

ARMED SERVICES BOARD OF CONTRACT APPEALS

Appeal of --)
)
AEI Pacific, Inc.) ASBCA No. 53806
)
Under Contract No. DACA85-98-C-0031)

APPEARANCES FOR THE APPELLANT: Traeger Machetanz, Esq.
Christine V. Williams, Esq.
Oles Morrison Rinker & Baker LLP
Anchorage, AK

APPEARANCES FOR THE GOVERNMENT: Thomas H. Gourlay, Jr., Esq.
Engineer Chief Trial Attorney
Michael H. Gilbert, Esq.
District Counsel
Gregory W. Vanagel, Esq.
Engineer Trial Attorney
U.S. Army Engineer District, Alaska

OPINION BY ADMINISTRATIVE JUDGE TUNKS

AEI Pacific, Inc. (AEI) seeks \$853,958 in labor inefficiency and other costs and a 16-day extension of the contract completion date, alleging that the government constructively accelerated a contract to renovate an elementary school. Both entitlement and quantum are before us.

FINDINGS OF FACT

I. The Contract

1. On 27 March 1998, the U.S. Army Corps of Engineers, Alaska District (COE), issued Request for Proposals (RFP) No. DACA85-98-R-0010 to renovate the 31,494 square foot John F. Kennedy Elementary School at Fort Richardson, Alaska, and construct a new 1,467 square foot administrative addition (R4, tab 31 at 1 of 155).

2. The RFP advised that “the requirements may be delayed, cancelled or revised at any time during the solicitation, selection, evaluation, negotiation, and/or final award process” (*id.*). Pursuant to that reservation, the COE advised AEI on 14 August 1998 that it would award a reduced scope of work due to funding constraints and that the remainder of the work would be added to the contract by modification during the next fiscal year (R4, tab 18). On 23 September 1998, the COE awarded the subject contract to AEI in the

amount of \$608,677 (R4, tab 31 at 3 of 155). The reduced scope of work consisted of site and utility work (*id.* at A-1, A-1a, A-1b).

3. Special Contract Requirements clause 1 (SCR-1) provided, in part, as follows:

The Contractor [is] required to . . . complete the entire work ready for use not later than August 15, 1999. The completion date is based on the assumption that the successful offeror will receive the Notice to Proceed [NTP] by December 31, 1998. . . . Work shall not begin onsite prior to June 15, 1999.

(App. supp. R4, tab 1 at SCR-1)

4. SCR-20, CONTRACTOR-PREPARED NETWORK ANALYSIS SYSTEM (NAS) (1990 MAR HQ USACE) (ER 1-1-11), required submission of an initial NAS within 40 days of the NTP showing the order in which the work would be performed and the percentage of work scheduled for completion at any date during the project. Following approval of the initial NAS, the contractor was required to submit monthly updates. Paragraphs 8 and 10 of SCR-20 provided, in part, as follows:

8. The Contractor shall prepare proposed NAS revisions for all contract changes and submit them to the Contracting Officer's representative [COR]. These shall include a narrative listing the affected activities, a statement of the expected overall impact of the change proposed, and a sub-network of the affected diagram area. . . . When [NTP] with changes must be issued prior to settlement of price and/or time, the Contractor shall submit the same revisions for concurrence by the [COR] prior to inclusion in the NAS. If the Contractor fails to submit or include such revisions within 30 days of the [NTP], the [COR] will furnish to the Contractor suggested logic and/or revised durations to be entered into the NAS until the Contractor submits revisions, and final changes and impact have been negotiated. . . .

. . . .

10. Float . . . shall not be considered as for exclusive use by either the Contractor or the Government. Extensions of time for performance of work required under Contract Clauses entitled "CHANGES", "DIFFERING SITE CONDITIONS", "DEFAULT (FIXED-PRICE CONSTRUCTION)" or "SUSPENSION OF WORK" will only be granted to the

extent that the equitable time adjustments for affected activities exceed the total float along their paths.

(App. supp. R4, tab 1 at SCR-20)

5. The contract contained FAR 52.225-5, BUY AMERICAN ACT -- CONSTRUCTION MATERIALS (JUN 1997); FAR 52.233-1, DISPUTES (OCT 1995); FAR 52.236-2, DIFFERING SITE CONDITIONS (APR 1984); FAR 52.242-14, SUSPENSION OF WORK (APR 1984); FAR 52.243-4, CHANGES (AUG 1987) (R4, tab 31 at A-1; app. supp. R4, tab 1 at I-62, I-94, I-97, I-107). FAR 52.212-5, LIQUIDATED DAMAGES-CONSTRUCTION (APR 1984), which was also included in the contract, provided for liquidated damages of \$1,415 per day for late completion (app. supp. R4, tab 1 at SCR-1).

6. AEI acknowledged receipt of the NTP on 6 October 1998 (R4, tab 1 at 4).

7. On 4 December 1998, the COE issued an RFP to add the “Main Building Renovation” to the contract. The design clarification/variation requests (DCVRs) and contract modifications were assigned to “cases” for purposes of negotiating equitable adjustments. The RFP adding the main building to the contract was assigned to case 2. The RFP included all the items omitted from the contract at award and some additional items. (App. supp. R4, tab 25-13)

8. On 15 January 1999, AEI submitted a proposal in the amount of \$3,031,667. AEI stated that its price was based on beginning work “as soon as possible after the end of the school year, possibly as early as 04 June 1999” and using “two shifts of six 10’s.” (R4, tab 14) Negotiations began on 17 February 1999. On 26 February, AEI reduced the price to \$3,010,170, and on 5 March 1999, it reduced the price to \$2,968,009. None of the proposals requested a time extension. The COE accepted AEI’s final proposal on 8 March 1999. (Supp. R4, tab G8.17, Price Negotiation Memorandum (PNM) at 2, 6 of 6)

9. Bilateral Modification No. P00002, dated 19 March 1999, increased the contract price from \$622,360¹ to \$3,590,369 with no extension of the contract completion date (CCD) (*id.* at 1 of 3). The PNM stated that “no additional time [was] added to the contract, as this work has to be done in the summer between school seasons” (*id.*, PNM at 6 of 6). Mr. Joe Jaime, AEI’s president, executed an unqualified release (*id.* at 3 of 3).

10. AEI’s initial NAS, dated 11 June 1999, was based on working two 10-hour shifts of 16 workers per shift, six days a week plus two Sundays (8 and 15 August 1999)

¹ Bilateral Modification No. P00001, dated 20 November 1998, increased the contract price from \$608,677 to \$622,360 (supp. R4, tab G8.18).

(supp. R4, tab G4 at III-1; app. supp. R4, tabs 8-44, 25-36; tr. 5/167). The initial NAS indicated that AEI expected to have access to the exterior (task 1) on 4 June and access to the interior (task 4) on 14 June 1999.

11. When AEI began work on 4 June 1999, there were two portable classrooms in the north parking lot (R4, tab 1 at 6; app. supp. R4, tab 25-21). The initial NAS indicated that the Anchorage School District (ASD) would remove the classrooms (task 38) on 21 June 1999 (app. supp. R4, tab 25-36). According to AEI's daily reports, the classrooms were removed by noon on 15 June 1999 (app. supp. R4, tab 12-33).

12. The COE also gave AEI early access to some rooms inside the building on 8 June 1999. At about 9:30 a.m. on 9 June 1999, the COE directed AEI to stop work inside pending receipt of the principal's written permission to enter the building. The order was lifted at 11:30 a.m. the same day. (App. supp. R4, tabs 8-41, 8-42 at 403100)

13. On 14 July 1999, the COE issued a cure notice, asserting that the work was more than 10 percent behind schedule (R4, tab 10). On 24 July, AEI assured the COE that the work would be substantially complete by 15 August 1999 (app. supp. R4, tab 25-91).

14. The COE took partial beneficial occupancy of the building on 15 August 1999 to allow the school's faculty and staff to access the classrooms. Most of the outstanding work related to the mechanical systems, the administrative area, and the exterior. (Supp. R4, tab G13)

15. On 15 August 1999, AEI also requested a 10-day extension of the CCD, its first and only formal request for a time extension (app. supp. R4, tab 25-111). AEI cited cases 8-10 and 12-16 as the basis for its request. With the exception of case 13 (DCVR 66-structural steel), none of the cited cases and DCVRs were on the critical path (findings 26, 53, 98, 184, 205, 210 *infra*).² The COE denied the request on 18 August 1999, stating that AEI was "past the [CCD] and ha[d] surpassed verbally agreed upon dates for beneficial occupancy" and issued a second cure notice (app. supp. R4, tabs 25-113, 25-114). On 20 August 1999, the COE notified AEI that the cure notice incorrectly stated that AEI was beyond the CCD explaining that it "failed to take into account the pending [equitable adjustment] proposals" (app. supp. R4, tab 25-119). There were four equitable adjustment proposals (cases 3, 8, 9, and 26) totaling \$38,335 pending on 15 August 1999 (supp. R4, tabs G8.4, G8.11, G8.14).

² The record does not reflect that any DCVRs were submitted in connection with case 14.

16. The facility opened for the new school year as planned on 31 August 1999. We find that beneficial occupancy (BOD) and substantial completion took place on 31 August 1999. (Supp. R4, tab G13; app. supp. R4, tabs 12-106, 14-119A)

17. On 7 December 1999, AEI notified the COE that it was “voluntarily abandon[ing] and terminat[ing]” the contract due to financial incapacity (R4, tab 5). By 3 January 2000, AEI’s personnel had left the site (app. supp. R4, tab 25-192). On 14 January 2000, the COE terminated the contract for default and entered into a takeover agreement with AEI’s surety, the St. Paul Companies (supp. R4, tab G8.7, Mod. P00012). The record does not reflect that the COE has assessed any liquidated damages.

18. After issuance of Modification No. P00002, the COE issued 16 more modifications, increasing the contract price by \$300,334 (supp. R4, tab G4 at III-1, tabs G8.7 through G8.18). Except for Modification Nos. P00005 and P00011 (which are not part of this appeal), the CCD remained 15 August 1999. The completion dates for Modification Nos. P00005 and P00011 were 20 October and 31 December 1999 respectively (supp. R4, tabs G8.14, G8.8).

19. AEI submitted a request for an equitable adjustment (REA) on 16 February 2001 (R4, tab 4; app. supp. R4, tab 25-201). The inefficiency and delay portions of the REA were prepared by Mr. Thomas Presnell of Assess Project Services, LLC (tr. 5/182). Based on an industry study published by the Mechanical Contractors Association of America, he found that AEI had sustained a 49 percent rate of inefficiency (app. supp. R4, tab 27, attach. 6). Using what he called a modified windows method, he found that the COE had disrupted the work by 53 days and that AEI had accelerated the schedule by 34 days, resulting in a delay of 19 calendar days. AEI certified the claim on 18 July 2001 (R4, tab 3). On 20 May 2002, AEI appealed the contracting officer’s deemed denial of its claim to this Board. The contracting officer issued a final decision denying the claim on 17 June 2002 (R4, tab 1).

II. The DCVRs

20. AEI and its surety submitted 125 DCVRs during the work (app. supp. R4, tabs 7-1 through 7-125). The first DCVR was dated 16 March 1999, three months before the contract start date, and the last DCVR was dated 14 September 2000, more than a year after beneficial occupancy. The REA included 85 DCVRs (R4, tab 4). At the hearing, AEI reduced its claim to the following 47 DCVRs: 10, 11, 12, 14, 16, 17, 18, 19, 20, 22, 23, 24, 28, 33, 34, 35, 36, 40, 41, 43, 46, 47, 48, 50, 51, 52, 53, 55, 56, 57, 58, 60, 61, 63, 64, 66, 67, 70, 72, 73, 79, 80, 82, 83, 88, 90, and 94 (ex. A-4).

21. The contract was silent with respect to DCVRs. Mr. Kenneth Andrews, AEI’s project manager, testified that the COE agreed to answer simple DCVRs overnight and complex DCVRs within a week (tr. 1/38-39). Mr. Jay A. Smith, the COE’s project

engineer, testified that the COE agreed to “provide as rapid a response as possible” (tr. 7/161-62).

22. The DCVR form included a place to designate a “Date Reply Requested” (DRR). According to Mr. Andrews, the DRR was the date on which AEI needed a reply in order to avoid impacting the schedule (tr. 1/57). The DRR for many of the DCVRs was the same as the date of the DCVR. The form also included a place to indicate if the item was “Critical Schedule” (app. supp. R4, tabs 7-10 through 7-94). All but one of the 47 DCVRs in the claim (DCVR 16) was marked critical schedule. On direct examination, Mr. Andrews testified that a DCVR that was marked critical schedule was “on the critical path . . . and that any disruption to that schedule could result in the overall project not being [timely] completed” (tr. 1/57). On cross-examination, however, he conceded that marking a DCVR critical schedule did not mean that it was on the critical path (tr. 2/30-33).

23. Mr. Manuel Amaro, Jr., the Contracting Officer’s Representative (COR), signed 20 of the replies in the claim. The rest of the replies were signed by Mr. Thomas A. Johnson, an Administrative Contracting Officer (ACO), or by Mr. Amaro and Ms. Kathleen G. Prentki, another ACO. In some cases, the COE provided a field reply prior to issuing a written reply. When that occurred, Mr. Joe Falcone, the COE’s quality assurance representative (QAR), testified that AEI generally did not wait “for a written signed response before proceeding with the work.” It “move[d] out and . . . accomplish[ed] the work.” (Tr. 8/70-71)

DCVR 10

24. DCVR 10, dated 8 June 1999, advised that there was an additional layer of asphalt under the hockey rink that was not shown on the drawings. The DRR was 9 June 1999. Mr. Amaro issued a written reply on 14 June 1999, stating that removal of the extra layer of asphalt had been assigned to case 8, that any additional work would be directed in writing by the ACO, and that the COE’s reply was not a NTP. (App. supp. R4, tab 7-10)

25. Based on the difference between the date of the COE’s written reply and the DRR, Mr. Presnell asserted that the COE’s reply delayed the project by five days. The list of “Schedule Fragnets,” which identified the fragnets Mr. Presnell allegedly inserted into his baseline schedule, indicates that he inserted two fragnets for DCVR 10. Fragnet 1916 had a duration of one day and fragnet 1978 had a duration of five days. (R4, tab 4 at 8; ex. G-5 at 1916, 1978). When asked at the hearing where the input for fragnet 1916 came from, Mr. Presnell testified “I can’t answer that” (tr. 6/112-13).³

³ The durations Mr. Presnell asserted in the REA were frequently inconsistent with the durations assigned to the fragnets. The durations in the REA were based on the difference between the date of the COE’s written reply and the DRR (R4, tab 4).

26. On 10 June 1999, Messrs. Joe Falcone and Keith Rupp, the QARs, told AEI that it was “ok to take [the additional layer of asphalt] out and record the amount.” AEI removed the asphalt in two hours on the same day using two operators and two bulldozers. (App. supp. R4, tab 12-29) At the hearing, Mr. Andrews testified that two hours of traditional asphalt removal would not impact the critical path (tr. 1/170).

27. Bilateral Modification No. P00008 dated 10 November 1999 included case 8. The modification increased the contract price by \$3,956 with no additional time. The PNM stated that “[t]ime was discussed and determined to not be a factor as this work has already been completed at the contractor’s own risk.” The modification, signed by Mr. Andrews, included the following release:

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.

(Supp. R4, tab G8.11)

DCVR 11

28. DCVR 11, dated 8 June 1999, advised that the horizontal edging timbers around the playground had extensive dry rot and might not be suitable for reuse as required by a note on drawing C1. The note stated as follows: “REMOVE WOOD EDGING . . . SAVE WOOD EDGING FOR REUSE.” (App. supp. R4, tab 2) The DRR was 10 June 1999. Mr. Amaro issued a written reply on 14 June 1999, stating that the item had been assigned to case 8,⁴ that any additional work would be directed by a modification signed by the ACO, and that the reply was not considered a NTP. (App. supp. R4, tab 7-11)

29. In the REA, Mr. Presnell alleged that DCVR 11 added extra-contractual work without specifying the work to be performed (R4, tab 4 at 8). We presume that he was referring to providing new timbers. Based on the number of days between the COE’s

The durations assigned to the fragnets were based on the difference between the date of the COE’s written reply and the date of the DCVR (tr. 6/88, 100-101). Since the DRR was usually later than the date of the DCVR, many of the fragnets were overstated. Mr. Presnell did not attempt to reconcile these differences.

⁴ Although DCVR 11 was assigned to case 8, it does not appear to have been included in any contract modification (supp. R4, tabs G8.1 through G8.18).

written reply and the DRR, he asserted that the COE's reply to DCVR 11 delayed the project by four days (R4, tab 4 at 8). He inserted a fragnet of six days into his baseline schedule (ex. G-5 at 1979).

30. AEI removed and stacked the existing timbers (task 54) on 8 June 1999 (app. supp. R4, tabs 7-11, 25-36). AEI's daily reports indicate that new timbers were delivered to the site on 16 July and installed during the night shift on 22-24 July 1999. The night shift consisted of approximately seven workers per night on 22-24 July 1999 and most of those workers installed new timbers. The other workers performed such tasks as general clean-up inside and outside the building, weather protecting the exterior windows, and backfilling and compacting at vestibule 100 and the north side of the administrative addition. (App. supp. R4, tabs 8-74D at 404015, 12-66N at 404150, 12-67N at 404176, 12-68N at 404207). These activities were not in close proximity to the playground and AEI has not explained how installation of new timbers impacted those tasks (app. supp. R4, tab 2 at drawings A1, C1).

31. All the work required by the note on drawing C1 was completed on 8 June 1999, the same day the DCVR was submitted. Since the DRR was the date on which AEI needed a reply in order to avoid impacting the schedule, AEI has not proven that it suffered any damages as a result of the COE's reply. In addition, AEI did not prove when (or if) the COE directed it to provide new timbers. Thus, AEI has failed to prove a causal connection between the COE's 14 June reply and installation of the new timbers on 22-24 July 1999. According to AEI's initial NAS, replacing the timbers (task 54) had 47 days of float and would not become critical until 12 August 1999 (app. supp. R4, tab 25-36 at 406268).

DCVR 12

32. DCVR 12, dated 9 June 1999, requested the COE to specify the preferred route for underground feeders L34 and L36. The DCVR also suggested that the size of the feeders be increased. The DRR was 10 June 1999. Mr. Amaro issued a written reply on 22 June 1999, directing AEI to (1) bury the feeders under the asphalt parking lot; (2) provide the feeder sizes specified; (3) provide a double breaker instead of single breakers; and (4) change type HA fixtures to 208 volts at no cost or time to the COE.⁵ (App. supp. R4, tab 7-12)

33. In the REA, Mr. Presnell alleged that the plans and specifications were defective because they omitted a route for the feeders. According to Mr. Presnell, this omission disrupted AEI's plan to excavate the parking lot. He also alleged that the

⁵ AEI did not address items (3) and (4) at the hearing and we deem those items abandoned.

parking lot excavation was disrupted by the discovery of two shallow service lines, one of which was live. Based on the number of days between the DRR and the COE's reply, he alleged that DCVR 12 delayed the work by 12 days. (R4, tab 4 at 8, 9-10; ex. G-5 at 1980)

34. By his own admission, Mr. Presnell did not speak to anyone who worked on the project prior to submission of the REA and did not visit the site (tr. 5/181-84, 6/129). Thus, we question the reliability of his assertions regarding AEI's excavation plan and service lines. AEI did not cite any documentary evidence in support of either assertion.

35. The initial NAS included the following tasks:

<u>Task</u>	<u>Description</u>	<u>Duration</u>	<u>Start</u>	<u>Finish</u>
136	Excavate for foundation	2	06/04	06/05
137	Footers	2	06/07	06/08
72	Underground electrical	1	07/05	07/05
45	Parking backfill & AC	3	08/08	08/10

According to the initial NAS, the underground electrical (72) had 36 days of float and would not become critical until 14 August 1999 (app. supp. R4, tab 25-36 at 406268).

36. Instead of manning the job with two 10-hour shifts of 16 workers, 6 days per week as planned at the outset of the contract (findings 8, 10), AEI began work on 4 June with 3 workers and did not have 16 workers on-site until 16 June 1999 (app. supp. R4, tabs 12-24 at 403052, 12-34). Even though it started the night shift on 21 June, AEI discontinued the shift on 29 June 1999 due to a shortage of qualified laborers (app. supp. R4, tabs 12-39, 12-48N at 403800; tr. 2/69-70). AEI did not resume the night shift until 22 July 1999 (app. supp. R4, tab 12-66N).

37. Due to lack of manpower, AEI did not complete the foundation and footers at the administrative addition until 18 June 1999. On 17 June 1999, AEI advised via DCVR 22 that it had discovered unsuitable soils in the parking lot area (app. supp. R4, tabs 7-22, 12-31 through 12-36). No workers from AEI were on site on Saturday, 19 June 1999 (app. supp. R4, tab 12-37). AEI began excavating the new parking lot on 21 June 1999, but "lost a good part of the day" due to a broken excavator (app. supp. R4, tab 12-38). As a result, AEI's first day of excavation was 22 June 1999 (app. supp. R4, tab 12-39).

38. On 23 June 1999, Mr. Smith, the COE's project engineer, directed AEI to cut and fill the parking lot with an additional 8 inches of structural fill (D1) (app. supp. R4, tabs 8-54D at 403561, 25-65 at 406346). AEI finished excavating, backfilling, and compacting the parking lot on 2 July and completed most of the grading by 17 July 1999 (app. supp. R4, tabs 8-55D through 8-58D, 8-61 through 8-74N, 14-62 through 14-74).

On 9 July, AEI “excavate[d] U.G. [underground] elect[rical] service & transformer” and on 27 July 1999, it “installed and covered” the underground electrical (app. supp. R4, tabs 8-67, 8-84D). AEI did not establish when the feeders were installed.

39. AEI did not prove a causal connection between the COE’s 22 June reply and its failure to install the underground electrical until 27 July 1999. AEI was unable to start excavating the new parking lot area until 22 June 1999 due primarily to its failure to adequately man the job. AEI finished excavating, backfilling, and compacting the parking lot on 2 July and completed most of the grading on 17 July 1999. Although AEI trenched for the underground electrical on 9 July 1999, for unexplained reasons, it waited until 27 July 1999 to install and cover the system. AEI did not prove when feeders L34 and L36 were installed. However, we assume they were installed on 27 July 1999 along with the rest of the underground electrical. If this assumption is incorrect, AEI has failed to prove that it suffered any damages as a result of DCVR 12.

