI prepared its submittal of its design of the control system in accordance with the specifications, ordered hardware and software, staffed the project, prepared schedules, assembled the control system and prepared for factory testing. On 3 May 1994, appellant forwarded the PCSI factory test acceptance procedure to the Government (ex. A-11; tr. 185). On 23-24 May 1994, PCSI conducted its factory acceptance test at its facility in Phoenix with attendance by the contractor and the Government's contracting officer's representative (COR) (ex. A-131; tr. 61, 65-66, 75-78, 144). The factory acceptance test could not and did not test the control system with existing equipment that was in the field nor with the existing telephone lines on the base (tr. 145).

10. PCSI outfitted a truck for delivery of the control system from Phoenix to the site near Anchorage. On 13 June 1994, PCSI arrived on the job site to install the system. (Ex. A-1, rpt. 106; tr. 92, 96-97, 642) Completion of the installation was scheduled for 3 December 1994 (tr. 94, 642). PCSI technicians remained on site for making the system operational with all instrumentation, software, and communications until the project shut down before Christmas on 23 December 1994. A preliminary final inspection was conducted on 18 December 1994, but there were too many problems to consider it final.

(Ex. A-1, rpts. 240, 243) The problems were attributed to "computer system . . . bugs." (tr. 643). By letter dated 28 December 1994, PCSI responded to an AMI deficiency list noting that its responsibility was minimal and pointing out issues that had not been resolved by the Government (ex. A-27; tr. 199-205). On 6 March 1995, PCSI returned to the site for instrumentation work and a final inspection which began 16 March 1995 (ex. A-1, rpts. 277, 287; tr. 646). PCSI representatives remained on the site through 17 March 1995 and returned for further punch list and corrective work, much of which was related to wire labeling, during the period 7-29 August 1995 (ex. A-1, rpts. 289, 389-407; tr. 646-47).

11. Messrs. Johnson and Flodin wrote an undated "Evaluation of Plans & Specifications" that discussed problems in performance of the contract. We find from references in the document that it was prepared in late November 1995 after the contract was completed. (R4, tab 72, Mod. No. P00013; ex. A-133; tr. 134-40, 460) It was a typical post contract review to go over lessons learned and what should be done differently in the future (tr. 452, 455). One of the problems was "the designers [Stone & Webster] not taking enough time to investigate the actual condition of the Water Treatment Plant." (Ex. A-13 at 1; tr. 470-71, 637-38) Mr. Wentz was of the opinion that they did not have a good understanding of what they were designing and had not taken enough time with the user to design the upgrade correctly (tr. 208-09). The evaluation also stated that "[t]he biggest design error or oversight was the assumption that the new system was 'Real-Time', meaning instantaneously reporting back to the main workstation (computer)." (Ex. A-133 at 2) The evaluation recognized that "the system was not able to accurately transmit information" because "[t]he portion of the Ft. Richardson phone system utilized in the contract is antiquated." (*Id*. at 3; tr. 463-65, 554) The existing telephone lines did not have the line routing, loading and matching capability to supply a data communication link for computer modems in remote computers, and there was lag time in transmission as a result (R4, tab 70 at 84; tr. 206, 260).

12. Appellant submitted requests for payment for additional work to the Government which were assigned a case number, negotiated, and either settled and paid pursuant to contract modifications or disputed. The record indicates that the Government processed a total of 31 cases involving contractor and subcontractor requests. Appellant subsequently submitted the disputed requests involving PCSI to the contracting officer as the claims before us in this appeal. (R4, tab 72; exs. A-8, G-3; tr. 152-53, 165, 240, 453)

13. On 23 July 1996, appellant submitted separate claims for (1) research for calibration of equipment for $49,779.00, (2) miscellaneous additional work for $45,181.00, (3) claim preparation costs for $8,914.00, and (4) additional travel and living expenses for $39,941.00. The claims were submitted to the contracting officer on behalf of PCSI seeking an equitable adjustment in contract price for work that was beyond the scope of the contract. Appellant requested a contracting officer's final decision in accordance with the Disputes clause in the contract in each of the claims. (R4, tabs 53 through 56) Claim 2 for miscellaneous additional work included 11 separate claim items

that were costed individually at the hearing. Appellant withdrew Item 7814, Reliance Speed Controllers, during the hearing. (Ex. A-137; tr. 308, 358)

14. On 9 November 1998, the contracting officer issued a final decision that denied appellant's four claims that had been submitted on behalf of PCSI as without merit (R4, tab 1). Appellant filed this timely appeal.

CLAIM 1 - RESEARCH FOR CALIBRATION OF EQUIPMENT

Additional Findings of Fact

15. The project included the retrofit of existing equipment. The specifications provided:

> The controls upgrade project requirements include the retrofit of existing equipment to accept the new control system and addition of selected new components to enhance the water treatment process automation. Reuseability of existing equpment [sic] to the extent practical is important and the implementation of the retrofit work without disrupting the water treatment process and delivery is critical to the Project.

(R4, tab 72 at § 01010-1, ¶ 1.1)

16. The contract included a list of the water treatment controls. Paragraph 2.5.5.2, "Project I/O List" in Section 15980 of the specifications attached a 41-page list of the equipment in the water treatment plant designating items "existing" or "new" and providing information on tag name, description, area, cabinet number, and certain performance data. The list is entitled, Fort Richardson Water Treatment Plant Controls - U.S. Army PLC Input/Output List 15980-SP1-A1. (*Id*. at § 15980-SP1-35, ¶ 2.5.5.2., attach. 15980-SP1-A1)

17. The contractor was responsible for the final calibration of instruments. The contract specifically required the contractor to furnish labor, equipment, materials, and services for "[t]esting and recalibration of existing plant instruments to be reused." (*Id*. at § 15170-1, ¶¶ 1.1.6., 1.1.10) The specifications further provided:

> Existing instruments which are designated for reuse on the attached instrument list and referenced loop drawings shall be tested over their full range in accordance with manufacturer's instructions to verify their functionality and compatibility with the new control system.

(*Id*. at ¶ 1.3.1.B.) The purpose of the calibration requirement in the specifications was to make sure the existing equipment being reused was functioning correctly in an interface of existing equipment with the new system to get the best performance (tr. 275).

18. The specifications contained no caption or provision specifically designating or describing any Government-furnished property (GFP), but included a list of the Government-owned instruments (R4, tab 72; tr. 424). There is no provision in the contract for dates that Government equipment would be delivered to the contractor. The Special Contract Requirements stated, with reference to a provision that the parties identified as concerning Government-furnished property, "SCR-9 NOT USED" (R4, tab 72, SCR-8; tr. 253, 423-24, 472; *see* app. br. at 10; Gov't reply br. at 3). The contract included the FAR contract clauses at FAR 52.236-0002, DIFFERING SITE CONDITIONS (APR 1984) and FAR 52.245-0002, GOVERNMENT PROPERTY (FIXED-PRICE CONTRACTS) (DEC 1989) (R4, tab 72 at I-4, I-5).

19. During the site visit Mr. Wentz asked if calibration information was available and learned from Mr. Garnand, the manager of the water treatment plant, that the data was available or the information could be provided (tr. 197). PCSI expected at the time of bidding that the existing equipment in use at the functioning water treatment plant intended for reuse would be in working order. Since the equipment was the property of the Government, PCSI assumed that it would be provided the data for calibration and, based on Mr. Garnand's representations, reasonably expected that the Government had and would provide that data. It is generally necessary that operators of the equipment have calibration information to establish the general operating parameters for the devices in the plant and provide adequate maintenance of the equipment. Each piece of equipment should have an instrument data sheet showing its calibration and the times it has been recalibrated. Calibration is generally done only once, unless there are changes in the field or conditions that require taking the equipment out of service for cleaning after which it would be recalibrated. (R4, tab 68 at 29; tr. 100, 103, 163, 242, 274-75, 560) PCSI held the view that the Government as owner of the water treatment plant was responsible for providing calibration data to appellant, but did not have the expertise to recognize how important the information was to appellant. The Government had not required Stone & Webster during the design phase of the project to collect calibration information on the equipment that would be reused in the water treatment plant. (Tr. 132, 154)

20. On 10 and 11 February 1994, PCSI submitted to AMI a written request for calibration information needed for completion of its control system design. That request was forwarded by appellant AMI to the Government on 15 February 1994 (exs. A-5, -6, -7; tr. 82-84, 178-79). Appellant made repeated requests for range and set point data, manuals, and data sheets that detailed the calibration and adjustment information on the existing equipment (ex. A-9, -10, -14, -16, -19; tr. 184-85, 192-93). The Corps cooperated with PCSI in providing access to the information and records that it had in the manuals that were available at the water treatment plant (R4, tab 63; ex. A-8; tr. 422, 529, 560). Contrary to Mr. Garnand's representations during the site visit, the Corps did not have information

available on all the existing equipment and did not collect data from the operators or from the vendors of that equipment to provide calibration information to appellant (tr. 164, 181, 199). The Corps considered that AMI and PCSI were required by the contract to provide all necessary means to test and calibrate the existing equipment (tr. 420).

21. By 31 August 1994, PCSI had begun calibrating field instruments at the job site (ex. A-1, rpt. 163; tr. 150). PCSI retained Mr. Garvin Lane, a professional calibrator to perform this work. As a result of the Government's failure to provide the calibration information, Mr. Lane was disappointed when he arrived on the job site that he did not have the information to work efficiently. Since PCSI had not received information directly from the Corps, Mr. Lane interviewed DPW personnel who were the plant operators to obtain the needed information. Mr. Lane was competent and performed the calibration work with skill and professionalism. (Ex. A-19; tr. 101-02, 195-96, 406-07)

22. The existing Government-owned equipment at the water treatment plant listed in the contract was made available to PCSI for installation of the new control system. The equipment remained in operation in the water treatment plant and was not subject to GFP inventory and accounting. (Tr. 254-56, 424-25, 474)

23. On 23 July 1996, appellant submitted its claim in the amount of $49,779.00 for research into the set points and ranges and associated engineering required to calibrate the existing equipment at the water treatment plant. Appellant alleged the unavailability of on-site information constituted a differing site condition that caused a loss of efficiency and additional work to contact vendors for new data and calibration information which the Government had a responsibility under the contract to supply. (R4, tab 53; tr. 99-100) Since it was Government-owned equipment, appellant has claimed that the Government was responsible for providing calibration information (tr. 211).

Decision

Appellant's theory of entitlement has changed from that in its claim. Appellant maintains that the existing equipment listed in the contract was in the possession of the Government and constituted GFP which gave rise to a duty under the contract for the Government to deliver related data and information that was reasonably required for the intended use of the property (app. br. at 9). The Government argues that no GFP was listed in the contract and the contractor, therefore, had the responsibility to perform all work necessary for calibration of the equipment. The Government argues that appellant "continues to confuse Government owned equipment with 'Government Furnished Property.'" (Gov't reply br. at 4) The Government maintains that appellant's assumption in bidding that the Government would have the information did not give rise to an implied duty to provide calibration information.

FAR defines "Government-furnished property" as "property in the possession of or directly acquired by the Government and subsequently made available to the contractor."

