ARMED SERVICES BOARD OF CONTRACT APPEALS

Appeal of --	)	
	)	
Webb Electric Company of Florida, Inc.	)	ASBCA No. 54293
	)	
Under Contract No. NAS3-00115	)	

APPEARANCE FOR THE APPELLANT: Mr. Daniel A. Webb
Vice President

APPEARANCES FOR THE GOVERNMENT: Vincent A. Salgado, Esq.
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OPINION BY ADMINISTRATIVE JUDGE SCOTT

Appellant Webb Electric Company of Florida, Inc. (Webb) timely appealed under the Contract Disputes Act (CDA), 41 U.S.C. §§ 601-613, from the contracting officer's (CO) final decision denying its certified claim for $894,816.34 and a 537-day extension under its contract with the National Aeronautics and Space Administration's (NASA) research center in Cleveland, Ohio, for electrical construction work. The Board conducted a 5-day hearing. We decide entitlement only. Appellant alleges that NASA breached its duties to cooperate and not to hinder or delay and that its specifications were defective, causing constructive contract changes. Alternatively, it alleges that NASA constructively suspended its work. In its answer to the complaint, NASA alleged that appellant's claim is barred by waiver and accord and satisfaction and because it did not provide proper notice of alleged changes, delays, hindrances and work suspension. In briefing, NASA also asserts that the Board lacks jurisdiction. We conclude that we lack jurisdiction over aspects of the appeal because they were not part of appellant's CDA claim; we deny the lack of notice and the accord and satisfaction defenses; and we sustain the appeal in part.

FINDINGS OF FACT

Phase III Solicitation and Webb's Bid

1. On 22 November 1999 a solicitation issued in the name of the NASA Lewis Research Center, in Cleveland, Ohio, for bids on a firm fixed price contract for rehabilitation and modification to the Center's high voltage power system, Phase III, including base work and six options. The Center had been renamed the NASA John H. Glenn Research Center at Lewis Field, effective 1 March 1999; we refer to it as "GRC." The solicitation noted that award would be based upon aggregate offers for the base work and options, each to be separately priced, but that GRC was not obligated to exercise the options. Options exercised at contract award would not extend the contract end date. Those exercised later might extend the date, but only for the option work. The base year and three options, known as 4, 5 and 6, pertaining to Substation (Sub) D (designated options 2, 3 and 4 in drawing package two), are at issue. GRC apparently did not exercise the other options. (R4, tab 1, § 01010, ¶ 1.1, SUMMARY, tab 2 at face page, B-1 to B-3, tab 76)

2. GRC is primarily an aeronautics research center for the government, and for private companies that contract to use its facilities. Among other things, it is used for materials research; testing models in wind tunnels; and testing aircraft and rocket engines in cells that simulate atmospheric and space conditions. GRC's institutional portion, including contracting and administration, supports the research portion, which it views as its customer, and tries not to affect adversely. In keeping with NASA's safety drive, GRC considers "safety first" and has a Safety Office. GRC's laboratory has eight areas, each with a safety committee, which must grant permission for work in its area and usually requires a permit. Certain systems also have safety committees. The Electrical Application Safety Committee (EASC) is in charge of GRC's high voltage system and requires a permit for work on the system, whether by the government or a private contractor. The Contracting Officer's Technical Representative (COTR), Eric Patton, acknowledged that GRC is a "unique environment" and that, due to its research needs and safety requirements, in some cases has more exacting rules than a contractor might normally encounter. (Tr. 3/294-97, 304-06, 328-29, 4/129-30, 217-19)

3. Webb, founded in 1958, is headquartered in Pensacola, Florida. About 85 percent of its work involves medium voltage distribution. Most of its work is out-of-state, much in colder climates. It was considered a small business on the Phase III

project.[1] David A. Jones was its home-office-based project manager until he left Webb in May 2002. As of the hearing, he owned his own electrical construction business. He had 38 years' experience with electrical construction contracts—34 as a project manager—primarily on federal military projects involving medium and high voltage work. He was responsible for reviewing the specifications and preparing Webb's bid. Daniel A. Webb, the company's vice president, reviewed Mr. Jones' estimate and added markup. He did not review the specifications. Mr. Webb had considerable experience on medium voltage projects and became project manager when Mr. Jones left. Mr. Archie Herrington, Webb's original project superintendent, had many years' experience, specializing in underground electrical construction. (Tr. 1/19-22, 2/149-52, 156, 160, 227-29, 4/359-60)

4. The project's base work required, *inter alia*, furnishing, installing and testing new underground circuits and pad mounted transformers; removing overhead circuits and structures; furnishing and installing new underground duct banks and manholes; and rerouting circuits through the new duct banks. The work involved furnishing, installing, and testing equipment and cabling at Subs K, M, N, and the Guerin House, including the continuation of an underground duct bank from Sub K to Sub M across Abrams Creek, into GRC's West Area.[2] Work near the creek required installing a concrete manhole on each creek bank, manholes 143 and 144; connecting the manholes with a steel I-beam bridge spanning the creek to support an electrical duct bank; and continuing the duct bank, underground and encased, up each creek slope. The slopes are very steep, difficult to stand on, place equipment on, and excavate. The creek also involves environmental considerations. Additional underground duct banks were to be installed along West Area, Cryogenic, and Guerin Roads. At Sub D, the contractor was to remove glass block windows and cover the openings with brick matching the existing brick exterior. The project greatly impacted GRC's research laboratory's electrical system. (R4, tab 1, § 01010 at 1-2, tab 55, drawings Nos. SK 190874, 190894, 190898, tab 82, ¶ II.B; tr. 3/303, 343, 346-48, 4/141-43, 160)

5. Project Phases I and II were covered in other contracts. Phase I is not at issue. NASA awarded the Phase II contract to Chappy Corporation on 26 February 1999; it was to end by 31 December 2002. (Ex. A-31) Chappy's work included removal and replacement of the D6 transformer and cabling at Sub D (*see* R4, tab 74, 9/7/2000

[1] Webb marked on its solicitation response that it was not a small business (*see* R4, tab 80 at K-6, § K.5). Based upon the hearing testimony to the contrary by Webb and NASA personnel, we assume that this was an error.

[2] A contract drawing refers to "Abram" Creek, and there are references to "Abram's" Creek, but, like NASA and appellant in briefing, we use "Abrams" Creek.

monthly status report at 1). The D6 was removed on or about 6 March 2000 and, as of 7 September 2000, installation of the replacement was expected to be complete by 6 October 2000. GRC had intended Phase II to be finished prior to the start of Phase III. (*Id.* at 4; tr. 4/110-11, 215-16)

6. The Phase III solicitation stated that offerors "are urged and expected to inspect the site" (R4, tab 80 at L-6, § L.14). GRC held a pre-bid site visit on 11 December 1999, which Webb did not attend. During the solicitation period, GRC gave prospective bidders the opportunity to ask questions, but Webb did not do so. (R4, tab 2, Amend. No. 1 at 2; tr. 1/167, 171-72)

7. On 22 December 1999 GRC issued solicitation Amendment No. 1, which included its responses to bidders' questions and alerted bidders as follows:

> c.) **Notice to all Bidders** – The Government will have a daily Construction Inspector assigned to this project along with a Safety Inspector.
>
> d.) After award of a contract, the Contractor shall be required to submit with their schedule an outage plan so the Government can compare it to the Research Run Schedule so that adjustments can be made so as not to interfere with Government Research that is on going.

(R4, tab 2, Amend. No. 1) Mr. Jones recognized that GRC's research needs might impact the contract work and he included an amount in Webb's bid for such contingencies, although he did not identify the amount (tr. 1/170).

8. On 11 January 2000 Webb bid $1,095,500 for the base work and, for the Sub D options 4, 5, and 6, it bid $132,000, $132,000 and $149,000. Including all options, Webb's total bid was $2,580,100, the lowest of six bids. The government estimate for the base work was $1,500,000 -- $404,500 higher than Webb's base bid. For the Sub D options, the estimate was $150,000, $130,000, and $160,000 -- $27,000 higher than Webb's bid. The total estimate was $2,858,000 -- $277,900 higher than Webb's total bid. On 22 February 2000 GRC awarded Webb the contract, for the base period, at $1,095,550. Because Webb alleges that it was prejudiced in bidding because it was an "outside" contractor unfamiliar with GRC, we note that Call Henry, Inc. (CHI), GRC's operations and maintenance contractor, was the second highest bidder, with a base bid of $1,937,331 -- $841,831 higher than Webb's; it bid $142,246, $141,244, and $191,251 for the Sub D options -- $61,741 more than Webb; and its total bid was $3,611,039 -- $1,030,939 higher than Webb's. Chappy, the Phase II contractor, was the third highest

bidder. Its base bid was $1,297,800 -- $202,300 higher than Webb's. It bid $147,000, $120,000, and $154,000 for the Sub D options -- $8,000 more than Webb; and its total bid was $2,994,500 -- $414,400 higher than Webb's. (R4, tab 2 at award page, B-1, B-2, tab 78 (ex. 1 to gov't doc. prod. resp.); ex. A-8) The record does not indicate whether the high bidder, or the two unsuccessful bidders in addition to Chappy and CHI, had prior experience at GRC.

9. Webb did not include any extended field overhead in its option prices. Its pricing was based upon its expectation that options would be awarded within a reasonable time during the base work performance period, which was sufficiently long to allow it to install the option transformers during that period. (Tr. 1/113-14)

10. After the bidding, but prior to contract award, by memorandum dated 17 February 2000, Robert M. Suhay, EASC chairman, provided Douglas C. Dolch, NASA's project manager, with safety permit E-0178-A for the Phase III project, instructing that it be posted and followed, in accordance with Chapter 1A of the Glenn Safety Manual (also referred to by its former name, the Lewis Operational Safety Manual (LOSM)). The memorandum called for Mr. Dolch to ensure that his 14 January 2000 Implementation Plan was followed. Webb claims that it was not a party "to this unknown implementation plan" (R4, tab 45 at 4), but it appears merely to be a copy of pages 1, 2, 8 and 9 of specification section 01010, which includes the work summary, option description, and paragraph 1.8, "IMPLEMENTATION" (below). (R4, tab 82 at second page; app. supp. R4, tab S-1; tr. 3/332-33)

11. The safety manual provides in part at Chapter 1A, "SAFETY PERMIT SYSTEM," paragraph 1A.1, Scope, that "[t]he Safety Permit System described in this Chapter typically does not cover construction and maintenance activities, or activities where there is an ongoing contractual safety obligation covered by a site-specific safety and health plan" (R4, tab 79 (ex. 2 to gov't doc. prod. resp.)). However, it notes at paragraph 1.A.7.1, Determination, that the need for a safety permit is determined by the safety committee chairperson or designated member by "reviewing the nature and extent of the hazards associated with the proposed activity," and the safety permit was included as part of the contract (*id.*; finding 15).

Contract Provisions

12. The contract required the contractor to begin work within 10 days after receipt of the notice to proceed and to complete it no later than 549 days after the notice issued. Any options GRC exercised were to be performed within 120 days after issuance of the notice to proceed for the option. If the contractor failed to complete on time, it was to pay the government $10,000 per day in liquidated damages. (R4, tab 2 at F-1)

13. The contract contained the Federal Acquisition Regulation (FAR) 52.236-3, SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK (APR 1984), and FAR 52.236-9, PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS (APR 1984), clauses. It incorporated by reference the FAR 52.233-1, DISPUTES (DEC 1998) -- ALTERNATE I (DEC 1991); FAR 52.242-14, SUSPENSION OF WORK (APR 1984); and the FAR 52.243-4, CHANGES (AUG 1987), clauses. (R4, tab 2 at F-1, H-4, H-7, I-3)

14. The contract contained the following safety clauses, among others:

FAR 52.236-13, ACCIDENT PREVENTION (NOV 1991) -- ALTERNATE I (NOV 1991), which provides in part:

> (a) The Contractor shall provide and maintain work environments and procedures which will (1) safeguard the public and Government personnel, property, materials, supplies, and equipment exposed to Contractor operations and activities; (2) avoid interruptions of Government operations and delays in project completion dates . . . .
>
> (b) For these purposes on contracts for construction or dismantling, demolition, or removal of improvements, the Contractor shall—
>
> . . . .
>
> (2) Comply with the standards issued by the Secretary of Labor at 29 CFR Part 1926 and 29 CFR Part 1910; and
>
> (3) Ensure that any additional measures the [CO] determines to be reasonably necessary for the purposes are taken.
>
> (c) If this contract is for construction or dismantling, demolition or removal of improvements *with any Department of Defense agency or component*, the Contractor shall comply with all pertinent provisions of the latest version of U.S. Army Corps of Engineers Safety and Health Requirements

> Manual, EM 385-1-1, in effect on the date of the solicitation. [Emphasis added]

(R4, tab 2 at H-8 to H-9) When he prepared Webb's bid, although he had bid successfully on a NASA project about 15 years earlier, Mr. Jones thought that NASA was a Department of Defense (DoD) agency and that the Corps of Engineers' (Corps) safety and health manual, EM 385-1-1, would apply to the contract (tr. 1/152-53, 157).

GRC 52.223-92, SAFETY AND HEALTH (CONSTRUCTION) (MAR 1990), which provides in part:

> (c) The Contractor and any subcontractors shall comply with the following as applicable to this contract:
>
> 1. Lewis Operational Safety Manual (LOSM)
>
> 2. Occupational Safety & Health Administration [OSHA] standards
>
> 3. Environmental Protection Agency [EPA] regulations
>
> 4. National Fire Prevention Agency [NFPA] codes
>
> 5. Any other applicable codes stated in this contract
>
> *All of the foregoing regulations, standards, codes, and manuals are hereby incorporated into this contract by reference*. [Emphasis added]

(R4, tab 2 at H-14) In preparing Webb's bid, Mr. Jones noted the contract's reference to the safety manual. He deemed it to be "a facility-specific reference to the manner in which safety and health was managed by NASA," and speculated that it would be equal to or less stringent than OSHA, NFPA and EPA regulations. He did not obtain a copy of the safety manual; he did not feel the need to ask for it. (Tr. 1/154, 205)

NASA 1852.223-73, SAFETY AND HEALTH PLAN (DEC 1988) -- ALTERNATE I (DEC 1988), which states:

> The apparently successful offeror shall submit a detailed safety and health plan after notification of selection but before contract award, showing how the contractor intends to protect

> the life, health, and well being of NASA and contractor employees as well as property and equipment. This plan, as approved by the [CO], will be included in any resulting contract.

(R4, tab 80 at L-7, § L.17)

GRC 52.223.99, SUPPLEMENT TO SAFETY AND HEALTH PLAN (NFS 1852.223-73) (DEC 1988) -- SAFETY AND HEALTH PLAN CONTENT (MAR 1995), which states that "[u]pon notification of being the apparent successful offeror, the offeror shall submit its **SITE SPECIFIC** safety and health plan prior to the Notice-To-Proceed." The clause listed a minimum of 24 written requirements for plan approval. (*Id*., § L.18)

The contract incorporated by reference the NASA FAR Supplement (NFS) clause 1852.223-70, SAFETY AND HEALTH (MAR 1997), which provides that the contractor is to comply with all Federal, state, and local laws applicable to safety and health in effect on the contract date "and with the safety and health standards, specifications, reporting requirements, and provisions set forth in the contract Schedule" (R4, tab 2 at H-1).

15. Specifications section 01010, "SUMMARY OF WORK," included the following relevant provisions.

Paragraph 1.4, "CODES AND STANDARDS," which stated in part:

> During the construction, testing, checkout, and start-up phases of this work, the Contractor shall adhere to the latest edition of the following codes or standards:
>
> a. National Electrical Code (NEC)
> b. National Electrical Safety Code (NESC)
> c. Occupational Safety and Hazard Act (OSHA)
> d. Other codes, standards, or practices contained in the "Reference Listing" which precedes each major division of the specifications.
> e. *NASA Glenn Research Center Electrical Applications Safety Committee Permit*

(R4, tab 1, § 01010 at 7 (emphasis added)) Mr. Jones saw the safety permit provision when he prepared Webb's bid, but he did not ask NASA about the permit or determine whether it would have a cost impact to be considered in Webb's bid (tr. 1/174-75).

Paragraph 1.7, "CONSTRUCTION SCHEDULE," required the contractor to submit a schedule, updated weekly, to the COTR, closely coordinated with GRC's power supplier; its research operations, through its Power Dispatch Office; and its Construction Management Office (R4, tab 1, § 01010 at 7). The schedule was to contain an:

> b. Outage sequence plan including a day-by-day description of the electrical outage with anticipated start and finish dates for each outage. All electrical outages shall be re confirmed [sic] two weeks prior to the actual outage and shall be coordinated with the NASA GRC [COTR].

(*Id*. at 8)

Paragraph 1.8, "IMPLEMENTATION," at subparagraph 1.8.1, Impact on Facilities, stated that:

> Work performed focuses its efforts in substations M, D, N, A, K, and H which are major load centers at GRC. In general, most electrical outages can be accommodated with minimal load interruptions occurring during cutovers although the operation of some large loads may need to be curtailed during certain outage conditions.

(*Id*.)

Subparagraph 1.8.2, General, stated that:

> *The Contractor shall adhere to all safety permit requirements of a safety permit issued by NASA GRC Electrical Application Safety Committee and obtained by the NASA Project Manager for the performance of work by the Contractor*.