DCVR 14

40. DCVR 14, dated 10 June 1999, advised the COE that the specified fence fabric, which had twisted and barbed wire on the top selvage, could no longer be used at schools. The DRR was 14 June 1999. On 16 June 1999, Mr. Amaro issued a written reply directing AEI to “knuckle” the barbs. (App. supp. R4, tab 7-14)

41. In the REA, Mr. Presnell alleged that AEI mobilized several of its workforce to install the fence “specifically to mitigate the consequences of . . . earlier disruptions.” After the mobilization, Mr. Presnell alleged that AEI “halted [the work] for a period of six days pending an answer from the COE.” (R4, tab 4 at 10-11)

42. According to the initial NAS, installation of the fence (task 43) was scheduled for 8-9 June 1999. The task had 57 days of float and would not become critical until 13 August 1999 (app. supp. R4, tab 25-36 at 406268). AEI’s first fence submittal was submitted on 28 June and rejected on 29 June 1999 (supp. R4, tab G60 at 9 of 43). AEI re-submitted on 2 July and the submittal was approved on 7 July 1999 (*id.*). Prior to beginning each definable feature of work, AEI’s CQC manager was required to conduct a preparatory meeting (app. supp. R4, tab 1, spec. § 01440, ¶ 3.06B). The preparatory meeting for fencing was held on 13 July 1999. At the meeting, AEI advised that it could not obtain fence fabric without barbs, and Mr. Falcone agreed that AEI could use fabric with barbs on one side if the barbs were knuckled under (app. supp. R4, tabs 8-70 at 403913-14, 14-70; tr. 8/49-51). The fence materials were delivered to the site on 16 July and AEI’s day shift installed fencing from 21-28 July 1999 (app. supp. R4, tabs 8-66 at 403865, 8-78; 8-79D, 8-80D, 8-81D, 8-83D, 8-84D, 8-85D; tr. 2/94).

43. AEI has not proven a causal connection between the COE’s 16 June reply and AEI’s failure to start fencing until 21 July 1999. In addition, Mr. Presnell’s unsupported

assertion that the COE's replies to earlier DCVRs required it to mobilize several of its workforce to install the fence is not credible. Mr. Presnell did not talk to anyone from AEI prior to submission of the REA and never visited the site (5/182-83, 6/129). AEI did cite any documentary evidence corroborating the alleged mobilization. Moreover, the extra layer of asphalt (DCVR 10), was removed in two hours on 10 June 1999. The new timbers (DCVR 11) were installed by the night shift on 22-24 July 1999, while the fence was installed by the day shift on 21-28 July 1999. The underground feeders (DCVR 12) were installed under the parking lot on an unspecified date, while the fence was installed at the north side of the parking lot. DCVR 13 is not one of the DCVRs designated as part of the claim.

DCVR 16

44. DCVR 16, dated 12 June 1999, requested clarification of a conflict between drawings E3 and E4.⁶ Drawing E3 required removal of an exterior light fixture outside room 142 and drawing E4 required that the light fixture remain in place (app. supp. R4, tab 2). The DRR was 15 June 1999. Mr. Johnson issued a written reply on 14 July 1999, directing AEI to leave the light fixture in place. (App. supp. R4, tab 7-16)

45. In the REA, Mr. Presnell did not specify what, if any, impacts AEI suffered as a result of DCVR 16. Based on the number of days between the COE's written reply and the DRR, he alleged that it delayed the work by 29 days. (R4, tab 4 at 11)

46. AEI failed to prove that it suffered any damages as a result of leaving the light fixture in place pending receipt of a reply.

DCVR 17

47. DCVR 17, dated 12 June 1999, requested clarification of the extent of asbestos floor carpet and tile removal required under the cabinet heaters in the A wing. Although the DRR was 14 June 1999, AEI requested a reply as soon as possible because it planned to begin work that week. Mr. Amaro's written reply, dated 17 June 1999, stated that inspection of the area showed little carpet or tile beneath the heaters. The COE concluded by directing AEI to "[r]emove carpet from under the edge of the heaters to maximum extent as is practical without removing heaters." (App. supp. R4, tab 7-17)

48. In the REA, Mr. Presnell alleged that AEI's abatement subcontractor, Luciano Enterprises (Luciano), "disconnected each cabinet heater unit from the wall, jacked up each separate unit, and scraped underneath each heater in order to remove the vinyl floor tiles." Based on the difference between the date of the COE's reply and the DRR,

⁶ DCVR 16 is the only DCVR of the 47 DCVRs remaining in the claim that was not marked critical schedule at submission (app. supp. R4, tab 7-16).

Mr. Presnell asserted that the COE's reply delayed the work by three days. (R4, tab 4 at 11-12)

49. Luciano began work in the A wing on 18 June and ran final clearances on air quality on 21 June 1999 (app. supp. R4, tabs 8-50N through 8-52N). None of the project reports, including Luciano's daily reports, indicate that Luciano disconnected the heaters and jacked them up (app. supp. R4, tab 50N at 403286, 8-51D at 403313, 8-52D at 403317, 403409, 8-52N at 403488, 12-36 through 12-38, 14-50 through 14-52). No one from Luciano testified. AEI did not prove that the work affected the critical path.

50. The COE's reply specifically directed AEI not to remove the heaters. Thus, to the extent Luciano removed the heaters, the work is noncompensable. Moreover, none of the project reports, including Luciano's daily reports, indicate that it performed the work and no one from Luciano testified. Since Mr. Presnell was not present during the work and did not speak to anyone who worked on the project prior to submission of the REA, we reject his unsupported assertion regarding what occurred on the site in June 1999 as unreliable (tr. 5/182-83, 6/129).

DCVR 18

51. DCVR 18, dated 14 June 1999, advised that the vertical playground posts were not sufficiently bedded to remain in place during demolition. AEI suggested that the posts be removed, saw cut, and reinstalled. The DRR was 15 June 1999. On 16 July 1999, Mr. Johnson issued a written reply adopting AEI's suggestion. The reply stated that DCVR 18 had been assigned to case 9 and that any additional work would be directed in writing by a contract modification signed by the ACO. (App. supp. R4, tab 7-18)

52. In the REA, Mr. Presnell alleged that the COE's late reply to DCVR 18 required AEI to re-sequence its operations and severely limited access to the site. Based on the number of days between the COE's written reply and the DRR, he asserted that the COE's reply delayed the project by 31 days (R4, tab 4 at 14). He inserted a fragnet of 29 days into his baseline schedule (ex. G-5 at 1983).

53. The CQC reports indicate that the QAR gave AEI a sketch showing how to reset the posts on 29 June and that the posts were reset on 30 June 1999 (app. supp. R4, tab 8-59D at 403741, tab 8-60). AEI failed to prove that resetting the posts affected the critical path.

54. On 19 July 1999, AEI submitted a proposal in the amount of \$12,290 with no additional time for DCVR 18 (supp. R4, tab G8.11, PNM). Bilateral Modification No. P00008, dated 10 November 1999, increased the contract price by \$12,290 with no additional time. The modification included the following release:

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.

(Supp. R4, tab G8.11)

DCVR 19

55. DCVR 19, dated 14 June 1999, requested the following information regarding the communications and safety systems: (1) whether the contract required a class A fire alarm system per the specifications or a class B system as shown on the one-line drawing; (2) whether the speakers for the gym PA were to be separate from the intercom system; whether they were to be flush-mounted or surface-mounted; and whether the rack was to be wall-mounted or in the wall; (3) whether the COE wanted cable TV in lieu of the specified antenna TV; (4) whether the contract required installation of security devices; and (5) whether the intercom headend was to be freestanding or roll around, whether the source rack was to be desk top, and whether there were any space limitations. The DRR was 16 June 1999. On 20 July 1999, Mr. Amaro issued a written reply, directing AEI to install: (1) a class A fire alarm system as required by the specification; (2) separate gym PA and intercom speakers as shown on the drawings; (3) cable TV in lieu of antenna TV; (4) the security system as designed; and (5) a free-standing intercom rack with adequate access space. (App. supp. R4, tab 7-19)

56. In the REA, Mr. Presnell alleged that AEI could not begin rough-in of the overhead cables for the communications and safety systems until it had a reply to DCVR 19 and that it could not begin installing the ceiling until the overhead cables were installed. At one point in the REA, Mr. Presnell alleged a delay of 34 days; at another point, he alleged a delay of 36 days. (R4, tab 4 at 14-15) He inserted a fragnet of 32 days into his baseline schedule (ex. G-5 at 1984).

57. The initial NAS does not include a separate task for installing the overhead cables. However, it provides as follows with respect to the ceiling work:

<u>Task</u>	<u>Description</u>	<u>Duration</u>	<u>Start</u>	<u>Finish</u>
122	Acoustic tile area A	1	08/08	08/08
97	Acoustic tile area B	2	08/10	08/11

Only acoustic tile in area B was on the critical path (app. supp. R4, tab 25-36 at 406269).

58. AEI began pulling wires for the power, alarm, and communications systems on 30 July, but did not finish those tasks until after 20 August 1999 (app. supp. R4, tabs 14-87 through 14-108). In his daily report for 20 August 1999, AEI's superintendent noted that "communication wiring is a long way from being complete" (app. supp. R4, tab 12-95D1). The electrical punch list indicates that the systems were substantially complete on 31 August 1999 (app. supp. R4, tab 26-1 at Coffman ltr. dtd. 31 Aug. 1999). No COE-cause has been advanced for these delays.

59. AEI began installing ceiling tile in accordance with its initial NAS on 8 August 1999 (app. supp. R4, tabs 14-96 through 14-118A). The CQC reports indicate that the fire alarm and PA systems were not operational until after 15 August 1999 (app. supp. R4, tabs 8-100N, 8-101, 8-107D, 14-105, 14-106, 14-108, 14-115A).

60. AEI has not proven a causal relationship between the COE's 20 July reply and its failure to complete the communications and safety systems until 31 August 1999. AEI did not begin pulling wires until 10 days after receipt of the COE's reply. There is no indication that this delay was caused by the COE. Paragraph (1) of the DCVR, which related to the type of fire alarm system that was required, could have been resolved by reading the standard order of precedence clause in the contract. FAR 52.236-21(a) states that "[i]n case of difference between drawings and specifications, the specifications shall govern" (app. supp. R4, tab 1 at I-105, I-106). Paragraphs (2) and (4), relating to the PA speakers and the security system, could have been resolved by reading the plans and specifications. Paragraph (3) was an offer to perform additional work, which the COE accepted. Paragraph (5) was very minor and probably should have been resolved in the field. AEI did not prove that any of these items affected the critical path.

DCVR 20

61. DCVR 20, dated 16 June 1999, questioned an estimate on drawing H1 which stated that there were 520 square feet of surfaces to be cleaned in the utilidor. The DRR was 17 June 1999. On 22 June 1999, Mr. Amaro issued a written reply directing AEI to verify the square footage. (App. supp. R4, tab 7-20)

62. On or about 7 July 1999, the COE agreed that its estimate was inaccurate (app. supp. R4, tab 25-60).

63. AEI submitted an unsolicited proposal to perform the work on 7 July 1999, requesting \$25,062 and a 6-day extension of the CCD. The proposal did not state the number of square feet to be abated, but stated that the work extended "from E3 to B6, along the 3 Line window wall and the B line wall from I1 to H1 where plumbing is to be removed, at the entry gratings at the south end of B wing and the east end of A." (App. supp. R4, tab 25-66)

64. In the REA, Mr. Presnell alleged that the work delayed plumbing, window wall removal, and refinishing. Based on the number of days between the COE's written reply and the DRR, he asserted that the COE's reply delayed the project by five days. (R4, tab 4 at 15) He inserted a fragnet of six days into his baseline schedule (ex. G-5 at 1985).

65. The additional utilidor work was performed on 13 July in conjunction with removal of the vinyl asbestos floor tiles and mastic in rooms 126 and 126A which was performed on 14 July 1999 (DCVR 35) (app. supp. R4, tabs 8-70N, 8-71N at 403972, 14-70, 14-71).

66. DCVR 20 was assigned to case 17 and included in bilateral Modification No. P00007 dated 9 November 1999. The modification increased the contract price by \$23,809 with no additional time. The modification, signed by Mr. Andrews, included the following release:

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.

(Supp. R4, tab G8.12)

DCVR 22

67. DCVR 22, dated 17 June 1999, advised that there were unsuitable soils in the new parking lot area. The DRR was "the same day." On 6 July 1999, Mr. Amaro issued a written reply, directing AEI to prepare the subsoil "per negotiated agreement." (App. supp. R4, tab 7-22)

68. In the REA, Mr. Presnell alleged that the COE's reply held up installation of the fence, the underground electrical lines, and severely limited access to the site. Based on the number of days between the date of the COE's written reply and the DRR, he asserted that the COE's reply delayed the work by 19 days. (R4, tab 4 at 15-16) He inserted a fragnet of 17 days into his baseline schedule (ex. G-5 at 1987).

69. The initial NAS provided, in part, as follows:

<u>Task</u>	<u>Description</u>	<u>Duration</u>	<u>Start</u>	<u>Finish</u>
136	Excavate for foundation	2	06/04	06/05
137	Footers	2	06/07	06/08

43	6' Chain link fence north	2	06/08	06/09
72	Underground electrical	1	07/05	07/05
45	Parking backfill & AC	3	08/08	08/10

Parking backfill & AC had two days of float and would become critical on 12 August 1999 (app. supp. R4, tab 25-36 at 406268).

70. SCR-10 stated that the indications of physical conditions on the drawings and in the specifications were the result of a site investigation (app. supp. R4, tab 1 at SCR-6). Note 3 on drawing C1 indicates that the “[e]xisting site conditions [were] based on [a] topographic survey performed July 21, 1995” (app. supp. R4, tab 2). The referenced site investigation/topographic survey is not in the record.

71. As stated previously, AEI did not man the job as planned. As a result, it did not begin excavating the parking lot until 22 June 1999. (App. supp. R4, tabs 12-24 at 403052, 12-25 at 403064, 12-26 at 403084, 12-31 through 12-34 at 403217, 12-36 through 12-39). On 23 June 1999, Mr. Smith, the COE’s project engineer, directed AEI to cut and fill the new parking lot area with 8 inches of D1 (app. supp. R4, tabs 8-54D, 12-43, 25-50, 25-65). By 2 July 1999, AEI had excavated, backfilled, and compacted the parking lot (app. supp. R4, tabs 8-57D, 8-58D, 8-61, 8-62, 12-44). On 3-17 July 1999, AEI leveled and graded the area (app. supp. R4, tabs 8-63 through 8-74N, 14-62 through 14-74). AEI resumed grading in preparation for asphalt placement on 5 August 1999 (app. supp. R4, tab 14-98). The QAR report for 11 August 1999 states that “[a]t 2030 [AEI] informed the [COE] that the reason no pavement had been placed was the subcontractors [sic] paving machine had broken down” and that “parts were being flown in from Anchorage” (app. supp. R4, tab 14-99). The parking lot was paved on 15 August 1999 (app. supp. R4, tab 14-103).

72. On 29 June 1999, AEI submitted a proposal for \$19,104 and no time (app. supp. R4, tab 25-50). The COE concurred with the proposal except for the claimed dumping fees. On 2 August 2000, the COE issued unilateral Modification No. P00015, increasing the contract price by \$18,061 with no additional time. (Supp. R4, tab G8.4)

73. AEI has failed to establish a causal connection between the COE’s 23 June reply and its failure to complete the parking lot until 15 August 1999.

DCVR 23

74. DCVR 23, dated 19 June 1999, advised of a conflict on drawing S2. A note on the drawing stated that the concrete masonry units (CMU) for the stem walls at the administrative addition were to be 6 inches thick. By scaling the drawing, AEI determined that the walls were to be 7 5/8 inches thick (app. supp. R4, tab 2). AEI suggested using 8-inch nominal CMU instead of the 6-inch CMU specified. The DRR

was 21 June 1999. On 14 July 1999, Mr. Johnson issued a written reply concurring with AEI's proposal. The reply stated that the work was to be at no additional cost or time and that, if AEI disagreed, it was to notify the COE before proceeding. (App. supp. R4, tab 7-23)

75. In the REA, Mr. Presnell identified DCVR 23 as a controlling delay, asserting that the COE's 14 July 1999 reply "held up the new administrative wing addition for an extended period of time" (R4, tab 4 at 16, 66). Based on the number of days between the date of the written reply and the DRR, he alleged that the COE's reply delayed the project by 23 days (R4, tab 4 at 16, 66). He inserted a fragnet of 22 days into his baseline schedule (ex. G-5 at 1988).

76. The project reports indicate that AEI's masonry subcontractor laid out, stocked, and began laying CMU for the stem walls on 21 June and that it completed the work on 23 June 1999 (app. supp. R4, tabs 8-52N, 8-53D, 14-54; tr. 2/106-07).

77. Since AEI's subcontractor began work on the stem wall on 21 June, the date of the DRR, AEI has failed to demonstrate that it incurred any damages as a result of the COE's failure to reply until 14 July 1999. In addition, Mr. Presnell admitted at the hearing that DCVR 23 was "meaningless . . . as far as impacts to the schedule" (tr. 6/86-87). AEI also failed to prove that it provided the notice of increased costs required by the COE's reply.

DCVR 24

78. DCVR 24, dated 19 June 1999, advised of a conflict between the height of the ceilings in the classrooms and the height of the clock boards. The DCVR stated that "[p]er discussion with Joe Falcone, QAR we will raise the new classroom ceilings to 8'-8 1/2" after determining that this will not impact any above ceiling installations." The DRR was 21 June 1999. On 14 July 1999, Mr. Johnson concurred with AEI's proposal on the condition that it would not result in any additional costs. If AEI disagreed, it was to notify the COE before proceeding. (App. supp. R4, tab 7-24)

79. In the REA, Mr. Presnell alleged that raising the ceiling height caused layout changes (R4, tab 4 at 17). Based on the number of days between the date of the COE's written reply and the DRR, he asserted that the COE's reply delayed the work by 23 days (R4, tab 4 at 14). He inserted a fragnet of 22 days into his baseline schedule (ex. G-5 at 1989).

80. The QAR authorized AEI to raise the ceiling height two days before the DRR (app. supp. R4, tab 7-24). AEI did not prove when (or if) it performed the work or that it provided prior notice of additional costs as required by the COE's reply. AEI did not prove that the work affected the critical path.

DCVR 28

81. DCVR 28, dated 24 June 1999, requested the COE to confirm that detail 6/E10 was the correct detail for connecting the telephone service. Note 5 on sheet E2, which set forth the electrical site plan and details, stated that the work required by note 5 was “FOR FUTURE DATA/COM” (app. supp. R4, tab 2 at sheet E2). The DRR was 25 June 1999. Mr. Amaro replied on 28 June 1999, stating that detail 6/E10 was for future data expansion and directing AEI to connect the telephone service to the telephone backboard per note 9 on sheet E10. (App. supp. R4, tab 7-28)

82. In the REA, Mr. Presnell alleged that the COE’s reply delayed the work by three days. He did not allege any specific impacts to the work. (R4, tab 4 at 20)

83. AEI could have obtained the answer to DCVR 28 by reading note 9 on sheet E10. As a result, the DCVR was unnecessary. Moreover, AEI did not establish when the work was performed, which precludes us from ascertaining the length of the delay (if any) caused by DCVR 28. AEI also failed to prove that the work affected the critical path.

DCVR 33

84. DCVR 33, dated 29 June 1999, advised the COE that the existing K-joists interfered with the installation of the bent plates at nine locations⁷ in the A and B wings. For unexplained reasons, AEI did not submit DCVR 33 for approximately three days after it identified the problem (tr. 2/53). The DCVR suggested that the affected bent plates be installed on the opposite sides of the walls and fastened with the specified fasteners. The DRR was “the same day.” By written reply dated 1 July 1999, Mr. Amaro accepted AEI’s suggestion. (App. supp. R4, tab 7-33) Although Mr. Andrews alleged at the hearing that AEI did not receive the COE’s reply until 7 July 1999,⁸ AEI stated in its brief that it “received a sufficient answer to its inquiry concerning the bent plates on July 2 to allow bent plate installation to proceed in the affected areas” (tr. 3/41-42; app. br. at 17 of 85). We accept the date of 2 July 1999.

85. Drawings S3 and S4 required AEI to install bent plates at multiple locations in areas A and B (app. supp. R4, tab 2). The record does not reflect the total number of bent plates that were installed.

⁷ The record indicates that there were seven locations, four in area A and three in area B (app. supp. R4, tab 8-57D at 403702; tr. 2/53, 4/120).

⁸ At the hearing, AEI produced a copy of the COE’s reply that was date stamped 7 July 1999 and initialed by Mr. Andrews (ex. A-1).

86. In the REA, Mr. Presnell alleged that DCVR 33 “disrupted the continuity” of its bent plate crew (R4, tab 4 at 22). Based on the number of days between the COE’s written reply and the DRR, Mr. Presnell asserted that the COE delayed the work two days (R4, tab 4 at 22). He inserted a fragnet of three days into his baseline schedule (ex. G-5 at 1991).

87. The initial NAS provided as follows with respect to the bent plates:

<u>Task</u>	<u>Description</u>	<u>Duration</u>	<u>Start</u>	<u>Finish</u>
104	Bent plate area A	2	06/25	06/26
79	Bent plate area B	2	06/29	06/30

Both tasks were on the critical path (app. supp. R4, tab 25-36 at 406268-69).

88. AEI installed bent plates in area A from 25 June through 1 July, except for 28 June, when it installed bent plates in area B, and 10 July, when it installed bent plates in both areas (app. supp. R4, tabs 8-56D through 8-61, 8-68). The bent plates in the gymnasium in area A were installed on 20-22 July 1999 (app. supp. R4, tabs 8-77 through 8-79D). The bent plates in the gymnasium were not affected by DCVR 33 (app. supp. R4, tabs 2 at drawing A2, 7-33).

89. The bent plates in area B were installed on 28 June, 2-12 and 17 July 1999 (app. supp. R4, tabs 8-62 through 8-70D, 8-74N).

90. Altogether, it took 15 days to install the bent plates exclusive of the gymnasium, exceeding AEI’s planned duration by 11 days. In addition to the problems that gave rise to DCVR 33, Mr. Andrews testified that completion of the work was delayed because AEI had difficulty hiring enough competent workers to perform the work and it had inaccurately estimated the difficulty of the work. He described these problems as follows:

Q . . . As of July 1st, you had clear direction concerning the bent plates, wouldn’t you agree with that?

A Yes.

Q Yet you chose to use . . . the day shift [as opposed to using both the day and night shift] to do that work . . . ?

A That’s correct. Because they were competent at doing the work. . . . And the quality of the carpenters and the

other tradesmen that were available in the middle of July in Anchorage is not the same quality that you get in April and May. Because the guys who are very good at what they do are already working and not looking for work in the middle of the summer.