FAR 45.101. The existing equipment which appellant claims was GFP was listed in the contract specifications and was made available to the contractor for incorporation in the computer control system. In *Hart's Food Service, Inc., d/b/a Delta Food Service*, ASBCA Nos. 30756, 30757, 89-2 BCA ¶ 21,780, equipment and facilities provided to the contractor for use in providing meal services on a military base were described as Government furnished in the contract, but there was no GFP clause in the contract and the contract did not contain a listing of the GFP. The Board held the contractor entitled to an equitable adjustment for additional labor hours attributable to the unsuitability of some of the equipment and facility maintenance problems. The omission of a list of GFP did not lead to the conclusion that the equipment was not Government furnished.

Although not denominated as such, the equipment in question in this appeal was Government owned and made available by the Government to appellant for use in performance of the contract and thus is GFP within the meaning of the contract terms and conditions. The contract provided that the contractor was responsible for the calibration, and appellant was, accordingly, on notice to provide all reasonable means to accomplish the task. It was also reasonable for appellant to expect that the Government had the calibration information regarding equipment in current operation that was to be incorporated into the computer control system that appellant was providing (finding 19). The Government was under a duty to furnish, with respect to the existing equipment that it owned, any reasonably required related data that appellant requested. The Government furnished the manuals that were readily available, but did not provide all the calibration information that appellant needed for effective performance of its contract work. The Government's failure to provide calibration data, under these unusual circumstances, constituted a change for which appellant is entitled to compensation.

CLAIM 2A - MISCELLANEOUS ADDITIONAL WORK

7810 Title block/drawings condensed

Additional Findings of Fact

24. The contract specifications required the contractor to deliver final as-built drawings to the contracting officer for approval (R4, tab 72 at § 01720, ¶ 3). An example of the title block required to be used for the as-built drawings was attached to the specifications as an exhibit and made part of the specifications. The exhibit showed Alaska, District Corps of Engineers [COE] Anchorage, Alaska in the title block. (*Id*. at ¶ 5, ex. A) The specifications further provided that no separate payment would be made for as-built drawings, but all costs of preparation and furnishing of the as-built drawings were to be included in the contract price (*id*. at ¶ 6). The seller was responsible for furnishing documentation and drawings to support the installation, operation, and maintenance of all material and equipment furnished under the contract (*id*. at § 15980-SP1-6, ¶ 1.3.16).

25. On 19 August 1994, PCSI submitted as-built drawings with the PCSI company title block instead of the COE title block (tr. 428). By letter dated 23 March 1995, AMI stated the drawing requirements to PCSI and noted the specification for the title block with an enclosed copy of the sample in the contract. PCSI requested clarification of which title block to use and received four sample drawings in August 1995 with title blocks to use and advice to use the "title block which most closely resembles the title block in the specifications." (R4, tab 70 at 117-19; exs. A-76, -78)

26. By letter, dated 2 August 1995, to AMI, which followed a telephone conversation on 15 June 1995, PCSI agreed to resubmit the as-built drawings with three drawings placed on a page. Since the drawings were voluminous, it was convenient for the Government to have them in a size that would fit within available cabinets at the water treatment plant for future reference. PCSI did not suggest it would redo the drawings at no cost, but reserved the right to request payment for work not required by the contract. (Ex. A-1, rpts. 354, 373; tr. 111, 428, 530, 621-23) By letter dated 5 February 1996, PCSI again requested advice on additional information for the COE title block stating that the specifications contained no instructions regarding completion of the Government title block (R4, tab 70 at 111).

27. On 23 July 1996, appellant submitted its claim on behalf of PCSI to the contracting officer for miscellaneous additional Government-directed work in the total amount of $45,181.00. The first claim item was "1710.7810[2] COE Title Block/Drawings Condensed." (R4, tab 54 at 5) The claim stated that extra work was performed to place three drawings on a page and the COE title block. When the work was not accepted and PCSI received examples of Corps drawings, it claims it did not know which example would be acceptable. (R4, tab 4; tr. 105)

Decision

The Government provided the title block to use in preparing the as-built drawings in the specifications. PCSI failed to comply and was required to redo the drawings. PCSI acknowledges that it was appropriate to follow the format in the specifications, but argues it was "left guessing" what format to use after it received other examples of COE title blocks (app. br. at 24). This argument is without merit (finding 24).

The requirement to redo the drawings did not result from a directive from the Government, but followed the submission of non-compliant as-built drawings. Appellant has failed to show either that PCSI was required to place three drawings on a single sheet or how reformatting the drawings caused PCSI to incur additional costs. The failure to conform work to the specifications is not compensable. The claim is denied.

7813 Remote Bridges Installation

Additional Findings of Fact

28. The contract specifications required the contractor to install and wire the PC-based control system as specified in procurement specification No. 15980-SP1 (R4, tab 72 at § 15980-1, ¶ 1.1.1). The contractor was required to submit its design of the control system to the Government for approval (*id*. at SCR-7, ¶ SCR-8, and § 01305-13). The contractor was also required to furnish submittals for any deviation from the plans or specifications (*id*. at SCR-7, ¶ SCR-8). Operators at the computer workstations at different locations in the network were to be capable of controlling and monitoring the water treatment process (*id*. at § 15980-SP1-27, ¶ 2.2.1).

29. The block diagram in the contract shows the control system architecture with the connections from the computer stations to the water treatment plant, central heat and power plant, provost marshall's office, and ten remote telemetry units (RTUs), via a bridge mux[3] modem using existing telephone lines (*id*. at § 15980-SP1-SK1). This sketch of the layout was for illustration purposes only and not to be construed to reflect necessarily all the hardware and software that would make up the final integrated system nor the specific equipment manufacturer (*id*. at § 15980-SP1-9, ¶ 1.6.2). A note on the sketch stated that the design was based on Modicum hardware for illustration purposes only (*id*. at § 15980-SP1-SK1).

30. Section 1.6, SYSTEM OVERVIEW, included the following:

> The I/O subsystem, hereafter referred to as I/O drops, will be geographically and functionally distributed among the remote sites and the main water treatment plant. Data exchange between the remote sites and the water treatment plant will be through existing dedicated aerial telephone communication system.

(*Id*. at § 15980-SP1-8, ¶ 1.6.1) With respect to system software, it also provided:

> Communication between the remote I/O drops and the Water Treatment Plant will be via existing dedicated telephone lines and must support a minimum data exchange rate of 2.4 Kbaud.

(*Id*. at § 15980-SP1-9, ¶ 1.6.4) The specifications further provided:

> The PC-Based Distributed Control System operating software shall integrate the PLC controller software, network communication software and a commercially available software package *running real-time data acquisition and supervisory control*.

(*Id*. at § 15980-SP1-30, ¶ 2.5.1 (emphasis added))[4]

31. PCSI submitted a Dell computer and electronic device for communication between the treatment plant and power plant that was approved by the Government and installed, but it did not operate to the satisfaction of the Government. The computer display was too slow. By upgrading the telephone system with a dedicated line, the Government could improve performance speed. The change required different hardware from PCSI. PCSI agreed to provide a substitute for the bridge mux at no additional cost for the equipment. (Tr. 111-12, 139, 353-54, 623-24)

32. On 23 February 1995, AMI sent PCSI a deficiency list that included item 21, "The Power Plant Workstation is not a stand-alone unit" and required hardware and system changes from PCSI (R4, tab 7 at 3). On 1 May 1995, AMI sent PCSI its final deficiency list that included the same item 21 (ex. A-32 at 3). AMI considered that the equipment and software had been installed in accordance with the specifications, but PCSI had agreed to provide additional software to accommodate the Government's request for different operating parameters for the power plant's computer. On 5 June 1995, PCSI responded to AMI that a submittal for an E Series remote bridge was being prepared, but telephone lines listed in the specifications would have to be available for its installation of the allegedly required connection. PCSI stated that it would perform the work under the Disputes clause. (Ex. A-36 at 2) PCSI proposed an E Series remote bridge that was a state-of-the-art link to local area networks providing versatility and increased communications speed. PCSI estimated the new modem/bridge would provide four times the speed of the prior Dell-based connection. (Ex. G-1; tr. 355, 433-34, 437)

33. AMI submitted the PCSI proposal to the Government for variance approval. AMI advised PCSI in a letter, dated 6 July 1995, that it was directed to complete the installation as required and submit any documentation for a claim to it for forwarding to the Government. The PCSI revised block diagram for the control system, dated 13 July 1995, shows use of existing telephone lines. (R4, tab 70 at 68-69; ex. G-1 at 5, 7; tr. 435, 514) On 19 July 1995, the Government approved appellant's submittal with the statement in the transmittal comments that the variance was approved "subject to satisfactory installation and performance in [the] field . . . at no additional time or cost" to the Government (R4, tab 45 at 3; tr. 357, 435-36). The Government wanted the control system to operate in "real time," which Mr. Flodin, the Corps project engineer, defined as follows:

> Basically, real time is where the instruments are feeding the computer as close to the second or close to the minute, information that it's getting to the control panel so that the operator can see what is currently going on. And there's, basically, very little delay in that information getting to that system.

(Tr. 438) Mr. Cowling described how a real time system would operate as follows:

> Real time system would mean if I sat at any one of these remote stations or at the main station, I would be ale [sic] to control this treatment facility from the power plant or from the water treatment plant in real time and be able to see how much water was flowing in the present tense, not in the past tense.

(Tr. 350) Operators would not be needed for the water treatment plant if the system could be controlled automatically from the power plant (*id.*).

34. On 11 August 1995, PCSI attempted the installation of the remote bridges at the power plant, but the existing telephone system was not set up to be able to accept the installation (ex. A-1, rpt. 393, -133; tr. 217-19).

35. On 23 July 1996, appellant submitted its claim that the Government directed it to furnish additional hardware and a separate, rapid access network from the workstation at the power plant. Appellant has claimed that the extra, more expensive equipment was required by the Government direction to improve the access speed. (R4, tab 54; tr. 111)

Decision

Appellant alleges that the Government required extra work not called for in the specifications. Appellant argues that the slow speed of the PCSI system display resulted from the existing telephone lines which limited the communication speed of any remote access. (Compl. at ¶ 4.3) Appellant acknowledges that PCSI agreed to provide the substitute system at no cost and makes no claim for the hardware and software that was provided (app. br. at 26). Appellant asserts that PCSI did not volunteer to provide the associated engineering, which is the subject of its claim, at no cost.

The Government argues that appellant was obligated under the contract to provide "real time" access and was on notice that the connection system it designed would use existing telephone lines. The Government submits that the specification was a performance specification and it was appellant's obligation to design a system compatible with existing telephone lines that would meet the objectives set forth in the specifications.

Appellant has not shown that there was a directive from the Government to improve the speed of the display which caused PCSI to incur the additional costs of engineering that it is now claiming. PCSI's design of the control system was subject to Government approval. Upon receipt of approval, PCSI was not free to substitute hardware and software for the communication connection between the water treatment plant and the power plant without furnishing a submittal for a deviation. When the Government changed the telephone lines, appellant decided to submit a variance for the use of a modem that would improve performance of the system. The fact that the substitute was superior does not in itself provide a basis for a price increase. Where there is no Government direction to make a design change, the contractor has performed the work as a volunteer and is not entitled to an

equitable adjustment. *NavCom Defense Electronics, Inc.,* ASBCA No. 50767 *et al.,* 01-2 BCA ¶ 31,546. A contractor who acts as a volunteer cannot be paid for extra work which is furnished on its own initiative. *Metric Constructors, Inc.,* ASBCA No. 46279, 94-1 BCA ¶ 26,532, *motion for reconsid. denied,* 94-2 BCA ¶ 26,827 and cases cited therein.