(*Id*. (emphasis added))

Subparagraph 1.8.3, Construction Sequencing, suggested sequencing to minimize outages to GRC's research activities. The first listed step was to construct new underground duct banks in the West Area. (*Id*. at 8-9) Subparagraph 1.13, WORK SCHEDULING, added that "[t]o minimize outages 'cutovers' may be required outside normal work hours. This shall be done per the approved schedule at no additional contract cost to the Government" (*id*. at 10).

16. Specifications section 01330, "SUBMITTALS," stated that, within 21 days after submission, GRC would review and notate the contractor's required submittals. Those marked "approved as noted" authorized the contractor to proceed with the work covered if it did not object to the notes, which were to be incorporated prior to final submittal. (R4, tab 1, § 01330 at 1, 4-6, ¶¶ 1.5, 1.6.1)

17. Specifications section 01411, "GENERAL SAFETY REQUIREMENTS," included the following relevant provisions:

Paragraph 1.2, "REFERENCES," stated that "[t]he publications listed below *form a part of this section to the extent referenced*." The listed publications included, *inter alia*, the OSHA standards, 29 C.F.R. Part 1910 (1994); the Safety and Health Regulations for Construction, 29 C.F.R. Part 1926 (1994); the Corps' manual, EM 385-1-1 (1981; Rev. 1984), and the NFPA Safeguard Construction, Alteration, and Demolition Operations, NFPA 241 (1996). (R4, tab 1, § 01411 at 1 (emphasis added)) Although specifications section 01411 included references to 29 C.F.R. Parts 1910 and 1926, and to NFPA 241, it did not refer to EM 385-1-1 (*id*. at 1-8).

Paragraph 1.3, "SUBMITTALS," at subparagraph 1.3.1, Site Specific Safety and Health Plan, stated that the contractor was to submit a site specific safety and health plan to the CO for approval within 14 calendar days after contract award. Construction activities were not to begin until the plan was approved and the requirements of GRC's Safety and Health Plan Content supplemental clause and of 29 C.F.R. Part 1926.59, Hazard Communication, were met. Among several other things, the plan was to show, at a minimum, compliance with OSHA standards at 29 C.F.R. Parts 1910 and 1926, and with various safety requirements of NFPA 241. The contractor was to include "[m]ethods relating specifically to the work being performed that will be used to attain the safety objective." (*Id*. at 2)

Per paragraph 1.4, "GENERAL SAFETY PROVISIONS," the contractor was "subject to applicable federal, state, and local laws, regulations, ordinances, codes, and orders relating to safety and health in effect on the date of this Contract" (*id*. at 3).

Paragraphs 1.5, "SAFETY CLEARANCES PROCEDURES YELLOW LOCKOUT/TAGOUT SYSTEM," and 1.10, "CONFINED SPACE ENTRY," included procedures and requirements for safety protection during electrical work (*id*. at 3-5).

Safety Permit and HVEPS-OI-012

18. Safety Permit No. E-0178-A, referred to in the contract and obtained by GRC's project manager, Mr. Dolch, provided in part:

> 1. All work shall comply with the requirements of the National Electric Code, ANSI/NFPA 70-1999, the National Electrical Safety Code, ANSI C2-1997, *the Glenn Safety Manual, and all Glenn High Voltage Electric Power System Operating Instructions* (HVEPS-OI-xxx).
>
> 2. A NASA Designated Safety Person (DSP) is required during all work in electric supply stations, including substations and transformer yards, during work in manholes and power tunnels, during all switching and other steps required to isolate and ground work areas, during testing of new or modified circuits or equipment, and during all switching and other steps required to reenergize work areas per HVEPS-OI-012.
>
> . . . .
>
> 5. Glenn Safety Manual procedures for Lockout/Tagout shall be followed in the execution of all work.
>
> . . . .
>
> 7. Step-by-step switching orders complying with ANSI C2 shall be written by NASA/GRC Electric Power Dispatcher and shall govern all switching and other steps required to isolate and reenergize work areas.

(App. supp. R4, tab S-1 (emphasis added))

19. GRC had issued the referenced HVEPS-OI-012, Designated Safety Person (DSP), on 19 March 1991, based upon the National Electrical Safety Code (app. supp. R4, tab S-1, HVEPS-OI-012 at cover mem.). The DSP, certified as a Category II high voltage electrician per GRC's safety manual, could be obtained, among other options, from GRC's support service contractor for high voltage maintenance with at least five work days notice. Among other things, DSPs established safe work boundaries and limited personnel and equipment movement to prevent electrical contact accidents. If a DSP had to leave, workers were to remain clear of high voltage facilities until the DSP returned or was replaced. The DSP was required to stop work under certain conditions, including safety permit violation. Work requiring a DSP included switching, isolating, tagging, locking out and grounding high voltage power apparatus; various tests; entering

or working in electric substations and control houses; entering or working in confined spaces, including power manholes, electric cable tunnels and rooms, and transformer vaults; and "other work when required" by the EASC. The instruction noted that a DSP did not relieve the COTR or work crew supervisor of their responsibilities for work crew safety. (*Id*. at 2-3, ¶¶ 2.0, 2.1, at 4-5, ¶ 2.4, at 5-6, ¶ 3.0 and reference 1) The parties refer to the areas where DSPs were required as "controlled" sites, not normally accessible due to inherent dangers (*see* tr. 3/299).

CHI—General

20. During and prior to Webb's contract, GRC had at least one contract with CHI for operation, repair and maintenance of systems and equipment at fixed prices and hourly rates for some work, including Category II high voltage electrical work (R4, tab 78). CHI implemented switching orders issued by GRC's Electrical Power Dispatch Office and performed the physical switching and tagging of electrical equipment when an outage was required. The process can be lengthy, sometimes taking up to a day. CHI high voltage personnel also served as the DSPs for Webb's contract, opening the worksite if it were a controlled site; monitoring the work to assure that it was performed safely and GRC's equipment was not damaged; and reporting any safety violations. The DSPs reported to Jeffrey Downs, CHI's High Voltage Superintendent, who communicated with Douglas Lehota, GRC's High Voltage Facility Maintenance Manager and the Alternate COTR (ACOTR) on the portion of CHI's contract involving high voltage maintenance. GRC's policy that its maintenance contractor perform safety duties, when contractors unfamiliar with its worksite perform electrical work, has been in place for many years, as a result of one or more fatal electrical accidents and other incidents. (Tr. 3/290-91, 298-01, 4/117-21, 262-65, 274-75, 277-80, 5/178-81)

21. GRC knew of complaints by Webb and others that they were being "watched" by a competitor, but it uses its maintenance contractor, including CHI and its predecessor, to supply DSPs because it is the most knowledgeable about GRC's electrical substations, tunnels and power manholes (ex. A-8; tr. 4/122-23, 300-01).

Early Project Work and Webb's Health and Safety Plan

22. Mr. Patton, who has a Bachelor of Science degree in electrical engineering and a master's degree in industrial engineering, and had been involved in the project's design, was GRC's construction manager and the COTR for most of Webb's contract. On 15 March 2000, he faxed to Mr. Jones a Site Specific Health and Safety Plan (HASP) template from GRC's Safety Office, stating that it might expedite review and approval of Webb's HASP. He asked Mr. Jones to "ensure that your HASP is specific to the site and addresses the hazards you expect to encounter on this project," and stated that he would

expect trenching and shoring details and "items particular to the ductbank down and across Abram's Creek." (R4, tab 3) He referred Webb to GRC's Safety Office representative, Tony Schoeffler, for advice. Mr. Schoeffler would advise the COTR whether Webb's HASP was acceptable. (*Id.*; tr. 3/283-85, 288-89, 315-17, 320, 4/137) The template included an introductory paragraph that provided in part:

> This plan works in concert with the (Name of Company) Corporate "Safety and Health Plan", the Glenn Research Center Safety Manual, OSHA standards CFR 1926, Environmental Protection Agency regulations, National Fire Protection Association Codes, and any other applicable codes stated in the NASA contract.

(R4, tab 3 at 2 of 6)

23. By letter of 16 March 2000 to Mr. Jones, the COTR listed documents Webb was required to submit at a 30 March 2000 pre-construction conference, including its construction schedule and HASP, noting that the HASP was necessary prior to Webb's proceeding with work (R4, tab 81). The COTR conducted the conference. Mr. Jones and Mr. Herrington attended for Webb. GRC noted that it would issue separate notices to proceed for procurement and for construction. Webb submitted its HASP and a preliminary construction schedule. The schedule is not of record, but the COTR wrote on his conference checklist "TENTATIVELY COMPLETED ON 2/12/01." GRC gave Webb a copy of the safety permit. GRC did not raise Abrams Creek as a special issue and excavation procedures were not emphasized. The COTR noted that options would be considered upon duct bank completion and that GRC recommended starting construction earlier than July, to mitigate winter work problems. (R4, tab 4 at 17 of 17, tab 82, ¶ H and below ¶ I; tr. 1/34, 36, 38, 52, 3/222, 329, 335, 337-38) At the hearing, the COTR described Abrams Creek as "obviously an area that requires special care when work is being done" (tr. 3/349). GRC knew that the work on its steep slopes during the winter months "would be very difficult, if not impossible to do" (tr. 3/337).

24. Webb's HASP gave 3 April 2000 and 15 February 2001 projected job start and finish dates. Its introduction mirrored GRC's template, including that Webb's HASP worked in concert with its corporate safety and health plan, GRC's safety manual, and EPA and other regulations, standards and codes mentioned in the template. (R4, tab 4, HASP at 1, 2 of 17) The HASP contained several references to Corps manual EM 385-1-1, including that Mr. Herrington had many years experience on projects where that manual "was the controlling regulation" (*id*. at 2-3 of 17). Mr. Jones considered the primary hazard in electrical duct bank excavation to be cave-ins, which Webb's HASP addressed (tr. 1/36, 41).

25. When the COTR received Webb's HASP, he routed copies to GRC's Safety Office and project team for comments, which usually came from the Safety Office. The COTR would add any of his own. He had prior experience with placing duct banks and manhole installation. He did not have experience with duct banks on an incline. By transmittal dated 19 April 2000, he marked Webb's HASP "Approved as noted," meaning, according to the transmittal, that correction and resubmission were required. There were 13 comments, including that the HASP referred to EM 385-1-1, which did not apply, and references to it should be corrected. The COTR requested a copy of Webb's corporate safety and health plan, and asked Webb to document exact hazard controls for each part of each excavation, stating that diagrammatic presentation was preferred. (R4, tab 4 at first through third pages; tr. 3/340-42, 4/144-45, 153)

26. In a 20 April 2000 letter to Webb, the COTR confirmed a verbal notice to proceed for procurement, given at the 30 March 2000 pre-construction conference, and stated that the 549-day contract period established a 30 September 2001 completion date. He noted that, prior to issuance of a notice to proceed for construction, GRC had to approve Webb's submittals, and stated: "[a]s discussed at the Pre-Con, acceptance of the progress schedule and site specific HASP is an iterative process so please allow time for them in your planning." He returned Webb's schedule, and its HASP with his comments, "to incorporate into the next revision." (R4, tab 57, *see also* R4, tab 24; tr. 3/131)

27. Starting on 8 June 2000 GRC's inspector prepared an inspector's daily report (IDR) covering the project work. That day Webb began to offload equipment and materials on site and continued to do so intermittently into August 2000. Commencing on 8 August 2000, Webb's contractor quality control representative (CQR) prepared daily inspection reports. Webb's first CQR was Eric Sanders, followed by Gerald Wiggins. (R4, tab 77, vol. 1[3]; tr. 3/12-13)

28. On 23 June 2000 Webb submitted a revised safety plan, prepared by Mr. Jones. The introduction continued to refer to Webb's corporate safety and health plan and part of the HASP referred to EM 385-1-1. Among other things, Webb added that "[t]wo small areas of this project will involve new duct bank installation on a very steep slope." It planned work in small segments to minimize excavation and to use steps with handrails and safety body harnesses. (App. supp. R4, tab S-5 at 16 of 17; tr. 1/42)

29. On 12 July 2000 the COTR returned Webb's second HASP submission marked "Approved as noted," with ten comments. Among other things, he again asked

[3] The IDRs and CQR reports are bound together, in chronological order, in 14 volumes at R4, tab 77, and are cited by volume number.

for Webb's corporate safety plan; noted that part of the revised HASP referred to EM 385-1-1; again stated that the manual did not apply; and again asked for documentation of the hazard controls planned for each part of each excavation and for diagrammatic presentation. He cited examples; noted that marked up drawings would be illustrative; required Webb to show where it intended minimum width excavations with shoring and the type of shoring; and stated that this was of special concern along the creek ravine where trees would be impacted. (App. supp. R4, tab S-5) The specificity required was greater than Mr. Jones had previously experienced (tr. 1/44).

30. The contract drawings include a profile of Abrams Creek's slopes. Mr. Jones had reviewed the drawings in preparing Webb's bid. Most of Webb's excavation and duct bank work was on a more level plane, but he had consulted with Allan Lukkar, Webb's senior project manager, and with Mr. Herrington, both of whom had experience in slope work. Webb did not expect the slope work to be out of the ordinary. However, Webb's communications with GRC, and Webb's expert, acknowledged that the creek had very steep slopes and that the work would be more difficult there than elsewhere on the project. (R4, tabs 19, 55 at drawings Nos. SK 190874, 190894, 190898; tr. 1/33, 2/109-14, 3/139-40)

31. On 17 July 2000 Mr. Jones submitted a third HASP. It deleted EM 385-1-1 references, but still referred to Webb's corporate safety plan. However, Mr. Jones now explained that Webb did not have a standard plan, but tailored plans for each job, and he enclosed a copy of a prior plan. The excavation portion of the HASP concerning Abrams Creek added that "[t]he downward sloping of the new duct bank at Abrams Creek starts on each side with at least a 20° slope," and expanded upon methods of protecting the excavation. It concluded:

> Once Mr. Herrington has been on site and has a chance to study the steep areas we will be able to define exactly what should be the best approach. We are very concerned with the issue of safety as well as environmental impact and for these reasons *we feel that a specific approach at this time would be an uneducated guess*. A supplement to this safety plan will be submitted prior to beginning this work. [Emphasis added]

(App. supp. R4, tab S-7 at 19 of 23)

32. On 27 July 2000 GRC approved Webb's HASP, with the caveat concerning the Abrams Creek supplement (*see* app. supp. R4, tab S-6; *see also* tr. 1/42). In his final decision, the CO reported, and Webb has not claimed differently, that the notice to

proceed with construction issued that day (R4, tab 52 at 6). On 7 and/or 8 August 2000, Webb mobilized on site with its work crew (R4, tab 77, vol. 1).

33. Mr. Jones prepared the first Webb construction schedule of record, with a run date of 4 August 2000, but a data date of 3 April 2000, four months earlier.[4] It shows an early completion date of 7 February 2001, and a mobilization period of 86 days, from 5 April 2000 to 4 August 2000, with work starting on 7 August 2000. It does not include any option work. In justifying the 86 days, Mr. Jones noted that the contract required that material items be submitted for approval; Webb would not procure them before approval; and they then had to be manufactured and shipped. He identified the manholes as the longest lead item that prevented Webb from starting sooner. Mr. Jones acknowledged that Mr. Herrington's availability was significant in the selection of the 7 August work start date because he was scheduled to finish a project close to GRC at about that time, but stated that he would not have planned to start much earlier, even if Mr. Herrington had been available, due to procurement lead times. Webb did not present direct evidence of the actual times involved in its material submittals, approvals, procurement, and delivery to the site. Webb's schedule showed it working without any demobilization or winter break. The COTR noted on 10 August 2000 that the schedule was acceptable. It appeared to him to contain a logical sequence of events; to be balanced from a payment standpoint; to fall well within the contract performance period; and to be "doable." (Tr.1/22-24, 28-30, 235, 3/366-69)

34. Mr. Jones testified that Webb's original schedule was a "realistic projection" and that it could have completed the work by 7 February 2001, "had everything fallen," because the different work activities were completed within relatively the same amount of time they were scheduled to take, albeit not during the same scheduled time period (tr. 1/27-28). Appellant did not provide direct evidence of the scheduled and actual work times involved, but NASA did not rebut Mr. Jones' testimony that they were comparable.

35. The schedule shows work starting on 7 August 2000 with the setting of manholes 143 and 144 at Abrams Creek. These were among several work items shown to be on the critical path, in Mr. Jones' view. The connection of the ducts between 143 and 144 was unusual. The ducts were installed exposed, rather than in the ground, and were supported by a bridge across the creek. Webb deemed the work associated with the bridge to be critical. It involved precise steel fabrication and manhole placement. Webb wanted to do that work first because construction in that area need not await the end of the job, and so that Webb had the weather advantage and the most time available to do the work. The schedule shows Webb beginning to install concrete-encased duct banks up the creek slopes on 26 October 2000. This work was also shown to be on the critical

[4] Hereafter we refer to Webb's schedules, which are at R4, tab 90, by their data dates.

path. Mr. Jones acknowledged that most of the underground concrete-encased duct bank work was also on the critical path and that there was critical path work that could be performed out of sequence that did not involve the Abrams Creek crossing. (R4, tab 90; tr. 1/30-32)

36. The COTR coordinated near-weekly construction progress meetings, which Webb was required to attend, and prepared minutes, which he and Webb's superintendent or project manager signed. Items were repeated week to week until resolved. (R4, tab 54[5]; tr. 3/291-94)

37. As of 24 August 2000, Webb was still mobilizing, and was performing other work, including clearing the Abrams Creek duct bank site, and was reported to be ahead of schedule. By 14 September 2000, it was working, including clearing and grubbing at Abrams Creek, but was behind schedule. The 21 September 2000 meeting minutes record that Webb was behind schedule and that GRC advised that, before it could begin the Abrams Creek duct bank work, a HASP addendum covering that work must be submitted and approved. (R4, tab 77, vol. 1; minutes Nos. 1-3) The manhole work at Abrams Creek was allowed to proceed, but not the excavation up the slope (tr. 4/160). We have not been directed to any evidence that GRC was responsible for Webb's being behind schedule.