....

Q [When you began work,] [d]id you have sufficient resources to complete the job in the two-day time frame you allocated for each wing in the schedule?

A I don't know if we did or not. . . .

Q Is it reasonable to assume that you didn't since it took you until the middle of July to complete the work?

A Well, I think what we found here is that the work was much more difficult than we had anticipated.

(Tr. 2/69-71)

91. Although AEI was able to progress the work to some extent from 29 June to 2 July 1999, we find that DCVR 33 delayed the bent plates overall by 4 days, measured by that period. This delay affected the critical path, and was the first delay to do so. We reject Mr. Presnell's unsupported assertion that DCVR 33 "disrupted the continuity" of the bent plate crew because he did not talk to anyone from AEI prior to submission of the REA and never visited the site (tr. 5/182-83, 6/129).

DCVR 34

92. DCVR 34, dated 30 June 1999, identified a conflict between drawing D1, which required the plumbing fixture chase walls between rooms 146 and 147 to remain, and drawing M4, which required that new plumbing, backing, and fixtures be installed. The DRR was 30 June 1999. On 6 July 1999, Mr. Amaro issued a written reply directing that "[e]xisting frame walls for this chase remain as indicated on the architectural drawings," stating that the interior of the chase could be easily accessed for the mechanical work. (App. supp. R4, tab 7-34)

93. In the REA, Mr. Presnell alleged that "the delay in processing this DCVR [delayed] PT & B, from its work in toilet rooms 146 and 147" (R4, tab 4 at 23). Based on the number of days between the COE's written reply and the DRR, he asserted that the COE's reply delayed the project by six days (R4, tab 4 at 23).

94. The initial NAS indicates that plumbing rough-in in area B, where toilet rooms 146-147 were located, was scheduled for 13-17 July 1999, and that it was on the critical path (app. supp. R4, tab 25-36 at 406269).

95. The COE's reply directed AEI to leave the walls in place. Although the walls were later demolished as a result of DCVR 50, there is no evidence that AEI suffered any damages as a result of leaving the chase walls in place pending receipt of a reply.

DCVR 35

96. DCVR 35, dated 30 June 1999, advised of a conflict between drawings A12 and D1. Drawing A12 called out new flooring in rooms 126 and 126A. Drawing D1 stated that the existing floors were to remain. The DRR was "the same day." On 7 July 1999, Mr. Amaro issued a written reply, assigning DCVR 35 to case 10 and directing AEI to remove the existing floors before installing the new floors. (App. supp. R4, tab 7-35)

97. In the REA, Mr. Presnell alleged that the COE's 7 July 1999 reply disrupted AEI's installation of the bent plates and "impacted the installation of the bar joists for the structural upgrade in the areas surrounding rooms 126 and 126A" (R4, tab 4 at 23; app. supp. R4, tab 2 at drawing A2). He also alleged that AEI had to remove the cabinets and shelving in the rooms, bring its abatement subcontractor back, and seal off the area to perform the work (R4, tab 4 at 23). Based on the number of days between the COE's written reply and the DRR, he asserted that the COE's reply delayed the project by seven days and inserted a fragnet of seven days into his baseline schedule (R4, tab 4 at 23; ex. G-5 at 1992).

98. AEI's abatement subcontractor removed the flooring in rooms 126 and 126A on 14 July 1999, the day after it completed the additional abatement work in the utilidor (DCVR 20) (app. supp. R4, tabs 8-70D, 8-71N at 403972, 14-70, 14-71). AEI did not prove that this work affected the critical path.

99. Although Mr. Presnell alleged that DCVR 35 disrupted installation of the bent plates, the record indicates that the bent plates in area A were completed on 10 July and that the bent plates in area B were completed on 12 July (with the exception of one day's work on 17 July 1999). Accordingly, AEI has failed to prove that DCVR 35 disrupted the bent plate work. Moreover, since Mr. Presnell did not talk to anyone from AEI prior to submission of the REA and never visited the site, his unsupported assertions relating to what occurred in the field in July 1999 lack probative value (tr. 5/182-83, 6/129).

100. AEI submitted DCVR 39 on 2 July 1999, which is not part of this appeal, advising that its detailer and all levels of review had missed three joists intended for room 126 (app. supp. R4, tab 7-39). The NAS update for 14 July states that the joists would be

shipped on 16 July and that delivery was expected by 20 July 1999 (app. supp. R4, tab 25-79 at 406391). The record does not reflect when AEI received the joists. With respect to the shelves in room 126, the CQC reports indicate that AEI re-installed “Storage 126 shelves” on 12 August 1999 (app. supp. R4, tab 8-100D).

101. Bilateral Modification No. P00007 dated 9 November 1999 increased the contract price by \$2,128 for case 10 with no additional time. The modification included the following release:

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.

(Supp. R4, tab G8.12)

DCVR 36

102. DCVR 36, dated 1 July 1999, advised of a conflict between an existing beam and the mounting brackets for channel joists between rooms 152 and 155 in the B wing. AEI suggested that the brackets be field-cut flat and welded to the existing beams. The DRR was 1 July 1999. On 19 July 1999, Mr. Johnson replied that the matter had been assigned to case 12, and that any additional work would be directed by a contract modification signed by the ACO. (App. supp. R4, tabs 2 at drawing A3, 7-36, 8-61)

103. In the REA, Mr. Presnell alleged that DCVR 36 required AEI to re-procure materials and field fabricate and weld the brackets. According to Mr. Presnell, the COE’s 19 July 1999 reply delayed HVAC and plumbing upgrades, communications wiring, and fireproofing in the B wing (R4, tab 4 at 23-24). Based on the number of days between the DRR and the date of the COE’s written reply, he asserted that the COE’s reply delayed the project by 18 days (R4, tab 4 at 23). He inserted a fragnet of 16 days into his baseline schedule (ex. G-5 at 1993).

104. Mr. Dennis L. Berry, the COE’s architect-engineer (A/E), gave AEI a sketch showing how to mount the brackets on 3 July 1999 (app. supp. R4, tabs 8-62, 8-63 at 403836). Mr. Falcone testified that AEI did not reprocure any material, that it simply “cut off the bracket that was provided with these channels and just welded the channel directly to the existing beam that was already part of the building” (tr. 8/67-68). He estimated that it would take 6 manhours to mount the beams (tr. 8/68).

105. DCVR 36 was resolved as part of case 13 and included in bilateral Modification No. P00017 dated 21 June 2002 (supp. R4, tab G8.2). AEI proposed

6.5 hours for a welder and 3 hours for a laborer and no extension of time (R4, tab G8.2, PNM at 4). The modification increased the contract price by \$18,500 for all the DCVRs in case 13 with no extension of the CCD. The release language in the modification contained the following exception:

This release does not extend to any and all issues arising out of AEI[’s] [REA] dated February 16, 2001.

(R4, tab G8.2)

106. AEI did not establish when the channel joists were installed. As a result, we cannot determine the extent of the delay, if any, caused by the COE’s reply. AEI did not prove that the work affected the critical path.

DCVR 40

107. DCVR 40, dated 2 July 1999, inquired if the CMU walls in corridors 136 and 154 were sound enough to be cut for electrical panels B and C. The DRR was 2 July 1999. On 12 July 1999, Mr. Johnson issued a written reply directing AEI to provide C6 x 8.2 headers to support the panels. (App. supp. R4, tab 7-40)

108. In the REA, Mr. Presnell identified DCVR 40 as a controlling delay and asserted that the COE’s reply “held up the installation of the electrical rough-in and disrupted [AEI’s] planned sequence of operations.” Based on the number of days between the date of the COE’s reply and the DRR, he asserted that the COE’s reply delayed the project by 10 days and inserted a fragnet of 10 days into his baseline schedule (R4, tab 4 at 22, 24, 66; ex. G-5 at 1994).

109. AEI’s initial NAS provided, in part, as follows:

<u>Task</u>	<u>Description</u>	<u>Duration</u>	<u>Start</u>	<u>Finish</u>
111	Elect. rough in area A	4	07/15	07/19
86	Elect. rough in area B	4	07/16	07/20

Electrical rough-in was on the critical path (app. supp. R4, tab 25-36 at 406269-70).

110. During a 2 July 1999 site visit, AEI asked the COE if the CMU wall at corridors 136 and 154 was adequate to support the electrical panels (app. supp. R4, tab 8-62). The QAR provided the following field reply on 10 July 1999:

- RESPONSE TO DCVR # 98105-040 WILL REQUIRE C6 X 8.2 (2 EACH) OF 10'-4" @ B WING, & 16'-2" @ A

--WING TO OBTAIN PROPER STRUCTURAL
ATTACHMENTS.

(App. supp. R4, tab 8-68)

111. The CQC reports indicate that the headers for the electrical panels were installed on 15-17 July 1999 (app. supp. R4, tabs 8-72N, 8-74D).

112. DCVR 40 was assigned to case 13, which was part of bilateral Modification No. P00017, dated 21 June 2002 (supp. R4, tab G8.2). The modification increased the price for all the DCVRs in case 13 by \$18,500 with no additional time. The parties agreed it would take one carpenter 20 hours to do the work. The release excluded all claims except those arising out of the REA. (Supp. R4, tab G8.2)

113. Since electrical rough-in was scheduled for 15-19 July in area A and 16-20 July 1999 in area B and the headers were installed during those time periods, AEI has failed to prove that DCVR 40 delayed the critical path.

DCVR 41

114. DCVR 41, dated 2 July 1999, inquired if fireproofing detail 5/A11 was applicable “except at classroom entry alcoves.” The DRR was 7 July 1999. On 14 July 1999, Mr. Johnson issued a written reply, stating that the detail applied to all corridor walls and classroom entry alcoves, that any additional work would be directed by a modification signed by the ACO, and that the reply was not considered a NTP. (App. supp. R4, tab 7-41)

115. In the REA, Mr. Presnell identified DCVR 41 as a controlling delay, alleging that it delayed fireproofing in area A, metal stud framing, and GWB and tape (R4, tab 4 at 24, 66). Based on the number of days between the date of the COE’s written reply and the DRR, which he incorrectly stated was 2 July 1999, he asserted that the COE’s reply delayed the project by 12 days (R4, tab 4 at 22).⁹ Mr. Presnell inserted a fragnet of 11 days into his baseline schedule (ex. G-5 at 1995).

116. The initial NAS does not contain a task for metal stud framing. However, it provides as follows with respect to fireproofing and GWB and tape:

⁹ Based on a DRR of 7 July 1999, the number of days should have been 7 days.

<u>Task</u>	<u>Description</u>	<u>Duration</u>	<u>Start</u>	<u>Finish</u>
108	Fireproof area A	3	07/03	07/06
83	Fireproof area B	1	07/06	07/06
113	GWB and tape area A	3	07/21	07/23

Fireproofing and GWB and tape in area A were on the critical path (app. supp. R4, tab 25-36 at 406269-70).

117. Except for the gymnasium bent plates which were completed on 20-22 July, AEI completed the bent plates in area A on 10 July 1999 (app. supp. R4, tabs 8-56D through 8-61, 8-68, 8-77 through 8-79D). The bent plates in area B were completed on 17 July 1999 (app. supp. R4, tabs 8-62 through 8-70D, 8-74N). BEK, AEI's fireproofing subcontractor, began scrimming corridor bar joists on 15 July 1999 in preparation for spraying fireproofing (app. supp. R4, tab 8-72N). AEI conducted the preparatory meeting for fireproofing on 16 July and began spraying in corridor 154 (area B) that afternoon. AEI worked in area B on 16-18 July 1999 (app. supp. R4, tabs 8-74D at 403998-99, 8-74N, 8-75). BEK sprayed in area A on 19-21 July 1999 (app. supp. R4, tabs 8-76 through 8-78).

118. AEI framed and hung GWB in the classrooms and corridors on 15-16 and 19-24 July 1999, finishing a day ahead of schedule (app. supp. R4, tabs 8-72D, 8-74D, 8-76, 8-77, 8-78, 14-76 through 14-81, 14-83, 14-84, 25-36).

119. Case 13, which included DCVR 41, was part of bilateral Modification No. P00017 dated 21 June 2002 (supp. R4, tab G8.2). The modification increased the contract price for all of the DCVRs in case 13 by \$18,500 with no additional time. The release included all claims except those claims arising out of the REA.

120. AEI has failed to prove a causal connection between DCVR 41 and late completion of fireproofing. The initial NAS shows that AEI planned to begin fireproofing in area A on 3 July 1999 and to complete both areas by 6 July 1999. Since the fireproofing was to be sprayed onto the bent plates, fireproofing could not begin until the bent plates had been installed or substantially installed. AEI did not complete the bent plates in area A until 10 July 1999.¹⁰ The bent plates in area B were completed on 17 July 1999. The preparatory meeting took place on 16 July 1999 and BEK began spraying that afternoon. On this record, we find that the most likely cause of the fireproofing delay was AEI's late completion of the bent plates rather than DCVR 41.

¹⁰ The bent plates in the gymnasium (area A) were installed on 20-22 July 1999 and do not appear to have had any impact on fireproofing (app. supp. R4, tabs 8-77, 8-78, 8-79).

DCVR 43

121. DCVR 43, dated 2 July 1999, requested a design to carry the metal decking through from the administration area. The DRR was 7 July 1999. Mr. Johnson issued a written reply on 12 July 1999 and provided the requested design. The reply stated that the issue had been assigned to case 13, that any additional work would be directed in writing by the ACO, and that the reply was not considered a NTP. (App. supp. R4, tab 7-43)

122. In the REA, Mr. Presnell asserted that DCVR 43 was a controlling delay, alleging that it delayed enclosing the administrative addition, layout of the interior walls, and all follow-on activities. Based on the number of days between the COE's written reply and the DRR, he asserted that DCVR 43 delayed the project by five days. (R4, tab 4 at 25) He inserted a fragnet of nine days into his baseline schedule (ex. G-5 at 1997).

123. The canopy at vestibule 100 was demolished on or about 2 July and was welded and painted on 30 July 1999 (app. supp. R4, tabs 7-43, R4, 8-87D, 12-74D).

124. Case 13 was part of bilateral Modification No. P00017 dated 21 June 2002. The modification increased the contract price for all the DCVRs in case 13 by \$18,500 with no additional time. The release included all claims except those arising out of the REA. (Supp. R4, tab G8.2)

125. AEI has not established any causal connection between the COE's 12 July reply and AEI's failure to complete the roof decking until 30 July 1999 and has not proven that the work affected the critical path.

DCVR 46

126. DCVR 46, dated 2 July 1999, requested a detail to connect a C-6 beam to an existing CMU wall at corridor 136. The DRR was 6 July 1999. Mr. Johnson issued a written reply on 12 July, stating that the A/E had given AEI a sketch on 2 July 1999. (App. supp. R4, tab 7-46)

127. In the REA, Mr. Presnell identified DCVR 46 as a controlling delay. Based on the number of days between the COE's written reply and the DRR, he asserted that the COE's reply delayed the project by six days. (R4, tab 4 at 25-26, 66). He inserted a delay of nine days into his baseline schedule for the DCVR (ex. G-5 at 1998).

128. The CQC reports indicate that the A/E gave AEI a sketch for the connection on 2 July and that AEI installed the beam on 6 July 1999, the same day as the DRR (app. supp. R4, tabs 8-63 at 403836, 8-64, 14-62).

129. Since the beam was installed the same day as the DRR, AEI has failed to prove that it suffered any damages as a result of DCVR 46. AEI also failed to prove that the DCVR affected the critical path.

DCVR 47

130. DCVR 47, dated 6 July 1999, requested a typical detail for firestopping where the bent plates were penetrated by electrical conduit at one-hour walls between corridors and classrooms. The DRR was 6 July 1999. On 14 July 1999, Mr. Johnson issued a written reply, stating that technical specification 07270 required AEI to provide the detail. The reply stated that the work was to be at no cost or time to the COE and that, if AEI disagreed, it was to notify the COE before proceeding. (App. supp. R4, tab 7-47)

131. In the REA, Mr. Presnell alleged that the COE's 14 July 1999 reply disrupted fireproofing and adversely affected successor activities, such as ceiling tile in the wings. He also alleged that AEI had to remove and re-stuff the existing fiberglass insulation. Based on the number of days between the DRR and the COE's written reply, he asserted that the COE's reply delayed the project by eight days. (R4, tab 4 at 28)

132. The contract required AEI to prepare the shop drawings for firestopping, including the typical details (R4, tab 31, 07270-2 at ¶ 1.04B). Consequently, DCVR 47 was unnecessary.

DCVR 48

133. DCVR 48, dated 6 July 1999, requested a typical detail for terminating cementitious plank siding (siding) where it met the existing CMU. The DRR was 6 July 1999. On 9 July 1999, Mr. Johnson issued a written reply, directing AEI to provide metal corner flashing similar to detail 5/A19. The reply stated that the matter had been assigned to case 12, that it would be the subject of further correspondence, that any additional work would be directed by a contract modification signed by the ACO, and that the reply was not considered a NTP. (App. supp. R4, tab 7-48)

134. In the REA, Mr. Presnell alleged that DCVR 48 required AEI to re-work areas previously installed and held up siding and painting. He did not indicate what areas were allegedly re-worked. Based on the number of days between the COE's reply and the DRR, he asserted that the COE's reply delayed the work by three days. (R4, tab 4 at 28-29)

135. The initial NAS shows that AEI planned to install siding at the administrative addition (task 153) on 16-19 July 1999 and that the work was not on the critical path (app. supp. R4, tab 25-36 at 406271). The preparatory meeting for siding

was held on 29 June 1999 (app. supp. R4, tab 59D at 403769). Notes from the meeting state that AEI “need[d]s a detail to finish where siding meets CMU wall, vertical.” Although AEI did not prove when the siding was installed, the CQC reports indicate that it was installed on 31 July through 4 August 1999. (App. supp. R4, tabs 8-88D, 8-89D, 8-90D1)

136. AEI has failed to prove a causal connection between the COE’s 9 July reply to DCVR 48 and its failure to start siding until 31 July 1999 or that the work affected the critical path. In addition, AEI has not established that it notified the COE that the work would result in additional costs as required by the COE’s reply.

DCVR 50

137. DCVR 50, dated 7 July 1999, stated that the chase walls and slabs would have to be removed at toilet rooms 127-128 (area A), janitor’s room 129 (area A), and toilet rooms 146-147 (area B) to install the new drain piping.¹¹ The DCVR also stated that the water closets and urinal carriers at those locations were imbedded in concrete and could not be reused and that the existing floor drains would have to be raised to meet the new floor elevation, precluding their reuse. The DRR was 10 July 1999. On 12 July 1999, Mr. Johnson issued a written reply, directing AEI to remove the walls and floors to the minimum extent required to install new carriers, urinals, and drain piping, and to patch the floor to accept new tile. The reply stated that DCVR 50 had been assigned to case 12, that any additional work would be directed by a contract modification signed by the ACO, and that the reply was not considered a NTP. (App. supp. R4, tab 7-50)

138. In the REA, Mr. Presnell alleged that the COE’s written reply “resulted in five days loss of production, followed by reassigning manpower and resources to accomplish the additional demolition work in these five areas [causing] delays to the framing in the new chase walls, completion of the new masonry wing walls for the toilet rooms, installation of the new carriers, installation of the new water closets and urinals, and delays to the installation of the finishes.” At one point, he alleged that the reply caused a five-day delay; at another point, he alleged that it caused a two-day delay (R4, tab 4 at 28, 29-30) He inserted 9 fragnets totaling 21 days into his baseline schedule for the DCVR (ex. G-5 at 1961-69).

139. The initial NAS did not contain a separate task for mechanical rough-in. However, it provided as follows with respect to plumbing rough-in:

¹¹ In connection with DCVR 34, dated 30 June 1999, the COE directed AEI to leave the walls in toilet rooms 146-147 in place (app. supp. R4, tab 7-34).

<u>Task</u>	<u>Description</u>	<u>Duration</u>	<u>Start</u>	<u>Finish</u>
110	Plumbing rough in area A	5	07/12	07/16
85	Plumbing rough in area B	5	07/13	07/17

Plumbing rough-in was on the critical path (app. supp. R4, tab 25-36 at 406269).

140. Drawings D1, D2, and M3 required AEI to, among other things: (1) remove all the existing plumbing fixtures and re-install them in new locations to facilitate reconfiguration of the walls and rooms and provide new stops, supplies, flush valves and faucets; (2) provide new plumbing fixtures to meet the requirements of the Americans with Disabilities Act; (3) remove toilet partitions; (4) demolish existing wood frame partitions; (5) remove and re-install existing towel dispenser, soap dispenser, and mirror; (6) remove existing janitor's mop sink and provide a new mop sink; (7) saw cut existing slab to accommodate new waste line; (8) provide new water service and sprinkler riser; (9) provide new hand sink as specified; (10) provide new hand held shower spray nozzle over sink; and (11) raise existing floor drain flush with the new floor (app. supp. R4, tab 2).

141. AEI demolished the slab and the walls on 13-16 July 1999 (supp. R4, tab G8.1, PNM at 5 of 9; app. supp. R4, tabs 8-70D through 8-74D). From 19-24 July 1999, PT & B, AEI's mechanical and plumbing subcontractor, roughed-in toilets and carriers and installed new underground piping (*id.*; app. supp. R4, tabs 8-76 through 8-81D). AEI backfilled and poured new slabs on 25-26 July 1999 (app. supp. R4, tabs 8-82D, 8-83D).¹²

142. Case 12 was part of Modification No. P00018 dated 21 June 2002. The modification increased the contract price for all the DCVRs in case 12 by \$80,000 with no additional time. The release included all claims except those arising from the REA. (Supp. R4, tab G8.1)

143. The demolition work was performed on 13-16 July 1999. Some of the work, such as removal of the plumbing chase walls and the floor slabs, was necessitated by DCVR 50, and some of it, such as removal of the toilet partitions and the existing wood frame partitions, was required by the contract. AEI did not make any attempt to separate the contract work from the changed work. From 19-24 July 1999, PT & B roughed-in toilets and carriers and installed new underground piping. In the absence of any evidence to the contrary, this work appears to have been required by the contract and we so find. On 25-26 July 1999, AEI backfilled and poured new slabs, a task necessitated by DCVR

¹² To the extent the dates in the PNM differ from the CQC reports, we have relied on the contemporaneous CQC reports.

50. At this point, however, we find that the delay relating to DCVR 66, beginning on 21 July (*infra*, finding 197) was the controlling delay. We find in the nature of a jury verdict that AEI is entitled to a two-day critical delay, relating to the demolition work for DCVR 50.