The Government was not required to accept the variance, but granted its approval on the express condition that it was at no additional cost to the Government. The legal effect of this language depends on the parties communications during their discussions of no-cost changes. *See Loral Corporation Defense Systems Division-Akron,* ASBCA No. 37627, 92-1 BCA ¶ 24,661. PCSI claims that it only agreed to provide the hardware and software at no additional cost. This reservation was made to AMI, but not to the Government. There is no evidence of an intent communicated to the Government that appellant, the prime contractor in privity with the Government, wanted to reserve the right to claim additional costs of engineering associated with the improved network system. As the Government has noted, the statements made by PCSI to AMI were not acknowledged by the Corps, and appellant has not shown that they were made to the Government on behalf of PCSI (Gov't reply br. at 6). We have found no basis to distinguish engineering costs from the costs of the hardware and software. We conclude that it was understood and agreed appellant would furnish the E Series remote bridge at no cost to the Government. The claim is denied.

7816 Repair to RTU-11, Telephone Company Problem

Additional Findings of Fact

36. Under Section 16740, "Telephone Systems," the contractor was responsible for establishing telephone communications between the water treatment plant and the remote project locations using an existing central telephone switching station. The contractor was to examine conditions under which the telephone systems were to be installed and notify the Government of conditions detrimental to proper completion of the work. The location that is in issue, the 14" Elmendorf Valve Pit, required a new dedicated line. (R4, tab 72 at § 16740-1, ¶¶ 1.1, 3.1) The contract specifications provided:

> The remote I/O drops shall communicate with the Water Treatment Plant using a multi-drop telephone network configuration via an existing central telephone switching station. The multi-drop network shall be MODBUS compatible. All hardware and software required to accomplish the networking shall be furnished by the Seller. *The Seller shall be responsible for compatibility of the hardware/software provided with the existing telephone switching station.*

(*Id*. at § 15980-SP1-26, ¶ 2.1.5.1 (emphasis added)) The contractor was to interface the new system with the telephone network on the base as coordinated by DPW (*id*. at

§ 16740-6, ¶ 3.2). After installation, the contractor was required to demonstrate that requirements were achieved for approval by DPW (*id*. at § 16740-7, ¶ 3.5).

37. The warranty clause found in the contract specifications provided the contractor's warranty, for a period of one year, that the work performed "conforms to the contract requirements and is free of any defect of equipment, material, or design furnished, or workmanship performed by the Contractor or any subcontractor or supplier" and required that the contractor "remedy at the Contractor's expense any failure to conform, or any defect." (R4, tab 72 at § 01030-3, ¶ 1.8)

38. On 5 July 1995, AMI reported that the RTU-11 at the 14" Elmendorf Valve Pit was in a "failed condition" (ex. A-1, rpt. 366). Pursuant to the Government's notice that the RTU-11 was failing intermittently to communicate with the water treatment plant, AMI, by letter, dated 17 July 1995, directed PCSI to correct "this [w]arranty issue" (R4, tab 70 at 100). On 2 August 1995, PCSI replied that it would trouble shoot the unit to determine the cause of failure and, if there were an equipment malfunction, the associated costs would be covered as warranty expenses. On 11 August 1995, PCSI was on site, and Mr. Koops, a PCSI employee, spent two hours investigating to find the source of the problem. PCSI system diagnostics showed that the PCSI installed equipment was working properly, but there was a telephone line failure. The system PCSI installed was MODBUS compatible and capable of establishing and maintaining system communications. After that was reported and the base telephone company lines were repaired, the RTU-11 was satisfactory. (R4, tab 70 at 14, 84; exs. A-1, rpt. 393, -92; tr. 212-15, 493-96, 625)

39. In its claim dated 23 July 1996, appellant requested reimbursement of costs of work performed to investigate the problem with the RTU-11 connection that was not its responsibility under warranty to remedy (R4, tab 54).

Decision

Appellant argues that the Government required extra work to investigate problems caused by the existing phone lines that were not covered by its warranty. The Government maintains that the contract required appellant to design the control system so that it would be compatible with the existing phone lines and appellant was responsible for providing dedicated telephone line communication between the water treatment plant and the RTUs.

For the work in dispute to come within the warranty clause, the Government is required to prove notice and the existence of a defect within the contractor's control. *Grid Construction, Inc.*, ASBCA No. 48458, 01-2 BCA ¶ 31,493. The Government has not identified other equipment or another system design that would have operated successfully with the existing telephone lines. The Government has thus not established the existence of a defect in PCSI's design of the control system that caused the intermittent communication failure. The Government did not verify that its existing phone lines were suitable for the

upgraded control system prior to contracting (finding 11). We are persuaded that the PCSI design of the control system was compatible with the existing phone lines, as required by the specifications, but the telephone switching system in use at the base was inadequate for any upgrade of the control system under the contract.

The improper rejection of conforming work resulting in the incurrence of costs to investigate their alleged nonconformity is a constructive change. *Propellex Corporation*, ASBCA No. 50203, 02-1 BCA ¶ 31,721; *Raytheon Service Company*, ASBCA Nos. 36139, 38034, 39510, 92-1 BCA ¶ 24,696 (investigation of noise conditions on communication lines that were the Government's responsibility held compensable). There was no defect in the PCSI equipment at the RTU-11. Appellant was directed to investigate the RTU-11 communication failure that occurred without its fault and is entitled to an equitable adjustment for the time and related costs spent to identify the source of the problem. This part of the appeal is sustained.

7818 Wire and Terminal Block Labeling

Additional Findings of Fact

40. Section 15980-SP1, paragraph 1.11.1, "Packaging," in the contract specifications required in part:

> All interconnecting cables shall be labeled at each end, specifying the cabinet, terminal panel and plug-in receptacle to which the cable is to be connected.

(R4, tab 72 at § 15980-SP1-17, ¶ 1.11.1) Paragraph 2.1.4.7, "Wiring and Termination," specified in part:

> In each enclosure, the Seller shall prewire all power supply, I/O and communication modules to Seller-furnished rail-mount interface terminal blocks.
>
> . . . .
>
> The Seller-furnished individual wires shall be tagged with heat shrink type markers, with the loop designation shown in the loop diagrams.

(*Id*. at § 15980-SP1-25, ¶ 2.1.4.7) The loop diagram shows how the wiring interconnects inside the RTU cabinets (tr. 79, 360).

41. Section 16142, paragraph 3.2, "Installation of Electrical Connections," provided in pertinent part:

> For control and signal wiring, markers shall be fastened to each wire bearing the appropriate wire number, as shown on the reference drawings.

(R4, tab 72 at § 16142-4, ¶ 3.2)

42. PCSI labeled internal cabling in the RTUs with heat shrink labels with numbers to match the loop diagrams in the manufacturing process. PCSI used some pencil thin wires that were too small to take the labels. PCSI color coded the tiny wires that were inside the conductor cables. (Ex. A-47; tr. 389-92) At the factory acceptance test on 23-24 May 1994, the Government did not raise any objections or concerns about the labeling, which could be seen and compared to the loop diagrams at that time (ex. A-131; tr. 79-80, 124, 164).

43. On 3 March 1995, after finding errors in the loop diagrams during field testing, where numbering on the labels did not match the loop diagrams, the Government notified AMI of its noncompliance with the specifications for wire labeling and required corrective work (R4, tab 8; tr. 124, 363-69, 481). The Government found it difficult to trace the wiring from the loop diagrams because PCSI had not labeled and numbered all the wires, and the Government did not consider the color coding of individual wires traceable where there was more than one color in an RTU (R4, tab 25; tr. 391). PCSI did not consider it necessary or appropriate to label internal wiring because these wires would never be moved or changed in field trouble shooting and repair. PCSI explained to AMI in a letter, dated 6 March 1995:

> Please understand that industry standards are based upon common sense and good practice. If you can't see both ends of a wire, it is either color coded or numbered. This aids in troubleshooting malfunctions. Cluttering wiring and wireways with unnecessary labeling would be counter-productive to the purpose for which labeling is installed.

(Ex. A-54)

44. At the final inspection on 16 March 1995, AMI agreed to comply with the directive "to label the wires so that someone can follow the wiring without a schematic" and reserved the right to file a claim for additional work (ex. A-1, rpt. 287, attach. at 1; tr. 475-76). The Government directive is written in a subsequent letter, dated 14 April 1995, from Major Chris L. Cottrell, the Corps COR, to AMI as follows:

> Labeling conductors should be *unambiguous and unique* between terminal strip and terminal strip or instrument. . . .

> The label can be more than one line. The label shall be constructed on heat shrink type markers.
>
> The actual wiring in the field will match the loop diagrams.

(R4, tab 15 (emphasis added.)) AMI maintained that the PCSI labeling met these requirements and requested clarification if the Government disagreed (R4, tab 16; tr. 233). In the Daily Construction Quality Report on 19 April 1995, AMI's quality control representative noted that a requirement for "unambiguous and unique" labeling could not be found in the specifications (ex. A-1, rpt. 311, attach.; tr. 477, 484).

45. The Government rejected AMI's position that the labeling conformed to the specifications after a further inspection revealed a lack of traceability and instances of the wiring not matching the loop diagrams. By letter dated 15 June 1995, to AMI, the Government stated that the unique number system used was acceptable as long as it matched the loop diagram, but rejected the use of color coding found on some internal wiring because it was not unique. Appellant AMI did not consider the specification provision for electrical connections that the Government cited applicable to internal RTU wiring. (R4, tab 20, 25; tr. 127, 228-33)

46. By letter dated 6 July 1995, AMI advised PCSI that the internal RTU wiring and the terminal block labeling was not correct when compared to the drawings and required correction. The loop diagrams were not current with labels on the wires in some cases because of field changes or the wires were labeled wrong. PCSI stated it has not included in its claim the cost of corrective work to ensure that the loop diagrams as built and the wiring as built were correct. (Ex. A-66; tr. 125-26, 130, 157, 365-66)

47. PCSI did not consider it necessary to verify and relabel all wires in all the RTUs because approximately 85 percent of the labels were allegedly correct as installed. PCSI did, however, perform corrective work and labeling of wires as shown in the Daily Construction Quality Reports. While doing this work, PCSI discovered errors in the labeling which required tracing out the wires and correcting the loop diagrams. (R4, tab 50 at 1; ex. A-1, rpts. 390, 391, 396, 399, -68; tr. 265, 361-62, 367-68, 441-43) Mr. Cowling monitored the PCSI rework and verified that PCSI errors were being detected and corrected. He included the following comments in his report, dated 8 August 1995:

> The internal wiring of RTU-7 was found to have substantial errors. Many different wires were labeled with the same wire number, many wires were labeled with cloth wrap labels which does not comply with specifications, many wires were not labeled at all, and many wires from the field devices and internal connections did not match the system drawings, PCSI is tracing out every wire and red lining their system

> drawings for correction. Also, all wires are not being labeled according to the specifications.

(Ex. A-1, rpt. 390 at 1) By letter dated 23 October 1995, PCSI notified AMI that "[v]erification of labeling and relabeling of wires in all RTUs" was out-of-scope work for which it was preparing a cost claim (ex. A-68).