38. On 27 September 2000 Mr. Jones submitted a HASP revision addressing Abrams Creek, now stating that the downward sloping of the new duct bank started on each side with at least a 30-45 degree slope. It added that the sides of the trench would be stepped as shown on supplemental sketches. Otherwise, it was essentially the same as before, except it omitted reference to safety harnesses. (R4, tab 7; app. supp. R4, tab S-11) The 28 September 2000 minutes state that Webb was falling behind schedule and would submit a revised one (minutes No. 4). We have not been directed to any evidence that GRC was responsible for Webb's being behind schedule.

39. At the 5 October 2000 meeting Webb submitted a revised schedule. GRC now required its HASP to specify how its equipment would be secured on Abrams Creek's slopes. Mr. Jones had not encountered such a requirement in his prior experience with HASPs. (Minutes No. 5; tr. 1/49, 61)

40. On 1 November 2000 Webb submitted a revision to its HASP addendum. It added that a trackhoe, anchored to a stationary dozer, would be used to excavate. On 7 November 2000, the COTR responded with questions about this excavation method and

[5] The minutes are at R4, tab 54. We cite to them by their designated number.

with some new inquiries. (R4, tabs 9, 10) As of 7 November 2000 Webb was performing work out of its planned sequence (tr. 1/56).

41. During the HASP review period, Webb worked, including at Abrams Creek. That work included, among other things, clearing and grubbing around the duct banks; excavation and installation of manholes at the bottom of the creek, on the hillsides, and along West Area Road; and work on the bridge that crossed the creek. The work did not involve the creek's slopes. (Minutes Nos. 1-10; tr. 3/364-65, 4/15-16)

42. On 21 November 2000 Webb notified the COTR that it would demobilize due to winter weather conditions. On 28 November, it began to demobilize, and on 30 November, it notified GRC that it was ceasing work and would return in the spring, on about 1 April 2001. Webb was over 24 percent behind schedule. It had completed about one half of the project's flat work, at Abrams Creek and elsewhere, before it left. We have not been directed to specific evidence that GRC was responsible for Webb's being behind schedule. (Minutes No. 10, R4, tabs 61, 77; tr. 1/69, 238-39) At the hearing, Mr. Jones gave Webb's reasons for demobilizing:

> We were not able to start the work on the Abrams Creek area. It had already snowed, and there appeared to be plenty of contract time left to do the job. The government had indicated that there was some other work maybe coming available, and that they didn't have any problem with us demobilizing for the winter, because of the harsh cold conditions. And from a safety standpoint, it would have been a much more hazardous condition on a slope during winter weather. So we all agreed at that particular time it would be in everybody's interest that we demobilize, and [Webb] had some other work going on that the crew could be moved to.

(Tr. 1/57) Mr. Jones' reference to additional work was to options 4, 5, and 6 (tr. 1/57-58). The COTR agreed at the hearing that, at GRC, it was better to wait to do trenching until the spring, or until the area dries, in May to June (tr. 4/164).

43. Mr. Jones wrote to the COTR on 11 December 2000 that:

> On November 21, 2000, I sent an E-mail to you stating [Webb's] intentions to postpone work on this contract due to the foreseeable winter weather conditions posing an unnecessary safety hazard. This matter has been discussed several times since then by phone and during our scheduled

> weekly job-site meetings and a mutual agreement to this postponement was achieved.
>
> This letter is to further document the understanding that we plan to return to the job-site as soon as weather permits. We expect the cold weather to ease off sometime toward the end of March or first of April next year.
>
> This postponement will have no impact to the available remaining contract days of completion. . . . A revised progress schedule will be submitted at the time we remobilize to continue with our work.
>
> *Also, no backcharges, demobilization, remobilization, or extended overhead from [Webb] will be associated with this postponement as this is at our request and not the governments* [sic].
>
> . . . Cooperation from you and your office in this matter has been appreciated.

(R4, tab 61 (emphasis added))

44. While Web was off-site, communications continued concerning the Abrams Creek slope work. It submitted another HASP revision, dated 18 December 2000, responding to the COTR's 7 November questions. The COTR replied on 17 January 2001 with more concerns and questions, and requested a sketch showing trackhoe placement on the hillside. He stated that, because of the difficult terrain and safety issues, GRC needed more detail on how Webb would perform the work before it allowed it to begin. He noted that excavations had to comply with OSHA standard 1926 Subpart P, "Excavations," and cited its options for steep trenches, including design by a registered professional engineer. He stated that, when GRC was satisfied that the slope work had been explained sufficiently to identify safety hazards and how they would be handled, some contract options could be awarded. This was the first time GRC had mentioned a professional engineer. Webb determined that, to get HASP approval, it had to submit an engineer's report. In fact, at this point, GRC had decided, based upon the OSHA standard, that the slope work had to be designed by a professional engineer. (R4, tabs 14, 15; minutes No. 8; tr. 1/61-62, 4/6)

45. On 30 January 2001 Mr. Jones notified GRC that Webb had engaged an engineering firm. He concluded: "The urgency of resolving this issue is acknowledged,

and I am making every effort to get an acceptable plan. Your understanding in this matter is appreciated." (App. supp. R4, tab S-15)

46. By letter to the COTR dated 23 February 2001, Mr. Lukkar enclosed the engineering firm's recommendations, but opined that they varied little from Webb's 30 October 2000 plan, except that they recommended benching every fifteen feet in conjunction with rebar dowels to prevent creeping or failure of the duct bank, which Webb viewed as extra work. He stated that Webb had discovered another approach. It had located a larger trackhoe, which could work from the top and bottom of the embankments, and would eliminate the need to tie off to a dozer. He expressed frustration at the extended HASP approval process and that GRC had made approval a prerequisite to option award. He stated that this had been Webb's most extensive effort to get a safety plan approved; it had complied with contract requirements; it needed to proceed; and it had several projects in the Midwest, including the GRC project, that must start "as early as the weather allows" in the spring. He warned that further delays would severely impact the contract work and sought approval to proceed. (R4, tab 19) We find that Webb did not have a practical, safe, plan for the steep Abrams Creek slope work until 23 February 2001 and that its HASP, until that point, was unsatisfactory.

47. By letter from the COTR dated 12 March 2001, GRC approved "[t]he essence of" Webb's revised HASP, subject to Webb's addressing several comments. He disputed that the approval process had delayed Webb, stating that GRC had timely responded to its submissions, which had not been clear at first; the current plan was significantly different because "dead-end" anchors had been omitted; GRC had raised its concerns in the spring, but Webb had not acted upon them until many months later; Webb elected to leave the jobsite because of weather-related concerns; and it should have started work in the summer when the weather was better. He noted the contract's liquidated damages provisions. GRC accepted the recommendation to use rebar dowels and sought a cost and time proposal for the extra work. (R4, tab 21)

48. In a 15 March 2001 memorandum to the CO concerning GRC's technical evaluation of Webb's proposals concerning various contract changes, the COTR asked the CO to exercise options 4, 5, and 6. He stated that the contractor had 120 days to perform after notice to proceed for each option, but that he and GRC's project manager agreed that more time might be needed to procure and install the transformers involved and a contract extension might be required, but only for the option work. The transformer submittal process can take several months. Thereafter, they must be ordered and built. The COTR estimated that the time involved would be at least 240 days. (R4, tab 95, subtab 3; tr. 4/238-40)

49. On 22 March 2001, in a letter drafted by Mr. Jones, signed by Mr. Lukkar, Webb replied to GRC's qualified approval of its revised HASP, stating that it appreciated GRC's prompt response. Webb addressed GRC's comments and concluded:

> Each time we resubmitted our plan the Government did indeed respond in a timely manner. Our frustration was in having to resubmit so many times. My intent was to let you know *that because we started this project later than scheduled and because we had to shut down for winter conditions, it was important that we be able to resume work on an aggressive track this spring. Thus, we needed to get this plan approved. We are not impacted by this plan not being approved until we are on site and can't go to work.* Your reminder concerning the Contract Completion Date and liquidated damages is well taken. It emphasizes the exact concerns we have about being able to proceed once we return to the site.
>
> *In response to your comment about starting the project late, we learned several years ago that we are better off starting a project late with one of our key superintendents than starting it on time with a new hire superintendent that we know nothing about.* Archie Herrington has been with our firm almost 20 years and a key employee. We believe he is the best person for the job. [Emphasis added]

(R4, tab 23 at 2; tr. 1/67)

50. Effective 23 April 2001, while Webb was offsite, the parties entered into bilateral Modification No. 3, which covered changed or additional work and recorded GRC's 11 April 2001 exercise of options 4, 5, and 6 in the amounts of $132,000, $132,000 and $149,000. (R4, tab 2 at B-2, tab 24; minutes No. 11) The options were for removal and replacement of transformers D2, D3, and D5 and associated cable work and foundation repair, and oil containment at the D5 and D6 (R4, tab 1, § 01010 at 2-3). The contract price was increased by $479,202, to $1,574,702. The contract's period of performance for the base work remained the same, ending on 30 September 2001. The modification provided that the option work performance period ended on 31 January 2002, which was 295 days after the option exercise. The modification concluded:

> The Parties hereto acknowledge and agree that any and all claims for equitable adjustment of the contract price and time

> pursuant to the [Changes and Disputes clauses] and Mutual Agreement are hereby fully satisfied and discharged with respect to this Supplemental Agreement Number Three (03).

(R4 tab 24) All subsequent bilateral modifications contained the same language, albeit referring to the particular modification at issue. The CO considered it to cover only what was negotiated under the particular modification (tr. 5/39, 149). Mr. Jones, who had negotiated Modification No. 3, testified that there were no extended field overhead costs in its price. However, he identified such costs as those for Webb's office trailer; storage facilities; utilities; phone service; construction waste disposal facilities; toilets; offsite living facilities for management (primarily Webb's superintendent and CQR); and any company-owned vehicle and per diem expenses. The COTR defined extended field overhead costs similarly, adding equipment rental costs. For two of the extra work items covered in Modification No. 3, Webb had sought $15,556 and $5,111, and 14 extra days each. Its $15,556 proposal had included one-half month each for site office, site storage and field toilet, plus truck and equipment costs listed as general expenses. The parties agreed to a $15,000 price, which included such expenses, and to the $5,111, which had not. For another extra work item, Webb had proposed $42,108 and 30 days. It had included one-half month each for site office, site storage and field toilet, plus truck and equipment costs listed as general expenses. The parties agreed to a $41,500 price, which included such expenses. (R4, tab 95, subtab 3; tr. 1/115, 121, 123, 4/223)

51. Webb returned to the site on 30 April 2001. It had been offsite for 153 days (28 November 2000 to 30 April 2001). GRC approved its HASP addendum as of 3 May 2001, the date of the first progress meeting after Webb returned. It informed Webb that Abrams Creek duct bank work could begin. Webb remained over 24 percent behind schedule, and GRC sought an update. The meeting minutes reported Webb's working hours as from 7 AM to 3:30 PM, Monday through Friday. (Minutes No. 11)

52. Mr. Jones had never had as much difficulty obtaining a HASP approval. He thought GRC's comments were reasonable but that they were not provided in a timely manner. When asked whether he had the costs available contemporaneously to submit an equitable adjustment request he responded:

> I could have put something together for additional expense of the engineer's assistance for the plan and maybe some other material expenses. But when you get right down to it, we did it in the same timeframe I had planned for it anyhow.

(Tr. 1/220) He then elaborated that, while Webb performed the Abrams Creek work in the same amount of time as originally scheduled, "had we been able to do it when we

wanted to, based on the schedule, that would have made all the difference in the world" (tr. 1/221). Webb did not submit an equitable adjustment request, including any delay costs associated with the HASP, although Mr. Jones had the information to do so, because he did not have the intent to submit anything at that time. Webb was concerned about getting the work done. (Tr. 1/70, 2/220-23)

53. GRC considered Webb's HASP to be "very sketchy" concerning Abrams Creek (tr. 3/357; *see also* tr. 3/360-61). The COTR summarized:

> I mean, it looks ridiculous in hindsight, but we never had enough information to take a look at it and say oh, okay, that's how they're going to do the work, they have addressed all the hazards, so we could approve it.

(Tr. 3/357)

54. The HASP approval process had only prevented Webb from working on the Abrams Creek slopes. Moreover, when it returned to the site, it did not begin work on the slopes. As of 31 May 2001, it had not started on the slopes but was installing one of the concrete piers for the cable bridge at the bottom of Abrams Creek. It needed the piers to support the bridge, which had not yet been delivered. The contract called for a complete bridge assembly, hot tip galvanized, but Webb was unable to find a vendor that could supply the entire span as required. There was some unspecified delay while it solved that problem by acquiring the bridge in two pieces. Webb's work from the time it returned, until mid-June 2001, was all non-slope work at Abrams Creek that it could have accomplished had it not determined to leave for winter break. (Minutes Nos. 11-17; tr. 4/19-24, 37-38)

55. Once Webb began the Abrams Creek slope work, it was uneventful, with no safety problems. The COTR stated that Webb did a very good job. (Tr. 2/115, 4/38)

D2, D3, and D5 Option Work and the D6

56. The D2, D3, and D5 transformers, the subject of options 4, 5, and 6, were located in front of the glass block windows at GRC's research facility, Building 5 at Sub D, and supplied the power to parts of the building. Webb planned to take the transformers out of service at about the same time, deeming it the most efficient method, and that it would involve only one Building 5 outage, rather than requiring several over a longer period of time. The COTR acknowledged that working simultaneously was more efficient than sequentially. (R4, tab 90; tr. 1/85-87, 2/46-47, 124, 166)

57. On 11 May 2001 GRC received Webb's 2 May 2001 schedule, prepared by Mr. Jones, the first to incorporate the option work and the 31 January 2002 end date for that work. Among other transformer-related activities, Webb planned D2, D3 and D5 removal work for an early start on 11, 14 and 19 September 2001, respectively. Late start dates were 6, 9 and 14 November 2001. Work duration was to be three days each. The early start for the simultaneous installation and testing of each of the new transformers was 5 November 2001; the late start was 3 January 2002 for material and 28 January for labor. Work duration was one day. There were other non-transformer-related work items with the same float as the transformer work with the least amount of float (40 days). This is the only one of Webb's schedules that showed late start and late finish dates. On 21 May 2001,[6] the COTR marked the schedule as received for information and noted on it that base work was scheduled after the 30 September 2001 base contract period. He did not make any notation or objection concerning Webb's plan to remove and install transformers in close sequence, and did not do so in subsequent schedules. (R4, tab 90)

58. On Webb's 31 May 2001 schedule, which the COTR noted as received for information on 5 June, the D2, D3, and D5 removal early start dates had slipped by 14 days, to 25 and 28 September 2001, and 3 October 2001. We have not been directed to evidence that GRC was responsible for this slippage. There were still scheduled work items with the same amount of float as that shown for the transformer work with the least amount of float (30 days). (Minutes No. 14)

59. In mid-June 2001 Chappy was having difficulty with an installation on the Phase II project. Because of the long lead time on 46kV cable Chappy needed, GRC asked Webb if it would sell cable it had on hand to Chappy, to expedite its work; Webb complied. Replacement cable was expected in eight to ten weeks. Webb reserved the right to seek a 30-day extension to its base contract if delivery were delayed. (Minutes No. 16 at 4, item 3; tr. 4/234-35)

60. Webb's 27 June 2001 schedule showed some base work items falling outside the base work end date. The early start for D2, D3, and D5 removal had slipped by 27 more days, to 22, 25 and 30 October 2001. We have not been directed to evidence that GRC was responsible for this slippage. The least amount of float available, which pertained to the removal of those transformers and to a few other transformer work items, was 11 days. Several other unrelated work items had the same float. Along with the

[6] Appellant's counsel read the date at the hearing as 21 June 2001, stating the COTR had taken 40 days to return the schedule (tr. 1/87-88). The COTR's handwritten date is unclear, but because he returned Webb's subsequent 31 May 2001 schedule on 5 June 2001, and he typically returned schedules promptly, we infer that the return date on the schedule GRC received on 11 May 2001 was 21 May.

other 11-day items, the transformers were on the critical path according to this schedule, which continued to show them being taken down around the same time. The COTR had some concern but did not act upon it because GRC did not yet know whether the work could be accomplished in that manner in the desired time frame. It would depend upon the research occurring in Building 5. (Minutes No. 18; tr. 4/28, 33-34, 195-97)

61. Webb took a holiday break beginning 2 July 01 and returned to work on 9 July. Thereafter, it submitted a 27 July 2001 schedule. The early start for transformer removal had slipped four more days for the D2, to 26 October 2001, and six more days for the D3 and D5, to 31 October and 5 November 2001. We have not been directed to evidence that GRC was responsible for this slippage. On 2 August 2001 the COTR again noted that base tasks were shown after the base contract end date. (Minutes Nos. 18-20; R4, tab 77, vol. 5)

62. By letter to the COTR dated 8 August 2001, Mr. Jones stated that the replacement cable for that Webb had supplied to Chappy would not ship until 15 October 2001 and could take 60 days to install; GRC had indicated it would extend the base contract due to Webb's cooperation; and he requested eighty days. During the 9 August 2001 progress meeting, the CO stated that the contract would be extended to 31 January 2002 for all work. (Minutes No. 20; R4, tab 95, subtab 4)

63. Webb submitted a 29 August 2001 schedule showing that D2 removal had slipped four more days, to 30 October 2001, and the D3 and D5, by two days, to 2 and 7 November 2001. We have not been directed to evidence that GRC was responsible.