DCVR 51

144. DCVR 51, dated 7 July 1999, advised that there was insufficient room above the ceiling to run a 12 x 8 duct across corridor 136 from room 140 to room 127. The DRR was 8 July 1999. Mr. Johnson issued a written reply on 12 July 1999, directing AEI to install an offset in the existing rainleader, route the new duct north across the corridor and down into room 127. The reply stated that the matter had been assigned to case 12, that any additional work would be directed in writing by a contract modification signed by the ACO, and that the reply was not considered a NTP. (App. supp. R4, tab 7-51)

145. In the REA, Mr. Presnell alleged that the work delayed completion of the ceiling tiles. Based on the number of days between the DRR and the reply, he asserted that the COE's reply delayed the work by four days. (R4, tab 4 at 30)

146. AEI's initial NAS provided, in part, as follows:

<u>Task</u>	<u>Description</u>	<u>Duration</u>	<u>Start</u>	<u>Finish</u>
122	Acoustic tile area A	1	08/08	08/08
97	Acoustic tile area B	2	08/10	08/11

Only acoustic tile in area B was on the critical path (app. supp. R4, tab 25-36 at 406269).

147. Mr. Falcone, the QAR, testified that the work amounted to an hour of plumbing labor and that the ductwork was part of the contract (tr. 8/73-75). AEI did not rebut this testimony. The CQC reports indicate that AEI re-routed the rainleader at room 127 on 24 July 1999 (app. supp. R4, tabs 8-81D). AEI began installing ceiling tile in the on 7 August 1999, one day earlier than shown on the initial NAS (8-95N, 8-96D).

148. Case 12, which included DCVR 51, was part of bilateral Modification No. P00018 dated 21 June 2002. The modification increased the price by \$791 with no time and the release included all claims except those arising out of the REA (supp. R4, tab G8.1).

149. At most, it took AEI one-hour to reroute the ductwork. In addition, AEI failed to prove that the work had any impact on installation of the acoustic ceiling tile or that it affected the critical path.

DCVR 52

150. DCVR 52, dated 9 July 1999, advised that the CMU cells at the attachment of the W8 x 15 beam at grid 7/B-C were not grouted. The DRR was 12 July 1999. Mr. Johnson issued a written reply on 19 July 1999, directing AEI to relocate the bolts to a grouted vertical cell or use a ¾-inch diameter bolt and drypack per detail 2/S4. The reply also stated that the matter had been assigned to case 12 and that any additional work would be directed in writing by the ACO. (App. supp. R4, tab 7-52)

151. In the REA, Mr. Presnell alleged that DCVR 52 was a controlling delay, alleging that it arose out the so-called “dimensional bust which is the subject of DCVR 66 (R4, tab 4 at 30-31). Based on the number of days between the ACO’s written reply and the DRR, he asserted that the COE’s reply delayed the work by seven days.

152. Contrary to Mr. Presnell’s assertion, DCVR 52 did not arise out of the dimensional bust. The CMU cells, which are the subject of DCVR 52, are located 24 feet 6 inches east of column line 6. The dimensional bust was located at column line 6, where the administrative addition joins the existing building (app. supp. R4, tab 2, drawing A2; tr. 8/75-77).

153. AEI failed to prove what, if any, additional work was performed as a result of DCVR 52 or when the work was performed. As a result, we cannot determine the extent of the delay, if any, it sustained. AEI also failed to prove that DCVR 52 affected the critical path.

DCVR 53

154. DCVR 53, dated 9 July 1999, requested a connection detail for two C6 x 8.2 beams in corridor 136. The DRR was 12 July 1999. Mr. Johnson’s written reply of 19 July 1999 attached a sketch from Mr. Berry, the A/E, dated 16 July 1999, providing the requested detail. The reply stated that the work was to be at no time or cost to the COE. (App. supp. R4, tab 7-53)

155. AEI’s daily reports indicate that it installed “C6 x 8.2 @ corr 136” beams on 12 July 1999, the same day as the DRR (app. supp. R4, tab 8-69). The DRR was the date on which AEI needed a reply in order to avoid impacting the schedule (finding 22). Since the work was performed on the same day as the DRR, AEI has failed to show that it suffered any damages.

DCVR 55

156. DCVR 55, dated 9 July 1999, inquired if the south CMU wall at lobby 101 was adequate to support the penetrations for the electrical distribution and joists. The DRR was ASAP. On 3 August 1999, Mr. Johnson issued a written reply, directing that the penetrations be grouped to avoid compromising the wall. (App. supp. R4, tab 7-55)

157. In the REA, Mr. Presnell alleged that the COE's reply delayed the project by 25 days (R4, tab 4 at 28, 31). He inserted a fragnet of 22 days into his baseline schedule (ex. G-5 at 2002).

158. The CQC reports indicate that AEI cored the wall for the electrical panel in area A, where lobby 101 is located, on 14-15 July 1999 (app. supp. R4, tabs 8-71D, 8-72D). AEI did not show that grouping the penetrations resulted in additional work or that the work affected the critical path.

DCVR 56

159. DCVR 56, dated 10 July 1999, advised that AEI's steel manufacturer had delivered a Mark 116 beam that was 6 ½ inches short due to an error in the as-builts. The DRR was "ASAP." On 19 July 1999, Mr. Johnson issued a written reply, directing AEI to provide a beam of the correct length at no time or cost. (App. supp. R4, tab 7-56)

160. In the REA, Mr. Presnell alleged that the COE's 19 July 1999 reply "held up the installation of the roof and follow-on activities in the new administrative wing including electrical wiring, HVAC installation, sheetrock installation, painting, casework and finishes" (R4, tab 4 at 31-32). Based on the number of days between the DRR and the date of the COE's written reply, he asserted that the COE's reply delayed the project by nine days (R4, tab 4 at 28, 31). He inserted a fragnet of eight days into the baseline schedule (ex. G-5 at 2003).

161. AEI's steel manufacturer delivered a Mark 116 beam that was 6 ½ inches short on 9 July 1999 (app. supp. R4, tab 8-67 at 403872). The manufacturer delivered a replacement beam on 10 July 1999, but the replacement beam was also 6 ½ inches short. According to the CQC report for 10 July 1999, the manufacturer agreed to replace the beam with one of the correct length on 12 July 1999. (App. supp. R4, tab 8-68 at 403879) The record does not reflect when the replacement beam was delivered.

162. The COE's responsibility for DCVR 56 is limited to the delivery on 9 July 1999, the date on which the defect was discovered. AEI did not establish that DCVR 56 affected the critical path.

DCVR 57

163. DCVR 57, dated 10 July 1999, advised of a conflict between a W12x19 Mark 112 beam and a glulam beam located 2 feet 9 inches north of grid E. AEI offered to cut the glulam to resolve the conflict. AEI also requested a detail for glulam-to-beam connections. The DRR was “ASAP.” On 19 July 1999, Mr. Johnson issued a written reply directing AEI to connect the beams per detail 8/S6. The reply also stated that the matter had been assigned to case 12 and that any additional work would be directed in writing by a contract modification signed by the ACO. (App. supp. R4, tab 7-57)

164. In the REA, Mr. Presnell alleged that DCVR 57 required AEI “to shore up the existing glulam beam, [impacted] wall framing activities and follow-on activities in the new administrative addition.” Based on the number of days between the COE’s reply and the DRR, he asserted that the COE’s reply delayed the project by nine days. (R4, tab 4 at 32) He inserted a fragnet of eight days into his baseline schedule (ex. G-5 at 2003).

165. The COE provided a field reply to DCVR on 10 July, the same day on which the DCVR was submitted, and provided the requested detail on 13 July 1999 (app. supp. R4, tabs 8-68 at 403879, 12-56, 14-70).

166. AEI has not established when the work was performed or that it affected the critical path. Moreover, AEI did not offer any proof that DCVR 57 required it to shore up the existing glulam beam or that it impacted wall framing activities and follow-on activities in the new administrative addition as alleged by Mr. Presnell. As stated previously, Mr. Presnell did not talk to anyone from AEI prior to submission of the REA and never visited the site (tr. 5/182-83, 6/129).

DCVR 58

167. DCVR 58, dated 13 July 1999, inquired if the vinyl asbestos flooring and mastic¹³ in rooms 126 and 126A were to be abated. The DRR was “ASAP.” The record does not contain a written reply from the COE. (App. supp. R4, tab 7-58)

168. In the REA, Mr. Presnell alleged that DCVR 58 required it to bring “back its abatement subcontractor and [seal] off the area surrounding rooms 126 and 126A to perform the necessary abatement, thereby disrupting the continuity of concurrent construction activities being performed in that area.” He did not specify the number of days of delay he attributed to DCVR 58. (R4, tab 4 at 35)

¹³ DCVR 35, dated 30 June 1999, also relates to the removal of the flooring in rooms 126 and 126A. On 10 July 1999, AEI took samples and determined that the flooring in those rooms might require abatement (app. supp. R4, tab 7-58).

169. AEI's abatement subcontractor mobilized to the site on 12 July 1999 (app. supp. R4, tab 8-69 at 40385). The additional abatement work in the utilidor was performed on 13 July 1999 (app. supp. R4, tab 8-71N at 403972). Removal of the vinyl asbestos flooring and mastic in rooms 126 and 126A was completed at midnight on 14 July 1999 (app. supp. R4, tabs 8-71N, 14-71).

170. DCVR 58 was assigned to case 10, which was part of bilateral modification P00007. The modification increased the contract price by \$2,128 with no additional time. The modification contained the following release:

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.

(Supp. R4, tab G8.12)

DCVR 60

171. DCVR 60, dated 10 July 1999, requested a detail for the header connection and support for the angled window intersections at rooms 103 and 122. The DRR was "ASAP." On 20 July 1999, Mr. Amaro issued a written reply, stating that the COE had agreed in the field that the wood framing would be attached to the structural steel by metal support brackets placed at approximately 16 inches on center. The record does not indicate the date of the field reply. The DCVR was assigned to case 12 and stated that any additional work would be directed in writing by the ACO. (App. supp. R4, tab 7-60)

172. In the REA, Mr. Presnell alleged that DCVR 60 "required . . . a significant labor effort prior to enclosing the new administrative addition and completing follow-on activities" (R4, tab 4 at 32-33). Based on the number of days between the DRR and the date of the COE's written reply, he asserted that the COE's reply delayed the project by 10 days. He inserted a fragnet of eight days into the baseline schedule (ex. G-5 at 2006).

173. AEI did not establish the date on which the angled window intersections at rooms 103 and 122 were installed, but the CQC reports indicate that the windows were installed on 21-23 July 1999 (app. supp. R4, tabs 8-78 through 8-80D).

174. Case 12 was part of bilateral Modification No. P00018 dated 21 June 2002. The PNM stated that the work required AEI to lay out and weld 127 brackets and that it took approximately 15 minutes per bracket to weld the brackets. The contract price was increased by \$4,186 with no additional time. The release included all claims except those arising out of the REA. (Supp. R4, tab G8.1, PNM at 7 of 9)

175. AEI did not prove the date of the field fix, precluding us from assessing the impact, if any, that the COE's reply had on the work. In addition, AEI did not establish that the windows were on the critical path (app. supp. R4, tabs 25-36 at 406270, 406272).

DCVR 61

176. DCVR 61, dated 10 July 1999, requested a detail for a connection between the walls and the roof at the new administrative addition. The DRR was "ASAP." Mr. Johnson issued a written reply on 19 July 1999, directing AEI to make the connection using industry standard, pre-manufactured, steel fastener clips. The COE stated that its reply was a clarification and was to be at no additional cost or time. If AEI disagreed, it was directed to notify the COE before proceeding. (App. supp. R4, tab 7-61)

177. In the REA, Mr. Presnell alleged that the COE's reply required AEI "to disrupt its workforce, reassign persons in the field, and had the practical effect of delaying insulation and vapor-barrier installation, and all follow-on activities." Based on the number of days between the DRR and the date of the COE's written reply, he asserted that the COE's reply delayed the project by nine days. (R4, tab 4 at 33)

178. An unidentified representative of the COE provided a field response to DCVR 61 on 15 July 1999 (app. supp. R4, tab 8-71D at 403946). Although the CQC reports indicate that AEI started framing the walls at the administrative addition on 15 July 1999, they do not reflect the date on which the work had progressed to the point that the walls could be connected to the roof.

179. According to the initial NAS, insulation at the administrative addition (task 156) was a one-day non-critical task scheduled for 22 July 1999 (app. supp. R4, tabs 12-75D1, 25-36 at 406271). The first reference to insulation at the administrative addition in AEI's daily reports was 29 July and the daily report for 31 July 1999 states that "[t]he insulation in the exterior walls of the new admin. area was completed today, it is ready for vapor barrier" (app. supp. R4, tabs 12-73D, 12-75D1).

180. AEI knew or should have known that it was going to have to connect the walls and the roof. In any event, it failed to prove that the work affected the critical path. Beyond Mr. Presnell's unsubstantiated assertion, there is no evidence that DCVR 61 delayed installation of the insulation and vapor barrier at the administrative addition. We also reject his assertion that DCVR 61 disrupted AEI's workforce and required it to reassign persons in the field. As stated previously, Mr. Presnell did not speak to anyone from AEI prior to submission of the REA and never visited the site. Finally, AEI did not show that it provided prior notification of additional costs as required by the COE.

DCVR 63

181. DCVR 63, dated 13 July 1999, requested permission to re-route a 3-inch cold water pipe at the gymnasium. The DRR was "ASAP." On 22 July 1999, Mr. Amaro issued a written reply, directing AEI to install the water pipe as specified. The COE stated that its reply was to be at no additional cost or time and that if AEI disagreed, it was to notify the COE before proceeding. This DCVR was assigned to case 15. (App. supp. R4, tab 7-63)

182. In the REA, Mr. Presnell alleged that the QAR told AEI during a field meeting approximately 8 days after submission of DCVR 63 that it could perform minimal re-routing. According to Mr. Presnell, this "adversely impacted [AEI's] seismic retrofit and steel erection." Based on the number of days between the DRR and the COE's reply, he alleged that the COE's reply delayed the project by nine days (R4, tab 4 at 35-36)

183. The record indicates that the QAR orally advised AEI on 21 July 1999 that it could perform minimal re-routing of the water pipe (app. supp. R4, tab 25-99).

184. The COE denied AEI's request to reroute the cold water pipe on 22 July 1999, the day after the QAR gave AEI permission to perform minimal rerouting. Thus, to the extent AEI performed the work, it did so at its own expense. AEI did not prove that this work affected the critical path. In addition, AEI did not prove that it provided prior notice of additional costs as required by the COE's reply.

DCVR 64

185. DCVR 64, dated 18 July 1999, advised that an existing bar joist at grid 5/A to 5/E was missing angles. According to the DCVR, Mr. Berry, the A/E, advised AEI to weld 4 x 4 x 1/4 inch angles to the beam on 16 July 1999 and AEI agreed to perform the work at no additional cost. The DCVR also stated that Mr. Smith, the COE's project engineer, concurred. The DRR was 19 July 1999. The record does not contain a written reply from the COE. (App. supp. R4, tab 7-64)

186. Mr. Presnell asserted that the COE's failure to issue a reply delayed structural steel framing for the administrative addition and all successor activities, but did not specify the duration of the alleged delay (R4, tab 4 at 39).

187. AEI's daily reports indicate that it welded twelve 4 x 4 angles "between 6 & 7 at joist line" on 16 July 1999, three days before the DRR (app. supp. R4, tab 12-61). As stated previously, the DRR was the date on which AEI needed a reply in order to avoid impacting the schedule. The DRR for DCVR 64 was 19 July 1999. Since Mr. Berry provided a field reply to the DCVR on 16 July and AEI performed the work on

16 July 1999, we find that AEI has failed to prove that it suffered any damages as a result of the COE's reply. Beyond Mr. Presnell's unsupported assertions, there is no evidence that the work impacted the structural steel or successor activities. AEI did not prove that the work affected the critical path.

DCVR 66

188. DCVR 66, dated 20 July 1999, advised of an error in the structural drawings that would result in a 5 foot 8 ½ inch void (the dimensional bust) between the administrative addition and the existing building at column line 6 (app. supp. R4, tab 2, drawing A2; tr. 8/75-77). To fix the problem, AEI proposed adding an extra W12x14 beam at grid 6A-B. The DRR was 21 July 1999. (App. supp. R4, tab 7-66) On 29 July 1999, Mr. Amaro issued a written reply concurring with AEI's proposed fix. The reply indicated that the matter had been assigned to case 13 and that any additional work would be directed in writing by the ACO. (App. supp. R4, tab 7-66)

189. In the REA, Mr. Presnell alleged that the COE's reply required AEI to re-sequence framing activities in the administrative addition, install temporary framing posts to support the steel, and delay installation of the new power panel (R4, tab 4 at 39-40). Based on the number of days between the date of the COE's written reply and the DRR, he asserted that the COE's reply delayed the project eight days (R4, tab 4 at 39). He inserted a fragnet of nine days into his baseline schedule (ex. G-5 at 2010).

190. The initial NAS indicates that AEI planned to erect structural steel at the administrative addition (task 141) on 3-7 July 1999. The work was on the critical path. (App. supp. R4, tab 25-36 at 406270)

191. AEI advised the COE of the error in the drawings on 3 July 1999, the day it planned to begin the structural steel (app. supp. R4, tabs 8-63 at 403835, 12-51, 14-63).

192. AEI "shook out" the iron for the administrative addition on 6 July and began erecting the steel on 7 July 1999 (app. supp. R4, tabs 8-64, 8-65).

193. AEI's daily report for 30 July 1999 states that the "structural steel [was] completed" on 30 July 1999 (app. supp. R4, tab 7-66).

194. Case 13 was part of Modification No. P00017 dated 21 June 2002. The modification increased the contract price for all the DCVRs in case 13 by \$18,500. The PNM stated that time was not discussed since AEI had voluntarily terminated its contract. The surety released all claims except those arising out of the REA. (Supp. R4, tab G8.2)

195. Mr. Stuart Ockman, the COE's expert, concluded that AEI was entitled to a 10-day extension of the CCD as a result of the dimensional bust based on the following:

[R]oofing should have started on July 8th of '99. It didn't begin until July 31st, which is 23 days later.

But AEI was able to start critical drywall and tape on the 2nd of August, which was 10 days beyond the planned 23rd of July. They were able to start prime paint on the 6th of August, which was 10 days beyond the prime paint on the 27th of July.

[W]all finishes started eight days later in the critical start. Light fixtures started eight days after the critical start. So . . . I felt comfortable attributing their 10-day calendar . . . delay to the structural steel

[I]f you add 10 calendar days to the August 15th [CCD] . . . [it results in] an adjusted [CCD] of August 25th of 1999. [W]e know [BOD] occurred August 30th, so there was an additional five-day delay from the 25th to the 30th, which I've attributed to slower than planned for progress with the architectural finish work.

(Tr. 8/188, 190-91)

196. Mr. Ockman found that DCVR 66 affected the critical path as follows:

<u>Task</u>	<u>Description</u>	<u>Duration</u>	<u>Planned</u>		<u>Actual</u>	
			<u>Start</u>	<u>Finish</u>	<u>Start</u>	<u>Finish</u>
143	Roof	4	07/08	07/12	07/31	08/03
157	GWB & tape	3	07/23	07/26	08/02	08/19
158	Prime paint	3	07/27	07/29	08/06	08/12
160	Light fixtures	2	08/02	08/03	08/10	08/19
161	Wall finishes	2	08/04	08/05	08/12	08/20

(Supp. R4, tab G4 at ex. 1; app. supp. R4, tab 25-36; tr. 8/190)

197. We find that DCVR 66 delayed the critical path by 10 days, beginning on 21 July, the DRR, and ending on 30 July 1999, the date on which the structural steel was completed. Aside from Mr. Presnell's unsubstantiated assertions, there is no evidence that AEI installed temporary framing posts or that installation of the power panel was delayed. As noted previously, we question the probative value of Mr. Presnell's unsupported assertions because he did not speak to anyone who worked on the project prior to submission of the REA in 2001 and never visited the site.

DCVR 67

198. DCVR 67, dated 20 July 1999, advised that the electrical service was too shallow to permit installation of the water closet carrier at toilet 121. AEI proposed using an offset with a horizontal carrier and relocating the chase wall 6 inches north into toilet room 121. The DRR was 21 July 1999. Mr. Amaro issued a written reply on 22 July 1999, concurring with AEI's proposed fix and stating that the matter had been assigned to case 12 and that any additional work would be directed in writing by the ACO. (App. supp. R4, tab 7-67)

199. In the REA, Mr. Presnell alleged that DCVR 67 required additional demolition, re-routing of a water line and rainleader, and re-routing of electrical work at toilet 121. Based on the difference between the COE's reply and the DRR, he alleged that the COE's reply delayed the work by one day (R4, tab 4 at 39, 40).

200. Case 12 was part of bilateral Modification No. P00017 dated 21 June 2002. The modification increased the contract price by \$80,000 for case 12 with no additional time. The release included all claims except those arising from the REA. (App. supp. R4, tab G8.2)

201. AEI did not prove the dates on which the work was started or completed and did not prove that it affected the critical path. AEI did not offer any evidence supporting Mr. Presnell's assertion that DCVR 67 required AEI to divert employees from other tasks to perform the work. As noted previously, we question the probative value of Mr. Presnell's unsupported assertions because he did not speak to anyone who worked on the project prior to submission of the REA and never visited the site.

DCVR 70

202. DCVR 70, dated 23 July 1999, advised that the drain line in the kitchen was too small to meet UPC codes, that the food preparation and triple compartment sinks had to be indirectly wasted to meet UPC codes, that the triple sink needed a grease trap if food was going to be prepared in the kitchen, and that the cold and hot water lines should be increased by 1 inch and $\frac{3}{4}$ inch respectively. The DRR was 27 July 1999. Mr. Amaro issued a written reply on 26 July 1999, directing AEI to increase the drain line to three inches and provide indirect waste for the sinks. The reply also advised that no food was going to be prepared in the kitchen, so a grease trap was not required, and concurred with AEI's suggestion to increase the size of the cold and hot water lines. (App. supp. R4, tab 7-70)

203. In the REA, Mr. Presnell alleged that AEI had to divert employees from other tasks to perform demolition and hand excavation for the plumbing work. He did not allege any specific number of days of delay for DCVR 70. (R4, tab 4 at 39, 40)

204. Case 12 was part of bilateral Modification No. P00017 dated 21 June 2002. The modification increased the contract price by \$80,000 for case 12 with no additional time. The release included all claims except those arising from the REA. (App. supp. R4, tab G8.2)

205. DCVR 70 required AEI to increase the existing drain line in the kitchen from two inches to three inches, provide indirect waste for the sinks, and increase the size of the cold and hot water pipes by 1 inch and 3 inches respectively. AEI did not prove when the work was started or finished or show that it affected the critical path. As a result, we cannot determine what impact, if any, DCVR 70 had on the project. AEI did not present any evidence in support of Mr. Presnell's assertion that it had to divert employees from other tasks to perform the work required by DCVR 70. As stated previously, Mr. Presnell did not speak to anyone who worked on the project prior to submission of the REA and never visited the site.