48. In its claim dated 23 July 1996, AMI maintained that the RTUs were enclosed, integrated components that were not subject to labeling. AMI further stated that PCSI followed the normal industry practice of providing wire labeling using a color coded scheme on some wires that was illustrated in its submittal and approved by the Government. No objections were made at the factory acceptance test. AMI argued that the Government direction during field testing to return to each RTU and verify all wires and block labels caused PCSI to perform considerable extra work which was not required by the specifications. (Ex. A-54; tr. 124)

Decision

Appellant has argued that the Government's insistence on unique labeling of all the wiring was not specified in the contract. Appellant considered it "impossible" to label the tiny wires inside the cables (app. br. at 17). According to appellant, PCSI's method of color coding the tiny wires and labeling and numbering only on the outside larger conductors to match the loop diagrams was reasonable and conformed with the specifications. The Government submits that appellant was required by the contract to provide the wire labeling that was directed.

In order to receive an equitable adjustment from the Government, a contractor has the burden of proving the fundamental facts of its affirmative claim by a preponderance of the evidence and must establish liability, causation, and resultant injury. *Wilner v. United States*, 24 F.3d 1397, 1401 (Fed. Cir. 1994) (*en banc*); *Metric Constructors, Inc.*, ASBCA No. 48423, 96-2 BCA ¶ 28,459. To recover under a constructive change theory, a contractor has the burden of showing that a change occurred, that the change was not volunteered, but performed as a result of a Government direction, and that the contractor relied on the direction thus increasing costs. *S-TRON*, ASBCA Nos. 45893, 46466, 96-2 BCA ¶ 28,319 at 141,397.

Appellant's theory of recovery is that the Government directive to verify all wires and relabel constituted a change in the contract specifications causing extra work for which it is entitled to an equitable adjustment. Appellant argues that the contract is ambiguous and should be interpreted against the drafter under the rules of *contra proferentem*. A contract provision is ambiguous if it is susceptible of two different yet reasonable interpretations, each of which is consistent with the contract language and the other provisions of the contract. *Contel Advanced Systems, Inc.*, ASBCA No. 49071, *et al*., 01-2 BCA ¶ 31,576. Where the language of the contract is unambiguous on its face,

evidence of a common industry practice is not relevant. *David Boland, Inc.,* ASBCA Nos. 51259, 51359, 01-2 BCA ¶ 31,423. It is well-established that the Government is allowed to specify a requirement that exceeds or departs from the trade custom or practice when contracting for goods and services. *Jowett, Inc. v. United States,* 234 F.3d 1365 (Fed. Cir. 2000); *Elam Woods Construction Company, Inc.,* ASBCA No. 52448, 01-1 BCA ¶ 31,305, *aff'd on reconsid.,* 02-1 BCA ¶ 31,658.

The plain language of the specifications in this case required individual wires tagged with heat shrink type markers showing a loop designation. The purpose of the labeling was to be able to trace the connections in the event of a malfunction. Appellant has not offered a conflicting reasonable interpretation of the contract language, but submits that industry standards warrant the approach it took to labeling the wiring. Consideration of trade practice may be a useful interpretation aid where "there is . . . [a] term in the contract that has an accepted industry meaning different from its ordinary meaning" or where there is a "term with an accepted industry meaning that was omitted from the contract." *Jowett, Inc. v. United States, supra,* at 1369. Appellant has not made any showing, however, of a specific term in the contract language that had a competing interpretation on which it relied when entering into the contract. We understand appellant argues that the tiny wires inside conductor cables were not "individual wires" within the meaning of the specification or all wires internal to the RTUs were not "individual wires." This reading would not meet the purpose of traceablity and is not supported by the plain language of the provision.

Appellant has also argued that the Government's interpretation of the specification rendered it impossible to perform. Appellant has not presented evidence to show that the work involved extreme and unreasonable difficulty, expense, injury or loss sufficient to constitute impossibility or commercial impracticability. This argument is without merit.

The Government has the right to obtain precisely what is specified in the contract. A contractor must comply with the technical specifications and drawings regardless of their technical soundness, and is not entitled to substitute its own views for those of the Government. *Astro Dynamics, Inc.,* ASBCA No. 28381, 88-3 BCA ¶ 20,832 at 105,362. We conclude that the specifications were plain and unambiguous, and appellant has done nothing more than substitute its views of the specification in arguing that the Government's directive to verify and relabel the wiring was a contract change.

Furthermore, appellant has not established the resultant injury for which it is claiming entitlement. The Government attempted traceability of the wires in its field verification testing and found PCSI's labeling unacceptable. There were errors in the labels or the designations on the loop diagrams so that the two did not match, some labels were not heat shrink markers, some labels were missing, and color coding could not be readily followed because duplicate colors were used in an RTU. The corrective work done to verify the labeling and correct the loop diagrams was performed in conjunction with the relabeling. Appellant has asserted, but not substantiated, that it has claimed only the hours of relabeling and has not included other work for which it acknowledges responsibility. We

are not persuaded that appellant has submitted its costs with sufficient accuracy to establish that they were incurred only as a result of the directive that it asserted was beyond the scope of the contract.

7819 Waste Channel Flow Meter

Additional Findings of Fact

49. The contract provided for a waste channel flow meter at a mounting location shown on the contract plans. PCSI made the required installation, but the meter did not operate to provide gross flow information because of its placement. PCSI performed additional work to re-engineer the design. (R4, tab 54; ex. A-1, rpt. 367; tr. 222, 496-97, 628)

50. Bilateral Modification No. P00012, dated 28 September 1995, provided a price adjustment for contract changes that stated the contract was modified to, among other items:

> Relocate the Waste Channel Ultrasonic Level Indicator[5] to the adjacent wall and install at the appropriate height to provide accurate monitoring.

(R4, tab 60 at 2) The modification included the following provision:

> The contractor hereby accepts the foregoing adjustment as a final and complete equitable adjustment in full accord and satisfaction of all past, present, and future liability originating under any clause in the contract by reason of the facts and circumstances giving rise to this modification.

(*Id*. at 3) The parties discussed the hours appellant proposed for relocation of this equipment as shown in the price negotiation memorandum accompanying the modification. The hours are identified as "QC hours" indicating they represent the costs incurred by AMI for the time of its quality control representative Mr. Cowling. (R4, tab 61; tr. 445-47) The memorandum does not identify any claims reserved by the contractor from the scope of the modification. Ms. Shirley Wells, a contract negotiator for the Government, specifically told AMI that the modification included "all direct, indirect, and all impact costs associated with" the cost proposals that had been presented (R4, tab 61 at 3). Mr. Flodin acknowledged that the Government was liable for the changes that were made and had, accordingly, paid appellant increased costs incurred as a result (tr. 497).

51. Ms. Wells negotiated the modification and prepared the price negotiation memorandum. She has participated in many such negotiations and did not have an independent recollection that the waste channel flow meter issues were discussed in the

negotiations. (Tr. 610-12) Mr. Wentz, who negotiated the modification for AMI, made a review of all the relevant documents and did not recall that the issues pertaining to the waste channel flow meter were discussed (tr. 614-15). On cross-examination, he acknowledged that the price negotiation memorandum shows that the issues were discussed from the AMI standpoint (tr. 619).

52. In its claim, dated 23 July 1996, AMI claimed that there was a Government directive to make the waste channel flow meter operate regardless of the level of inaccuracy. It did not operate at all because of the mounting location in the Government's plans. PCSI re-engineered the design to get flow information from the meter. (R4, tab 54)

Decision

Appellant has not argued its entitlement to an equitable adjustment for this claim, but simply maintains that it was not settled by the modification (app. br. at 29-30). The Government requests that this item be dismissed because it was settled and appellant has been paid.

The Government has the burden of proof to establish that the parties' agreement in Modification No. P00012 constitutes an accord and satisfaction that operates to bar the claim. The essential elements of accord and satisfaction are proper subject matter, competent parties, meeting of the minds of the parties, and consideration. To reach an accord and satisfaction there must be mutual agreement between the parties with the intention clearly stated and known to the contractor. *Mil-Spec Contractors, Inc. v. United States*, 835 F.2d 865 (Fed. Cir. 1987); *Pacific Ship Repair & Fabrication, Inc.*, ASBCA No. 49288, 99-1 BCA ¶ 30,222; *Biggs General Contracting, Inc.*, ASBCA No. 46979, 97-2 BCA ¶ 28,999. Where there is a question whether claimed costs were considered when an adjustment was negotiated, absent clear release language, price adjustment modifications are narrowly construed. *Sawyer Tree Company*, ASBCA No. 50545, 99-1 BCA ¶ 30,326; *Danac, Inc.*, ASBCA No. 33394, 97-2 BCA ¶ 29,184, *aff'd on reconsid.*, 98-1 BCA ¶ 29,454, and cases cited therein.

The language of Modification No. P00012 plainly includes costs of extra work related to the waste channel flow meter. It also includes appellant's agreement to accept the equitable adjustment as an accord and satisfaction. Appellant has not challenged the validity of the modification as a binding agreement. Appellant has not raised any question about the interpretation of the parties' agreement. We cannot accept appellant's assertion, without more, that the issues were not discussed. Mr. Wentz did not explain why he believed from the documentation that it was not discussed, and we find no merit in a suggested distinction between discussion on behalf of AMI and discussion on behalf of PCSI, AMI's subcontractor. The claim is denied.

7820 Clean and Recalibrate AIT-202

Additional Findings of Fact

53. The contractor was responsible for the final calibration of instruments (finding 17, *supra*). The contract also required the contractor to "mount all instruments in a manner which assures reasonable protection against mechanical damage, wetting, extremes of heat and cold, and harmful vibration both during construction and operation (R4, tab 72 at § 15170-5, ¶ 3.2).

54. By letter dated 9 February 1995, AMI directed PCSI to correct a deficiency in the Turbidity Analyzer AIT-202 which it stated was not calibrated correctly. The letter further stated:

> While the instrument itself may have been calibrated correctly, it does not currently provide useful information. There may be instrument stability problems or other factors involved, but PCSI is obligated to resolve this situation per TS 15170.

(Ex. A-95) A turbidity analyzer is a highly sensitive piece of equipment that is used to measure the clarity of the water. It is a high maintenance item that requires frequent cleaning and calibration. The report that it was not working properly came months after it had been installed, calibrated, and the Government had taken possession and was using the analyzer. (Tr. 113, 115-16, 629-30)

55. On 9 February 1995, AMI reported to PCSI inaccurate readings on the AIT-202 that PCSI was obligated to resolve pursuant to the specifications (ex. A-95). On 1 May 1995, AMI sent PCSI a deficiency list that stated PCSI was to fix the AIT-202 where the main valve instrument was flashing "fail" (ex. A-32 at 21). By letter dated 2 May 1995, PCSI stated it would replace the unit under warranty if it were not a sampling or calibration problem and the unit should be removed and shipped to its facility (ex. A-33 at 5). AMI responded to the items PCSI had addressed in a letter dated 23 May 1995, which stated with respect to this item that PCSI was "directed to remove, repair and reinstall" (ex. A-34 at 7). On 5 June 1995, PCSI responded that it would evaluate the cause of the flashing on the AIT-202, but wanted verification that the equipment did not require simple cleaning or maintenance that was not covered under its warranty. PCSI reserved its right to submit a claim under the Disputes clause. (Ex. A-36 at 6) The Government held the view that if the turbidity analyzer was dirty, it was not calibrated correctly and would give a false reading. By letter dated 29 June 1995, the Government directed appellant to clean the meter and recalibrate. (Ex. A-96 at 3)

56. PCSI advised AMI by letter, dated 2 August 1995, that it had calibrated the AIT-202 properly and the problem was due to Government personnel not periodically cleaning the probe. PCSI agreed to perform the cleaning and verify the calibration with readjustments as necessary and stated that it would seek compensation under the Disputes clause. (Ex. A-97) When it was on site, PCSI confirmed, and we find, that the analyzer was

not getting accurate readings because it was too dirty and, after cleaning it, found that there was nothing wrong with the calibration (tr. 113-14, 629-30).