64. On 30 August 2001 the CO and Mr. Jones negotiated concerning changed work from May into August, including some reduced work and what were described in the COTR's Construction Contract Changes Tracking Form (CCCTF) as differing site conditions involving site drainage at Cryogenic Road, cable lengths and buried concrete removal. The CO's 30 August 2001 "MEMORANDUM FOR RECORD," and the resulting bilateral Modification No. 4, cite several Webb proposals, including those pertaining to the differing site conditions. Webb's extension requests included the 80 days regarding the 46kV cable replacement, and 7 days for the Cryogenic Road site drainage. There is no evidence that Webb requested extra time with respect to the other named differing site conditions. The CO's memorandum states that: "At this time [I] informed Mr. Jones that the contract would be extended to January 31, 2002 because of the delay in the 46[kV] cable on this project." (R4, tab 95, subtab 4 at 2) Thereafter, the parties executed Modification No. 4, effective 17 September 2001, which, net of a credit for reduced work, increased the contract price by $13,236 to $1,587,938, and extended the performance period for all contract work to 31 January 2002. This amounted to a 123-day extension of the base period, rather than the 87 days originally requested. By the

time negotiations concluded, the requested extension would have placed the final portion of Webb's work at the end-of-year holidays. The parties thus allowed enough days to extend the contract through January. The price increase was not associated with the extension. The modification did not include extended field overhead or delay costs. To the best of the CO's recollection, the issue was not raised. However, we have not been directed to evidence that any of the named differing site conditions caused Webb to suffer any uncompensated delay. (R4, tabs 29, 95, subtab 4; tr. 1/125, 133-34, 4/236, 5/132-35)

65. As of 26 September 2001, due to electrical complexities in installing the new D6 transformer and primary terminations and "the Government's need to get the transformer operational so that other substation work can be performed," GRC had decided to descope remaining Sub D work from Chappy's contract (R4, tab 92 at minutes No. 59; *see also* R4, tab 74, 10/11/01 monthly status report at 2).

66. Webb's 28 September 2001 schedule showed removal of the D2, D3, and D5 in mid-November 2001 and installation of the new transformers beginning 2 January 2002. As of this schedule, GRC still hoped the transformers could be taken down simultaneously (tr. 4/198).

67. On 15 October 2001, GRC issued Change Order No. 5 for asbestos removal at the glass block window site, and abatement of asbestos-containing fire wrap on cables feeding the D1, D2, D3, and D5 and certain circuits, at a not-to-exceed price of $55,000. The change order added specification section 02080, ASBESTOS REMOVAL, to the contract and required Webb to engage the services of a licensed asbestos abatement contractor and to submit a HASP supplement to identify the hazards involved. The asbestos had been discovered during Webb's contract performance. (R4, tab 30; minutes No. 17 at 4, item 4, No. 18 at 4, item 4, No. 26 at 4, item 6)

68. As of 24 October 2001, GRC had decided not to completely descope Chappy's D6 work. It descoped the primary terminations, new cable section, and splicing work, but Chappy was still to modify the pad, set and test the transformer, and complete secondary cable installation, all to be done by the end of November 2001. (R4, tab 74, 1/10/02 monthly status report at 2, tab 92 at minutes No. 61 at 4)

69. Webb's 9 November 2001 schedule showed D2, D3, and D5 removal beginning on 9, 14, and 19 November 2001 and installation and testing of each on 8 January 2002. The parties agree that the new transformers had not yet arrived on site as of this schedule. (Minutes No. 29; R4, tab 90; app. reply br. at 17-18, re: gov't proposed findings 37, 38)

70. At some point after 24 October 2001, Chappy set the D6 transformer, but had placement issues. As of 10 January 2002, it had been decided that Chappy would remove the D6; pour a new pad; and its then 15 January 2002 contract completion date would be extended to the end of February. (R4, tab 74, 1/10/02 monthly status report at 2, tab 92 at minutes No. 63 at 4)

71. On 20 November 2001 Webb left for a holiday break. It returned with a skeleton crew on 27 November. It performed some cleanup, but it rained most of each day from 28 November through 30 November 2001. (R4, tab 77, vol. 8)

72. On 29 November 2001 GRC requested a proposal from Webb to replace the 46kV cable from Sub B to the D6 transformer; Webb provided one on 3 December 2001 and, on 6 December, it was given verbal notice to proceed. Webb used cable it had obtained for the D2 transformer for the D6 feeder cable instead, to expedite D6 completion. Pulling new feeder cable in is one of the first things to be done to get a new transformer on line. (R4, tab 77, vol. 9, tab 95, subtab 6; tr. 4/60-61, 182-83)

73. Webb's 14 December 2001 schedule showed D2, D3, and D5 removal beginning on 14, 19, and 24 December 2001 and installation and testing of each on 11 February 2002. (Minutes No. 30; R4, tab 90)

74. On 18 December 2001 Webb pulled the new cables for transformers D5 and D6 through the Sub B tunnel. On 19 December it racked and secured the cables temporarily. It left for a holiday break and returned 19 days later, on 7 January 2002. It firewrapped and racked the cables in the tunnel through 11 January 2002. NASA has not refuted Webb's contention that this was as far as it could go with the cable work until GRC implemented an electrical outage in Sub B, which did not occur until about 3 June 2002. However, the new transformers had not yet arrived on site as of 11 January 2002. (R4, tab 77, vols. 9, 10; *see also* minutes No. 30 at 2, item 4, No. 34 at 2, item 3)

75. When power factor test results on the D2, D3, and D5 submitted by the supplier were higher than allowed by the contract, GRC agreed to extended warranties rather than reject the transformers. On 8 January 2002, the supplier provided the warranties. GRC was to witness testing of two units and conduct final inspections of all three on 6 February 2002, with shipping expected by 12 February 2002. (R4, tab 38; minutes No. 30 at 4, item 6; tr. 4/43-44, 5/68)

76. Bilateral Modification No. 6, effective 23 January 2002, negotiated by Mr. Jones, added replacement of the D1 transformer and of the 46kV cable from Sub B to the D6, including cable connections at each end, to the contract, among other things. It also definitized Change Order No. 5, involving the asbestos work on cables feeding the

D1, D2, D3, and D5 and certain circuits, at $45,000, and increased the contract price by $509,700 to $2,097,638. Of the increase, $74,000 pertained to the D6 cable replacement and $382,774 to the D1. The contract was extended from 31 January 2002 to 30 September 2002, a 242-day extension requested by Webb. It had asked for 30 days for the D6 cable work and had included one month each for per diem, site office, site storage, and field toilet in its $78,000 proposal for that work, plus equipment costs described as general expenses. The remaining 212 days of the extension pertained to the D1. (R4, tabs 34, 95, subtab 6) Our D1 findings are limited to background because appellant's D1 allegations were not included in its CDA claim, as we set forth below.

77. In negotiating modifications, Mr. Jones did not raise the issue of any delay costs. He could have tracked them and presented them to the CO, but he wanted to maintain an open relationship with GRC. He elaborated:

> I was primarily focusing on the job related cost of material and labor for the changes. And I did include some of those expenses for the office trailer, and other items listed. But we just never got into discussing or considering anything outside of what was on the estimate.
>
> . . . .
>
> I did discuss with [Mr. Webb] that there were a lot of changes occurring, but at the same time the Government appeared to be giving us opportunities to do more work, and potentially make money on those additional work activities. So we felt compelled to continue on and maintain a positive relationship in that regard.

(Tr. 2/147-48)

78. The 24 January 2002 progress meeting minutes, which cover the period 9 November 2001 through 24 January 2002, state:

> 4. Even though the D transformer options have been awarded, the Government does not want to demolish another existing D transformer until the new replacement units arrive on site or the D6 is operational. To this end, the Contract was modified to finish the installation of the new D6 (begun by another contractor). The Contractor could immediately begin the D6 work in order to allow the

> timely continuation of the other "option" work. The order of completion would be: D6, D5, D3, D2, and finally D1 (yet to be ordered).

(Minutes No. 30 at 2, item 4) They further reflect that D transformer outages for asbestos abatement and lead cable removal depended upon completing the D6 installation begun by Chappy and Webb sought a long term outage of the D5 on 6 February 2002 to begin demolition (*id*. at 2-3). Webb could not yet proceed with its D6 cable replacement work. It had ordered the cable in connection with Modification No. 6, but had not received it. (Tr. 2/136-37) There is no evidence that it delayed in ordering it.

79. The 31 January 2002 minutes report that D5 outage availability was still to be determined and that Webb notified GRC that there was insufficient work to keep its crew productive and it would likely leave on 11 February 2002 (minutes No. 31 at 2, 4).

80. GRC's 6 February 2002 Phase II minutes report that the components inside the D6 control cabinet had been damaged by moisture and ice. GRC required new ones and a rust-free cabinet. The minutes continued to so report through 1 May 2002, the last such minutes of record. (R4, tab 92 at minutes No. 64 at 4, No. 68 at 3)

81. By letter to the CO of 6 February 2002, Daniel Webb stated:

> As discussed in our earlier phone conversation of January 31, 2002, [Webb] has performed all the productive work that can be accomplished at this time. Because Transformer D-6 is not on-line, that has caused and created a work stoppage for [Webb].
>
> Our new transformers D-2, D-3, and D-5 are due to arrive the week of February 11, 2002 through February 15, 2002. After offloading and hooking up temporary power for the heaters, [Webb] will demobilize the entire crew to other projects.
>
> [Webb] understands and recognizes NASA's reasons for Transformer D-6 to be brought on-line before transformer[s] D-2, D-3, and D-5 can be brought off-line. [Webb's] crew is ready to perform the work on the transformer pad facilitating Transformer D-2. The work cannot be performed unless NASA de-energizes Transformer D-2. And, according to our earlier conversation, that is not going to happen in the next two weeks.

> Mr. Lupson, you hinted that weather may be a major part of our not performing the work required and I agree. Weather has always been a major factor in scheduling work in your part of the country-just as rain has played a major factor regarding the underground construction portion of this project. In fact, it could be stated that if it weren't for the rain days lost on this project, NASA would have been faced with this decision 2 months earlier.

(App. supp. R4, tab S-21 at 1) He stated that Webb had laid off employees and had begun to relocate its electricians; it planned to return "weather permitting" in mid-April; and, after it remobilized, he would submit its costs (*id.*). The parties have not specified the extensive rain delays acknowledged by Mr. Webb, or any other weather delays. Although we noted three rain days while Webb was onsite (finding 71), we have not combed the record in this regard. Regardless, Mr. Jones testified, credibly, that there was then no meaningful work to be done at Sub D because Webb could not get needed outages; transformers could be installed in cold weather, except in ice and snow; and weather had nothing to do with Webb's decision to demobilize at that time (tr. 2/137-38).

82. The 7 February 2002 minutes state that D5 availability was to be determined, "depending on work on other contract, maybe 2/25/02" (minutes No. 32 at 1, 2, 4).

83. The IDRs and CQRs for 31 January 2002 through 18 February reflect that Webb performed some work, including offloading the D2, D3, and D5 on 13 February 2002 and storing them. Based upon Mr. Webb's reports and Mr. Jones' testimony, we find that the work was not "productive" and Webb was unable to work in the efficient manner it had planned. On 20 February 2002, it demobilized, planning to return at an undetermined date in the spring. (Minutes No. 33; R4, tab 77, vols. 9, 106) GRC has not controverted Webb's evidence that no productive work remained as of 31 January 2002.

84. Although Mr. Webb had stated that Webb planned to return to the site in mid-April if weather permitted, when it was off-site it submitted a 28 February 2002 schedule showing removal of the old D2, D3, and D5 and installation of the D6 feeder cable in March 2002; and installation of the new D2, D3, and D5 in April. However, Webb did not return to the site, apart from a brief remobilization, until June 2002 (below). There is no evidence that the feeder cable was not available in March or that GRC, alone, was responsible for Webb's decision to remain offsite.

85. Modification No. 7, effective 2 April 2002, increased the contract price by $51,916, to $2,149,554, for various work and material costs. The 30 September 2002 performance period was not extended. (R4, tabs 38, 95, subtab 7; minutes No. 34)

86. On 15 April 2002, 54 days after it left, Webb returned with a small crew at GRC's request to finish some work it had started before it left, to meet a third party's requirements. Webb's 15 April 2002 CQR report describes its absence as a "winter break." It completed the work on about 20 April 2002 and left again. (R4, tab 77, vol. 10, tab 85 at 4/2/02 Patton e-mail to Team; *see also* R4, tab 45 at 20, 32; tr. 4/68-70) There is no evidence that GRC, alone, was responsible for appellant's decision to remain offsite. In its CDA claim, Webb claimed costs pertaining to this re-mobilization but it has not pursued this aspect of its claim and we do not address it further.

87. In May 2002 Mr. Jones resigned from Webb, and Mr. Herrington was no longer serving as its project superintendent. On 8 May 2002 Daniel Webb notified the CO that he would be project manager/superintendent until project completion. He advised that Webb planned to remobilize on 3 June 2002 to begin work on the termination of the 35kV cables on the D6. On 15 May 2002 Mr. Webb sent outage requests and work schedules for 3 June 2002 through 28 June 2002. The first requested outage pertaining to the D6 was for 11 June 2002, to energize it. Webb sought a D5 outage on 13 June 2002. (App. supp. R4, tabs S-24, S-25; tr. 2/159-60; *see also* minutes No. 34)

88. On 3 June 2002, 44 days after the end of its brief re-mobilization, Webb remobilized with a full work crew and worked on the D6 feeder cable installation. The 6 June 2002 meeting minutes, signed by the COTR and Daniel Webb, describe Webb's absence as a "winter break." They report that Webb planned to finish the D6 primary feed by 7 June 2002, then move to demolition and replacement of the D5. However, the minutes report that the D5 might not be available for outage until 17 June because the D2 was down. If so, Webb would instead likely begin the cable pull to D1. Webb notified GRC that there would not be enough work available to keep its crew productive unless the Sub D area were made available soon. On 7 June 2002 Webb installed the Sub B end of the 46kV D6 feeder cable on an incorrect breaker. It took only four hours to fix but several weeks to arrange for the outage necessary at Sub B to perform the work. Sub B fed most of the institutional load for GRC's laboratory and research facilities. An extensive area clearance process, including coordination with all affected building managers, was required. At the hearing, GRC raised this as a delay attributable to Webb, but did not show it to have affected overall contract completion time or to be relevant to the Sub D delays Webb has alleged due to its inability to work on more than one transformer at the same time. (Minutes No. 34; R4, tab 77, vol. 10; tr. 3/106-07, 4/82-86, 131-32, 306)

89. The 13 June 2002 minutes continue to report that outages for the D transformers for asbestos abatement and lead cable removal depend upon completing D5 and D6 installation. As of that date, GRC had arranged for an outage in Sub D, starting 17 June 2002, to last about three weeks. (Minutes No. 35 at 2) Webb began removing the D5 on 18 June 2002. The dispatch office's log notes two CHI safetymen at Sub D that day draining a D5 tap box at 8:20 AM and a DSP at sub D at 10:00 AM "walling off D5" (ex. G-1). GRC's IDR states that a DSP was not supplied to Webb until 10 AM (three hours after the start of its work day). Webb's CQR report for that day states: "There was a couple of hours delay in getting the cables cut." (R4, tab 77, vol. 10)

90. On 20 June 2002 Webb submitted its 3 June 2002 schedule, showing the D2, D3, and D5 work as complete by the 30 September 2002 contract end date. The 20 June meeting minutes show D5 transformer work proceeding (minutes No. 36 at 1).

91. By letter to Webb of 24 June 2002, the CO addressed a 19 June 2002 safety violation. He noted earlier alleged violations and, citing the contract's Safety and Health clause,[7] stated that "NASA has established and will enforce a policy of ZERO tolerance for safety violations," and that any further violation would result in the removal of Webb's employee(s) from GRC. (R4, tab 39; minutes Nos. 33, 36)

92. The 27 June 2002 meeting minutes report that D5 cable installation was halted due to interference with existing asbestos wrapped lead covered cable, which GRC was scheduled to move on 6 July 2002. In any case, Webb planned no work for the holiday week of 1 July 2002 (though a subcontractor worked on 1 July), and to return on 8 July. The 11 July 2002 minutes add that a delay claim was being considered. (Minutes Nos. 37, 38 at 4; R4, tab 77, vol. 11)

93. On 11 July 2002 Webb submitted a "DELAY CLAIM" to the COTR seeking $26,424.68 and a 10-day extension for alleged delays from 3 June 2002 through 28 June 2002. The claim alleged DSP delays, including, *inter alia*, 2.5 hours for a DSP to confirm that everything was in order prior to Webb's subcontractor's beginning asbestos abatement of the D5 circuit, and other events not part of its CDA claim. (R4, tab 70)

[7] The contract incorporates by reference the March 1997 version of the NFS 1852.223-70, Safety and Health clause (finding 14). Here, and in a 20 September 2002 safety violation letter (finding 107), the CO cited the April 2002 version of the clause, but the provision concerning failure or refusal to take corrective action is essentially the same.