DCVR 72

206. DCVR 72, dated 27 July 1999, advised of a drainage problem at the new penthouse. The DRR was "ASAP." On 6 August 1999, Mr. Johnson issued a written reply, directing AEI to provide new roof drains per an attached drawing. The reply stated that the matter had been assigned to case 16 and that any additional work would be directed in writing by the ACO. (App. supp. R4, tab 7-72)

207. In the REA, Mr. Presnell alleged that DCVR 72 disrupted finish activities in the kitchen area. Based on the number of days between the COE's reply and the DRR, he alleged a delay of 10 days and inserted a fragnet of 10 days into his baseline schedule. (R4, tab 4 at 43; ex. G-5 at 2015) At the hearing, Mr. Andrews alleged that DCVR 72 affected plumbing, roofing, mechanical, and carpentry (tr. 1/130).

208. On 31 July 1999, Mr. Falcone directed AEI to install 3x3x¼ inch angles around the drains (app. supp. R4, tabs 8-88N, 14-88). AEI's daily reports indicate that roofing began on 31 July and was completed on 3 August 1999 (app. supp. R4, tabs 12-75D through 12-78D1). On 4 August 1999, the COE discovered that the drains had been installed in the wrong locations and AEI agreed to relocate them (app. supp. R4, tab 14-92). The record does not reflect the date on which the drains were relocated.

209. Case 16 was part of bilateral Modification No. P00017 dated 21 June 2002. The modification increased the contract price by \$18,435 with no time. The release included all claims except those arising out of the REA. (Supp. R4, tab G8.2)

210. Roofing began on 31 July and was completed on 3 August 1999. We presume that the roof had to be completed before the roof drains could be installed. AEI did not address this issue. On 4 August 1999, the COE discovered that the drains were installed in the wrong locations and would have to be re-located. AEI did not establish the date on which the drains were re-located. On this sketchy evidence, AEI has failed to prove a causal relationship between the COE's 31 July field reply and its failure to complete the drains until on or after 4 August 1999. AEI also failed to prove that the work affected the critical path.

DCVR 73

211. DCVR 73, dated 2 August 1999, suggested reducing the feed at the second to last and last urinals to 1½ inches and 1 inch respectively to allow the flush valve to operate properly. The DCVR stated that Mr. Falcone had okayed the fix. The DRR was 3 August 1999. Mr. Johnson's undated reply concurred with the proposal and stated that the work was to be at no cost or time to the COE. (App. supp. R4, tab 7-73)

212. In the REA, Mr. Presnell alleged that DCVR 73 impacted plumbing rough-in for the chase walls for the toilet rooms and adversely affected the follow-on activities of sheet rock installation, hanging of fixtures, and finishing the toilet rooms. Based on the number of days between the DRR and the COE's written reply, he asserted that the COE's reply caused a delay of six days; at another point, he indicated that the DCVR did not cause a delay. (R4, tab 4 at 46-47)

213. Mr. Falcone's unrebutted testimony regarding DCVR 73 was as follows:

Q How would you characterize . . . this DCVR?

A They're requesting . . . a small variation in the size of water supply pipe to the plumbing fixture. What they proposed was acceptable. [W]e said, "Go ahead, that's fine."

....

Q . . . Did this item [delay] rough-in of plumbing in the chase walls, impact . . . sheet [rock] installation[,] hanging of fixtures [or] finish[ing] the toilet rooms, in your opinion?

A No.

Q Why not?

A It's such a small item. [I]f for some reason they weren't sure how to proceed, they would have likely just installed it as it was shown on the plan and kept on moving. I don't see it having any . . . affect on activities that came after . . . piping.

(Tr. 8/91-92)

214. AEI did not specifically address DCVR 73 at the hearing. We have been unable to determine when the work was performed and there is no evidence that the work affected the critical path.

DCVR 79

215. DCVR 79, dated 7 August 1999, requested permission to delete construction of a one-hour wall at the perimeter of janitor's closet 129. The DRR was 8 August 1999. On 23 August 1999, Mr. Amaro and Ms. Prentki directed AEI to provide what was specified at no additional cost or time. If AEI disagreed, it was to notify the COE before proceeding with the work. (App. supp. R4, tab 7-79)

216. In the REA, Mr. Presnell alleged that the COE's reply "delay[ed] completion of sheet rock and fireproofing beyond the contractually-mandated substantial completion date" of 15 August 1999. Based on the number of days between the COE's written reply and the DRR, he asserted a delay of 15 days. (R4, tab 4 at 48)

217. AEI's initial NAS included the following tasks:

<u>Task</u>	<u>Description</u>	<u>Duration</u>	<u>Start</u>	<u>Finish</u>
108	Fireproof area A	3	07/03	07/06
83	Fireproof area B	1	07/06	07/06
113	GWB and tape area A	3	07/21	07/23
88	GWB and tape area B	4	07/23	07/27

Fireproofing and GWB and tape were on the critical path (app. supp. R4, tab 25-36 at 406269-70).

218. AEI did not specifically address DCVR 79 at the hearing. However, the record indicates that the preparatory meeting for sprayed fireproofing was held on 16 July 1999. BEK, AEI's fireproofing subcontractor, scrimmed on 15-16 July, and began spraying on 17 July 1999 (app. supp. R4, tabs 8-72N, 8-74D at 403998, tabs 8-75, 8-76, 8-77, 8-84N, 8-91D1, 8-93D1, 8-93D1). The last entry in the CQC reports for fireproofing is 5 August 1999 (app. supp. R4, tab 8-93D2).

219. The preparatory meeting for GWB and tape was also held on 16 July 1999 (app. supp. R4, tab 8-74D at 403997). Except for a bathroom in the A wing, where the plumbing had not yet been installed, the drywall in the A wing was finished on 21 July 1999 (app. supp. R4, tabs 12-61 through 12-65).

220. AEI did not prove that it incurred any damages as a result of the COE's denial of the requested variation. Contrary to Mr. Presnell's assertion, fireproofing and GWB were completed several weeks before "the contractually-mandated substantial completion date" of 15 August 1999. As a result, AEI has failed to demonstrate a causal relationship between the COE's reply and DCVR 79. AEI also failed to prove that DCVR 79 affected the critical path.

DCVR 80

221. DCVR 80, dated 7 August 1999, advised that the specified single lever faucets were not compatible with the existing sinks. The DCVR stated that Mr. Falcone and AEI had agreed in the field that 12 sinks would be replaced. The DRR was 10 August 1999. Mr. Amaro issued a written reply on 16 August 1999, stating that the item had been assigned to case 18 and that the reply was not considered a NTP. (R4, tab 4 at 50; app. supp. R4, tab 7-80)

222. In the REA, Mr. Presnell alleged that DCVR 80 delayed the installation of the sinks (R4, tab 4 at 50). Based on the number of days between the COE's written reply and the DRR, he asserted that it delayed the work by six days (R4, tab 4 at 49). He inserted fragnets of 10 days and 6 days into his baseline schedule for areas A and B respectively (ex. G-5 at 2017, 2033).

223. The QAR reports indicate that Mr. Falcone agreed that the sinks should be replaced on 8 August 1999 (app. supp. R4, tab 14-96). Mr. Andrews, AEI's project manager, testified that AEI began installing the new sinks prior to receipt of the COE's written reply (tr. 2/180).

224. Case 18 was part of Modification No. P00010 dated 13 December 1999. The modification increased the contract price for case 18 by \$3,187 with no additional time and included the following release:

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.

(Supp. R4, tab G8.9)

DCVR 82

225. DCVR 82, dated 11 August 1999, offered to provide new classroom benches to replace the units that were demolished as part of the contract. The DRR was “the same day.” Mr. Amaro issued a written reply on 16 August 1999, agreeing that the demolished benches should be replaced. The reply stated that the matter had been assigned to case 19, that the benches would be the subject of future correspondence, and that the COE’s reply was not a NTP. (App. supp. R4, tab 7-82)

226. In the REA, Mr. Presnell alleged that DCVR 82 required AEI to reassign manpower from other tasks to complete the classroom benches prior to the opening of school on 31 August 1999 (R4, tab 4 at 50). Based on the number of days between the COE’s written reply and the DRR, he alleged that the reply delayed the work by five days (R4, tab 4 at 49). He inserted fragnets of six days and five days respectively for areas A and B into his baseline schedule (ex. G-5 at 2034, 2018).

227. AEI began fabricating the benches on 10 August 1999. The A wing benches were installed on 11-13 August 1999 (app. supp. R4, tabs 12-85D1, 12-86D1, 12-87D1 at 404654, tab 12-88D1). The B wing benches were installed on 13-16 August 1999 (app. supp. R4, tabs 12-89D1, 12-90D1, 12-91D1).

228. Case 19 was part of bilateral Modification No. P00008 dated 10 November 1999. The modification increased the contract price by \$24,903 with no additional time. The modification included the following release:

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.

(Supp. R4, tab G8.11)

DCVR 83

229. DCVR 83, dated 11 August 1999, advised that the existing slab-on-grade at door 114-2 was approximately two inches higher than vestibule 100. To make the door level with the slab, AEI proposed to trim two inches from the bottom of the door frame. The DRR was 11 August 1999. On 16 August 1999, Mr. Amaro confirmed a 13 August 1999 field discussion in which an unidentified representative of the COE directed AEI to maintain the existing door height and not to trim the doors or frames. The COE stated

that the reply was to be at no additional cost or time, and that if AEI disagreed, it was to notify the COE before proceeding. (App. supp. R4, tab 7-83)

230. In the REA, Mr. Presnell alleged that DCVR 83 disrupted the “continuity” of AEI’s installation of metal frames and windows. Based on the number of days between the COE’s written reply and the DRR, he asserted a delay of five days. (R4, tab 4 at 50)

231. The COE resolved DCVR 83 by agreeing to accept the work as detailed on the plans and specifications. AEI has not established that it suffered any damages as a result of the COE’s denial of its request for a variation.

DCVR 88

232. DCVR 88, dated 22 August 1999, advised that AEI needed to cut openings above the ceiling in the administrative addition to balance the ventilation system. The DRR was 23 August 1999. The record does not contain a reply from the COE. (App. supp. R4, tab 7-88)

233. In the REA, Mr. Presnell alleged that DCVR 88 required AEI to return to an area where the finishes had been largely completed, cut an opening in the wall, and install additional ductwork and a fire-damper. He did not specify the number of days of delay he attributed to DCVR 88. (R4, tab 4 at 54-55)

234. Mr. Falcone testified that AEI did not cut any openings in the wall, that it simply left the door open between the rooms and allowed the air to circulate between the common return air grill and the air handling unit. He also testified that one of the COE’s indefinite delivery contractors installed the transfer air opening (tr. 8/29-30). AEI did not rebut this testimony.

235. We find Mr. Falcone’s testimony more credible than the unsupported assertions made by Mr. Presnell in the REA. AEI also failed to prove that the work affected the critical path.

DCVR 90

236. DCVR 90, dated 24 August 1999, pointed out a conflict between the mechanical drawings and the architectural drawings relating to a metal fin tube cover in room 112 of the new administrative addition. The mechanical drawings indicated that the fin tube would be covered by a cabinet heater, but the architectural drawings did not depict a cover. The DRR was 25 August 1999. The COE’s reply is not in the record. (App. supp. R4, tab 7-90)

237. In the REA, Mr. Presnell asserted that the COE directed it to provide a cover for the fin tube heater on 27 August 1999 (R4, tab 4 at 55). As a result of this directive, he alleged that AEI had to return to the room to perform the work (R4, tab 4 at 55).

238. Assuming that the COE directed AEI to provide a fin tube cover on 27 August 1999 as alleged in the DCVR, AEI did not establish the date on which it was installed. Without this date, we are unable to ascertain the extent of the delay, if any, caused by the DCVR. Thus, we find that AEI has failed to establish the requisite causal connection between the alleged COE directive and completion of the work. AEI also failed to prove that the work affected on the critical path.

DCVR 94

239. DCVR 94, dated 26 August 1999, requested additional compensation for fixing a leak in the vicinity of room 157. The DRR was 27 August 1999. Mr. Amaro and Ms. Prentki issued a written reply on 27 August 1999, acknowledging that AEI fixed the leak and assigning the matter to case 21. (App. supp. R4, tab 7-94)

240. Case 21 was included in Modification No. P00010 dated 13 December 1999. The modification increased the contract price by \$860 for case 21 with no extension of the CCD. The modification, signed by Mr. Andrews, included the following release:

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.

(Supp. R4, tab G8.9)

III. AEI's Consultant – Mr. Thomas W. Presnell

241. Mr. Presnell attended three years of college. He studied business and architecture and took two courses in scheduling. He did not obtain a degree and is not a registered professional engineer. (Tr. 5/177-78)

242. In 1974, Mr. Presnell founded and served as the chief estimator of the Presnell Construction Company (app. supp. R4, tab 40 at 9-10). In 1989, he went to work for McCann Construction as director of project development and senior project manager where his job was to “market private sector companies for either a position on a select bid list or negotiate construction projects.” In 1991, he helped close the company down. (App. supp. R4, tab 40 at 4)

243. In 1992, Mr. Presnell became a minority stockholder and executive vice-president of Strand Hunt Construction and became an owner in 1993. At Strand Hunt, he “defin[ed] the project profiles that [the company] would bid and construct” and played an integral part in project setup, including “estimating, initial scheduling, development of baseline schedules, and budgets” (app. supp. R4, tab 40 at 5). In 1999, he started Assess Project Services, LLC (*id.* at 4).

244. Prior to this contract, Mr. Presnell prepared two inefficiency analyses as a consultant (tr. 5/185). Although he testified that he had served as an expert witness on several occasions, he did not identify any court or board that had accepted him as an expert (app. supp. R4, tab 40 at 6-8). Mr. Presnell is certified as a cost consultant by the Association for the Advancement of Cost Engineering and was president of the local chapter at the time of the hearing.

245. AEI did not formally offer Mr. Presnell as an expert at the hearing.

IV. Mr. Presnell’s Inefficiency Analysis

246. In an article on the measured mile method, Mr. Presnell stated that the measured mile is “the most credible and widely accepted method for computing production inefficiencies” (supp. R4, G6.1.3 at 3). The method compares the productivity of identical activities from impacted and unimpacted contract periods to measure inefficiency. In the article, Mr. Presnell stated that if “project specific unimpacted production data” is not available, data from similar contracts may be used” (supp. R4, tab G6.1.3 at 4). On cross-examination, he conceded that he did not ask AEI for a similar contract so he could use the measured mile for this contract (tr. 5/180-81).

247. Mr. Presnell based his inefficiency analysis on appendix B of the Management Methods Committee Bulletin No. C01, entitled “CHANGE ORDERS,” which is published by the Mechanical Contractors Association of America, Inc. (1987) (appendix). The publication provides guidance to mechanical contractors for preparing estimates for lump sum change orders. (App. supp. R4, tab 36, attach. 3 at 8)

248. The appendix lists factors which may affect productivity. The prefatory material cautions that--

These factors are intended to serve as a reference only. Individual cases could prove to be too high or too low. The factors should be tested by your own work experience and modified accordingly . . . since percentages of increased costs due to the factors listed are necessarily arbitrary and may vary from contractor to contractor, crew to crew and job to job.

(*Id.* at 31)

249. Mr. Presnell used 12 factors from the appendix to perform his analysis: stacking of trades, morale and attitude, reassignment of manpower, crew size inefficiency, concurrent operations, dilution of supervision, learning curve, errors and omissions, beneficial occupancy, joint occupancy, site access, and logistics (app. supp. R4, tab 36, attach. 3 at 31-33).

250. The appendix also sets forth suggested percentages of loss for each factor based on the severity of the condition (minor, average, or severe).¹⁴ For example, the appendix provides as follows with respect to stacking of trades:

	PERCENT OF LOSS IF CONDITION:		
	Minor	Average	Severe
1. STACKING OF TRADES: Operations take place within physically limited space Results in congestion . . . inability to locate tools. . . .	10%	20%	30%

(*Id.* at 31)

251. Mr. Presnell presented his analysis in a “Labor Impact Matrix” (app. supp. R4, tab 27 at 94 and attach. 6). The matrix lists the 12 factors from appendix B along the vertical axis and the weeks in the project along the horizontal axis. The matrix begins with the week ending 5 June 1999 and ends with the week ending 1 January 2000. For each week, Mr. Presnell assigned a judgmentally derived percentage of loss to each factor he deemed existed on the project that week. Over the total period, he assigned percentages of loss to all the factors except joint occupancy. After adding up the “Total Inefficiency Factors” for the week, he multiplied by the number of direct labor hours recorded for that week to obtain “Loss Manhours.” (Tr. 5/148-49) The percentage of inefficiency for the week was computed by dividing “Loss Manhours” by cumulative hours. The “Impact Cost” was computed by multiplying “Loss Manhours” by a composite wage rate of \$42.27. He computed the “Total Impact Cost” for the project, by adding up the impact costs for each week.

¹⁴ No evidence was submitted explaining how the formulae and percentages were developed by the Mechanical Contractors Association of America.

252. For example, he assigned “Total Inefficiency Factors” of 43 to the week ending 12 June (line 15 below). Using the formula on line 16, he computed “Loss Manhours” by multiplying 742 hours (line 1) by 43/100 and dividing by 1 plus 43/100 to obtain 223 “Loss Manhours.” He next divided 223 “Loss Manhours” by 926 cumulative hours (line 2) to obtain the “% of Manhours Lost” (line 18). In this example, the “% of Manhours Lost” was 24 percent. To obtain the “Impact Cost” (line 20), he multiplied 223 (line 16) by a composite wage rate of \$42.27 (line 19) to obtain a “Total Impact Cost” of \$9,431.24 for the week. The “Total Impact Cost” for the project (line 21) was computed by adding up the “Impact Cost[s]” (line 20) for each week (app. supp. R4, tab 27 at attach. 6).

12-Jun	
1. Weekly As-built Manhours (From Job Cost Report)	742
2. Cumulative As-Built Manhours	926
Labor Inefficiency Analysis-Disruption & Other Causes	
(Re: MCA Bulletin C01, Appendix B) . . .	
3. Stacking of Trades	
4. Morale and Attitude	
5. Reassignment of Crew	7
6. Crew Size Inefficiency	
7. Concurrent Operations	
8. Dillution [sic] of Supervision	10
9. Learning Curve	
10. Errors and Ommissions [sic]	1
11. Beneficial Occupancy	
12. Joint Occupancy	
13. Site Access	20
14. Logistics	5
15. Total Inefficiency Factors (Sum of Lines 3 thru 14)	43
16. Loss Manhours – All Other Causes (Line 1 x Line 15/100)/(1+Line 15/100)	223
17. Cumulative Manhour Loss -Other Causes	223
18. % of Manhours Lost (Line 17/Line 2)	24%
19. Average Wage Rate	\$42.27
20. Impact Cost (Line 16 [x] Line 19)	9,431.24
21. Total Impact Cost (Sum Line 20)	680,547.84

253. Except for three factors, the appendix states that the percentages of loss are to be added to the labor costs of the change (app. supp. R4, tab 36, attach. 3 at 31). The percentages of loss for crew size inefficiency, concurrent operations, and dilution of supervision, are to be added to basic contract hours (*id.* at 32). Mr. Presnell added the percentages of loss for the factors he used to basic contract hours (tr. 5/149).

254. Mr. Presnell did not speak to anyone from AEI prior to submission of the REA and never visited the site (tr. 5/181-84, 6/129). He did not tabulate the number of

times a specific factor occurred and kept virtually no records explaining his rationale for assigning a particular percentage to a particular factor (tr. 6/26-28). He testified that he just sat down with AEI's daily reports, the CQC reports, the DCVRs, the schedules, and the modifications, and "looked at what was occurring on the project" (tr. 6/26, 56-58).

255. At the hearing, Mr. Presnell was provided with the project reports and asked to explain why he assigned an inefficiency factor of 5 percent for stacking of trades for the week ending 26 June 1999 (tr. 6/60). His testimony was as follows:

Q . . . Have you located anything yet[?]

. . . .

A Not yet, other than the reference [to FRP removal at the bathrooms on the CQC report for 24 June 1999].

. . . .

Q So you identified that as . . . stacking of trades[?]

A I'm just conveying to you what I'm seeing here . . .

Q . . . [Did] that have anything to do with a problem caused by the Government?

A I don't know sitting here No, I don't.

. . . .

Q [Let's] look at [AEI's] schedule update to see if you can find any basis for . . . assigning 5 percent inefficiency to the Government for stacking of trades

. . . .

A . . . I believe [one issue we looked at] involve[d] the plumbing work as it related to the asbestos abatement work where the plumber was unable to proceed. . . .

Q Do you know when that became an issue?

A I think it was late June.

Q So . . . the failure of the plumber to access the utilidor because of abatement issues caused a stacking of trades[?]

A No, I'm not saying that. I'm saying . . . that's an issue that might have been taken into consideration.

Q Was that the basis for you assigning a 5 percent inefficiency to the Government for stacking of trades?

A I can't say that with certainty.

Q Is there anything . . . you can say with certainty [that] caused you . . . to assign to the Government 5 percent inefficiency for stacking [of] trades?

A No.

. . . .

Q So sitting here today looking at the documents can you tell me what forms the basis for your conclusion that the Government caused 5 percent inefficiency [for the] week ending June 26th due to stacking of trades?

A No.

. . . .

Q . . . [Then how] does your methodology allow you to assign a 5 percent inefficiency [for that factor]?

A I don't have an answer for that.

(Tr. 6/61-69)

256. Mr. Presnell assigned total inefficiency factors of 43 and 51 for the weeks ending 12 and 19 June respectively, even though AEI did not have a contractual right to access the site until 15 June 1999 (app. supp. R4, tab 1 at SCR-1, tab 36 at attach. 2). When asked about this discrepancy, he replied that “[c]ontractually [the COE has] a very good point” (tr. 5/189).

257. For the week ending 19 June 1999, Mr. Presnell assigned a 10 percent inefficiency factor for crew size inefficiency. He explained that AEI “had manpower and equipment on the site, and they weren’t being efficient, so their crew size was larger for the work that they were actually able to perform” (tr. 5/197-200). Appendix B defines crew size inefficiency as “additional men [added] to existing crews break[ing] up original team effort, affect[ing] labor rhythm” (app. supp. R4, tab 36, attach. 3 at 32). When asked to reconcile his rationale with the definition of crew size inefficiency in appendix B, Mr. Presnell agreed that his application was “[l]iterally” incorrect (tr. 5/199).