57. In its claim dated 23 July 1996, appellant maintained that it was directed to perform extra calibration effort when there was no failure of components or installation, but only a lack of periodic maintenance after the analyzer was put in use (R4, tab 54).

Decision

Appellant maintains that it properly calibrated the AIT-202 and the failure was due to lack of maintenance by the Government. The Government contends that appellant was responsible for the rework because PCSI failed to clean the equipment originally or failed to protect it adequately from environmental conditions.

When devices were installed and calibrated in the water treatment plant, the Government received beneficial occupancy and the warranty period began. The Government took possession of the turbidity analyzer AIT-202 and assumed the corresponding responsibility to maintain it. We found that the unit was properly calibrated and had become dirty only through lack of maintenance by the Government. The Government had the use and possession of the equipment and responsibility for properly maintaining it for its satisfactory operation. The calibration was professionally done, and there is no evidence that lack of cleaning prior to calibration was the cause of the inaccurate readings (findings 21, 55). The Government's directive to repair and reinstall the equipment constituted a change in the terms of the contract for which appellant is entitled to compensation. This part of the appeal is sustained.

7821 Laptop Documentation

Additional Findings of Fact

58. The contractor was required to provide equipment, material, and service support that included one "IBM-AT compatible portable PLC programmer terminal" (laptop computer) (R4, tab 72 at § 15980-SP1-5, ¶ 1.3.8.). The contractor was also required to provide documentation to support the installation, operation and maintenance of the laptop computer furnished (*id*. at § 15980-SP1-6, ¶ 1.3.16).

59. By letter dated 28 March 1995, Mr. Johansen notified PCSI that missing documentation for the laptop computer was an item on the deficiency list generated at the final inspection. PCSI had left the material in a box in a corner of the control room at the water treatment plant, but gave no direction to the Government personnel as to what was in the box, and neither the DPW personnel nor Mr. Johansen could find it. There is no documentation to support the date of delivery of the laptop documentation. PCSI asserted in a response to the AMI notice, dated 5 June 1995, that the documentation had been

delivered to Mr. Johansen in December 1994. (Exs. A-1, rpt. 291, -36, -69, -98, -99; tr. 369-70, 630-31)

60. Mr. Cowling had a Form DD-250 for the laptop computer, but no form for the warranty, factory documentation, testing software or accessories that evidenced delivery of the laptop documentation to the Government. Since he had no record of the delivery to Mr. Johansen or to the Government, he personally questioned water treatment plant personnel and inspected the plant, but was unable to locate the documentation. On 15 June 1995, he required that PCSI correct this deficiency and provide the missing materials by 20 June 1995. (Exs. A-100, -102; tr. 369-70) By letter dated 2 August 1995, PCSI agreed to provide the documentation at its site visit beginning 7 August 1995 (ex. A-101). AMI delivered the DD-250 for the laptop cables, documentation, manual and software on 28 August 1995 (ex. A-1, rpt. 406).

61. Mr. Stephen E. Heitmeyer, a DPW operator at the water treatment plant, was able to find a box marked "Skip[6] Laptop" containing the originally delivered documentation for the laptop computer when he heard the material was an issue in this appeal (tr. 559, 564-65).

62. In its claim dated 23 July 1996, appellant states that PCSI was directed to provide an additional copy of documentation after the Government failed to locate what had been delivered through its lack of attention to detail causing extra work to locate and reorder the materials (R4, tab 54).

Decision

Appellant maintains that the first set of documentation delivered was not received due to negligence on the part of the Government and the time and cost of the replacement are compensable. The Government argues that appellant was responsible for the misplaced laptop literature.

Appellant was required to furnish laptop documentation. We are not persuaded by appellant that the Government was negligent in failing to locate materials that appellant delivered without adequate identification. PCSI elected to replace the materials in lieu of going to the site to locate the box that had been delivered and in effect volunteered to incur the additional costs that are claimed. This part of the appeal is denied.

7822 Second Installation of Line Bridges

Additional Findings of Fact

63. On 5 January 1995, AMI advised PCSI of approval to procure and connect four Telco Line Bridges as a change to the contract terms (ex. A-107). PCSI had proposed the line bridges to solve problems with using the substandard existing phone lines. The line

bridges were intended to buffer the signals from the RTUs up to the DCO, the base communications office, and then to the water treatment plant and balance the load in a manner that would prevent outages (ex. A-1, rpt. 356; tr. 219, 536). PCSI needed to calibrate the line bridges to meet the resistance of the existing phone lines (tr. 451).

64. PCSI made arrangements for access to the DCO, which is a secure site, and authorization to connect its equipment to the base telephone system and install the line bridges. To make the installation PCSI needed a place to work (*e.g.,* racks, tables), access to the panels, telephone communication cables, and a 110- or 120-volt power supply. (Exs. A-36, -109; tr. 219-21, 532) PCSI did not install the line bridges as scheduled in its first attempt. The location was not ready for the installation due to an apparent lack of coordination or misunderstanding between the Corps and the DCO (ex. G-2; tr. 221, 533).

65. On 2 August 1995, PCSI requested that AMI notify the Corps that its second attempt to make the installation would be billed as additional expenses (ex. A-109). AMI prepared for the second installation by sketching a diagram for the DCO that was provided to Margaret Johnson, a Corps project engineer, for coordination of this work. AMI also obtained a shelf on which the line bridges would be installed in the DCO. (Ex. A-1, rpt. 390; tr. 531-32, 541) On 9 August 1995, in a coordination meeting of DCO, Corps, AMI, and PCSI representatives, the work was scheduled to begin 14 August 1995 (*id*. at rpt. 391).

66. On 14 August 1995, PCSI made the second installation of line bridges. AMI reported the following:

> Supervised installation of the Line Bridges at the DCO office at the direction of ACOE. (5 Hours this [sic] was not included in the original Case Scope of work) Also, AMI was directed to provide a shelve [sic] and plug strip which was not included in the scope. The installation process was delayed by the DCO office. The delay was caused by wires [that] were not determined as to which ones to use and were not terminated upon arrival.

(Ex. A-1, rpt. 395)

67. In its claim dated 23 July 1996, appellant asserts that the Government's access restrictions, lack of support and assistance for installation, and missing power and mounting facilities caused it to incur additional costs of engineering and the second installation of line bridges (R4, tab 54; tr. 219, 632). The Government took the position in response to the claim that the line bridges were removed first because they were not calibrated correctly and a second time because they did not have the correct resistance to the line (R4, tab 63 at 3).

Decision

Appellant claims that the Government's failure to provide assistance and support for the installation of the line bridges as scheduled caused it extra effort of a second installation for which it is entitled to compensation. The Government argues that it is not responsible for any failure to provide access to the telephone system because it would have provided access if PCSI had made an advance request. The Government faults appellant for making only a blanket denial of the calibration problem that it asserted was the cause of the second installation. (Gov't br. at 21)

It is long established that the Government has an implied duty to cooperate with the contractor and not to hinder its performance. *Environmental Safety Consultants, Inc., supra; Atlantic Dry Dock Corporation,* ASBCA No. 42609 *et al.*, 98-2 BCA ¶ 30,025 at 148,551. Where the failure to take some positive action is alleged as a breach of the duty of cooperation, it must be shown that the action was necessary for performance of the contract, and that the Government unreasonably failed to take the action. *Tri Industries, Inc.*, ASBCA No. 47880, *et al*., 99-2 BCA ¶ 30,529. We are persuaded that appellant was unable to proceed with the scheduled installation of the line bridges due to the failure of the Government to make the required arrangements for connecting the PCSI equipment to the base telephone system in the DCO. The Government has only alleged a calibration problem. Unsupported allegations do not constitute proof or evidence. *Harvey Honore Construction Co., Inc.*, ASBCA No. 47087, 94-3 BCA ¶ 27,190. This part of the appeal is sustained.

7827 Video Training

Additional Findings of Fact

68. Section 15980-SP1-6, paragraph 1.3 imposed the responsibility on the seller, the provider of the control system, to furnish "[s]ystem training services of DPW's operating and maintenance personnel in the operation, configuration, and maintenance of the equipment" furnished under the contract (R4, tab 72 at § 15980-SP1-6, ¶ 1.3.17). Section 15980-SP1-15, subsection 1.9, "TRAINING," in the contract specifications required in part:

> The Seller shall provide a comprehensive set of training courses for DPW's designated personnel in the programming, operation and maintenance of the control system. These training requirements may be accomplished either at the Seller's facilities or at the job site, as appropriate, for the most cost effective program considering equipment and instructor availability, travel requirements, etc. On site training shall be scheduled to include personnel working on evening or night shifts. Training sessions shall be coordinated with the DPW to

> minimize disruptions to normal plant operations. All formal training sessions shall be video taped to allow future training of new personnel.

(*Id*. at § 15980-SP1-15, ¶ 1.9.1) The contract specifically required the contractor to video tape all operation and maintenance training sessions (*id*. at § 01305-6, ¶ 3.10).

69. PCSI scheduled training in the operation, management and maintenance of the control system for DPW personnel for 23 May 1994 during the factory acceptance test at PCSI's facility in Phoenix (ex. A-122; tr. 121). PCSI considered it advantageous to provide training in connection with the factory acceptance test because certain aspects of the control system, which was an operating system, could not be demonstrated in the field without taking the system off line (tr. 70, 96, 118, 121). It is common practice for the owner to attend factory testing to see the computer system for the first time (tr. 148). There was insufficient time, however, to train any of the operators during the testing. Only Messrs. Wilson and Garnand from DPW and one individual from the Corps attended the test, and they were unable to stay in Phoenix after the testing was completed. (Ex. A-131; tr. 73, 77-78, 121, 149)

70. Since PCSI did not have sufficient participation to provide training during the factory acceptance test, it provided training in the field on 27 June 1994, several days in October 1994, and on 5 December 1994. Courses were scheduled on site, but not everyone showed up for the classes. PCSI had difficulty both in obtaining attendance and getting sustained concentration from those who did participate in the training sessions because of conflicts with work schedules for plant operation. As an alternative, PCSI offered to provide training that could be video taped at its factory on a system using the same software that was installed at the water treatment plant, but the Government rejected its proposal. (Ex. A-122; tr. 118-23, 159-60, 380-81, 399-400, 568) PCSI provided over 150 hours of formal training in the field, other hours of informal training, and made some video tapes of the on-site training that was provided (exs. A-27, -28, -122; tr. 119, 376, 560). PCSI provided more training than on the normal project because it had to train operators working over three shifts (tr. 633).