94. Daniel Webb opined that "98 percent of the work that couldn't be performed on this Substation D was related to the D6 transformer or asbestos" (tr. 2/193). However, we have not been directed to any evidence that Webb sought more time specifically for asbestos work (as opposed to DSP delay) or that it suffered any uncompensated delay for that work. (R4, tabs 34, 95, subtab 6; tr. 1/134, 2/136, 255, *see also* tr. 4/250)

95. As of 16 July 2002, the CO and Daniel Webb had negotiated a $76,111 contract price increase, to $2,225,665. This included definitization of Change Order No. 2, issued on 9 November 2000, which had added shale removal to the contract; cleaning oil from cables in the Sub B tunnels; and relocating the D5 transformer pad; all described by the COTR in his CCCTF as differing site conditions. It also included relocation of a brace near the D6 transformer, described by appellant in its brief as a differing site condition (app. br. at 155), but not so described by the COTR, and several other items, including adding control wiring to the Sub D transformers. The CO does not recall any discussion of extended field overhead during negotiations, but he noted that Webb's proposals included what it identified at the hearing as examples of extended field overhead items. Our proposal review reveals that several included per diem and/or room and board, site office, site storage, field toilet, trucks and a van, equipment rental, and other general expenses, some for extended periods. They did not mention asbestos and did not include extension requests, but the parties agreed to extend the contract to 30 November 2002. Mr. Webb did not recall if he asked for the extension or if the CO initiated it; he did recall that he never negotiated any delay or impact costs. Bilateral Modification No. 8, effective 19 August 2002, incorporated the changes. (R4, tabs 11, 40, 95, subtab 8; tr. 2/206, 5/110-14, 116, 118-19) We have not been directed to evidence that any of the named differing site conditions caused Webb to suffer any uncompensated delay.

96. On 26 July 2002 the D5 transformer was energized and its phasing checked, with questionable voltage readings. The CQR noted that the order to energize had been delayed for three hours because apparently the correct people had not been notified. On 7 August 2002 the D5 was re-energized. On 8 and 9 August CHI performed switching order and cable cutting work to prepare for Webb's removal of the D3. Webb could not get CHI support, and could not work, until 12 August 2002, when it began to disassemble the D3; pulled control wires into the new D6 transformer panel; and replaced a faulty temperature gauge on the D5. During this period, Mr. Herrington returned as Webb's superintendent. (Minutes No. 40 at 1; R4, tab 77, vol. 11)

97. By letter to the CO dated 8 August 2002, Daniel Webb stated that it took five hours for two men to correct the D5 phasing problem, but that it had taken nine working days for GRC to schedule, coordinate and approve the switching orders to bring the transformer online. He stated that, during that period, Webb had accomplished all work

possible on the D1 and had performed other tasks out of schedule. He also complained about DSPs being pulled for other work not involving Webb, without adequate notice, while Webb's crews were kept waiting. (App. supp. R4, tab S-30)

98. On 8 August 2002 Webb submitted a "Claim for delay" to the COTR, covering 8 July 2002 through 5 August 2002, seeking $16,440.40 and a four-day extension due to alleged delays caused by CHI's DSPs, waiting for switching orders, and other events. At some point Webb submitted a "Delay claim" covering 8 August 2002 through 9 August 2002, seeking $7,580.45 and a two-day extension. (R4, tabs 69, 72)

99. The meeting minutes of 15, 22, and 29 August 2002, report that Webb worked on the D3, among other things. As of 29 August, GRC required solutions to problems with the D5 terminators—a leaking terminator and a torn weatherproofing boot—before it released more equipment for removal. These were minor rework items in the context of the large transformer, but they took over a month to accomplish while the parties disagreed about the repairs needed. In the meantime, the D5 remained energized and could be used until the D5 repairs were begun and it had to be taken out of service. (Minutes Nos. 42, 43, 44; R4, tab 85 at 8/28/02 Lehota e-mail; tr. 4/92-94, 205-07)

100. By 28 August 2002 GRC approved energizing the D6. On 29 August 2002 the new D1 arrived and Webb stored it. On 30 August 2002 Webb worked on the D3. (R4, tab 77, vol. 12, tab 85 at 8/28/02 COTR e-mail)

101. Webb left on 30 August 2002 for a holiday break, scheduled to last until 9 September (minutes No. 44 at 3; tab 77, vol. 12).

102. On 5 September 2002 the COTR e-mailed to Daniel Webb that:

> I thought I should give you an up-date on the D2 transformer outage we had planned for next week. If you recall, a D2 outage was predicated on a couple of things. Firstly, we had to have our D6 transformer on-line. The unit was energized last week and it was discovered shortly thereafter that the winding and oil temperatures were exceedingly high for an unloaded transformer. Since then . . . we have tried numerous things to determine the cause . . . . Our next step is to run a dissolved gas analysis . . . . We won't have these results until early next week. The [D6] may be off-line for awhile [sic] depending on what we find . . . . Secondly, we wanted to know your plans for a repair of the D5 terminator. We didn't want to take down another transformer until we were satisfied

> that the workmanship issues with the D5 were resolved. Since I haven't heard from you and due to the D6 problems, I have not had the D2 cables cut. Because of these issues, I feel obligated to inform you that the work you will be able to perform next week will be limited. You could possibly finish the splicing on the D3 secondaries and if you have the parts, commence repair on the D5 terminators. Beyond that I think you'd probably be idle. Obviously we are sensitive to the delay claim possibility and I know that this is a major concern of yours too. I also know Archie had subs lined up next week to pump and remove the D2. I recommend that work be delayed. If you could postpone your return by a week, we may have the D6 issue resolved. I'm sure the time could be used to extend the Contract to your benefit.

(R4, tab 85) The referenced delay claim pertained to Webb's continuing desire to take down the D2 and the D3 at the same time. While GRC would have allowed one at a time, it would not allow two at a time until the D5 and the D6 were both energized. At this point, Webb could only work on the D3, because the D6 was not fully operational; Chappy had not yet replaced the control box. Research facility needs required a sequential takedown until the D6 was completed. (Tr. 4/136-37, 208-13)

103. On 6 September 2002, Webb conveyed to GRC proposed corrections for the D5 boot and other problems, stating that they should not affect cutting the D2 circuit, and adding that subcontractors and others had been on hold until Webb learned the D6's status, which it needed as soon as possible. GRC was reluctant to release more cables and equipment for replacement until Webb made what GRC considered to be proper repairs to the D5. Martin Mayer, the ACOTR, notified Webb on 6 September that its solutions were not acceptable. Daniel Webb responded on 9 September with more information, stating that Webb had delayed half its crew from returning to GRC until 11 September. He asked that the D5 be de-energized so its issues could be resolved and the D2 could be de-energized, and stated that Webb continued to be delayed due to D6 problems and it would file a claim for that delay. On 9 September, the COTR alerted Webb that it would be directed to replace the D5 terminator with the torn boot. GRC found Webb's proposed taped repair to be unacceptable for new equipment. (R4, tab 85 at Wiggins, Lehota, Mayer, Webb, and Patton e-mails)

104. On 11 September 2002 Daniel Webb alleged continuing GRC delays over insignificant matters; it would file a claim if directed to install a new D5 terminator; and the D6 situation adversely impacted it. The COTR responded that the D6 would be energized that day and, if there were no abnormal readings, it would be put in service the

next morning and the D5 and D1 would be de-energized so Webb could replace the D5 terminator and fix the leaking one. He stated that GRC had made de-energizing the D2 contingent upon resolving the D5 repairs; it had planned to de-energize the D2 while Webb was on vacation but had not received Webb's repair information until the last vacation day; and, if equipment did not meet specifications, GRC had the right to correction. He noted that the contract called for 46kV terminators, not the 35kV Webb installed, but that GRC had not required replacement, in an effort to cooperate. He stated that Webb could have pulled in the D3 feeder and still could. If the D6 operated properly, the D2 could be removed from service and Webb could also pull in the D2 feeder. (R4, tab 85 at Webb and Patton e-mails)

105. Webb's 12 September 2002 CQR report states that the D2 transformer would not be available until the D5 and the D6 were both on line; and that the D6 was running hotter than expected, but it was under load. The report of 13 September adds that only a skeleton crew was working due to the D6 and D5 issues. (R4, tab 77, vol. 12) We find that the D6 was operational by 13 September 2002, which was 520 days after GRC's 11 April 2001 exercise of the D2, D3, and D5 options.

106. On 18 to 19 September 2002 the D5 was energized and the D2 de-energized. We infer that Webb fixed the D5 terminator and boot at some point between 11 and 18 September. On 20 September the D2 was prepared for removal, and Webb removed it on 23 September. (R4, tab 77, vol. 12)

107. On 20 September 2002, the CO cited several safety violations; referred to previous alleged violations and the NFS Safety and Health clause; and directed Webb to remove its superintendent. He reiterated that NASA had "ZERO TOLERANCE" for safety violations and stated that any more would result in contract termination. Webb disagreed with the allegations, but on 23 September 2002 stated that it would remove Mr. Herrington, and that Tony Barker would serve in his place. On 27 September 2002 Webb asked GRC to rescind its 20 September letter, or Webb would submit a claim for associated costs. (R4, tabs 41-43, 77, vol. 12; *see also* minutes Nos. 45, 46)

108. After September 2002 COTR Patton left the project. By the time he left the D5 and the D6 were operational; the D2 and the D3 were then de-energized at the same time; and Webb worked on them together. By 3 October 2002 Mr. Mayer had taken over as COTR. (*See* minutes Nos. 46, 47; tr. 4/80, 87-88, 98, 102, 108-09, *see* tr. 4/259-61)

109. On 27 September 2002 Webb filed a "Claim for delay" with the COTR for 7 August through 20 September 2002, seeking $40,521.29 and 14 days for DSP delays; D6 overheating, causing GRC to cancel a 9 to 10 September outage; and other events, not including superintendent removal (R4, tab 71).

110. Daniel Webb appended a list of "Change Order Modifications Per October 2, 2002 Meeting" to a 10 October 2002 letter to the CO. They included nine work items totaling $57,197.89, with a 20-day extension; the four delay claims, above, plus what he described as Webb's 6 February 2002 demobilization/remobilization claim (unpriced, with no delay days), and its removal of superintendent claim (unpriced, with no delay days), all totaling $90,966.14, with a 30-day extension; and $38,454.00 for alleged extra work and unpriced, unspecified, delays from 20 September 2002 to date, not yet submitted. For the nine items and 20-day extension, Mr. Webb included extended field overhead in his proposal, which he believes was adequate compensation for the stated extra time required. (R4, tab 69; tr. 2/216-17) On 11 October 2002, he asked for a contract modification by 18 October for the nine items and the extension, adding:

> At various times in the past, [Webb] submitted request [sic] for equitable adjustments (REA) in the amount of $90,966.14 increase with a thirty (30) calendar day time extension covering delays between June 3, 2002 and September 20, 2002. [Webb] hereby officially withdraws each of these proposals.

(R4, tab 69)

111. On 23 and 24 October 2002, GRC and Daniel Webb agreed to increase the contract price by $56,038 and to a 60-day extension, to 31 January 2003. This included all but one of the nine items for which Webb had sought compensation and exceeded the total 50-day extension it had identified in its 10 October 2002 letter. No contract modification issued at the time. (R4, tab 95, subtab 9 at 10/16/02 and 10/24/02 mems.)

112. On or about 24 October 2002 James Webb became project superintendent (minutes No. 49 at 3, No. 50). On or about 12 November, 2002, the D2 and D3 were energized. From this point on, most of Webb's work, and alleged delays, involved the D1. (Minutes Nos. 52, 53; R4, tab 77, vols. 13, 14; app. supp. R4, tab S-35; tr. 3/46-47)

113. The 14 November 2002 meeting minutes indicate that the contract end date had been extended to January 2003. GRC's monthly status review report of 5 December 2002 states that the D2, D3, D5, and D6 were operational and option work had extended the contract to 15 January 2003. The 12 December 2002 minutes give the end date as 31 January 2003. On 21 December 2002 Webb left for a holiday break. It returned on 27 January 2003, having noted it would not return until D1 issues were resolved. (Minutes Nos. 52, 54, 55; R4, tabs 74, 77, vol. 14; *see also* ex A-40)

114. COTR Patton testified concerning the D6 issue:

> I've heard over and over again, that the government wouldn't allow the contractor to work on any of the option transformers until the D-6 transformer was operational. . . . That is just false. . . . Having the D-6 transformer operational gave the contractor the added flexibility to work on more than one unit at a time. It's a very important point to make, that the D-6 transformer gave the contractor flexibility to do their work at Substation D.

(Tr. 4/79-80) However, the record as a whole reflects that GRC's focus throughout most of the contract period, including after the D5 was energized, was upon getting the D6 operational before additional transformers were taken down and new ones installed (*e.g.*, findings 65, 81,102, 108).

115. On 4 February 2003 Webb completed its contract requirements and left the job site (R4, tabs 74, 77, vol. 14; *see* tr. 3/52-53, 59).

116. In an 18 February 2003 letter to the CO, Webb sought $29,043.84 for changed work, net of a credit to GRC for reduced work, plus a 30-day extension. As of 21 February 2003, these items were combined with those previously agreed to on 24 October 2002, for a total contract price increase of $84,332 and extension to 21 March 2003, to be included in Modification No. 9. (R4, tab 95, subtab 9)

117. Effective 21 February 2003, GRC and Chappy agreed to a "FINAL CLAIMS SETTLEMENT MODIFICATION" on the Phase II contract, which included an extension of the contract period to 12 March 2003 (ex. A-35).

118. Orally and by letter to the CO of 25 February 2003, Daniel Webb stated that he could not sign proposed Modification No. 9, sent by the CO, before "Final Claim Settlement" language was removed; the modification should pertain only to the particular matters it covered; and Webb was submitting a formal claim. The CO removed the challenged language. (R4, tab 44; *see also* tr. 5/77, 86-87, 106-08)

119. By letter to the CO of 27 February 2003, which he received on 3 March 2003, Webb submitted a CDA claim, certified by Daniel Webb (R4, tabs 45, 46). Webb requested a CO's final decision on:

> [W]hether or not the [LOSM] has any application to this contract, other miscellaneous safety issues, and whether the

> CO's demand that [Webb] immediately remove their Project Superintendent was fair, reasonable, and justified by the terms and conditions of the contract. [Webb] alleges alternate legal basis for recovery as outlined below. The amount of money in dispute is $ 894,816.34 . . . . Five-hundred thirty-seven (537) calendar days of additional contract time is required.

(R4, tab 45 at 1) Webb then listed the following nine items that it intended to prove:

(1) The LOSM did not apply to the contract, or the specifications were ambiguous and defective, and Webb was entitled to excess costs over what it would have cost to comply with EM 385-1-1, and with other applicable safety regulations and standards;

(2) The contract did not authorize the CO to remove Webb's superintendent;

(3) The CO's "**ZERO TOLERANCE**" policy and demand for the superintendent's removal constructively changed the contract;

(4) The CO constructively changed the contract when he shifted responsibility from NASA to Webb to apply lockout tags, review systems affecting work safety, and take actions necessary to make the systems and equipment safe for work;

(5) The CO constructively changed the contract when he insisted Webb re-mobilize for the sole purpose of installing a transformer so another contractor would have a source of temporary electrical power;

(6) The COTR, with the CO's concurrence, constructively changed the contract by insisting EM 385-1-1 did not apply; requiring its deletion from Webb's accident prevention plan, which the COTR incorrectly called the "HASP;" and requiring that the plan for each work phase comply with his template, while disapproving Webb's format derived from the template;

(7) The COTR, with the CO's concurrence, constructively changed the contract by requiring a detailed plan of work near the Abrams Creek duct bank crossing, to include environmental issues that did not bear upon workforce safety;

(8) NASA and/or the CO breached their duties to cooperate with, and not to hinder or delay, Webb. "*Specifically, NASA and the CO did not assure that Transformer D6 was capable of being brought on line in time to grant [Webb] their critical and necessary power outages*" (*id*. at 3 (emphasis added)); and

(9) "In the alternative to seeking relief under one of the clauses that permits an equitable adjustment, including a reasonable profit, [Webb] will prove that its right or ability to proceed was constructively suspended" (*id*. at 3).

Webb stated that:

> Since the scope of work on this contract involved the installation of new, long lead time, electrical materials and equipment, including large electrical transformers, *it was never the intent of [Webb] to immediately mobilize, complete its work in one continuous operation and then demobilize*. Instead, periods of time were allotted to the submission, approval and procurement of these long lead time materials and equipment. [Emphasis added]

(*Id*. at 3)

Webb cited the 17 February 2000 memorandum by the EASC's chairman that forwarded the safety permit for inclusion in the contract per the Glenn Safety Manual (finding 10) as the origin of the constructive contract changes and highlighted the DSP as one of the best examples of constructive change (R4, tab 45 at 3, 5). It asserted that the safety permit, the safety manual, and the Glenn HVEPS operating instructions were not part of the contract and that they restrained it from proceeding unless a DSP escorted and supervised it. Webb alleged that its crews were idle, waiting for the DSP, or had to be diverted to other work when the DSP left early. It devoted over 33 pages of its 39-page claim to DSP and safety issues, and focused upon the HASP approval process.

Webb also stated, *inter alia*:

> *Due to no fault of NASA,* [*Webb*] *temporarily demobilized on or around December 15, 2000 with the intent to again mobilize in the spring of 2001*. [Webb] alleges that typically its crew, together with its assigned tools and equipment, was idle for two hours per day during the period from August 15, 2000 through December 15, 2000. These delays were solely the result of NASA's rigid enforcement of the LOSM in lieu of those [sic] specified in the specifications. None of these delays would have occurred had NASA enforced only the contractually applicable EM 385-1-1, OSHA and the other contractually applicable regulations.