258. For all but 2 of the 31 weeks in the matrix, Mr. Presnell assigned inefficiency factors for morale and attitude even though he did not speak to anyone employed by AEI prior to preparing his analysis and never visited the site (app. supp. R4, tab 36, attach. 2; tr. 5/182-84, 6/129). He stated that these percentages were assigned on the basis of “experience” (tr. 5/184). Mr. Michael Hargrave, who worked as a superintendent and CQC representative on the night and day shifts, testified that morale was no more of a problem on this job than any other job (tr. 5/107). Mr. Jaime, AEI’s president, was not aware of any problems with morale (ex. G-9 at 118).

259. Mr. Presnell assigned a percentage of loss for stacking of trades for the weeks ending 26 June through the week ending 4 September 1999. According to appendix B, stacking of trades occurs when the “workmen of several trades could become stacked in a limited work area creating a situation in which work cannot be done efficiently” (app. supp. R4, tab 36, attach. 3 at 31). Testimony from contractor personnel indicated that stacking was not a problem. Mr. Jaime testified that stacking of trades did not occur on this project (ex. G-9 at 117-18, 120-21). Mr. John Hesser, who worked as a carpenter and later as the day superintendent, testified that “because the school is one story and it’s kind of spread out, you could actually hire more people at a certain time and not be in each other’s way” (tr. 3/104). When asked if crew size ever interfered with AEI’s ability to complete the work, he testified that, except for the very end of the project, he never had “too many people in one spot” (tr. 4/58, 100).

260. We conclude that Mr. Presnell’s inefficiency analysis is speculative and lacking in credibility.

V. Mr. Presnell’s Scheduling Analysis

261. The purpose of Mr. Presnell’s scheduling analysis was “to first identify events that caused extension of building completion, and then identify AEI time loss/improvement against the original plan, then to assign responsibility for schedule impacts/disruptions and/or improvement to either the COE or AEI” (R4, tab 4 at 57).

262. Mr. Presnell used what he called a modified windows method to perform the analysis (R4, tab 4 at 57-68; app. supp. R4 tab 40 at 19; tr. 6/78, 88-89). He distinguished the windows method from a modified windows method as follows:

[In a] windows analysis . . . you input events . . . whether it be owner or contractor events at each period of performance by creating fragnets, inserting activities that have a constrained start date and they are a successor to an activity that will be affected if an answer isn't given or if there isn't resolution to an issue, and you then progress the schedule and you can look at . . . the gain loss or the project staying status quo.

[W]e put in the events, the DCVRs, the change orders, the events from the government's side and progress[ed] the schedule to see what effects the schedule software would project if an answer wasn't given or had not been received in a certain period of time . . . and then we progressed the work performed during that same period of performance by the contractor, and we can identify whether there was a gain, a loss, or whether it stayed status quo.

(Tr. 5/175)

263. Mr. Presnell's method includes six steps: (1) develop a baseline schedule; (2) remove open ends and constraints by adding predecessor and successor activities; (3) identify all COE delaying events and develop fragnets; (4) insert fragnets into the baseline schedule to obtain the impact schedule; (5) "update" the impact schedule for progress; (6) repeat steps (1) – (5) for each period (app. supp. R4, tab 40 at 45-50).

264. Mr. Presnell used the so-called "A200" schedule as his baseline schedule (R4, tab 4, ex. 2). He added 55 tasks to his baseline schedule to "make [it] follow the contract and allow for the administrative and/or various work activities in the field to be accounted for" in his analysis (R4, tab 4, ex. 3; app. supp. R4, tab 40 at 46-48). In his opinion, none of the added tasks affected the critical path (app. supp. R4, tab 40 at 48). He also converted AEI's original Microsoft Project schedule into SureTrak because he thought SureTrak calculated remaining durations more accurately (app. supp. R4, tab 40 at 45; tr. 8/195).

265. In the REA, Mr. Presnell represented that his baseline schedule was "identical to [AEI's] original preliminary schedule . . . except for the addition of the activities that were missed during the development of the schedule, and COE inspection activities" (R4, tab 4 at 64). Mr. Stuart Ockman, the COE's expert, credibly testified that the A200 schedule was neither a contemporaneous project schedule nor identical to the

original project schedule except for the added activities (supp. R4, tab G-4 at III-4; tr. 8/195-96). Mr. Andrews, who prepared AEI's initial NAS, was unable to determine whether the two schedules were identical because his "schedul[e] [was] in Microsoft Project and [the A200 schedule was] a Primavera schedule" (app. supp. R4, tab 25-36; tr. 1/169-70).

266. Mr. Presnell inserted 142 fragnets into his baseline schedule. Each fragnet had a start date and a finish date. (Ex. G-5; tr. 6/85, 88, 100)

267. For the most part, Mr. Presnell used the DRR as the start date for computing the delays in the REA. The DRR was the date on which AEI allegedly needed a reply in order to avoid a delay to the schedule (finding 22). For the fragnets, Mr. Presnell used the date of the DCVR as the start date (tr. 6/88, 100-01). Since the DRR was usually later than the date of the DCVR, many fragnets were overstated (tr. 6/102-103). For example, DCVR 43, dated 2 July, had a DRR of 7 July, and was assigned to fragnet 1997. The COE issued a written reply to the DCVR on 12 July. Mr. Presnell used 7 July as the start date for the five-delay alleged in the REA (12 July minus 7 July) (R4, tab 4 at 22, 25). Fragnet 1997 had a start date of 2 July and a finish date of 12 July, a duration of nine days (ex. G-5). As a result, fragnet 1997 was overstated by five days (7 July minus 2 July). Mr. Presnell used the date of the COE's written reply as the finish date for the fragnets no matter what happened in the field or what was recorded in the contemporaneous record (tr. 6/100; ex. G-5).

268. Mr. Presnell's unpublished paper, "Demonstrating Project Delay with the Windows Method CPM Schedule Analysis," dated 10 February 2002, indicates that concurrent delays must be taken into account in preparing a scheduling analysis:¹⁵

Its [sic] important to recognize that when a . . . claim for schedule impacts is submitted, the relationship between the claimant and defendant will be tested with credibility becoming the largest hurdle In order to gain credibility in the mind of the defendant, the claimant must account for its own schedule delay events and consequences.

(Supp. R4, tab G6.1.2 at 5; tr. 6/76)

269. Mr. Presnell did not take any delays caused by AEI or its subcontractors into account in his analysis (tr. 6/65, 81, 93). Indeed, when asked where in his analysis he specifically identified AEI-caused delays, he candidly replied "[n]owhere" (tr. 6/81).

¹⁵ Mr. Presnell indicated at the hearing that he withdrew his paper from publication because there were enough papers on the windows method analysis (tr. 6/76).

270. As a result, Mr. Presnell's method only identified critical delays caused by the COE. For example, Mr. Presnell's method did not identify the air handling unit (AHU) as a critical delay even though AEI knew in May that it could not obtain the specified unit until September and that late delivery would delay completion of the mechanical room beyond the CCD (app. supp. R4, tab 25-22; tr. 6/81-82). This delay is discussed more fully at findings 286-296. When asked how his method accounted for the fact there was a problem with the AHU, Mr. Presnell replied that it "shows us whether the contractor improved or didn't improve on his schedule" (tr. 6/81). When pressed, he replied "this isn't a delay claim. It's an impact claim" (tr. 6/82).

271. According to Mr. Presnell, AEI's delays were accounted for by "updating" or "progressing the schedule" (tr. 6/94). He explained this process as follows:

[W]e first calculate the schedule without adding the contractor's progress. . . . Instead, we add [owner-caused delays] in and progress the schedule. That tells us . . . what would be the owner-caused issues and the effects they had on the schedule. . . .

We then do a progress update where we put in the contractor's progress during the month. For example, if an activity is 35 percent complete, we progress all of the ongoing work in that period. . . . The contractor's progress then either moves out or comes back so you have a net gain or delay in time. . . .

Q . . . If you're only showing owner impacts, how do you account for contractor inefficiency?

A The progress will show plus or minus on the contractor's progress from what they should have accomplished.

Q How does that reflect contractor efficiency or inefficiency?

A If the project is behind schedule on the critical path, not only do events cause the schedule to push out, the contractor's progress in a particular period . . . could either improve or negatively affect the completion date.

(App. supp. R4, tab 40 at 49-50)

272. Based on the update for August, Mr. Presnell concluded that the COE caused impacts/disruptions of 53 days and that AEI had improved the schedule by 34 days, resulting in a net delay of 19 calendar days (R4, tab 4 at 58). After the hearing, AEI reduced its request for a time extension from 19 days to 16 days (app. br. at 52 of 85).

273. In his article on the modified windows analysis, he described the significance of a gain or loss as follows:

When the claimant is able to improve on its planned duration of critical path activities, the time saved indicates that the claimant possibly accelerated its critical work, however this cannot be determined without further review of the contract records. Conversely, if the claimant loses [sic] time . . . this time is charged against the claimant[']s account and indicates that the claimant delayed the schedule completion.

(Supp. R4, tab 6.1.2 at 16)

274. In this case, Mr. Presnell attributed all of the alleged gain to constructive acceleration (tr. 6/106-07).

275. When asked if the approach he used for this project was recognized by any accepted authority, he replied that it was his “choice to use this methodology” (tr. 6/138).

276. Mr. Presnell’s method does not reliably reflect what occurred in the field, fails to consider contractor-caused delays, and has not been recognized by any accepted authority. As a result, we conclude that the method is unsuitable for claims analysis.

VI. Concurrent Delays

277. As stated previously, Mr. Presnell did not take any delays caused by AEI and/or its subcontractors into account in preparing his analysis, including delays to completion of the bent plates (finding 90), the underground electrical (finding 39), the communication wiring (findings 58, 60), paving (finding 71), the joists for room 126 (finding 100), and the AHU and completion of the mechanical room (finding 270). AEI and/or its subcontractors were also responsible for the following delays.

A. Night Shift and Asbestos Abatement

278. The cover letter for AEI’s proposal for Modification No. P00002, dated 15 January 1999, and its 11 June 1999 initial NAS indicate that it planned to man the job

with two 10-hour shifts of 16 workers per shift six days per week plus two Sundays (findings 8, 10).

279. Despite the foregoing representations, Mr. Andrews testified that he did not intend to begin the night shift until after completion of asbestos abatement in areas A and B (tr. 3/46-47).

280. Asbestos abatement in areas A (task 103) and B (task 78) was scheduled for 22-24 and 25-28 June respectively, and had a combined duration of seven days (app. supp. R4, tab 25-36 at 406263-64). Luciano, AEI's abatement subcontractor, sealed the windows on 11-12 June 1999 (app. supp. R4, tabs 8-46, 12-32). On 16 June 1999, AEI wrote Luciano that "you have spread your preparatory work through out the whole school leaving no areas . . . for other trades to . . . work" (app. supp. R4, tab 8-48D at 403230). As a result of Luciano's slow progress and monopolization of the site, AEI's superintendent wrote in his daily report for 23 June 1999, that "we are running out of things to do" (app. supp. R4, tabs 12-30 through 12-43). Luciano completed the work on 23 June 1999 (app. supp. R4, tab 12-42).

281. AEI started its night shift on 21 June and discontinued it on 30 June 1999 (app. supp. R4, tabs 12-39 through 12-48N at 403800).¹⁶ From 21-29 June 1999, the night shift consisted of approximately seven workers per night (app. supp. R4, tabs 12-39 through 12-47N).

282. AEI alleges that it was "forced" to discontinue the night shift on 30 June 1999 due to open design issues (app. br. at 19 of 85). On 30 June 1999, the day AEI sent the night shift home, there were four open DCVRs. DCVR 16, dated 12 June 1999, related to removal of an exterior light fixture, which did not have to be removed. Most of DCVR 19, which involved the communications and safety systems, could have been resolved by reading the contract. The remaining items were minor--whether the COE wanted cable or antenna TV, or whether it wanted a freestanding or roll around rack for the intercom system. DCVR 24, dated 19 June 1999, related to raising the ceiling in the classrooms. AEI did not show when it raised the ceiling and there is no evidence that the work precluded AEI from continuing the night shift. With respect to DCVR 33, Mr. Andrews testified that AEI had clear direction as to how to install the bent plates on 1 July 1999. On this evidence, AEI has failed to prove that that open design issues relating to DCVRs 16, 19, 24, or 33 forced it to discontinue the night shift.¹⁷

¹⁶ A crew of eight was given credit for 2 hours of "show up time" and sent home on the morning of 30 June 1999 (app. supp. R4, tab 12-48N at 403800).

¹⁷ Two more DCVRs were submitted on 30 June 1999. DCVR 34 inquired whether the chase walls between toilet rooms 146 and 147 were to be removed. The COE replied that they were not to be removed. DCVR 35 involved removal of vinyl

283. AEI resumed the night shift on 22 July, and on 31 July 1999, it added a second shift to perform taping and painting. The second shift averaged about five workers per day. (App. supp. R4, tabs 12-66N at 404148, 12-75D2 through 12-90D2)

284. From 7-15 August 1999, the QAR reports contain multiple notations stating that the night shift was not accomplishing very much and that there were no carpenters, electricians, plumbers, or sheet metal workers on-site after 6:00 or 7:00 p.m. (app. supp. R4, tabs 14-95 through 14-103). The QAR report for 13 August 1999 stated that “[t]he ktr. is having problems getting employees to work a complete 10 hour shift at night [and that they] are going home early after working only a few hours” (app. supp. R4, tab 14-101).

285. Two ten-hour shifts of sixteen workers per shift six days a week, the level at which AEI planned to man the job, would have required an expenditure of 1,920 manhours per week. To man the project at that level from 4 June through 15 August (10 weeks) plus two Sundays (8 and 15 August 1999) would have required AEI to expend 19,840 manhours. DCAA found that AEI expended 29,064 direct labor hours between 1 June and 31 August 1999 (13 weeks) (app. supp. R4, tab 35 at 17). We find that AEI expended more manhours than planned.

B. Air Handling Unit (AHU)

286. The initial NAS scheduled installation of the AHU on 5-9 July 1999. Installation did not become critical until 19 July to 23 July 1999. (App. supp. R4, tab 25-36, task 199)

287. On 26 April 1999, AEI submitted an AHU manufactured by a Canadian company. The submittal was rejected because it did not comply with the Buy American Act. (Tr. 2/6-11; ex. G-1) On 2 June 1999, AEI submitted a Trane unit (ex. G-2). This unit was rejected because it did not meet the technical requirements of the contract (tr. 2/11-15).

288. AEI ordered a Haakon unit, the unit listed on the drawings, on 13 May 1999 (app. supp. R4, tab 2 at M-2, tab 25-91 at 2).

289. On 19 May 1999, AEI advised that the Haakon unit could not be delivered until approximately 8 September 1999, which would delay completion of the mechanical room until approximately the end of September (app. supp. R4, tab 25-22).

asbestos flooring and mastic in rooms 126 and 126A. This work was performed back-to-back with the additional utilidor work on 13-14 July 1999.

290. On 10 June 1999, AEI submitted the Haakon unit for approval. The COE approved the unit as noted on 21 June 1999. (Tr. 2/15-18; ex. G-3)

291. On 31 July 1999, AEI advised that it expected to install, adjust and balance the AHU by 23 August 1999 (app. supp. R4, tab 25-98).

292. The COE took partial beneficial occupancy of the school on 15 August 1999. Among other things, the mechanical room was not complete. (Finding 14).

293. The AHU was delivered on 15 August and set in place on 16 August 1999 (app. supp. R4, tabs 8-103D, 14-104). On 18 August 1999, Mr. Jaime, AEI's president, told the QAR that new pumps had been ordered, but that they would not arrive for three weeks (app. supp. R4, tab 14-106).

294. The old heat exchanger was removed on 19 August 1999. The QAR noted on his report for 20 August 1999 that it would take several days to repipe the mechanical room. The new heat exchanger was ready to be lifted into place on 26 August 1999. (App. supp. R4, tabs 12-101, 14-108)

295. The COE conducted a pre-final inspection on 30 August 1999 (app. supp. R4, tab 14-118A). The punch list noted, among other things, that AEI had yet to correct the manufacturer's deficiencies at the new AHU, finish the mechanical room and the penthouse, flush, clean, and fill the hydronic heating system, and perform the test and balance work (supp. R4, tab G58 at items 41, 42, 43, 45, 46).

296. On 31 August 1999, the day school started, AEI hired a new mechanical subcontractor to finish the mechanical room (app. supp. R4, tabs 12-106, 14-119A). The mechanical subcontractor finished the work in November 1999 (app. supp. R4, tab 12-132).

C. Doors

297. AEI's daily reports contain the following notes regarding the doors:

18 August 1999: The doors supplied by Shanahan's do not have UL rating tags [T]his could be a real problem as the COE has noticed this deficiency.

19 August 1999: [W]e still have a lot of doors which either need to be delivered or have [UL] rating tags [put on].

21 August 1999: The doors . . . are not here yet and if we don't get the[m] by Monday, we are going to have trouble getting ready for school.

25 August 1999: The doors Shanahan's have promised for days are still either being worked on or not even at the shop.

26 August 1999: [Most] of the doors delivered today. . . .

27 August 1999: [S]hortages of hardware will keep completion of the doors until Monday.

(Supp. R4, tabs G14, G16; app. supp. R4, tabs 12-93D1, 12-94D1, 12-96D1, 12-100D1, 12-101, 12-102)

D. Other Contractor Delays

298. AEI or its subcontractors caused the following additional delays: screws attaching bent plates to roof deck incorrectly located (app. supp. R4, tab 14-73; tr. 8/100-02); incorrect placement of fill around a water line (app. supp. R4, tab 14-77; tr. 8/102-03); five window frames not installed per manufacturer's instructions (app. supp. R4, tab 14-78; tr. 103-04); unapproved bolts (app. supp. R4, tab 14-80; tr. 8/105-06); improperly plumbed riser (app. supp. R4, tab 14-86; tr. 8/106-07); improper installation of stops for relites (app. supp. R4, tab 14-87; tr. 8/107-09); noncompliant primer on deck welds (app. supp. R4, tab 14-87; tr. 8/109-10); improperly located cable tray (app. supp. R4, tab 14-92; tr. 8/110-11); motor on new coiling door on wrong side (app. supp. R4, tab 14-92; tr. 8/111-12); piping in B wing bathrooms installed too low (app. supp. R4, tab 14-95; tr. 8/114); cabinets hung at wrong height (app. supp. R4, tab 14-105); substandard wood doors (app. supp. 14-105; tr. 8/122); door thresholds without sealant (app. supp. R4, tab 14-111); CAT 5 communications cable not installed in ceiling (app. supp. R4, tab 114A through 118A; tr. 8/119-21).

VII. The COE's Expert

299. Mr. Stuart Ockman prepared an independent schedule review and analysis of AEI's claim for the COE (supp. R4, tab G5 at 6). He is president of Ockman & Borden Associates, Registered Professional Engineers, which has provided management consulting services to the construction industry since 1981 (supp. R4, tabs G4, G5 at 3). He has a Bachelor of Science degree in civil engineering from Cornell University, a Master of Science in Construction Management from Stanford University, and a Master of Business Administration from the Wharton School of the University of Pennsylvania. He is a registered professional engineer in the State of California. (Supp. R4, tab G5 at 1)

300. Mr. Ockman has approximately 30 years of experience in construction scheduling, with an emphasis on computerized project management systems and time impact claims (supp. R4, tab G5 at 1-5, ex. G-10). He has performed nearly 200 time impact analyses on a wide variety of projects, including power plants, hospitals, water and waste water treatment plants, a baseball stadium, highways, bridges, airports, rapid transit systems, dams, schools, college facilities, office buildings, and an Army barracks (supp. R4, tab G5 at 5; ex. G-10).

301. He has authored or co-authored numerous papers and publications on the critical path method, construction scheduling, and construction scheduling software. At the time of the hearing, he was president of the Project Management Institute College of Scheduling, vice-president of the Project Management Institute (International), president and chairman of the Delaware Chapter of the Project Management Institute, and vice-chairman of the Project Management Journal Advisory Board (supp. R4, tab G5 at 5-6; ex. G-10).

302. Mr. Ockman has been qualified as an expert witness approximately 15 times by the Armed Services Board of Contract Appeals, the Court of Claims trial division (now the Court of Federal Claims), the Superior Court of the State of California, and other boards of contract appeals (supp. R4, tab G-5 at 1-6; exs. G-10, -11).

303. Mr. Ockman was qualified, without objection, as an expert in scheduling, estimating, and construction means and methods (tr. 8/179-80).

VIII. Mr. Ockman's Review of AEI's Inefficiency Analysis

304. Mr. Ockman criticized Mr. Presnell's selection of the MCA bulletin as the methodology for his analysis, pointing out that the purpose of the bulletin is to help prepare original estimates and change orders, not to quantify damages (supp. R4, tab G4 at III-12). He also stated that the percentages of loss in the appendix are "both extremely generous and unsupported by studies of actual projects" (supp. R4, tab G4 at III-11; tr. 8/202). Even if the appendix was followed to the letter, Mr. Ockman stated that it would "give . . . an inflated value [of] impact" (tr. 8/202). As a result, he indicated that the appendix has become "sort of notorious" (tr. 8/201-02). He explained as follows:

No owner would consider paying a 25 percent premium for *Dilution of Supervision* for all base contract and change order labor, when the contractor could easily bring in another field engineer and/or superintendent to accomplish the same thing for a fraction of the cost. No owner would agree to pay a 55 percent premium on all labor for severe crew size inefficiency and concurrent operations (as AEI is trying to recover for the

week ending August 7th). In fact, it is unclear exactly what additional concurrent operations, if any, AEI had to implement to justify applying the concurrent operations factor at all.

(Supp. R4, tab G4 at III-12)

305. Mr. Ockman was also of the view that Mr. Presnell misused the factors. Mr. Presnell applied all 12 factors cumulatively to base contract and change order labor hours. The appendix stated that only crew size inefficiency, concurrent operations, and dilution of supervision were to be applied to both base contract and change order labor hours. Since the hours associated with a change order are typically small, Mr. Ockman concluded that Mr. Presnell's application of all the factors to every hour spent on the contract significantly overstated the impact of the change. (Tr. 8/202-03)

306. Although AEI's counsel cited Mr. Ockman's testimony in its brief for the proposition that "almost all impact factors may be applied in considering impact to base contract work," Mr. Ockman clearly did not agree with that proposition:

Q And isn't a fair reading of this that each of those factors according to this bulletin affect the completion of the base contract?