71. In a letter, dated 7 March 1995, to AMI, PCSI reviewed the scheduled and actual training it had offered and advised that it had met its obligation to provide formal system training. On 23 May 1995, AMI forwarded a letter, dated 7 April 1995, from the Corps which disputed the accuracy of PCSI's report that formal training had been provided, in part because it had not received video tapes of any training sessions. In addition, Mr. Cowling did not consider that the water treatment plant personnel had been sufficiently trained. AMI directed PCSI to comply with the contract requirements by providing and documenting all training as specified. (R4, tab 70 at 68; exs. A-122, -126; tr. 371-72, 374, 400)

72. As an accommodation PCSI offered to supply a commercial video tape of a typical training session that could be used for operator training (tr. 119). By letter dated

2 August 1995, AMI requested a contract variance to reflect that video training tapes and a full day question and answer session would be accepted in lieu of the formal training required by the contract specifications. The Government approved the request. PCSI supplied three professional quality video tapes made at its facility in Phoenix to the Government. (Exs. A-128, -129; tr. 539, 633)

73. The Government Evaluation of Plans and Specifications attributed a lack of on-site computer training to the manner in which the specifications were written to allow for accomplishing the training requirements at the seller's facility while the water treatment plant had to keep a significant portion of its staff on site to operate the plant. The operators reviewed the videos that were taped at the PCSI facility, but were considered not properly trained on the computer systems that they were operating. (Ex. A-133; finding 11, *supra;* tr. 162, 512-13)

74. In its claim dated 23 July 1996, appellant alleged that PCSI was directed as a compromise to provide commercial video tape training tapes which it had intended to sell (R4, tab 54; tr. 117).

Decision

Appellant argues that the specification allowed for the contractor to make an election whether to provide training at its facility or on site and that payment should be made for the commercial video tapes which were provided as a result of the Government's decision that plant operators not attend scheduled training classes. Appellant is not claiming extra work for providing training on site, but compensation for the video tapes which it was directed to provide. The Government maintains that the video tapes were in lieu of on-site training which PCSI did not adequately provide.

As we stated above, the Government has the right to obtain precisely what is specified in the contract. The Government waived its right to require video taping of the formal training sessions that were held on site and agreed to accept professional video tapes offered by appellant to resolve the parties' dispute over the adequacy of the training that was provided. Appellant agreed to provide the video tapes (finding 72). There was no Government directive requiring additional work that is compensable. This part of the appeal is denied.

7830 Trouble shooting Points/ACOE Equipment

Additional Findings of Fact

75. On 18 October 1994, the Corps entered into bilateral Modification No. P00020 to Contract No. DACA85-93-C-0043 with Watterson Construction Company (Watterson). This contract provided for renovation of the physical fitness center at Fort Richardson. The purpose of the modification was to allow remote monitoring and control of the swimming

pool and spa filtration systems from the water treatment plant and the power plant. The remote monitoring system was included in the water treatment plant design, but there were no provisions in appellant's contract or the renovation contract for the instrumentation needed at the swimming pool. (R4, tab 62) The RTU located at the swimming pool at Fort Richardson was identified as RTU-13 (R4, tab 72 at § 15980, SP1-SK1; tr. 543). The modification included the following pertinent provision:

> The existing Remote Terminal Unit (RTU) shall be provided with all necessary upgrades to accept all of the above control field device inputs for remote monitoring and control from the Ft. Richardson Water Treatment Plant SCADA system.

(R4, tab 62 at 2)[7] In the modification the contractor agreed as follows:

> The contractor hereby accepts the foregoing adjustment as a final and complete equitable adjustment, in full accord and satisfaction of all past, present and future liability originating under any clause in the contract by reason of the facts and circumstances giving rise to this modification.

(*Id.*) The price negotiation memorandum records that the lump sum increase in the contract price included all direct costs, indirect costs, and all impact costs associated with the contractor's proposal for a price adjustment (*id.;* tr. 450, 543).

76. Watterson subcontracted with PCSI to install hardware and software to obtain the data from the RTU for the remote monitoring. Problems arose because unauthorized equipment had been added to the RTU. (Tr. 540-41, 634-35) On 14 December 1994, PCSI connected RTU-13 to the rest of the system, with the result that communication with other RTUs was disrupted (ex. A-1, rpt. 236). The connection caused problems again on 16 December 1994 (*id*. at rpt. 238). When PCSI resumed work at the site in March 1995, it could verify communication with RTU-13, but needed the line bridge equipment installed to avoid disruption to other communication (*id*. at rpt. 279). At the final inspection on 16 March 1995, RTU-13 was not functioning due to failure on the part of the Army Signal Corps to provide necessary data for the telephone system (*id*. at rpts. 285, 286, 287, attach. at 2, 4).

77. PCSI performed trouble shooting to identify the communication problem and performed re-engineering work prior to its proposed installation of signal isolators (tr. 225). PCSI proposed a contract adjustment that was identified as "Case No. 24A Item 7 (RTU 13)" in a letter, dated 21 September 1995 to AMI (ex. A-135 at 7). On 29 September 1995, the Corps entered into bilateral Modification No. P00012 to the contract to provide a price adjustment for additional work that had been performed. The modification included the following pertinent provision:

> Provide two signal isolators between the Chemtroller and RTR-13 [sic].

(R4, tab 61 at 1). The modification included the full accord and satisfaction language quoted above in finding 50. The price negotiation memorandum included a comment that the quality control hours to trouble shoot the problem with the RTU-13 isolators appeared high and included the language that the increase in contract price included all costs. (*Id*. at 2; tr. 450, 544, 618-19)

78. In its claim dated 23 July 1996, appellant alleged that PCSI was required to trouble shoot changes that had been made by another vendor that prevented accurate data collection from the swimming pool and spa. Appellant considered the Government responsible for PCSI's re-engineering effort because the Government paid for the materials and labor used to fix the problem after the solution was found. (R4, tab 54; tr. 225-26) The contracting officer stated in the final decision that the claim was settled by Modification No. P00020 to the contract with Watterson (R4, tab 1).

Decision

Appellant argues that it is entitled to compensation for trouble shooting the communication problems with RTU-13 that were caused by the antiquated base communication lines (app. br. at 30). Appellant acknowledges that it received partial compensation for the work performed to solve the RTU-13 communication problem, but seeks compensation for its re-engineering costs. The Government submits that PCSI was responsible for making the system functional under its subcontract with Watterson and has been paid for the work performed. The Government further argues that trouble shooting the communication problem was work covered by Modification No. P00012 to the contract which operated as an accord and satisfaction barring appellant's claim.

Contract Modification No. P00012 plainly provides that appellant accepted the adjustment as a final and complete equitable adjustment, in full accord and satisfaction of all liability by reason of the facts and circumstances giving rise to this modification, which we have found included trouble shooting and re-engineering. Appellant's claim is barred, and this part of the appeal is denied.

7831 Maintenance of Installed Equipment

Additional Findings of Fact

79. The contractor was responsible for calibration of instruments in the control system that included AIT's 217, 218, 201, and 333 (finding 17, *supra*). These instruments did not function properly after installation. They did not have the identical readings that

were expected. (R4, tab 63) The instruments had been properly calibrated by PCSI, but were not functioning because they were not being satisfactorily maintained (tr. 116, 635).

80. In its claim dated 23 July 1996, appellant argued that the Government required recalibration of these instruments, but PCSI found that they were in perfect calibration and operated properly after they were cleaned. Appellant alleged that the cause of the malfunctions was a lack of periodic maintenance, which was the responsibility of on-site personnel. (R4, tab 54; tr. 116)

Decision

Appellant maintains that it properly calibrated AIT's 217, 218, 201, and 333 and the equipment failures were due to lack of maintenance by the Government. The Government contends that appellant was responsible for the rework because it failed to clean the equipment originally and was required to provide final calibration and functionality of the entire system for testing.

After installation and calibration the Government had the use and possession of the instruments and the corresponding responsibility to maintain them. Appellant has presented persuasive evidence that cleaning prior to its calibration was not the cause of inaccurate readings from the equipment. The units were not properly maintained by the Government. This part of the appeal is sustained.

CLAIM 2B - CLAIM PREPARATION COSTS

Additional Findings of Fact

81. Appellant submitted cost proposals for extra work which were negotiated with the Government. Fifteen bilateral modifications to the contract, for issues not in dispute here, were executed through 19 November 1997, some of which concerned PCSI work, to provide lump sum settlements and time extensions upon completion of successful negotiations. (R4, tab 62) The basic installation of the control system was completed by 23 December 1994, but PCSI was involved in getting the system fully operational after the final inspection on 16 March 1995 and continuing with resolution of items listed on Government inspection deficiency lists received from AMI through the amended contract completion date of 20 November 1995 (findings 7, 10, *supra*).

82. On 19 May 1995, PCSI employees began using a unique cost code (7055) for recording time spent on preparation of the claims and putting together supporting documentation. A PCSI letter, dated 23 October 1995, listed the out-of-scope work for which PCSI was preparing cost claims (ex. A-68). PCSI recorded time to this cost code for claim preparation through 27 March 1996. Appellant claimed a total number of direct hours on claim preparation by PCSI employees of 193.5 hours during this period of time. (R4, tab 55 at 6; tr. 303-04) The record does not support a finding that any of these costs

were incurred after the Government "disputed" appellant's initial requests for payment (*see* finding 12).

83. On 23 July 1996, appellant submitted its claim for claim preparation costs in the amount of $8,914.00 with supporting data in the form of copies of salaried employee time records showing the project number and cost code recorded (R4, tab 55).

84. On 31 July 1996, Mr. Wentz representing AMI and Ms. Eileen Hammond, PCSI's Controller, traveled to Anchorage to discuss and settle the claims with Government representatives. A Government representative stopped the negotiations. (R4, tab 70 at 23-26; tr. 280, 309, 605, 642). The Government proceeded to discuss the claims, but neither appellant nor PCSI were involved in the discussions (R4, tab 65).

85. The contracting officer's final decision denied the claim based on the Government's interpretation of FAR 31.205-33 that costs associated with the preparation and prosecution of claims before issuance of a contracting officer's final decision are not allowable. In addition, the decision was based on findings that appellant's claims had no merit and, consequently, any directly associated costs claimed were not allowable under FAR 31.201-6. (R4, tab 1)

Decision

Appellant argues that it is entitled to claim preparation costs incurred for contractor and subcontractor effort to put together the claims because they were incurred as part of contract administration to materially further negotiations with the contracting officer. The Government submits that all the costs were claims preparation and prosecution costs that are expressly made unallowable by FAR 31.205-47(f).

The FAR provides that costs are unallowable if incurred in connection with the prosecution of claims or appeals against the Federal Government, whether before, during, or after the commencement of a judicial or administrative proceeding. FAR §§ 31.205-47(a), 31.205-47(f); *Atherton Construction, Inc.*, ASBCA No. 48527, 00-2 BCA ¶ 30,968 at 152,827. Costs incurred in connection with the performance or administration of a contract are allowable, if allocable and reasonable. There is a strong legal presumption that costs incurred before a CDA claim arose were not incurred in connection with the prosecution of such a claim against the Government. In determining whether a particular cost is allowable, the objective reason why the contractor incurred the cost is to be evaluated. When the contractor has incurred costs for the genuine purpose of materially furthering the negotiation process, such cost should normally be a contract administration cost even if negotiations fail and a CDA claim is later submitted. On the other hand, if the contractor's underlying purpose for incurring the cost is to promote the prosecution of a CDA claim against the Government, then such cost is unallowable. *Bill Strong Enterprises, Inc. v. Shannon,* 49 F.3d 1541, 1549-51 (Fed. Cir. 1995), *overruled in part on other grounds, Reflectone, Inc. v. Dalton,* 60 F.3d 1572, 1579 (Fed. Cir. 1995)

(en banc); Grumman Aerospace Corporation (on behalf of Rohr Corporation), ASBCA No. 50090, 01-1 BCA ¶ 31,316 at 154,674; *Information Systems & Networks Corp.*, ASBCA No. 42659, 00-1 BCA ¶ 30,665, *reconsid. denied*, 00-1 BCA ¶ 30,866.