> [Webb] again mobilized on the project site in April of 2001. [Webb] timed this mobilization in such a manner that it could have and would have completed the work on this project without the necessity of another mobilization *had it not been for the differing site conditions ("DSC") encountered or the failure of NASA to cooperate and do nothing to unnecessarily delay the work of* [*Webb*]. *As a direct result of construction or design deficiencies associated with Transformer D6, installed by others, NASA would not approve the necessary outages required by [Webb] to install the newly arrived Transformers D2, D3, and D5*. As a result, [Webb] was forced to prematurely demobilize its entire crew on or around February 15, 2002. As was the case during the initial period of work on this project, during this approximately ten month period, [Webb's] rate of progress was materially and significantly impacted by the contractually incorrect enforcement of the LOSM on this contract and by the late arrival or early departure of the personnel deemed by the LOSM to be mandatory in order for [Webb] to perform certain mandatory tasks within its scope of work on this contract. [Emphasis added]

(*Id*. at 20) Webb did not expand upon its differing site conditions comment or include any alleged differing site conditions in its itemization of the elements of its claim. Webb stated that it clearly understood why NASA decided not to take any additional transformers off line when it realized that it had construction or design deficiencies associated with the D6 but that Webb's understanding did not diminish NASA's obligation not to hinder or delay it. (*Id*. at 35)

Webb linked its constructive suspension of work claim to its inability to install the new D2, D3, and D5 transformers because of the D6 issue. It stated that:

> [A]s an alternate position only, it is totally clear that [Webb's] right to proceed was constructively suspended by NASA between approximately February 15, 2002 and approximately June 3, 2002. It is indisputable that [Webb's] right and/or ability to proceed with its assigned scope of work was temporarily suspended by NASA's refusal to grant it electrical power outages necessary to install the new transformers.

(*Id*. at 35) Unlike the D2, D3, D5, and D6, Webb did not mention the D1 in this context. In fact, the new D1 did not arrive on site until August 2002 (finding 100).

Webb arrived at the amount of its claim using a modified total cost method. In support of its use of that method, Webb stated:

> [I]t is difficult to even address all the problems encountered on this project and even more difficult to accurately put a price on each of the problems. Generally, there were two major and far reaching problems. One involved the total elimination or disregard for EM 385-1-1 on this project and replacing it with the [LOSM] or as it is currently referred to the Glenn Operational Safety Manual. The other is closely related but separate and totally overshadows the first. It involves the unilateral decision by the Chairman of the [EASC] to bring this contract under Safety Permit E-0178-A after the procurement, receiving of bids, and award of this firm-fixed lump-sum contract.

(R4, tab 45 at 36)

Webb alleged that all of its alleged extra costs were attributable to NASA except for costs involving the following matters for which Webb took responsibility: (1) supplying and installing wrong terminators for the D5, D3, and D2 in lieu of 46kV; (2) installing 35kV circuit and terminations at the wrong breaker location at Sub B; (3) retesting pad-mounted transformers in the West Area; (4) defective components in the D5, D3, D2, and D1, causing a two-week delay; and, (5) a subcontract overrun on block and brickwork (*id*. at 38). Except for the cited two-week delay, Webb did not acknowledge responsibility for any project delays.

At the hearing and in briefing appellant emphasized GRC's alleged delays in finalizing the modification that added the new D1 to the contract; requesting changes to the D1's controls and monitoring system; and de-energizing the old D1 (app. br. at 129, proposed finding 499). However, Webb's claim did not include D1 delays (except for the two-week credit for delay attributable to Webb), or issues appellant raised at the hearing or in briefing pertaining to the original contract-specified option performance period, Guerin House work and glass block window replacement.

120. On 31 March 2003, the CO inquired of Webb whether the claim merely involved the two issues of the LOSM's applicability to the contract and a 537-day

contract extension. He also enclosed Modification No. 9 with the "Final Claim Settlement" language removed, stating that Webb's signing it would not affect its claim. Daniel Webb responded on 4 April 2003, stating that Webb "confirms" that the issues in dispute were the LOSM's applicability, other miscellaneous safety issues, and the removal of Webb's superintendent, as described in its claim. (R4, tabs 46, 47)

121. The parties executed bilateral Modification No. 9, effective 7 April 2003, memorializing their agreement to an $84,332 contract price increase, for a total of $2,309,997, and to an extension to 21 March 2003. This was an extension of 111 days, measured from the last formal extension, in Modification No. 8, to 30 November 2002. Although the final claims settlement language was removed, the modification contained the same satisfaction and discharge clause as in all of the other bilateral modifications (finding 50). The CO acknowledged that he was aware at the time of Webb's pending claim. (R4, tabs 48, 95, subtab 9; tr. 5/109)

122. By letter to the CO dated 2 May 2003, Webb's president, Jerry Webb, stated that its claim could not be condensed into the two issues cited by the CO (R4, tab 49). He essentially reiterated the allegations in the 27 February 2003 certified claim, except that he did not mention differing site conditions. As in Webb's claim, he linked transformer-related delays to GRC's failure "to assure that Transformer D6 was capable of being brought on line in time to grant [Webb] its critical and necessary power outages" (*id*. at 3). He did not mention alleged D1 delays; the original contract-specified option performance period; Guerin House work; or glass block window replacement.

123. The CO's 16 July 2003 final decision addressed, and denied, each aspect of Webb's claim and did not assert that NASA had lacked prior notice under the Changes or Suspension of Work clauses or that it had been prejudiced by any lack of notice. (R4, tab 52) The CO did assert that, in each of the nine contract modifications, Webb had agreed to waive further claims and that Webb was "barred from pursuing any claims that were addressed by way of modification" (*id.* at 7). On 28 August 2003 Webb timely appealed to the Board.

CHI and Webb's Contract Performance

124. Webb typically conveyed its DSP needs to GRC at the weekly meetings. The ACOTR on CHI's contract, Mr. Lehota, facilitated its DSP support by adjusting its maintenance duties to the extent he could. GRC sought a minimum of five days notice, per HVEPS-OI-012, but CHI usually could respond with two days notice. One day normally was insufficient. (Tr. 2/210, 3/18, 4/284-86, 316, 320, 5/181-82)

125. When GRC received complaints about the DSPs not being present at the start of Webb's work day, or leaving earlier than Webb, GRC adjusted CHI's hours so DSPs were available for Webb's full work period, even if extended. The ACOTR recalled, generally, some instances when DSPs were late due to an emergency; or were not at the right spot at the right time and had to be re-directed; or were not timely requested; or were pulled off one Webb work area due to Webb's request for support in another area. (Tr. 4/288-91, 297-98, 303-04, 322)

126. Webb's CDA claim did not specify DSP delays. Its withdrawn delay claims had listed alleged delays in June through September 2002 (R4, tabs 69-72). CHI's superintendent Downs reviewed his schedules; GRC's dispatch office's logs, which showed who entered an area at what time, work done, and exit time; and e-mail requests for DSPs. He identified errors in certain of Webb's allegations and testified, in general terms, that 90 percent of the time CHI had supplied the requested DSPs, who were where they were supposed to be, and did what they had been asked to do, with isolated instances supporting Webb. Mr. Downs did not receive any complaints that CHI had treated Webb unfairly. CHI frequently deals with competitors. It tries to treat GRC contractors in the same manner, whether or not they are competitors. It focuses upon its maintenance and safety duties because it does not want to jeopardize its GRC contract. (R4, tabs 89, 94; ex. G-1; tr. 5/184-87, 190-94, 196, 198-200, 205) We have not been directed to evidence of any CHI bias against Webb.

127. Appellant alleges that Chappy claimed DSP delays, corroborating appellant's claims. NASA objected at the hearing that any Chappy DSP issues were irrelevant. The Board reserved ruling. The CO's unrebutted testimony was that GRC did not pay any such Chappy claims. (Tr. 5/158-62) We sustain NASA's objection and make no further findings concerning alleged DSP delays under Chappy's contract.

Expert Evidence

I. Webb's Expert's General Conclusions

128. Without objection, the Board accepted James W. Brown as appellant's expert on project scheduling, particularly with respect to the use of critical path method (CPM) network analysis systems (NAS) and computerized scheduling systems and software. He had been involved with critical path scheduling, including for complex electrical systems, for many years. As of the hearing he was a scheduling consultant for building projects and concerning claims. (Ex. A-38 at *curriculum vitae*; tr. 3/121-22)

129. Mr. Brown's expert report and testimony address six alleged GRC-caused delays, said to run concurrently with smaller GRC-caused delays, which he did not identify (ex. A-38 at 4 of 9). The six involve the D2, D3, and D5 option work; the D1; glass block window replacement; Abrams Creek HASP issues; the Guerin House; and DSPs.

130. Mr. Brown defined critical path as follows:

> Critical path is defined as the longest series of connected events from the project start to the project finish. Paradoxically, this longest series of events is the shortest amount of time that the project can be completed in. By definition of critical, any delay to any of the activities on the critical path will result in a delay to the overall finish of the project assuming corrective measures are not taken.

(Tr. 3/142) He stated that items with the lowest total amount of float are on the critical path, and that the path can shift and must be examined per the schedule at hand, but he did not prepare an as-built critical path schedule (tr. 3/143, 209, 228-29).

131. Webb used industry-standard software, with which Mr. Brown works regularly, to prepare and update its NAS. He found its logical sequence to be consistent with projects of the type at issue. He concluded that Webb's baseline schedule, with its 7 February 2001 early completion, was reasonable and that the relatively small number of activities demonstrates that the job was not complicated. Although not in his report, he analyzed the work as-planned and as-built. He found that, while some activities took a little longer than planned and many took less time, the base work activities as completed were all reasonably within the as-planned duration. He did not elaborate or provide examples, but NASA did not rebut his testimony that the work times involved were comparable. (4/3/2000 schedule; ex. A-38 at 2 of 9; tr. 3/123-24, 132, 145-46, 231-32) Accordingly, based upon Mr. Brown's and Mr. Jones' unrebutted testimony (finding 34), we find that the originally-scheduled, and actual, amounts of work time it took appellant to perform the base contract work items were comparable.

132. Mr. Brown's report concluded that Webb has not been compensated for the loss of its opportunity to complete the contract's base work by 7 February 2001, over seven months earlier than the original 30 September 2001 required completion date, and that the cited delays were all due to GRC. At the hearing he attributed a one-day transformer wiring delay at the Guerin House to Webb but no other delays. He acknowledged that some of the alleged delays overlapped. He claimed GRC delayed the project by 536-538 days, based upon the difference between the original 30 September 2001 base work completion date and project completion. He opined that GRC's time extensions, which extended the original 546-day contract period by 537 days, established the amount of delay. He mentioned, but apparently did not deduct, the extension granted when GRC exercised options 4, 5 and 6. He did not exclude Webb's demobilization days from his delay assessment because he did not determine who was responsible for them. He did not address delays for which Webb assumed responsibility in its CDA claim. (Ex. A-38 at 4 of 9; tr. 3/262, 264-66, 269-71; *see also* ex. A-40)

II. Alleged Project Delay Caused by HASP Approval Process

133. According to Webb's initial schedule, manholes 143 and 144, at the Abrams Creek bank, were to be the first significant work and were on the critical path. The work was scheduled concurrently, to take 14 days, with 5 days float. Other manhole work was scheduled to take three days. Mr. Brown deemed it obvious that Webb had considered the difficulty of working on the slopes; had allowed more time to place the two manholes there; and, recognizing that bank work would be more difficult, wanted to get it done early. However, all manholes and duct bank activities were on the critical path. When, because of HASP issues, Webb was not able to begin at manholes 143 and 144, it worked on other critical path activities, including other manholes and duct banks, albeit out of its planned sequence. (4/3/2000 schedule; tr. 3/135-36, 140, 144-45, 150-51)

134. During the period of Webb's six HASP submittals, from 25 August 2000 to 1 May 2001, Mr. Brown found it was able to keep its crew busy with out of sequence work, but in a considerably less efficient manner. He opined that, if GRC had accepted Webb's 27 September 2000 Abrams Creek addendum, its work would not have been affected because the submission process to that point was concurrent with its mobilization. According to him, the lack of acceptance began to impact the project in "September/October" 2000. (Ex A-38 at 6, 9 of 9; tr. 3/154)

135. Mr. Brown concluded that, when Webb demobilized in the winter of 2000, it had proceeded with duct bank work as far as it could, without the Abrams Creek crossing, and it was not practical to do certain other work involving the creek in the winter. In his opinion, had the HASP addendum been timely approved, Webb could have

accomplished the base work in the time originally scheduled because the bridge work at Abrams Creek had 59 days float. (4/3/2000 schedule; tr. 3/155-57, 162)

136. Mr. Brown found that Webb completed its Abrams Creek work on 22 August 2001. Because all base work was to have been done by 7 February 2001[8] per Webb's original schedule, he concluded that Abrams Creek HASP issues delayed the project by the 196-day difference between the planned and actual completion. (Ex. A-38, attach. 8; tr. 3/158) His analysis depends upon Webb's alleged plan to work through the winter months, and does not charge it with any of its 153-day demobilization beginning in November 2000 (*see* findings 42, 51).

III. Alleged Project Delay Caused by D6 Transformer Issues

137. Mr. Brown concluded that the fact that the D6 still was not fully operational until 13 September 2002 caused very significant delays to Webb's work (ex. A-38 at 2 of 9; tr. 3/165-66).

138. Mr. Brown's report states that GRC exercised options 4, 5, and 6 to add the D2, D3, and D5 to the contract, which specified a 121-day performance period (ex. A-38 at 4 of 9). However, the contract originally provided that the option performance period was 120 days after notice to proceed for the option (*see* finding 12). Modification No. 3, which recorded an 11 April 2001 option exercise, extended the option performance period to 31 January 2002 -- 295 days after option exercise (*see* finding 50).

139. Webb's original schedule did not include the option work. Its 2 May 2001 schedule added that work and, per Mr. Brown's report, shows its intent to perform it in sequence from 11 September 2001 to 16 November 2001, without delay between work on each unit. As of Webb's 28 February 2002 schedule, the option work had not started. Mr. Brown reports that this schedule clearly showed that the work was on the critical path. (Ex. A-38 at 4-5 of 9; tr. 3/195-97)

140. Mr. Brown's report states that, although GRC eventually permitted the D5 work to proceed without the D6 being online; the D5 was not energized until 26 July 2002; as late as 13 September 2002, GRC would not allow the D2 and D3 work to proceed until the D5 and D6 were online; and the D2 and D3 were not energized until 8 November 2002. This is essentially consistent with our findings that the D5 was energized on 26 July 2002 and re-energized on 7 August 2002; the 12 September 2002

[8] In testimony Mr. Brown erroneously referred to an 8 February 2001 early completion date, but the number of delay days he alleged, and his report, are based upon the correct 7 February 2001 date.

CQR report stated that the D2 would not be available until the D5 and the D6 were both on line, which occurred by 13 September 2002, when the D6 became operational; and the D2 and D3 were energized on about 12 November 2002 (*see* findings 96, 105, 112). However, Mr. Brown's "Delay Summary" chart shows one 13 November 2002 completion date for the D2, D3, and D5 and does not show that the D5 was complete on 26 July 2002 (ex. A-44). He testified that the delays reflected in his chart represent a summary of when a delay period started and ended and not that a particular delay lasted the entire period. He did not separate the delays. Also, in his report, Mr. Brown refers to an attachment 5, "Substation D Transformers," which shows the difference between planned early start and as-built start dates as 185 days to install and test the D2; 190 to install and test the D3; and 176 days for the D5. However, while the attachment shows D5 work as complete on 26 July 2002, as stated in his report, it also seems to show the D3 as complete on 23 August 2002 and the D2 on 6 September 2002. An enlarged copy of the chart, presented at the hearing, appears to show the same thing. No November 2002 date is referenced. (Ex. A-38 at 5, attach. 5, ex. A-44; tr. 3/197, 203) Thus, Mr. Brown's report was not fully reconciled with his charts and his testimony.

141. At the hearing, Mr. Brown used the erroneous 6 September 2002 completion date for the D2 to measure the alleged GRC-caused delays to the D2, D3, and D5 work, as a group. He alleged that the delay caused by the late availability of the D6, and GRC's restriction that all of the transformers could not be worked upon concurrently, was 218 days -- the period between the original contract end date for the D2, D3, and D5 option work, 31 January 2002, and 6 September 2002. He did not differentiate between the two stated causes of delay. (Tr. 3/197-98)

142. On cross-examination, Mr. Brown stated that the project's critical path started with the duct bank work, part of which was at Abrams Creek, then shifted to the D1. He said that he did not know where the D2, D3, and D5 work fit on the critical path and that he did not analyze that work for criticality because the D1 controlled the critical path, not the other transformers. On re-direct, however, he stated that, once the Abrams Creek work was complete, the glass block work became the critical activity; then, when the D2, D3, and D5 were added, the critical path moved to that work; and then, once the D1 was added, the critical path moved to that work. (Tr. 3/237-38, 271-72) We find Mr. Brown's critical path analysis concerning the D6, and the D2, D3 and D5 transformers to be inadequate and unpersuasive.

IV. Alleged Project Delay Caused By DSPs

143. Mr. Brown's report states that the project documentation contains numerous references to DSPs being late, reassigned, diverted to another job, leaving early, or not showing up and that while some were only 15 or 30 minutes late, others were hours late,

or left hours before the end of the work day. Contrary to Webb's CDA claim, which alleges DSP problems "from the very beginning of the project" (R4, tab 45 at 19), his report states that the early daily reports do not mention the problem, but the later ones do. His report states that a sample of 28 daily reports reveals 140.5 hours, or somewhat more than three and one half weeks, of lost project time due to DSP issues. It does not identify the daily reports that were the source of the sample. He testified that the sample was from one month picked randomly, but he did not identify the month (tr. 3/199). Mr. Brown speculates in his report: "I suspect if an effort was made to quantify the lost time resulting from this problem it would amount to months of lost productivity" (ex. A-38 at 7 of 9). Mr. Brown's Delay Summary chart does not include alleged DSP delays (ex. A-44), and Webb did not present specific evidence quantifying its claimed DSP delays.