A [T]hey're saying that these headings affect the completion of the base contract. They're not telling you to multiply the factors times the base contract hours to calculate impact.

....

[I]f you start trying to use [Mr. Presnell's] interpretation, you come up with outrageous loss of productivity estimates that . . . are not in synch with any project I've looked at.

....

[I]t's impossible for the government, no matter how many changes they make to a project, to cause a project to overrun the budget by close to 100 percent unless the government required working 7 days a week, 12-hour days when the original contract was a 40-hour-a-week. [T]here need[s] to be extenuating circumstances. They didn't occur on this project.

(Tr. 9/86-87; app. br. at 48 of 85)

307. Mr. Ockman persuasively testified that Mr. Presnell's inefficiency analysis was not tied to the actual events that occurred on the job and that it failed to demonstrate cause and effect, an essential prerequisite for proving entitlement (tr. 8/203).

308. Following issuance of Modification No. P00002, the scope of the contract increased by 8.4 percent through Modification No. P00018 (\$300,344 divided by \$3,890,703) (supp. R4, tab G4 at III-1, -2). Mr. Ockman testified that an 8.4 percent increase in scope was normal for a government contract, particularly a renovation contract (tr. 8/176-77).

309. In his report, Mr. Ockman concluded that AEI is entitled to an equitable adjustment for loss of inefficiency in the range of 2 to 5 percent, or between 675 and 1,745 hours based on 33,119 total hours, the number of hours alleged by AEI in its claim (supp. R4, tab G4 at III-15; finding 319 *infra*). "[A]fter hearing the testimony," however, he stated that he "would feel very comfortable with the lower end, the – the two percent end of that range" (tr. 8/204). We adopt Mr. Ockman's 2 percent loss of efficiency figure for purposes of determining quantum.

IX. Mr. Ockman's Review of AEI's Scheduling Analysis

310. Mr. Ockman performed a "Time Impact Study" to determine whether the defect in the structural drawings (DCVR 66, the dimensional bust) had any impact on the critical path (supp. R4, tab G4 at III-2; tr. 8/188). In connection with his study, he reviewed the Rule 4 file, the specifications and drawings, contract Modifications Nos. P00001 through P00018, the correspondence, the pay estimates, the daily progress photographs, the DCAA audit report, and AEI's rebuttal to the contracting officer's decision dated 28 February 2003 (supp. R4, tab G4 at II-1).

311. Although he found AEI's initial NAS "ambitious," Mr. Ockman concluded that it was a reasonable plan for achieving substantial completion by 15 August 1999. He used the initial NAS as the benchmark for measuring AEI's performance. (Supp. R4, tab G4 at III-1, appendix, tab G5 at 8; tr. 8/184-85)

312. After reviewing the project, Mr. Ockman determined that the administrative addition was "driving the project." Using the CQC and QAR reports, he developed an as-built schedule depicting the longest path through that area. (Supp. R4, tab G4 at II-2, appendix; tr. 8/187-88)

313. Using that data, Mr. Ockman prepared a time-scaled graphical representation of the as-planned schedule and the as-built schedule for the project (supp. R4, tab G4, appendix). The top half of the chart depicted the as-planned schedules for areas A and B

and the longest as-planned path through the administrative addition. The bottom half of the chart depicted the as-built schedule for the longest path through the administrative addition.

314. Mr. Ockman performed his study “by chronologically comparing the planned to the actual and identifying the first event that’s on the critical path that ends up starting late” (tr. 8/188). The first event that started late was roofing. GWB and tape, prime paint, light fixtures, and wall finishes, the successor tasks to roofing, also started late (findings 196, 197). Based on these delays, Mr. Ockman concluded that the structural steel delayed contract completion by 10 calendar days (supp. R4, tab G4 at III-15; tr. 8/191).

315. Mr. Ockman persuasively criticized Mr. Presnell’s use of fragnets as the basis for his scheduling analysis on the grounds that (1) they were subjective after-the-fact judgments; (2) they ignored all of AEI’s own problems during construction; and (3) they ignored the contemporaneous record, which showed that, despite the slow progress with structural steel, AEI still anticipated completing the contract by 15 August 1999 (supp. R4, tab G4 at III-4, III-5).

316. Mr. Ockman was also of the opinion that inserting fragnets into a baseline schedule did not yield reliable evidence of acceleration:

Mr. Presnell . . . develop[ed] fragnets for each DCVR and dump[ed] [them] into the schedule. And that just doesn’t work. . . .

Q Why is that?

. . . .

A [T]ypically . . . whenever somebody does that analysis, they push a button and it says the project’s going to complete two years beyond the [CCD] and . . . the conclusion they reach is [that] because the contract only completed six [months] beyond the [CCD], they accelerate[d] it to regain a year and a half. [T]hat’s the way the game is played. . . . [I]t’s almost an exact analogy to what was done on this project. You . . . dump in all of these fragnets, you push a button, you see the contract schedule is going to finish the end of September/beginning of October [when] there was never any indication that this contract was going to run to the end of September or the beginning of October. . . . It’s . . . a

construct caused by dumping in . . . fragnets [like] DCVR 23.^[18]

(Tr. 8/197-98)

317. He also questioned Mr. Presnell's assertion that AEI accelerated the work:

AEI's proposal was based on working two shifts of six 10-hour days. AEI's initial schedule, developed well before any need to accelerate, also included two Sundays, August 8 and 15, 1999, as workdays. Thus, both AEI's initial schedule and bid estimate already include significant inefficiency compared to a normal, single-shift, 40-hour workweek. However, AEI never worked a full nightshift. In fact, for a significant portion of the project (the three weeks from July 1 through 21, 1999) AEI worked no nightshift at all

Even when AEI did work a nightshift, it was not a continuation of the dayshift, but a limited effort working limited hours with limited trades. Thus, to the extent that AEI did increase crew sizes and equipment on the dayshift, if at all, this effort could have been mitigated by working a 60-hour a week nightshift as originally planned.

(Supp. R4, tab G4 at III-11)

X. The Claim

318. In the REA, AEI requested payment of \$1,245,394, which included \$680,548 in labor inefficiency, reduced for amounts recovered in changes, \$280,166 in extended home office overhead costs, reduced for mark-ups on labor inefficiency, \$67,295 for extended field supervision, plus 15% for G&A, 10% for profit, 1.75% for bond and \$97,793 in REA preparation costs and a 41-day extension of the CCD, *i.e.*, from 15 August to 25 September 1999 (R4, tab 4, ex. 8 and at 99-100; app. supp. R4, tab 40 at 58-59).

¹⁸ Although Mr. Presnell alleged in the REA that DCVR 23 caused a 23-day delay, the CQC reports indicated that the work was completed on 23 June 1999, two days after the DRR (R4, tab 4 at 16; app. supp. R4, tabs 8-53D, 8-53N). As a result, Mr. Presnell conceded at the hearing that DCVR 23 was "meaningless as far as impacts to the schedule" (tr. 6/86-87). Mr. Presnell did not correct either of his analyses for this error.

319. Mr. Presnell computed AEI’s labor inefficiency costs by subtracting bid labor hours of 18,485 (line 22 below) from claimed labor hours of 33,119 (line 23), resulting in a variance of 17,576 hours (line 25). Based on the factors in appendix B, he attributed 16,100 hours (line 26) of that variance to the COE. He converted hours into dollars by multiplying 16,100 by a composite wage rate of \$42.27, resulting in labor inefficiency costs of \$680,548. Mr. Presnell computed this to be an inefficiency rate of 49 percent (16,100 divided by 33,119).

Original	
Estimate Comparisons	
22. Estimated Manhours	18,485
23. Spent Manhours	33,119
24. Pre-June 1999 Spent MH	2,942
25. Total Manhour Variance	17,576
26. Total Production Loss Attributable to the COE	16,100
27. Total Production Loss Attributable to AEI	1,476

(App. supp. R4, tab 27, attach. 6)

320. DCAA issued its audit report on AEI’s REA on 19 December 2002 (app. supp. R4, tab 35). DCAA qualified the results of its audit, stating, in part, as follows:

3. AEI did not segregate the increased costs resulting from the alleged “changes,” differing site conditions, extended performance period, or other project impacts in its accounting records. The accounting system is capable of segregating costs by change order, however, AEI did not establish specific job cost numbers to track and accumulate costs in that manner. . . . This audit is qualified because we are unable to determine from AEI’s accounting records whether costs incurred over and above the original contract price, including Case 2 (modification P00002), relate to the alleged changes and differing site conditions.

4. The results of audit are [also] qualified because AEI used the “modified total cost” method to calculate the “accelerated” labor costs (hours) as part of this claim. . . . Using this method, AEI recovers all of the difference between the total recorded labor hours and the originally bid and Case 2 hours, with the minor exception of approximately 8 percent for AEI’s own estimated inefficiencies. This method assumes that Government action and/or inaction caused all of the

increased labor costs (hours) except for 1,476 hours deducted by AEI for its own estimated inefficiencies.

(App. supp. R4, tab 35 at 3-4)

321. DCAA verified 29,064 of the 33,119 claimed direct labor hours (line 23) and 16,820 of the claimed bid labor hours (app. supp. R4, tab 35 at 17-22). DCAA questioned 875 direct labor hours because they were incurred after BOD (*id.* at 20). DCAA questioned all of AEI’s claimed home office overhead on the basis *inter alia*, that it could not have had any reasonable expectation of starting work in the interior prior to 15 June 1999 (*id.* at 8-9). Field supervision costs were questioned because AEI’s recorded costs were \$15,657 less than the amount negotiated for the original contract and modifications through P00018 (*id.* at 10). DCAA did not question AEI’s proposed daily rate of \$1,641.33 per day for field overhead and we accept that rate for purposes of computing quantum. DCAA did not question AEI’s composite wage rate of \$42.27 per hour. DCAA computed an actual G&A rate of 10.5% and a bond rate of .75%. DCAA stated that these amounts were presented for the convenience of the contracting officer and that they should not be considered to be audit approved or recommended. (*Id.* at 6, 11, 14-15)

322. On 16 March 2003, Mr. Presnell prepared a “corrected” labor impact matrix, based, in part, on DCAA’s findings (app. supp. R4, tab 36, attach. 2). The corrected matrix reduced the number of claimed direct labor hours from 33,119 to 32,917 and the number of claimed bid labor hours from 18,485 to 17,739 (lines 22, 23 below). He recomputed damages by subtracting bid hours of 17,739 (line 22) from total labor hours of 32,917 (line 23), resulting in a variance of 15,178 (line 25). Mr. Presnell attributed 16,068 inefficiency hours to the COE. He converted inefficiency hours into dollars by multiplying 16,068 by a composite wage rate of \$42.27, obtaining revised inefficiency costs of \$679,210, which equates to an inefficiency rate of 48.8 percent. (App. supp. R4, tab 27 at attach. 6)

323. In summary form, Mr. Presnell’s original labor impact matrix, his corrected labor impact matrix, and DCAA’s audit position provide as follows:

	Original	Revised	Audit
Estimate Comparisons			
22. Estimated Manhours	18,485	17,739	16,820
23. Spent Manhours	33,119	32,917	29,064
24. Pre-June 1999 Spent MH	2,942		
25. Total Manhour Variance	17,576	15,178	12,244
26. Total Production Loss Attributable to the COE	16,100	16,068	10,768
27. Total Production Loss Attributable to AEI	(1,476)		(1,476)

(Ex. G-17)

324. After the hearing, AEI re-calculated its claim as follows:

Labor Inefficiency	\$581,860
15% overhead markup	\$ 87,279
Extended Field Supervision	\$ 29,350
15% Overhead Markup	\$ <u>4,403</u>
Subtotal	\$702,892
10 % Profit	\$ <u>70,289</u>
Subtotal	\$773,181
.75% Bond	\$ <u>5,799</u>
Subtotal	\$778,980
REA Preparation Costs	\$ <u>74,978</u>
Total	\$853,958

(App. reply br. at 1 and 30 of 33; see also app. br. at 84 of 85) AEI also reduced its request for a time extension to 16 days, *i.e.* from 15 August to 31 August 1999 (app. br. at 52 of 85). In view of the reduction in the request for a time extension from 41 days to 16 days, AEI dropped its claim for extended home office overhead except to the extent it was not recovered through mark-ups on labor inefficiency (app. br. at 53 of 85; app. reply br. at 1-2). We find AEI did not in fact incur extended home office overhead as calculated pursuant to the Eichleay formula because it was performing substantial work during the period from 15 August to 31 August 1999 (instead of being suspended).

325. Mr. Jordan Rosenfeld of Sutor Consulting LLC, prepared the cost portion of the claim. He testified that the REA preparation costs, including the cost of his services, the services of Assess Project, LLC, and the services of AEI's attorneys, Oles, Morrison, Rinker & Baker LLP, were billed to AEI's surety (supp. R4, tab G6.1.4 at 158, 166; tr. 7/51-56). Mr. Jaime, AEI's president, stated that he had not incurred any expense directly associated with the appeal and that he had not received any invoices from Assess Project, LLC or Oles, Morrison (ex. G-9 (Jaime dep.) at 28, 83).

DECISION

This dispute arose from a contract to renovate an elementary school and construct a small administrative addition for the Corps of Engineers (COE) at Fort Richardson, Alaska. In order to avoid interfering with the school year, the work was to be performed between 15 June and 15 August 1999. From the record, we infer that the COE did not intend to extend the contract completion date (CCD) beyond 15 August 1999.¹⁹ The

¹⁹ The PNM for Modification No. P00002 stated that "no additional time [was] added to

parties agree that the schedule was “aggressive.” To ensure timely completion, AEI planned to use two 10-hour shifts of 16 workers per shift, six days a week. The COE gave AEI early access to the exterior of the site on 4 June and early access to selected rooms in the interior on 8 June 1999. The COE took partial beneficial occupancy on 15 August and beneficial occupancy on 31 August 1999.

The REA included 85 design clarification/variation requests (DCVRs).²⁰ At the hearing, AEI reduced that number to 47 DCVRs. The contract is silent with respect to DCVRs. Although AEI alleges that the COE orally agreed to reply to simple DCVRs overnight and complex DCVRs within a week, the COE denies any such agreement. Most of the DCVRs involved defects in the plans and specifications. Since the COE had to coordinate its replies through the A/E, particularly those relating to design defects, we find it highly unlikely that it would agree to reply within a specific period of time. In addition, Mr. Andrews, AEI’s project manager, testified that the “Date Reply Requested” (DRR), not the date of submission, was the date on which AEI needed a reply in order to avoid impacting the schedule. (Findings 21, 22)

AEI advances three legal theories in support of its claim. AEI argues that the COE breached its implied duty of cooperation by failing to timely reply to the DCVRs. AEI also argues that the contract was “rife with design errors, reflected in a myriad of DCVRs,” breaching the government’s implied warranty of the plans and specifications (app. br. at 57 of 85). Finally, AEI argues that the COE constructively accelerated the contract by failing to grant appropriate time extensions. The COE argues that AEI has failed to prove its claim. The COE also asserts that eight DCVRs are barred by the doctrine of accord and satisfaction.

I. Accord and Satisfaction

In its amended answer, dated 9 October 2003, the COE asserted the affirmative defense of accord and satisfaction in connection with Modification Nos. P00007, P00008 and P00010, which were issued on 9 November, 10 November, and 13 December 1999

the contract, as this work has to be done in the summer between school seasons” (finding 9). In addition, virtually none of AEI’s equitable adjustment proposals included a request for a time extension.

²⁰ AEI and its surety submitted a total of 125 DCVRs in connection with the contract. The first DCVR was dated 16 March 1999, three months before the contract start date, and the last DCVR was dated 14 September 2000, more than a year after beneficial occupancy. (Finding 20)

respectively.²¹ The modifications include DCVRs 10, 18, 20, 35, 58, 80, 82, and 94. Each modification was signed by Mr. Andrews and contained the following release:

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.

(Findings 27, 54, 66, 101, 170, 224, 229, 241)

While conceding that the releases did not reserve any impact costs, AEI argues that the DCVRs are nonetheless viable because they focused “solely on the direct costs of the work” (app. br. at 82 of 85). AEI also points out that the surety released all claims except those arising out of the REA when it signed Modification Nos. P00017 and P00018.

The elements of an accord and satisfaction are proper subject matter, competent parties, a meeting of the minds, and consideration. *Nevada Half Moon Mining Co. v. Combined Metals Reduction Co.*, 176 F.2d 73, 76 (10th Cir. 1949), *cert. denied*, 338 U.S. 943 (1950); *Bay West, Inc.*, ASBCA No. 54166, 07-1 BCA ¶ 33,569 at 166,304 and cases cited therein. The releases in Modification Nos. P00007, P00008, and P00010 are clear and unambiguous. In return for a specified price, AEI unconditionally released the COE from “all past, present, and future liability.” The modifications executed by the surety were issued in 2002 (*e.g.*, finding 119). AEI did not present any evidence that Mr. Andrews intended to except impact claims from the modifications he signed in 1999. We find that DCVRs 10, 18, 20, 35, 58, 80, 82, and 94 are barred.

II. Entitlement

A. Implied Duty to Cooperate

AEI argues that the COE breached its implied duty of cooperation by failing to timely reply to the DCVRs. It is well-established that the duty of cooperation places an affirmative obligation on the government “to do what is reasonably necessary to enable the contractor to perform.” *Advanced Engineering and Planning Corp., Inc.*, ASBCA Nos. 53366, 54044, 05-1 BCA ¶ 32,935 at 163,128-29; *Contel Advanced Systems, Inc.*, ASBCA No. 49074, 03-1 BCA ¶ 32,155 at 158,976; *Coastal Government Services, Inc.*,

²¹ The COE also asserted accord and satisfaction with respect to Modification Nos. P00001, P00002, P00003, P00004, P00005, P00011, P00014, and P00016. However, the DCVRs in these modifications were eliminated from the claim.

ASBCA No. 50283, 01-1 BCA ¶ 31,353 at 154,833, *aff'd*, 32 Fed. Appx. 584 (2002). Where, as here, the contract does not specify the period of time in which the government must reply to inquiries, the law imposes a duty to reply within a reasonable period of time. *Essex Electro Engineers, Inc. v. Danzig*, 224 F.3d 1283, 1291 (Fed. Cir. 2000). What constitutes a reasonable period of time is determined by “the reasonable expectations of the parties in the special circumstances in which they contracted.” *Essex*, 224 F.3d at 1291, *quoting Commerce Int’l v. United States*, 167 Ct. Cl. 529, 338 F.2d 81, 87 (Ct. Cl. 1964). Once a breach has been established, “the contractor must still show, as in all contract cases, that damage ensued.” *Id.* at 86. The contractor bears the burden of proof. *Contel*, 03-1 BCA at 158,976.

What follows is a case-by-case analysis of the COE’s replies to the 39 DCVRs remaining in AEI’s claim. In performing our analysis, we took the circumstances under which the parties contracted into account, particularly the short duration of the contract and the substance of the DCVRs. The basic data for each DCVR (date of DCVR, DRR, date of COE’s reply, and number of days between the DRR and the COE’s written or oral reply) is reproduced at the beginning of each section. We also consider whether AEI proved that the time between the DRR and the COE’s reply impacted its work.

1. DCVRs 11, 12, 14, 16, 17, 19, 22, 23, 24, and 28

DCVR	Description	Date of DCVR	DRR	COE Reply	Time ²²
11	Horizontal Timbers	06/08	06/10	06/14	4
12	Underground Feeders	06/09	06/10	06/22	12
14	Fence	06/10	06/14	06/16	2
16	Exterior Light Fixture	06/12	06/15	07/14	29
17	Remove Floor Tile	06/12	06/14	06/17	3
19	Comm. & Safety System	06/14	06/16	07/20	34
22	Unsuitable Soils	06/17	06/17	06/23 (Field)	6
23	CMU Stem Walls	06/19	06/21	07/14	23
24	Ceiling Height	06/19	06/21	06/19 (Field)	-2
28	TV In/Out	06/24	06/25	06/28	3

DCVR 11, dated 8 June 1999, advised that the horizontal playground timbers had dry rot and might not be suitable for reuse as required by drawing C1. All the work that was required by DCVR 11 was completed on 8 June 1999, the same day AEI submitted the DCVR. Although the record indicates that new timbers were installed on 22-24 July

²² The “Time” column reflects the number of calendar days between the DRR and the COE’s written reply or, where applicable, the number of days between the DRR and the field reply.

1999, AEI did not prove that the COE directed it to perform the work or that the work affected the critical path. Under these facts and circumstances, we find that the COE replied within a reasonable time.

The COE replied to DCVR 12 on 22 June 1999, 12 days after the DRR. For unexplained reasons, AEI did not install the underground electrical until 27 July 1999. In the absence of evidence showing when feeders L34 and L36 were installed, we assume they were installed on 27 July 1999 along with the rest of the underground electrical. AEI did not prove a causal relationship between the COE's 22 June reply and installation of the underground electrical on 27 July 1999 or that the work affected the critical path. Given these facts, we find that the COE replied within a reasonable period of time.

The COE replied to DCVR 14 relating to the fence work on 16 June 1999, two days after the DRR. AEI did not prove that the work affected the critical path. We consider issuance of a reply within two days of the DRR to be reasonable.

DCVR 16 involved removal of an exterior light fixture. The DRR was 15 June 1999. The COE directed AEI to leave the light fixture in place on 14 July 1999, 29 days after the DRR. While the COE's reply was clearly untimely, the item was obviously minor and AEI did not prove that it suffered any damages as a result of leaving the light fixture in place pending receipt of a reply.

DCVR 17, dated 12 June 1999, inquired about the extent of asbestos carpet and tile removal under the cabinet heaters in the A wing. On 17 June 1999, three days after the DRR, the COE directed AEI to remove carpet and tile to the extent possible without removing the heaters. Although AEI alleged in its claim that it removed the heaters, jacked them up and scraped underneath, AEI did not prove that it performed the work. Under all the facts and circumstances, we find that the COE replied within a reasonable period of time.

DCVR 19 related to the communications and safety systems. The COE replied on 20 July 1999, 34 days after the DRR. For unexplained reasons, AEI waited 10 days after receiving the COE's reply to begin pulling wires and did not finish installing the systems until almost 31 August 1999. AEI did not prove that the work affected the critical path. Although the COE's reply was untimely, AEI failed to prove a causal connection between the COE's reply and late completion of the work.

The COE replied to DCVR 22 on 23 June 1999, six days after the DRR. Due to its failure to man the job as planned, AEI was not ready to begin parking lot excavation until 22 June 1999. AEI finished excavating, backfilling, and compacting on 2 July and graded from 3-17 July 1999. AEI resumed grading on 5 August 1999. Paving was delayed from 11 until 15 August 1999 due to subcontractor delays. AEI has not established a causal relationship between the COE's reply and late performance of the

work or that the work affected the critical path. Given these facts, we find that the COE’s reply was timely.