PCSI incurred the costs that it is claiming prior to the submission of its claims, which warrants a presumption that they were not incurred in connection with the prosecution of claims against the Government. The contemporaneous record shows that during the period of time when the costs were incurred the parties were exchanging correspondence about the deficiency lists that had been issued for corrective work by PCSI (*e.g.*, findings 10, 55, 60). PCSI was presenting its position on differing interpretations of the contract specifications and documenting its requests for payment for extra work. In addition, during this period of time, appellant was negotiating contract modifications that provided adjustments for other similar claims. Appellant's intent was to provide whatever information was needed by the contracting officer to resolve these matters without litigation. This intent is further supported by appellant's trip to Anchorage after the claim was submitted to meet with the contracting officer and discuss the claim (finding 84). We have determined that the costs incurred prior to claim submission were incurred for the genuine purpose of furthering the negotiation process with the Government, and thus were costs of contract administration. This part of the appeal is sustained.

Appellant AMI claimed costs for its claim preparation and also included costs for claim preparation in Claim 1, Research for Calibration of Equipment, Claim 2A, Miscellaneous Additional Work, and Claim 3, Travel and Living Expenses. There is no supporting documentation or other evidence that appellant incurred direct costs not otherwise covered in its overhead rate for preparation of its mark up and submission of the PCSI claims. These parts of the appeal are, accordingly, denied.

CLAIM 3 - TRAVEL AND LIVING EXPENSES

Additional Findings of Fact

86. PCSI employees traveled from Phoenix to Anchorage to install the computer control system, attend the final inspection, and perform punch list and corrective work in response to the receipt of deficiency lists from AMI. After the system was installed and inspected, the primary purpose of the PCSI travel was to perform corrective work. The Daily Construction Quality Reports show the dates that PCSI personnel were on site (ex. A-1).

87. On 23 July 1996, appellant submitted a claim entitled, "Additional PCSI Travel/Living Expenses" for the amount of $39,941.00. The claim did not include any narrative describing the basis of the claim. (R4, tab 56) The contracting officer denied appellant's claim for travel and living expenses as directly associated to claims found to have been without merit (R4, tab 1). At the hearing Ms. Hammond made an allocation of

PCSI travel and living expenses to the specific claims that were designated by cost codes, *e.g.,* 7820, 7822 (ex. A-137; tr. 306, 308, 414-17).

Decision

Under the FAR costs for transportation, lodging, meals and incidental expenses are allowable. FAR 31.205-46; *The Swanson Group, Inc.,* ASBCA No. 52109, 02-1 BCA ¶ 31,836, *modified on reconsid.,* 02-2 BCA ¶ 31,906; *Nagy Enterprises,* ASBCA No. 48815, *et al.,* 98-1 BCA ¶ 29,695; *Wyatt/Rhodes Architects, Inc.,* ASBCA No. 38938, 90-1 BCA ¶ 22,476, *modified on reconsid.,* 90-3 BCA ¶ 23,218 (travel expenses incurred were allowed where modification stated that meeting was outside the scope of the original contract). Where the contractor fails to segregate such costs and provide information as to how they relate to contract performance, the costs are unallowable. *Atherton Construction, Inc.,* ASBCA No. 48527, 00-2 BCA ¶ 30,968 at 152,827.

We have found that travel and living expenses were reasonably incurred for PCSI to perform corrective work, some of which was directly associated with out-of-scope work for which we have found entitlement. It was necessary for PCSI to travel to Anchorage in March 1995 and August 1995 to comply with the Government's directives and portions of its travel and living expenses were for activities that are the subject of appellant's claims and are, accordingly, allowable. This part of the appeal is sustained.

QUANTUM

Additional Findings of Fact

88. In its four claims submitted on 23 July 1996, appellant included a cost proposal breakdown showing subcontractor PCSI costs and mark-ups for AMI overhead, profit and bond (R4, tabs 53 through 56). In Claim 1, Research for Calibration of Equipment and Claim 2A, Miscellaneous Additional Work, appellant included PCSI cost summary reports of direct labor costs posted during the contract performance period which itemized the hours worked by individuals and stated their rates of pay, the dates worked, and the total dollars claimed for each of the separate claims. Appellant also included copies of the weekly employee time records for supporting documentation of the direct labor costs claimed.

89. PCSI originally recorded its claim time on time records to cost code # 795, which was used for disputed labor items (tr. 290). When PCSI realized in early August 1995 before returning to the site for corrective work that it needed to track costs to several separate disputes, it assigned separate cost codes beginning with # 78. The numbers assigned correspond to the numbers on the miscellaneous additional work claims. PCSI advised its employees about tracking their time to the separate cost codes, but accepted a # 7950 number for all disputed items temporarily until the employees got back from the site and discussed their activities with Ms. Hammond. She made the allocations of time to the

appropriate new separate # 78 cost codes. Ms. Hammond made handwritten changes on the original time records to make an allocation of time that had been previously recorded as either cost code # 795 or # 7950 to the new cost codes assigned to the separate claims. (Ex. A-3; tr. 290, 295-97, 299-300, 606-07)

90. Appellant withdrew one of the separate claims at the hearing along with the associated travel and living expenses and claim preparation costs related to the claim. Ms. Hammond revised the claim during the hearing to take this fact into account and make an allocation of related costs to the separate claims. (Ex. A-137; tr. 308-09, 358, 414-17) The spreadsheet, "Claim 2A Breakdown With Claim Travel Expenses and Claim Preparation Costs Included By Item," dated 12 September 2001 (the spreadsheet), was offered in evidence by appellant's counsel after Ms. Hammond testified and admitted by stipulation of the parties. The Government did not stipulate to the accuracy of the numbers or supporting documentary evidence or that the spreadsheet was evidence that the costs were either allocable or reasonable.

91. In addition to PCSI claimed direct costs for labor and materials which were substantiated to some extent by contemporaneous business records, PCSI claimed related costs including labor burden, project management time, subcontractor costs, travel time, indirect costs, and overhead. In the claim appellant summarized these costs for all miscellaneous additional work items without segregation to the separate cost code claims. (R4, tab 54 at 5) Appellant later allocated these costs to the separate claims in the spreadsheet. Ms. Hammond identified the PCSI labor burden rate as 25.5 percent, which was based on the historical performance of all these costs, *e.g.*, payroll taxes, during the time of the contract (tr. 291, 320-21). We have not found substantial evidence from appellant to support other related costs. Appellant has not directed us to evidence of project management time, subcontractor costs, or this travel time. Ms. Hammond's testimony based on her recollection of amounts or reliance on the amounts alleged with respect to indirect costs and overhead in the claim documents was not persuasive. She determined the proportion of additional work hours to contract work hours and made allocations between costs attributable to contract work and costs related to the additional work to calculate project management time, indirect costs, and overhead (tr. 293-94, 303-04). She relied on the amounts of field hours and project expenses in appellant's claim which do not have supporting documentation (R4, tab 71). In addition to its costs, PCSI claimed profit at the rate of 10 percent (R4, tab 54 at 5; tr. 294).

92. For Claim 1, Research for Calibration, appellant claimed $39,702.14 for PCSI (R4, tab 53 at 4). We find the labor hours claimed supported by time records of Messrs. Lane, Schrantz, Schultz, and others for compensation of $20,941.13. Mr. Lane's time was segregated between regular installation work and the additional research, and his records include notes of the equipment he needed to get information to calibrate. (Ex. A-53 at 10-44, 49-61; tr. 288) PCSI claimed material costs in the amount of $21,047.71 for tools and equipment, installation material, consumables, and telephone based on entries in the partially legible cost summary, but without further supporting documentation (ex. A-53 at 4,

45-48). We find PCSI incurred direct costs and labor burden of $26,281.12 that are substantiated in this claim.

93. For # 7816, Repair to RTU-11, Telephone Company Problem, appellant claimed $393.34 for PCSI (ex. A-137). We find the labor hours claimed supported by time records of Mr. Koops for compensation of $36.00 (R4, tab 54 at 18, 35). PCSI's claim for $83.55 for materials is also supported by an invoice (*id*. at 61-62). We find PCSI incurred $128.73 in direct costs and labor burden that are substantiated in this claim.

94. For # 7820, Clean and Recalibrate AIT-202, appellant claimed $2,944.13 for PCSI (ex. A-137). We find the labor hours claimed supported by time records of Mr. Lane for compensation of $440.00 (R4, tab 54 at 21, 38). PCSI incurred total direct costs and labor burden of $552.20 for this claim.

95. For # 7822, Second Installation of Line Bridges, appellant claimed $3,744.74 for PCSI (ex. A-137). We find the labor hours claimed supported by time records of Messrs. Smith and Koops for compensation of $560.25 (R4, tab 54 at 23, 31-33, 35, 54; tr. 219, 632). PCSI incurred total direct costs and labor burden of $703.11 for this claim.

96. For # 7831, Maintenance of Installed Equipment, appellant claimed $2,640.31 for PCSI (ex. A-137). We find labor hours claimed were supported by time records of Messrs. Koops and Sepulveda for compensation of $130.00 (R4, tab 54 at 26, 34-35, 51; tr. 116). PCSI claimed materials costs in the amount of $1,058.10, for which it included receipts in the claim, but we cannot find that the partially legible cost summary corresponds with supporting documentation. We find PCSI incurred direct costs and labor burden of $163.15 for this claim.

97. Appellant AMI claimed phone expenses of $25.00 and claim preparation costs of $450.00, for the calibration claim and the same amounts for the miscellaneous additional work claims (R4, tab 53 at 4, tab 54 at 2). There is no documentation or testimony in support of AMI's direct costs for phone and claim preparation. Appellant's mark-ups added to the PCSI claims were for overhead at the rate of 12 percent, profit at the rate of 9 percent, and bond at the rate of 1.5 percent (*id*.).

98. Mr. Curtis King, a Government cost engineer reviewed appellant's claims in response to a request from Government counsel to determine whether the costs were justified or reasonable. He prepared a memorandum, dated 17 January 2001, of the engineering review he made during the period 28 December 2000 to 4 January 2001. He was unable to evaluate the reasonableness of the labor hours from only reviewing the time records because he found they did not describe PCSI's additional effort. He considered the amount of $2,091.00 claimed by PCSI for travel time unusual and stated that it was unclear what the cost was, what was accomplished, and why it should apply to the contract. There was no documentation or explanation as to how indirect costs and overhead

were calculated, according to Mr. King's memorandum and testimony. (R4, tab 71; tr. 574, 577, 585, 587) Mr. King did not question the percentages of AMI's mark-ups (tr. 583).

99. For Claim 2B, Claim Preparation Costs, appellant claimed $4,009.11 in PCSI direct costs. Mr. King, the Government's cost engineer, noted that this claim was composed of labor hours only, but he was unable to determine whether or not the labor hours were appropriate or the appropriateness of the labor hour rates. Appellant provided weekly time records for supporting documentation and testified in support of the reasonableness of the costs claimed. (R4, tabs 55, 71; tr. 303-05) We accept the Government's position that the amount of $1,057.00 be deducted as without supporting documentation. The Government did not address the allocation of these costs made to appellant's separate claims. (Gov't br. at 39) We have not made an allocation of these costs to particular claims. The total amount of PCSI claims preparation costs that has been substantiated is $2,952.11.