DISCUSSION

I. The Parties' Contentions

Appellant contends that GRC breached its implied contractual duties to cooperate and not to hinder or delay and that its specifications were defective, resulting in constructive contract changes that caused extra direct costs and compensable delay costs, particularly extended field overhead costs. Alternatively, it alleges that GRC constructively suspended its work. It contends that GRC's contract time extensions create a rebuttable presumption that GRC caused the project delays.

Appellant's allegations, as refined in briefing, encompass two delay categories. The first includes delays to its 7 February 2001 early base work contract completion date relating to Abrams Creek HASP addendum approval; securing matching brick for glass block window replacement; and encountering differing site conditions while installing manholes and duct banks that were not at Abrams Creek.

The second category involves delays after the original 30 September 2001 contract completion date, to which appellant ascribes "[t]he overriding cause" as GRC's failure to provide work access due to its "mission first" policy whereby it gave its research needs priority over appellant's contract (app. br. at 136, 142). Appellant alleges that the principal critical path work remaining at the original completion date involved Sub D, which adjoined Building 5, a major testing facility. Three alleged delays include GRC's failure to provide access to: (1) Building 300 (Guerin House); (2) Sub D, with respect to the D2, D3, and D5, which appellant attributes to two "overlapping" and "very much intertwined" issues: (a) substantial delay in installing and testing the new D6 – Chappy's responsibility, and (b) delays caused by GRC's requirement that the D2, D3, and D5 be removed and replaced sequentially rather than essentially concurrently as appellant

originally had planned and GRC in effect had approved; and (3) Sub D with respect to the D1 (app. br. at 152-53, 159). The other category two delays relate to the glass block window replacement and the "intertwined" causes of GRC's inability or unwillingness to interfere with research in Building 5 and its failure to provide necessary electrical outages (app. br. at 160). Appellant describes all delays in each category as critical path delays, except those pertaining to differing site conditions, and states that the critical path delays "substantially overlap" (app. br. at 203).

Appellant further asserts that GRC's specifications were defective for three reasons: (1) They failed to alert bidders that access to critical work areas could be severely restricted due to GRC's unique environment, and their deficiencies in not so warning "outside contractor[s]" are demonstrated by the difference between appellant's bid and that of CHI, which appellant describes as the only bidder not an "outside contractor." Appellant asserts that the difference is about the amount it seeks in this appeal, and is "tangible proof" of the substantial costs GRC caused it to incur due to its insistence upon unique procedures (app. br. at 147-48); (2) They were inadequate concerning matching brick requirements; and (3) They were latently ambiguous about the application of GRC's safety manual, including its safety permit and DSP aspects. Therefore, appellant's reasonable interpretation that C.F.R. Parts 1910 and 1926 and the Corps' manual, EM 385-1-1, were "the primary regulations controlling general safety requirements" on the contract should control under the doctrine of *contra proferentem* (app. br. at 198). Appellant adds that, if the Board determines that DSP requirements apply, then CHI's manner of providing DSPs delayed appellant. It also suggests that it was prejudiced because it was supervised by a competitor. Appellant states that it is not claiming that "all or even the majority of" the DSP delays were critical path delays to overall contract performance, but that they caused extra labor costs for idled crews and inefficiencies, which it will detail in the appeal's quantum phase (app. br. at 202).

NASA contends that the Board does not have jurisdiction over any delay claims that appellant did not first present to the government (gov't br. at 44, 46, 49-50). It also asserts that appellant's claims are barred because it did not comply with the notice requirements of the Changes and Suspension of Work clauses. Further, it raises the affirmative defense of accord and satisfaction, citing the bilateral contract modifications executed by the parties, although it "acknowledges that [appellant] never negotiated extended field overhead" (gov't br. at 28).

On the merits, NASA alleges that appellant underestimated the project's scope and time needed, and did not properly evaluate the site, contractual requirements, and GRC's operational needs. It contends that expert Brown's "total days" or "total time" delay analysis is defective, and that appellant has failed to meet its burden to prove government-caused delays (*e.g.*, gov't br. at 50-51, 86). NASA challenges each delay

claim, except potentially for alleged DSP delays contained in the withdrawn claims covering the period June through September 2002 (*see* findings 109, 110).

II. Jurisdiction

Under the CDA, the Board has jurisdiction over disputes based upon claims a contractor has first submitted to the CO for decision. 41 U.S.C. §§ 605(a), 606. We lack jurisdiction over claims raised for the first time on appeal. Whether a claim before us is new or essentially the same as that presented to the CO depends upon whether it derives from common or related operative facts. *Dawkins General Contractors & Supply, Inc.*, ASBCA No. 48535, 03-2 BCA ¶ 32,305 at 159,844.

In its certified claim to the CO, appellant alleged that it was entitled to its excess costs due to GRC's requirements that it: comply with GRC's safety manual, including its DSP provisions; remove its superintendent; apply lockout tags and take other actions necessary to make systems and equipment safe for work; re-mobilize to install a transformer so another contractor could have a source of power; and comply with GRC's excessive HASP requirements and prolonged approval process, particularly concerning Abrams Creek duct bank work. Appellant also cited GRC's failure to have the D6 timely available so it could have the power outages needed to install the new D2, D3, and D5. Further, it specifically linked its alternative constructive suspension of work theory to its inability to install the D2, D3, and D5 because of the D6's problems. (Finding 119)

Appellant's claim did not mention issues it raised at the hearing and/or in briefing pertaining to alleged defective specifications concerning the original contract-specified option performance period (*see* findings 1, 9, 12); D1 transformer delays; Guerin House work; and glass block window replacement. Neither did the 2 May 2003 letter from its president to the CO, which essentially reiterated the claim's allegations. (Findings 119, 122). Accordingly, we dismiss without prejudice, for lack of jurisdiction, those aspects of appellant's appeal.

III. Notice Requirements of Changes and Suspension of Work Clauses

To support its affirmative defenses of lack of notice under the Changes and Suspension of Work clauses, NASA must prove that it was prejudiced thereby. Even proof of prejudice does not bar recovery; rather, it increases the contractor's burden of persuasion. Moreover, a CO's decision on the merits of a claim, without assertion of prejudice due to lack of notice, waives notice requirements. *SUFI Network Services, Inc.*, ASBCA No. 55306, 06-2 BCA ¶ 33,444 at 165,778-79; *Grumman Aerospace Corp.*, ASBCA Nos. 46384 *et al.*, 03-1 BCA ¶ 32,203 at 159,185-86, *recons. granted in part on*

other grounds, 03-2 BCA ¶ 32,289, *aff'd*, 497 F.3d 1350 (Fed. Cir. 2007). Here, GRC had prior notice of alleged delays, and the CO decided appellant's claim without alleging lack of notice, or any prejudice (findings 93, 98, 102-04, 109, 110, 121, 123). Therefore, NASA's affirmative defense of lack of notice fails.

IV. Accord and Satisfaction Defense

NASA has the burden to prove that appellant's execution of bilateral contract modifications that contained satisfaction and discharge language constituted a release of its claims by accord and satisfaction. *Bay West, Inc.*, ASBCA No. 54166, 07-1 BCA ¶ 33,569 at 166,304. The nine bilateral contract modifications executed by the parties each contained the following clause:

> The Parties hereto acknowledge and agree that any and all claims for equitable adjustment of the contract price and time pursuant to the [Changes and Disputes clauses] and Mutual Agreement are hereby fully satisfied and discharged with respect to this Supplemental Agreement . . . .

(Finding 50) We need not address the import of the fact that the issue of any delay costs or other costs attendant to extended time on the job was not discussed in the modification negotiations (*see* findings 77, 95), or the parties' intent as to the scope of the satisfaction and discharge language (*see* findings 50, 118). As we discuss below, any recovery by appellant is by way of an adjustment under the Suspension of Work clause, and not an equitable adjustment under the Changes clause. NASA has not established that the modifications' satisfaction and discharge provision encompasses adjustments under the Suspension of Work clause.

Accordingly, we deny NASA's affirmative defense of accord and satisfaction.

V. Temporary Remobilization; Temporary Removal of Superintendent; Performance of Lock Out/Tag Out Procedures; and Differing Site Conditions

In appellant's expert's report, at the hearing, and in briefing, it did not pursue three issues contained in its claim—its brief re-mobilization in April 2002 to install a transformer required by another contractor; GRC's temporary removal of its superintendent; and GRC's alleged requirement that appellant perform safety procedures said to be GRC's responsibility (finding 119). Accordingly, we find that appellant abandoned these aspects of its claim or, if not abandoned, that they are unsupported.

Appellant mentioned, but did not delineate, differing site conditions in its claim; it barely touched upon the issue in briefing; and its expert did not address any differing site condition delays. Modification No. 4 included, *inter alia*, payment for what were described as differing site conditions pertaining to cable lengths, buried concrete, and Cryogenic road drainage, and a seven-day extension for the site drainage. Modification No. 8, which extended the contract by 60 days and included certain extended field overhead costs, covered, *inter alia*, shale removal; cleaning oil from cables; relocating the D5 transformer pad; and relocating a brace near the D6 transformer, variously described by the COTR, or by appellant in briefing, as differing site conditions. Further, although appellant encountered asbestos, we have not been directed to any evidence that it sought more time for asbestos work. In fact, we have not been directed to any evidence that appellant suffered any uncompensated delay due to differing site conditions. (Findings 64, 67, 76, 92-95) Accordingly, we deny the portion of appellant's appeal pertaining to differing site conditions for lack of proof.

VI. Alleged HASP Addendum Approval Delay to Early Completion Date

Of appellant's alleged delays to its early contract completion date, the only one remaining that is contained in its CDA claim and has been pursued on appeal concerns HASP addendum approval. Appellant must show that, from contract outset, it intended to complete early; had the capability to do so, as reflected in a feasible work schedule; and would have done so but for government-caused delays. *Wickham Contracting Co.*, 12 F.3d 1574, 1582 (Fed. Cir. 1994); *Fru-Con Construction Corp.*, ASBCA Nos. 53544, 53794, 05-1 BCA ¶ 32,936 at 163,160, *modified in part, reaff'd in part, on recons. on other grounds*, 05-2 BCA ¶ 33,082. Appellant must show the extent of alleged government-caused delay and that the delay harmed it. The delay normally must be to work on the critical path, the only work that affects contract completion. Such a delay usually results in a corresponding completion delay. *Wilner v. United States*, 24 F.3d 1397, 1399 n.5, 1400-01 (Fed. Cir. 1994) (*en banc*); *accord Kinetic Builder's Inc. v. Peters*, 226 F.3d 1307, 1316-17 (Fed. Cir. 2000) (affirming Board's denial of delay claims for time extensions and extended job site overhead costs); *see also Haney v. United States*, 676 F.2d 584, 595 (Ct. Cl. 1982). "[A] credible CPM time impact analysis should take into account and give appropriate credit for all of the impacts to the project." *Fru-Con, supra,* 05-1 BCA at 163,162. Moreover, in the case of any concurrent delays, a contractor cannot recover unless it proves that there is a clear apportionment between its delay and that attributable to the government. *William F. Klingensmith, Inc. v. United States*, 731 F.2d 805, 809 (Fed. Cir. 1984). Finally, the Federal Circuit has repudiated the "McMullan presumption" appellant advances. *England v. Sherman R. Smoot Corp.*, 388 F.3d 849, 856-57 (Fed. Cir. 2004). We can no longer assume that the government's grant of a contract extension raises a rebuttable presumption of government responsibility for

the delay (*see Robert McMullan & Son, Inc.*, ASBCA No. 19023, 76-1 BCA ¶ 11,728 at 55,903).

The base work performance period ended on 30 September 2001. At the 30 March 2000 pre-construction conference, appellant submitted a preliminary schedule showing a tentative February 2001 job completion date, over seven months early. GRC recommended at the conference that appellant start construction earlier than July 2000, to mitigate winter work problems, and it gave a verbal notice to proceed with procurement. However, appellant's first construction schedule of record shows mobilization from 5 April 2000 to 4 August 2000, with work starting on 7 August 2000 and ending on 7 February 2001. Appellant chose the 7 August start due to long procurement lead times and because its superintendent was not due to complete another job until then. The schedule shows it working without any demobilization or winter break. The COTR concluded that the schedule was acceptable and "doable," and we found that the originally-scheduled, and actual, amounts of work time it took appellant to perform the base contract work items were comparable. (Findings 23, 26, 33, 34, 131) Thus, appellant intended to complete early and had the capability of doing so based upon the schedule it submitted, which was feasible.

However, appellant has not established that GRC's HASP addendum approval process was responsible for its failure to complete the base work early. Preliminarily, although appellant's early completion schedule, as submitted, was feasible, and we accept that it intended to complete the base work early, the record casts doubt upon whether it actually intended to work without any demobilizations, and suggests that it was contemplating option award from the outset (*e.g.*, finding 9). Indeed, appellant stated in its claim that "it was never the intent of [Webb] to immediately mobilize, complete its work in one continuous operation and then demobilize" (finding 119). In any case, numerous factors for which GRC was not responsible eliminated the possibility of an early February 2001 base contract completion date.

With regard to the protracted HASP approval process, including the Abrams Creek addendum, appellant substantially contributed to the problem. Although the contract contained different submission times for the HASP, the latest was prior to the notice to proceed. *See, e.g.*, GRC's Supplement to NASA's Safety and Health Plan clause (emphasizing site-specific HASP due upon notification of selection and prior to notice to proceed) and the General Safety Requirements specification (§ 01411, ¶ 1.3) (site specific HASP due within 14 days after contact award. (Findings 14, 17) The record reflects that appellant devoted little attention to this requirement at the outset. On 15 March 2000, the COTR provided a template in an effort to assist appellant. Its introduction stated that the HASP worked in concert with the contractor's corporate safety plan, GRC's safety manual, EPA regulations, and other named standards and codes. It did not mention

Corps manual EM 385-1-1. The COTR sought a site specific HASP, with "items particular to the ductbank down and across Abram's Creek." (Finding 22)

The HASP appellant submitted at the 30 March 2000 preconstruction conference was inaccurate and incomplete. It parroted the template's introduction, including that the HASP worked in concert with appellant's corporate safety plan and GRC's safety manual. However, unlike the template, appellant's HASP identified EM 385-1-1 as the controlling regulation. GRC noted upon its first HASP review of 19 April 2000 that the Corps manual did not apply and references to it should be deleted; it asked for a copy of appellant's corporate safety plan; and it sought exact hazard controls for each part of each excavation. Appellant's second HASP submission, on 23 June 2000, continued to refer to its corporate plan and, in part, to EM 385-1-1, and contained little about the Abrams Creek slope work. It took appellant until its third HASP submission, on 17 July 2000, to notify GRC that it did not have a corporate safety plan and to delete remaining Corps manual references. (Findings 24, 25, 28, 29, 31)

Appellant alleges that the specifications were latently ambiguous, and therefore defective, concerning the application of GRC's safety manual, including its safety permit and DSP aspects, and that appellant's reasonable interpretation that the Corps' manual applied should control. It complains that GRC wrongly required it to remove references to EM 385-1-1 from its HASP and to comply with GRC's safety manual and safety permit. We find no ambiguity.

The contract contained GRC's Safety and Health (Construction) clause, which provides that the contractor is to comply with listed items, including GRC's safety manual, "as applicable to this contract." The quoted phrase, while not perfectly clear, is reasonably read to mean that the items apply to the contract. It does not state "to the extent applicable," as appellant suggests. In any event, all possible ambiguity is resolved by the clause's incorporation of the listed items, including GRC's safety manual, into the contract by reference. Indeed, Mr. Jones interpreted the contract to include that manual. He acknowledged that, in preparing appellant's bid, he saw the contract's reference to the manual and deemed it to be "a facility-specific reference to the manner in which safety and health was managed by NASA." He did not obtain a copy of the safety manual and did not feel the need to ask for it. (Finding 14)

Similarly, the Summary of Work specification (§ 01010, ¶¶ 1.4, 1.8.2) required the contractor to adhere to EASC's permit, which specified DSP requirements at length. Solicitation Amendment No. 1 had alerted bidders that GRC would have a daily safety inspector assigned to the project. Mr. Jones saw the contract's safety permit provision when he prepared appellant's bid, but he did not ask GRC about the permit or determine whether it would have a cost impact to be considered in the bid. Indeed, Webb did not

attend the pre-bid site visit conducted by GRC and did not ask any questions of GRC during the solicitation period. (Findings 6, 7, 15, 18)

In contrast to the specific contract provisions incorporating GRC's safety manual and safety permit, the contract's FAR Accident Prevention clause provided that, if the contract was "with any [DoD] agency or component," the contractor was to comply with EM 385-1-1. Despite appellant's erroneous belief, NASA is not part of DoD. (Finding 14) Further, the specifications concerning general safety requirements (§ 01411, ¶ 1.2) stated that "[t]he publications listed below form a part of this section to the extent referenced." EM 385-1-1 was among the listed publications, but the specifications section did not refer to it, thus excluding it. (Finding 17)

It is evident that appellant's mistaken assumptions that NASA was part of DoD, and that EM 385-1-1 applied to the contract, and its failure to inquire about GRC's safety manual and safety permit, even though it was aware that they were part of the contract before it bid, caused some of the extra time and effort of which it complains.