DCVR 23 related to the construction of a stem wall at the administrative addition. The DRR was 21 June 1999. The COE replied on 14 July 1999, 23 days after the DRR. AEI began laying CMU on 21 June, the same day as the DRR, and finished the wall on 23 June 1999. On this evidence, AEI has failed to prove that it suffered any damages from the COE’s untimely reply.

DCVR 24 involved raising the ceiling height in the classrooms to resolve a conflict with the clock boards. The COE replied in the field on or about 19 June 1999, two days before the DRR. AEI did not establish when the ceiling was raised. AEI has failed to prove that it suffered any damages.

DCVR 28 requested clarification of a note on the drawings relating to the telecommunications and television systems. The DRR was 25 June 1999. The COE replied on 28 June 1999, three days after the DRR. AEI did not establish that the work affected the critical path. Under these facts, we find that the COE’s reply was timely.

2. DCVRs 33, 34, 36, 40, 41, 43, 46, 47, 48, and 50

DCVR	Description	Date of DCVR	DRR	COE Reply	Time
33	Bent Plates	06/29	06/29	07/02	4
34	Chase Walls	06/30	06/30	07/06	6
36	Channel Joists	07/01	07/01	07/03 (Field)	2
40	Electrical Panels	07/02	07/02	07/10 (Field)	8
41	Fireproofing	07/02	07/07	07/14	7
43	Metal Decking	07/02	07/07	07/12	5
46	C-beam Connection	07/02	07/06	07/02 (Field)	-4
47	Firestopping	07/06	07/06	07/14	8
48	Siding	07/06	07/06	07/09	3
50	Toilet Rooms	07/07	07/10	07/12	2

DCVR 33 related to the bent plates, which were on the critical path. For unexplained reasons, AEI did not submit DCVR 33 until 29 June 1999, approximately 3 days after it identified the problem. The DRR was 29 June 1999. At the hearing, Mr. Andrews testified that AEI did not receive a copy of the COE’s reply until 7 July 1999. In its brief, AEI concedes, without explanation, that it “received a sufficient answer to its inquiry concerning the bent plates on July 2 to allow bent plate installation to proceed in the affected areas.” We find that the COE replied within a reasonable period of time.

DCVR 34 related to the plumbing fixture chase walls at toilet rooms 146-147. The COE replied on 6 July 1999, six days after the DRR, directing AEI to leave the existing walls in place. AEI has not proven that it suffered any damages as a result of leaving the walls in place pending receipt of a reply.

DCVR 36 involved a conflict between an existing W beam and the mounting brackets for the C6 x 8.2 channel joists that were to be added to the corridor roof support between rooms 152 and 155. The DRR was 1 July 1999. On 3 July 1999, two days after the DRR, the A/E gave AEI a sketch showing how to install the brackets. AEI has not established that the work affected the critical path. Under these facts and circumstances, we find that the COE replied within a reasonable period of time.

DCVR 40 inquired whether the CMU walls in corridors 136 and 154 were sound enough to be cut for the electrical panels. The DRR was 2 July 1999. On 12 July 1999, 10 days after the DRR, the COE replied in the field, directing AEI to provide headers to support the panels. AEI installed the headers on 15-17 July 1999, within the time period shown on the initial NAS for the electrical rough-in (finding 109). Under these facts and circumstances, we find that the COE's reply was timely.

The COE replied to DCVR 41 on 14 July 1999, seven days after the DRR. The DCVR requested confirmation that fireproofing detail 5/A11 was applicable "except at classroom entry alcoves." We have previously found that AEI's late completion of the bent plates delayed the start of fireproofing until 16 July 1999 (finding 120). Under these facts and circumstances, we find that the COE's reply was timely.

The COE replied to DCVR 43 on 12 July 1999, five days after the DRR. The metal decking was finished on 30 July 1999. AEI did not show a causal relationship between the COE's 12 July 1999 reply and its failure to complete the work until 30 July 1999 or that the work affected the critical path. We find that the COE issued its reply within a reasonable period of time.

The A/E gave AEI a sketch for the detail which is the subject of DCVR 46 on 2 July 1999, four days before the DRR. AEI installed the beam on 6 July 1999. AEI did not prove that the work affected the critical path. Under these circumstances, we find that the COE replied within a reasonable period of time.

DCVR 47 requested a typical detail for firestopping. The COE replied on 14 July 1999, eight days after the DRR. We have previously found that the contract required AEI to provide the detail and that the DCVR was unnecessary.

DCVR 48 requested a typical detail for terminating the siding where it met the CMU. The DRR was 6 July 1999. The COE provided the requested detail on 9 July

1999, three days after the DRR. AEI failed to prove that this work affected the critical path. We find that the COE timely replied to DCVR 48.

DCVR 50 advised of defects in the plans involving toilet rooms 127-128, janitor's closet 129, and toilet rooms 146-147. The work was on the critical path. The COE replied on 12 July 1999, two days after the DRR. We find that the COE replied within a reasonable time.

3. DCVRs 51, 52, 53, 55, 56, 57, 60, 61, 63, and 64

DCVR	Description	Date of DCVR	DRR	COE Reply	Time
51	Re-route Duct	07/07	07/08	07/12	4
52	UngROUTed CMU Cells	07/09	07/12	07/19	7
53	C6 x 8.2 Beams	07/09	07/12	07/16 (Field)	4
55	Adequacy of Walls	07/09	07/09	08/03	25 ²³
56	Non-Compliant Beam	07/10	07/10	07/19	9
57	Glulam Beam	07/10	07/10	07/13 (Field)	3
60	Angled Window Jamb Framing	07/10	07/10	07/20	10
61	Wall to Roof Connection	07/10	07/10	07/15 (Field)	5
63	Re-Route CW Pipe	07/13	07/13	07/22	9
64	Missing Angles	07/18	07/19	07/16 (Field)	-3

The COE replied to DCVR 51 on 12 July 1999, four days after the DRR. AEI re-routed the rain leader on 24 July 1999. AEI did not show that the work affected the critical path. Absent evidence showing how the COE's 12 July reply delayed the work until 24 July 1999, we find that the COE replied within a reasonable period of time.

DCVR 52, dated 9 July 1999, advised of ungrouted CMU cells at grid 7/B-C. The COE replied on 19 July 1999, seven days after the DRR, directing AEI to relocate the ungrouted cells to grouted vertical cells or use a 3/4-inch diameter bolt and dry pack cell per detail 2/S4 to attach the cells. AEI did not establish which method it used to repair the cells or prove when the work was performed. AEI also failed to prove that the work affected the critical path. Under these facts and circumstances, we find that the COE replied within a reasonable period of time.

DCVR 53, dated 9 July 1999, requested a connection detail for two C6x8.2 beams in corridor 136. The COE replied on 16 July 1999, four days after the DRR. The beams

²³ Mr. Presnell erroneously calculated the duration of DCVR 55 as 23 days.

were installed on 12 July 1999, the date of the DRR. On this evidence, AEI has failed to prove that it suffered any damages.

DCVR 55, dated 9 July 1999, inquired whether the south CMU wall at lobby 101 was sound enough to support the electrical distribution and joists. The DRR was 9 July 1999. The COE replied on 3 August 1999, 25 days after the DRR, directing AEI to group the penetrations to avoid compromising the wall. AEI did not prove that the work affected the critical path. AEI cored the walls for the installation of the electrical panels on 14-15 July 1999 before the COE's reply. We find that the COE's failure to reply until 3 August 1999 was unreasonable.

DCVR 56 related to a beam that was too short due to an error in the COE's as-builts. The manufacturer provided a replacement beam on 10 July 1999 that was also too short. There was no delay as a result of the COE's reply to the DCVR.

DCVR 57 related to a conflict between a Mark 112 beam and a glulam beam. The COE replied in the field on 13 July 1999, three days after the DRR. AEI did not prove that the work affected the critical path. We find that the COE replied within a reasonable period of time.

DCVR 60, dated 10 July 1999, requested a detail for a header connection and support for the angled window intersections at rooms 103 and 122. The DRR was 10 July 1999. The COE replied in the field prior to 20 July 1999 (finding 171). Although AEI did not establish when these items were installed, the record reflects that the windows were installed on 21-23 July 1999. There is no evidence that window installation was delayed as a result of DCVR 60 or that the work affected the critical path. We find that the COE replied within a reasonable period of time.

DCVR 61 requested a detail to connect the walls and the roof at the administrative addition. The DRR was 10 July 1999. The COE replied in the field reply on 15 July 1999, five days after the DRR, directing AEI to use industry standard, pre-manufactured, steel fastener clips. AEI began framing the administrative addition on 15 July 1999. Roofing began on 31 July and was finished on 3 August 1999. Although AEI did not establish when the clips were installed, we assume that they could not be installed before roofing began on 31 July 1999. AEI did not prove that the work affected the critical path. We find that the COE replied within a reasonable period of time.

DCVR 63 requested permission to re-route a cold water pipe. The DRR was 13 July 1999. Although the QAR granted the request in the field on 21 July 1999, Mr. Amaro's written reply to the DCVR, dated 22 July 1999, denied the request. AEI did not prove that the work was performed or when it was performed. In addition, AEI failed to show that the work affected the critical path. We find that the COE replied within a reasonable period of time.

DCVR 64, dated 18 July 1999, advised that an existing bar joist at grid 5/A to 5/E was missing some angles. The A/E replied in the field on 16 July 1999, three days after the DRR, directing AEI to provide 4 x 4 x 1/4 inch angles. AEI did not prove that the work affected the critical path. The COE's reply was timely.

4. DCVRs 66, 67, 70, 72, 73, 79, 83, 88, and 90

DCVR		Date of DCVR	DRR	COE Reply	Time
66	Structural Steel	07/20	07/21	07/29	8
67	Shallow Electrical Service	07/20	07/21	07/22	1
70	Kitchen Plumbing	07/23	07/27	07/26	-1
72	Roof Drainage	07/27	07/27	07/31 (Field)	4
73	Urinal Feeds	08/02	08/03	08/02 (Field)	-1
79	Delete One-Hour Wall	08/07	08/08	08/23	15
83	Trim Door 114-2	08/11	08/11	08/13 (Field)	2
88	Cut Ventilation Openings	08/22	08/23	Undated	-
90	Cover for Fin Tube Heater	08/24	08/25	08/27	2

AEI submitted DCVR 66, relating to the structural steel, on 20 July 1999. The DRR was 21 July 1999. The COE's reply was 29 July 1999. AEI's daily reports state that the structural steel was complete on 30 July 1999. Structural steel was on the critical path. Given the significance of the problem, we find that the COE replied within a reasonable period of time.

DCVR 67 related to the electrical service at toilet 121. The COE replied to the DCVR on 22 July 1999, one day after the DRR. AEI did not prove that the work affected the critical path. We find that the COE replied within a reasonable period of time.

DCVR 70 related to the plumbing in the kitchen. The DRR was 27 July 1999. The COE replied to the DCVR on 26 July 1999, one day before the DRR. AEI did not prove that the work affected the critical path. We find that the COE replied within reasonable period of time.

DCVR 72 advised that the design for the new penthouse prevented drainage in a particular area of the roof. The DRR was 27 July 1999. The QAR replied in the field on 31 July 1999, four days after the DRR. Roofing began on 31 July and was finished on 3 August 1999. AEI did not prove that the work affected the critical path. We find that the COE replied within a reasonable period of time.

DCVR 73 related to reducing the size of the urinal feeds. The COE's reply to DCVR 73 was undated. At one point in the REA, Mr. Presnell alleged the COE's reply caused a delay of six days; at another point, he stated that it did not cause a delay. We have been unable to find any reference to the work in the project reports. AEI's claim with respect to DCVR 73 fails for lack of proof.

DCVR 79 requested permission to delete the requirement for a one-hour wall at janitor's closet 129. The COE denied the request on 23 August 1999, 15 days after the DRR. AEI did not establish when the wall was constructed. As a result, AEI has failed to prove that it suffered any damages.

DCVR 83, dated 11 August 1999, offered to trim door 114-2 to make it even with the existing slab-on-grade at vestibule 100. The COE rejected the suggestion in the field on 13 August 1999, two days after the DRR. AEI did not prove that it suffered any damages as a result of leaving the door intact pending receipt of a reply.

DCVR 88 related to cutting openings in the wall to balance the ventilating system. The COE's reply is not in the record and AEI did not prove the date on which the work was performed. Mr. Falcone testified that AEI did not cut any openings in the wall, that it simply left the door between the rooms open. We found Mr. Falcone's testimony to be more credible than the unsubstantiated assertions in the REA. DCVR 88 fails for lack of proof.

DCVR 90 pointed out a conflict in the drawings relating to the metal cover for the fin tube heater in room 112. The DRR was 25 August 1999. The COE's reply is not in the record. AEI alleges that the COE directed it to supply the cover on 27 August 1999 (finding 238). Accordingly, we find that the COE replied to DCVR 90 within a reasonable period of time.

Although there were a few instances of unreasonable delay, based on the foregoing, we hold that the AEI has not proven the COE breached its implied duty of cooperation.

B. Implied Warranty of Plans and Specifications

When government plans or specifications specify, in design detail, the precise manner or method of performance, the government impliedly warrants a satisfactory performance result if they are followed. *United States v. Spearin*, 248 U.S. 132, 136 (1918); *Essex Electro Engineers, Inc. v. Danzig*, 224 F.3d 1283, 1289 (Fed. Cir. 2000); *Weststar Revivor, Inc. (formerly Westar, Inc.)*, ASBCA Nos. 52837, 53171, 06-1 BCA ¶ 33,288 at 165,030. Breach of the warranty entitles the contractor to recover all of the costs proximately flowing from the breach, including costs attributable to any resulting period of delay. *See La Crosse Garment Manufacturing Co. v. United States*, 193 Ct. Cl.

168, 432 F. 2d 1377, 1385 (Ct. Cl. 1970). Unlike some situations in which the government has a reasonable time to make changes before it becomes liable for delay, “all delay due to defective or erroneous Government specifications are [sic] *per se* unreasonable and hence compensable.” *Essex*, 224 F.3d at 1289 *quoting Chaney & James Construction Co. v. United States*, 190 Ct. Cl. 699, 421 F.2d 728, 732 (Ct. Cl. 1970).

AEI styled its claim and its complaint as requests for an equitable adjustment. In its brief, AEI characterized its claim as one for breach of contract. To the extent that complete relief is available under one of the standard contract clauses, such as the Changes clause or the Differing Site Conditions clause, it is established that the contractor may not assert a claim for breach of contract. *United States v. Utah Construction & Mining Co.*, 384 U.S. 394, 1550 (1966); *Worsham Construction Co.*, ASBCA No. 25907, 85-2 BCA ¶ 18,016 at 90,371; *Johnson & Son Erectors Co.*, ASBCA 23689, 81-1 BCA ¶ 14,880 at 74,601, *aff’d*, Ct. Cl. No. 435-81C (Order of June 18, 1982). Since claims based on defective specifications and differing site conditions are redressable under the contract, we treat AEI’s claim as an equitable adjustment claim.

AEI has requested 16-days of compensable delay. In order to receive an equitable adjustment from the government, “a contractor must show three necessary elements – liability, causation, and resultant injury.” *Servidone Construction Corp. v. United States*, 931 F.2d 860, 861 (Fed. Cir. 1991). Based on our analysis, AEI is entitled to 16 days of compensable delay for the circumstances giving rise to DCVR 33 (4 days), DCVR 50 (2 days), and DCVR 66 (10 days) (findings 91, 143, 197).

The disposition of the remaining DCVRs is as follows:

DCVR	DESCRIPTION	DISPOSITION
11	Horizontal Timbers	No damages & no causal connection (findings 28-31).
12	Underground Feeders	No causal connection (findings 32-39)
14	Fence	No causal connection (findings 40-43).
16	Exterior Light Fixture	No damages (findings 44-46).
17	Remove Asbestos Carpet & Tile	No COE directive (findings 47-50).
19	Comm. & Safety Systems	No causal connection (findings 55-60).
22	Unsuitable Soil	No causal connection (findings 67-73).
23	CMU Stem Walls	No damages (findings 74-77).
24	Ceiling Height	No damages (findings 78-80).
28	Telecomm & TV In/Out	3-day non-critical delay (findings 81-83).
34	Plumbing Chase Walls	No damages (findings 92-95).
36	Conflict Brackets & Joists	No proof of delay (findings 102-06).
40	Adequacy of CMU Walls	5-day non-critical delay (findings 107-13)
41	Fireproofing Detail	No causal connection (findings 114-20).
43	Metal Decking	No causal connection (findings 121-25).
46	C-6 Beam to CMU Wall	No damages (findings 126-29).
47	Firestopping Detail	No damages (findings 130-32).
48	Detail for Siding	No causal connection (findings 133-36).
51	Re-Route Duct	No causal relationship (findings 144-49).
52	UngROUTed CMU Cells	No proof work performed (findings 150-53).
53	Detail for C-6 Beams	No damages (findings 154-55).
55	Electrical Panels	6-day non-critical delay (findings 156-58).
56	Non-Compliant Beam	1-day non-critical delay (findings 159-62).
57	Glulam Beam	No proof of delay (findings 163-66).
60	Angled Window Intersections	3-day non-critical delay (findings 171-75).
61	Wall to Roof Connection	No proof of extent of delay (findings 176-80).
63	Cold Water Pipe	No damages (findings 181-84).
64	Missing Angles	No damages (findings 185-87).
67	Shallow Electrical Service	No proof of delay (findings 198-201).
70	Kitchen Plumbing	No proof of extent of delay (findings 202-05).
72	Penthouse roof Drainage	No proof of extent of delay (findings 206-10).
73	Reduce Urinal Feeds	No proof of extent of delay (findings 211-14).
79	One-Hour Wall	No damages (findings 215-20).
83	Door Height	No damages (findings 230-32).
88	Ventilation Openings	No proof work performed (findings 233-36).
90	Metal Cover for Fin Tube	No proof work performed (findings 237-39).

C. Constructive Acceleration

In order to recover increased costs for constructive acceleration, the contractor must prove each of the following elements:

- (1) that [it] encountered [excusable] delay . . . ;
- (2) that [it] made a timely and sufficient request for an extension . . . ;
- (3) that the government denied [its] request for an extension or failed to act on it within a reasonable time;
- (4) that the government insisted on completion of the contract within a period shorter than the period to which [it] would be entitled by taking into account the period of excusable delay, after which [it] notified the government that it regarded the alleged order to accelerate as a constructive change . . . ; and
- (5) that [it] was required to expend extra resources to compensate for the lost time and remain on schedule.

Fraser Construction Co. v. United States, 384 F.3d 1354, 1361 (Fed. Cir. 2004).

Based on our findings above, AEI has satisfied all of the requirements set forth by *Fraser*. AEI has proven that it encountered 16 days of excusable delay in connection with DCVR 33 (bent plates), DCVR 50 (toilet rooms), and DCVR 66 (structural steel), and that the COE denied its 15 August request for an extension on 18 August 1999. The COE rescinded its notice on 20 August 1999 explaining that it “failed to take into account the pending [equitable adjustment] proposals” (finding 15). We infer that the COE understood that AEI would regard its insistence upon completion prior to the CCD, as extended by any excusable delay, as a change. We find that AEI is entitled to recovery for any increased costs for constructive acceleration for the period 18-20 August 1999.

D. REA Preparation Costs

The costs of professional and consultant services are unallowable if they are incurred in connection with the prosecution of a claim against the government. FAR 31.205-47(f)(1). In making this determination, we look to see whether the costs were incurred “for the genuine purpose of materially furthering the negotiation process.” *Bill Strong Enterprises, Inc. v. Shannon*, 49 F.3d 1541, 1550 (Fed. Cir. 1995), *overruled in part on other grounds by Reflectone, Inc. v. Dalton*, 60 F.3d 1572 (Fed. Cir. 1995). The REA was submitted long after AEI had ceased work on the contract and AEI has not pointed to any on-going negotiation process between the parties which would require such services. Accordingly, AEI’s REA preparation costs are unallowable. *E.g.*, *Reinhold Construction, Inc.*, ASBCA Nos. 33312 *et al.*, 92-3 BCA ¶ 25,031 at 124,772.

III. Quantum

Based principally on the evidence presented by its consultant, AEI concludes that it is entitled to an equitable adjustment of \$853,958 for extended field supervision, labor and REA preparation costs, and a 16-day extension of the CCD. On entitlement, AEI has proven that the COE breached the implied warranty of the adequacy of the plans and specifications with respect to some of the DCVRs, and that the COE constructively accelerated the work from 18-20 August 1999. AEI has not established entitlement to damages for breach of the implied duty of cooperation or REA preparation costs.

Accordingly, we find that AEI is entitled to 16 days of extended field overhead at a rate of \$1,641.33 per day. In view of the COE-caused delays to work that was not on the critical path (as well as work on the critical path) and the COE's acceleration of the work, we find a 2 percent rate of inefficiency to be reasonable. Using DCAA-audited figures for direct labor, G&A, and bond, we award AEI \$62,248 plus interest from 18 July 2001, computed as follows:

Field overhead		
16 days @ \$1,641.33 per day		\$26,261
Labor Inefficiency		
2% of 29,064 hours x 42.27/hour		<u>\$24,570</u>
	Subtotal	\$50,831
10.5% G&A		<u>\$5,337</u>
	Subtotal	\$56,168
.75% Bond ²⁴		<u>\$421</u>
	Subtotal	\$56,589
10% Profit		<u>\$5,659</u>
	TOTAL	<u>\$62,248</u>

²⁴ Bond was not calculated on profit because AEI did not compute bond premium on profit (app. supp. R4, tab 35 at 15).

CONCLUSION

We sustain the appeal to the extent of awarding AEI \$62,248 plus interest pursuant to the Contract Disputes Act, 41 U.S.C. § 611, from 18 July 2001 until payment. We deny the appeal in all other respects.

Dated: 8 February 2008

ELIZABETH A. TUNKS
Administrative Judge
Armed Services Board
of Contract Appeals

I concur

I concur

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

EUNICE W. THOMAS
Administrative Judge
Vice Chairman
Armed Services Board
of Contract Appeals

I certify that the foregoing is a true copy of the Opinion and Decision of the Armed Services Board of Contract Appeals in ASBCA No. 53806, Appeal of AEI Pacific, Inc., rendered in conformance with the Board's Charter.

Dated:

CATHERINE A. STANTON
Recorder, Armed Services
Board of Contract Appeals