100. Appellant AMI claimed phone expenses of $25.00, claim preparation costs of $250.00, and overhead at the rate of 12 percent, profit at the rate of 9 percent, and bond at the rate of 1.5 percent with respect to the PCSI claims for claim preparation costs (R4, tab 55 at 2). There is no supporting documentation or testimony in support of AMI's direct costs for phone and claim preparation.

101. For Claim 3, Travel and Living Expenses, appellant claimed PCSI incurred direct costs for meals, travel and lodging in the amount of $23,165.02 during the period 4 August 1994 through 24 August 1995. Copies of weekly expense reports, invoices, receipts, and expense reimbursement requests provide supporting documentation for an itemized computer print out of costs incurred. Notes on the expense reports show the project number 94004 and the cost code 495 for accounting purposes. (R4, tab 56) We find that appellant has allocated the amount claimed for travel expenses between Claim 1, Research for Calibration of Equipment and Claim 2A, Miscellaneous Additional Work, in the proportion that the total Claim 1 bears to the total Claim 2. Appellant thus claims $12,148.94 travel and living expenses related to Claim 1 and $11,016.08 related to Claim 2. Appellant has made an allocation of the Claim 2 total to each of the separate claims. We find the amounts related to the miscellaneous additional work claims for which appellant is entitled to compensation are as follows:

7816. Repair to RTU-11, Telephone Company Problem.	$ 79.59
7820. Clean and Recalibrate AIT-202.	$ 595.74
7822. Second Installation of Line Bridges.	$ 757.75
7831. Maintenance of Installed Equipment.	$ 534.27

(Ex. A-137) The total claimed for the travel and living expenses associated with the calibration research claim and these four claims is $14,116.29.

102. Appellant AMI claimed phone expenses of $25.00, claim preparation costs of $350.00, and overhead at the rate of 12 percent, profit at the rate of 9 percent, and bond at the rate of 1.5 percent with respect to the PCSI claim for travel and living expenses (R4, tab 56 at 2). There is no supporting documentation or testimony in support of AMI's direct costs for phone and claim preparation.

103. Based on his cost engineering review, Mr. King did not find that costs recorded in appellant's documentation were properly allocated to matters that were claim activities (tr. 588-89, 596-98). The review found no substantiating documentation for approximately 50 percent of the claimed travel and living expenses (R4, tab 71; tr. 588).

Decision

Appellant has the burden of proving quantum with respect to its affirmative claims. *Service Engineering Company*, ASBCA No. 40274, 93-1 BCA ¶ 25,520 at 127,119, *modified on reconsid.*, 93-2 BCA ¶ 25,885. To meet its burden of proof, appellant must establish both the reasonableness of the costs claimed and their causal connection to the event on which the claim is based. *Metric Constructors, Inc.*, ASBCA No. 46279, *supra; Delco Electronics Corp. v. United States*, 17 Cl. Ct. 302 (1989). Where the contractor fails to provide accounting or other evidence to substantiate its allegations of a quantum recovery, it has not met its burden of proof and is therefore not entitled to payment. *SMS Agoura Systems, Inc.*, ASBCA No. 50451, 97-2 BCA ¶ 29,203; *Reese Industries*, ASBCA No. 29029, 86-2 BCA ¶ 18,962. Claim letters and pleadings are not adequate to prove disputed facts. *American Construction & Energy, Inc.*, ASBCA Nos. 52031, 52032, 01-1 BCA ¶ 31,202.

Appellant argues that the associated documentation and testimony of PCSI's controller, Ms. Hammond, provides a reasonable basis for quantification of appellant's claims. The Government has challenged the PCSI employee time records substantiating PCSI's direct labor costs as "suspect" because of alleged "accounting maneuver[s]" in allocating hours to the different cost codes PCSI used to segregate time on disputed items (Gov't br. at 38). The Government argues that all costs that are not documented are not recoverable.

Appellant has explained the PCSI practice and procedure for recording time to various cost codes according to the tasks performed in the field at the job site. This testimony in support of the PCSI procedures for contemporaneously recording time in performing the miscellaneous additional work that is the subject of its claims sufficiently explained the time records provided in support of direct labor costs incurred (finding 89). Appellant has supported the amount of direct costs claimed with contemporaneous business records, *i.e.*, computer printouts of cost accounting records, weekly time records, invoices, and weekly expense reports. Costs without substantiation are not recoverable. The Government did not provide a Defense Contract Audit Agency report that could substantiate any of appellant's claimed costs, but obtained a Government cost engineer's analysis of

appellant's claims. This analysis provides support for some of appellant's costs. *Rosson Builders, Inc.,* ASBCA No. 32305, 87-1 BCA ¶ 19,538 at 98,727, n. 11. The memorandum of this analysis, which was supported by testimony, is thorough and accurate and constitutes reliable evidence of costs that were supported by documentation appellant included in its claims (finding 98). Appellant offered no substantial evidence to rebut the findings of the Government's cost engineer's detailed analysis which found certain costs undocumented. On the basis of the witness testimony of the corrective work required to be performed and Ms. Hammond's testimony about PCSI accounting procedures, we have found that her allocation of direct labor hours for the purpose of charging claims costs that were incurred to the several different claims that constituted calibration research and miscellaneous additional work was reasonably made. We find no persuasive challenge to the direct labor costs claimed, and conclude that they are reasonable in amount. The direct costs in appellant's claim were incurred as a result of the actions of the Government that are the subjects of these claims.

We conclude that appellant is entitled to recover $26,281.12 for PCSI direct costs, including labor, and labor burden for calibration research (finding 92). Appellant is entitled to recover $1,547.19 for PCSI direct costs, including labor and materials, and labor burden for miscellaneous additional work (findings 92, 95). Costs that were not supported or explained are not recoverable (findings 91, 97). The Government does not contest appellant's claim for PCSI profit at the rate of 10 percent, except it would not apply to appellant's claim for claim preparation costs (Gov't br. at 36). We have applied 10 percent profit and conclude that appellant is entitled to recover $30,611.14 for PCSI for these claims. The Government does not contest appellant's mark-ups to the extent that the rates applied to PCSI's claimed costs are considered appropriate (Gov't br. at 34). We have applied appellant's mark-ups to the amounts of PCSI costs plus profit and conclude that appellant is entitled to an additional amount of $7,272.60. The total amount recoverable for these claims is $37,883.74.

We have concluded that appellant is entitled to recover claim preparation costs. Based on the Government's review of appellant's documentation, we found that there is no support for $1,057.00 of appellant's claim for PCSI direct labor costs (finding 99). Accordingly, we deduct this amount from $4,009.11 and apply labor burden at the rate of 25.5 percent to $2,952.11 to calculate $752.78 in labor burden. The total of PCSI costs of claim preparation is thus $3,704.89. We have not allocated these costs to appellant's several claims in the absence of the Government's argument that they were not properly segregated. Appellant's direct costs were not supported and are not recoverable (finding 100). We have applied appellant AMI's mark-ups to the amount of $3,704.89 and conclude that appellant is entitled to an additional amount of $885.88. The total amount recoverable for Claim 2B, Claim Preparation Costs is $4,590.77.

We have concluded that appellant is entitled to recover travel and living expenses associated with claim items. The Government argues that this part of the appeal should be

denied because appellant has failed to meet its burden of segregating any travel and living costs as related to contract performance.

Costs directly associated with unallowable costs which were generated solely as a result of incurring the other costs and would not have been incurred if the other costs had not been incurred are unallowable. FAR 31.201-6. Appellant has recorded charges in the claim for those travel and living expenses that were incurred for the primary purpose of performing corrective work (finding 101). We make an allocation of the associated travel and living expenses on the basis of the record evidence to the costs of the miscellaneous additional work to which we have found appellant entitled. We have allocated the amount of $14,116.29 of direct travel and living expenses to the claims with merit (finding 101).

Based on the review of appellant's documentation of PCSI travel and living expenses, deduction is made for unsupported costs. Appellant has offered no substantial evidence to rebut the Government's analysis, but argues only that a proper allocation was made and the application of cost codes to the time records was not contrived (app. reply br. at 12-14). We reduce the allocated amount by one half to $7,058.15 for lack of supporting evidence (finding 103). We apply PCSI's rate of 10 percent profit on travel and living expenses that are compensable. Accordingly, we conclude that PCSI is entitled to recover $7,058.15, plus profit in the amount of $705.82, or $7,763.97. We add appellant AMI's mark-ups for overhead at the rate of 12 percent, or $931.68, profit at the rate of 9 percent, or $782.61, and bond at the rate of 1.5 percent, of $130.43. Appellant is entitled to recover the total of $9,608.69 for this claim.

SUMMARY

The appeal is sustained to the extent indicated below:

Claim 1 - Research for Calibration of Equipment

PCSI Costs	$26,281.12
PCSI Profit @ 10 percent	$2,628.11
Total	$28,909.23
AMI's Mark-ups	$6,868.23
TOTAL	$35,777.46

Claim 2A - Miscellaneous Additional Work.

7816. Repair to RTU-11, Telephone Company Problem	$128.73
7820. Clean and Recalibrate AIT-202.	$552.20
7822. Second Installation of Line Bridges.	$703.11

7831. Maintenance of Installed Equipment.	$163.15
Total PCSI Costs	$1,547.19
PCSI Profit @ 10 percent	$154.72
Total	$1,701.91
AMI Mark-ups	$404.37
TOTAL	$2,106.28

Claim 2B - Claim Preparation Costs.

PCSI Costs	$3,704.89
AMI Mark-ups	$885.88
TOTAL	$4,590.77

Claim 3 - Travel and Living Expenses.

PCSI Costs	$7,058.15
PCSI Profit @ 10 percent	$705.82
Total	$7,763.97
AMI Mark-ups	$1,844.72
TOTAL	$9,608.69

The appeal is denied in all other respects. Appellant is entitled to recovery in the amount of $52,083.20 plus interest from 24 July 1996, the date the Government received appellant's claims, in accordance with the Contract Disputes Act, 41 U.S.C. § 611.

Dated: 20 December 2002

LISA ANDERSON TODD
Administrative Judge
Armed Services Board
of Contract Appeals

I concur

I concur

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

RONALD A. KIENLEN
Administrative Judge
Acting Vice Chairman
Armed Services Board
of Contract Appeals

NOTES

[1] Appellant's Daily Construction Quality Reports are in the record at Exhibit A-1 covering the period 20 January 1994 through 5 September 1995 numbered 5132-001 through 5132-411. They are cited herein without the 5132 reference.

[2] Each of the claim items in Claim 2A included the number 1710 which has been omitted in this decision.

[3] A bridge mux is a routing device that allows additional computers to communicate in the network system (tr. 431-32).

[4] PLC refers to Programmable Logic Controller (R4, tab 72 at § 15980-SP1-5, ¶ 1.).

[5] We find this is another term used for the waste channel flow meter (tr. 445).

[6] Skip was Mr. Schultz, the PCSI project manager (finding 8, *supra*).

[7] The term "SCADA" stands for supervisory control and data acquisition.

I certify that the foregoing is a true copy of the Opinion and Decision of the Armed Services Board of Contract Appeals in ASBCA No. 52033, Appeal of American Mechanical, Inc., rendered in conformance with the Board's Charter.

Dated:

EDWARD S. ADAMKEWICZ
Recorder, Armed Services
Board of Contract Appeals