Furthermore, it is apparent from appellant's 17 July 2000 HASP re-submission that it had not yet evaluated the steep Abrams Creek slope work in detail and had no particular work or safety plan for it. For example, it referred to at least 20 degree slopes, but two months later reported at least 30 to 45 degree slopes. Moreover, it conceded in its July submission that any specific approach to the slope work would be "an uneducated guess" until its superintendent arrived and studied the steep areas. Appellant stated that it would submit a HASP supplement prior to beginning the slope work, and GRC acquiesced. (Findings 31, 32, 38)

Appellant's initial schedule of record showed it beginning the Abrams Creek slope work on 26 October 2000 and that it, along with other work, was on the critical path. However, by 14 September 2000, appellant was behind schedule and it remained behind as of 28 September 2000. We have not been directed to any evidence that GRC was responsible. Indeed, appellant did not submit the promised HASP addendum concerning the Abrams Creek slope work until 27 September 2000. Moreover, with small modifications, it was essentially the same as appellant's prior submissions, which it knew were unacceptable. (Findings 35, 37, 38)

GRC was dissatisfied with appellant's HASP and, as of 5 October 2000, began to inquire concerning the equipment it planned to use and other matters. Although appellant had scheduled the slope work for the end of October, it did not respond to GRC until 1 November 2000. On 7 November, GRC had more questions. As of that date, appellant was working out of its planned sequence. It did not submit another HASP revision prior to notifying GRC on 21 November 2000 that it would demobilize due to winter weather

conditions and return in the spring. Appellant was over 24 percent behind schedule at this point. We have not been directed to specific evidence that GRC was responsible. (Findings 39-42)

Despite its current claims, after it was offsite, appellant wrote to GRC confirming that it had demobilized due to "foreseeable winter weather conditions" and stated that this would not result in any charges, including extended overhead, because it had been at appellant's request. Mr. Jones explained at the hearing that appellant had demobilized because it was not able to start work on the Abrams Creek slopes; it had already snowed; and there was ample job time left. NASA had also indicated that option work might be forthcoming. The parties agreed to the demobilization and appellant had another job to which it could assign its crew. (Findings 42, 43)

Appellant did not respond to GRC's 7 November questions until 18 December 2000. On 17 January 2001, citing an OSHA standard, GRC for the first time mentioned design by a professional engineer, which appellant correctly deemed to be a GRC requirement by that time and secured (finding 44). Contemporaneously, it elected not to seek reimbursement for the costs of the engineer's report (finding 52), but it does so now. GRC's requirement for the report was belated. However, appellant's work was subject to OSHA's standards (finding 14) and, as evidenced by the changes in its work descriptions (*e.g.*, findings 31, 38, 40, 46), it had evaluated the site belatedly and had not yet arrived at a practical, safe, work method. Under the circumstances, GRC's requirement for an engineer's evaluation was reasonable and was not a compensable contract change.

On 23 February 2001 appellant proposed work with a large trackhoe that eliminated safety concerns attendant to its prior equipment approach. This was the first time that appellant had a practical, safe, plan to accomplish the work on the steep slopes, and it was after its early contract completion date. GRC conditionally approved its HASP addendum on 12 March 2001. (Findings 46, 47)

The COTR had warned at the preconstruction conference that the HASP approval process was iterative, and would take time (finding 26), but it was unduly protracted. Nonetheless, because appellant's HASP was incomplete and unsatisfactory until 23 February 2001, we do not find that GRC acted unreasonably. In fact, although he was critical of the length of time taken, Mr. Jones acknowledged that GRC's questions were reasonable (finding 52). It is unclear why, rather than continuing to exchange written questions and responses, the parties did not meet to address and resolve the Abrams Creek slope issues. However, both parties were responsible for this failure. There is no evidence that GRC was willfully failing to cooperate and hindering appellant's work.

After it received conditional HASP addendum approval, appellant acknowledged in its 22 March 2001 letter to GRC that GRC had timely responded to its HASP submissions; it had started the project later than scheduled; it had waited for its superintendent; it had to shut down for winter conditions; and it was "not impacted by this plan not being approved until we are on site and can't go to work" (finding 49). Appellant did not return to the site until 30 April 2001, 153 days after leaving. GRC fully approved its HASP addendum upon its return and, by this time, GRC had awarded the option work. (Findings 44-47, 51) The HASP approval process had only prevented appellant from working on the Abrams Creek slopes. Mr. Jones acknowledged in discussing appellant's original schedule that the majority of the underground concrete-encased duct bank project work was also on the critical path and that there was critical path work that could be performed out of sequence that did not involve the Abrams Creek crossing. When appellant returned to the site, as of 31 May 2001, it had not started on the slopes but was installing a pier for Abrams Creek's cable bridge, which had not yet been delivered. There was an unspecified delay while appellant attempted to acquire the bridge required by the contract. Appellant's work from the time it returned, until mid-June 2001, was all non-slope work at Abrams Creek that it could have accomplished had it not determined to leave for winter break. (Findings 35, 54)

Furthermore, citing its expert, appellant states that it was "able to substantially mitigate, but not totally eliminate" the delay to its original schedule caused by the Abrams Creek slope problems (app. br. at 206). Indeed, while its expert opined that it was not able to begin planned work at manholes 143 and 144 because of HASP issues, he noted that, during the HASP submittal period, it worked on other critical path activities, albeit out of its planned sequence, and was able to keep its crew busy, although less efficiently (findings 133, 134) Appellant's expert has not persuaded us that GRC was solely responsible for any portion of the delay to appellant's early base work completion date. He relies upon appellant's alleged original plan to work through the winter months; ignores its own delays, including to HASP approval; and does not charge it with any of its 153-day demobilization beginning in November 2000 (finding 136).

Appellant has failed to meet its burden to prove that GRC, through its HASP approval process, was responsible for early completion delays that were segregable from those for which appellant was responsible, or from weather delays acknowledged by appellant (*see* finding 81). We deny this portion of appellant's appeal.

VII. Alleged Delays After Original Base Contract Completion Date

Appellant now principally attributes delays after the original 30 September 2001 base contract completion date to the D1 transformer, stating that the D1 "ultimately controlled" the fact that it was not able to complete its work until 4 February 2003, 492

days later. It states that the "delay directly attributable to the [D1] was 367 days, the 240 originally included in the modification[9] and an additional delay of 127 days." (App. br. at 129) However, as noted, D1 delays were not included in appellant's CDA claim. The alleged delays after the original contract completion date contained in its claim and pursued on appeal pertain to the Phase II contract delay in installing the new D6, and to GRC's requirement that the D2, D3, and D5 be removed and replaced separately, rather than at the same time.

The specifications required that appellant schedule outages with GRC and reconfirm them two week prior to the outage, and alerted it to GRC's research requirements and the need to minimize outages, but suggested that most outages could be accommodated. Nothing in the contract prevented simultaneous transformer work. (Finding 15, specifications ¶¶ 1.7, 1.8.1, 1.8.3)

Appellant's 2 May 2001 schedule, the first to incorporate the D2, D3, and D5 option work, showed near simultaneous removal of the old D2, D3, and D5 transformers and near simultaneous installation of the new ones. "Early start" removal was scheduled for September 2001 and "late start" for November 2001. Early start installation was scheduled for November 2001 and late start for January 2002. GRC marked the schedule as received for information and, as in all subsequent schedules, did not make any notation or objection concerning appellant's plan for simultaneous transformer work. Simultaneous work reduced the required outages to GRC's Building 5 research facility and was the most efficient way of proceeding. (Findings 56, 57)

GRC had expected that the Phase II contract, including the new D6 installation, would be complete before Phase III started. It developed that the D6 was not operational until 13 September 2002, 520 days after GRC's 11 April 2001 exercise of the D2, D3 and D5 options. Still, GRC had hoped, continuing at least through appellant's 28 September 2001 schedule, that it could accommodate simultaneous transformer work, but it ultimately required that, until the D6 was operational, the work had to be sequential. (Findings 5, 50, 57, 60, 66, 105, 114) As we elaborate upon below, this requirement delayed part of appellant's work.

However, we conclude that GRC's initial requirement for sequential transformer work was not the result of defective specifications. Appellant alleges that they were defective because they did not warn bidders of potential restricted access to critical work areas due to GRC's unique environment and requirements. It contends that their defects in not so warning "outside contractors" are demonstrated by the difference between its bid and that of CHI, said to be the only "inside" contractor, but this does not withstand

[9] Modification No. 6 actually added 212 days to the contract for the D1 (finding 76).

scrutiny. Two bidders, CHI and Chappy, had experience at GRC. The record does not indicate whether the high bidder, or the two other unsuccessful bidders in addition to Chappy and CHI, had prior experience there. Moreover, with respect to the Sub D option work, which is the focus of appellant's "lack of access" contentions, the government estimate, and Chappy's bid, were close to GRC's bid price. (*See* finding 8) Assuming, without deciding, that the specifications at issue are design specifications covered by the "Spearin doctrine" (*United States v. Spearin*, 248 U.S. 132, 136 (1918)), relied upon by appellant, they were adequate for the job. It was GRC's operations management decisions, not the specifications, that affected appellant's work plan.

Nonetheless, we also conclude that GRC did not breach its duties to cooperate and not to hinder or delay. The duty to cooperate calls for the government to do whatever is necessary to enable a contractor to perform, within the bounds of the government's contractual obligations. Whether that duty has been breached requires a reasonableness inquiry. *Lewis-Nicholson, Inc. v. United States*, 550 F.2d 26, 32 (Ct. Cl. 1977); *Coastal Government Services, Inc*., ASBCA No. 50283, 01-1 BCA ¶ 31,353 at 154,833; *SEB Engineering, Inc*., ASBCA No. 39728, 94-2 BCA ¶ 26,810. The nature and scope of the government's responsibility is "to be gathered from the particular contract, its context, and its surrounding circumstances." *Commerce International Co. v. United States*, 338 F.2d 81, 86 (Ct. Cl. 1964). Whether GRC breached its corollary duty not to hinder or delay, depends upon whether it willfully, negligently, or unreasonably interfered with, or hindered contract performance, which includes unreasonable contract administration. *Malone v. United States*, 849 F.2d 1441, 1445 (Fed. Cir. 1988); *Lewis-Nicholson*, *supra*, 550 F.2d at 32; *Peter Kiewit Sons' Co. v. United States*, 151 F. Supp. 726, 731 (Ct. Cl. 1957).

The record reflects that GRC attempted to cooperate with appellant throughout. For example, when the new D2, D3, and D5 transformers appellant provided did not meet specifications, GRC agreed to extended warranties rather than rejecting them. Similarly, although the contract called for 46kV terminators, not the 35kV appellant installed for the D5, GRC did not require replacement. GRC granted all of appellant's requested time extensions and further extended the contract to ensure that it had adequate time to complete it. For several months after GRC's option exercise, it still hoped that appellant would be able to perform its transformer work simultaneously, as appellant had planned. GRC did not willfully hinder appellant's work but was reasonably concerned, when the D6 was not functioning as scheduled—an unexpected development—that it have sufficient electrical coverage to accommodate and protect the significant research conducted in GRC's facilities. It was not unreasonable for GRC to respond to those needs, which the contract contemplated, and ultimately to limit outages. (*See* findings 2, 5, 15 (¶¶ 1.7, 1.8.3), 62, 64, 75, 76, 95, 104, 111, 113, 116, 117, 121)

Although GRC acted reasonably in limiting outages, its requirement for sequential, rather than simultaneous, installation of the D2, D3, and D5 transformers until the D6 was online caused appellant to work inefficiently and delayed it for an unreasonable period of time. However, appellant did not establish through its expert's CPM analysis or otherwise that GRC's requirement delayed overall project completion. Appellant's expert assigned the entire project completion delay to GRC and did not take into account all project impacts, including those attributable to appellant, weather, or other factors. Moreover, appellant alleges that D1 issues ultimately controlled project completion, which was the gist of its expert's initial testimony. We found his analysis to be inadequate and unpersuasive concerning the D6, and the D2, D3, and D5. (Findings 130, 132, 142)

Nevertheless, appellant has recourse under the contract's incorporated Suspension of Work clause (finding 13), which provides in part:

> (b) If the performance of all or any part of the work is, for an unreasonable period of time, suspended, delayed, or interrupted (1) by an act of the [CO] in the administration of this contract, . . . an adjustment shall be made for any increase in the cost of performance of this contract (excluding profit) necessarily caused by the unreasonable suspension, delay, or interruption, and the contract modified in writing accordingly. However, no adjustment shall be made under this clause for any suspension, delay, or interruption to the extent that performance would have been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the Contractor, or for which an equitable adjustment is provided for or excluded under any other term or condition of this contract.

Under the Suspension of Work clause, a contractor need not prove that its overall work was delayed but can recover if it establishes that its work was suspended, delayed or interrupted in part for an unreasonable period of time, and that this increased its costs of performance. *Chaney and James Construction Co. v. United States*, 421 F.2d 728, 732-34 (Ct. Cl. 1970); *accord Blinderman Construction Co. v. United States*, 695 F.2d 552 (Fed. Cir. 1982); *see also Carousel Development, Inc.*, ASBCA No. 50719, 01-1 BCA ¶ 31,262 at 154,409. Under that clause, the contractor must independently demonstrate actual, unreasonable, delay and cannot simply rely upon the difference between scheduled and actual completion dates for a "total-time" approach. *Vic Lane Construction, Inc.*, ASBCA No. 30305, 85-2 BCA ¶ 18,156 at 91,147. However, mathematical exactness in computing delay is not required. It is sufficient if appellant

has provided the Board with a reasonable basis for such a computation, even if it is an approximation. *See John McShain, Inc. v. United States*, 412 F.2d 1281, 1285 (Ct. Cl. 1969) (involving defective specifications).

Blinderman, supra, is apposite. There, the contractor was to install electrical and other meters in Navy housing. It was to notify the occupants prior to commencing work; submit its schedule to the CO for approval, indicating when it would require access and the anticipated duration of utility outages; and cause the least practicable disturbance to occupants and Naval station activities. The contractor experienced considerable access delays. The Navy had not informed it before work began that access would be limited. The court held that, once the contractor had complied with the contract's access notice provisions, but could not gain access, the Navy was under an implied obligation to provide it. If any part of its work was delayed for an unreasonable period of time because of the Navy's failure to do so, the contractor was entitled, under the Suspension of Work clause, to recover its resultant increased contract performance costs. 695 F.2d at 557-58. The court remanded for, *inter alia*, a determination of whether any unreasonable delays caused by the Navy were segregable from any chargeable to the contractor.

Here, although appellant had originally scheduled simultaneous transformer option work to begin in September 2001, at the earliest, that schedule was modified several times over many months, albeit not due to any delays demonstrated to have been caused by GRC (*e.g*., findings 57, 58, 60, 61, 63, 66, 69, 73). We conclude that GRC first constructively partially suspended appellant's work for an unreasonable period of time in February 2002, as follows.

On 24 January 2002 appellant sought a long term D5 outage, beginning 6 February, so it could start D5 demolition. Under the contract's two-week notice provision (finding 15), GRC was not obligated to arrange for an outage before 7 February 2002. Regardless, GRC did not want a D5 outage until the new D2, D3 and D5 arrived or the D6 was working. It suggested that appellant begin the D6 cable replacement work added to its contract by Modification No. 6 (effective 23 January 2002), but appellant had not yet received the cable, and there is no evidence that it had delayed in ordering it. In any case, it was entitled to work in the sequence shown in its schedules, to which GRC had not objected in any of its schedule reviews. As of 31 January 2002, GRC still had not determined D5 outage availability. Appellant notified the CO that there was no productive work remaining to be done, at least as of 6 February 2002. (Findings 57, 76, 78, 79, 81)

As of 6 February 2002 it was clear that, regardless of appellant's D6 cable work, the D6 would not be online soon because components inside its control cabinet had been damaged (*see* finding 80). Appellant had notified GRC that it was ready to work on the

D2, but GRC stated that it would not de-energize it within the next two weeks. Appellant again advised the CO that it had performed all possible productive work; the fact that the D6 was not on-line had caused a work stoppage; and it intended to demobilize after delivery of the new transformers. (Finding 81)

As of 7 February 2002, D5 outage availability depended upon Chappy's D6 work and was not anticipated until at least 25 February 2002. Appellant had worked on the project somewhat from 31 January 2002 through 18 February 2002, before it demobilized on 20 February 2002, but it was unable to work in the efficient sequence it had planned and NASA has not controverted appellant's evidence that, without the needed outages, there was no "productive" work remaining to be done as of 6 February 2002. However, while weather was not the reason for appellant's decision to demobilize on 20 February, it is also apparent that appellant planned to extend its demobilization until the spring, taking a winter break. (Findings 81-83)

Despite Daniel Webb's 6 February 2002 statement that appellant planned to return to the site in mid-April if weather permitted, when it was offsite it submitted a schedule showing removal of the old D2, D3, and D5, and installation of the D6 feeder cable, in March 2002, and installation of the new D2, D3 and D5 in April 2002. However, appellant did not return to the site in March and returned only briefly on 15 April 2002 at GRC's request to perform some work it had not yet completed, to meet a third party's requirements. It finished that work on 20 April and left again. It did not return to the site until 3 June 2002. There is no evidence that the D6 feeder cable was not available for installation in March 2002 or that GRC, alone, was responsible for appellant's decision to remain offsite in March, or after its April remobilization. Appellants'15 April 2002 CQR report describes its absence prior to that remobilization as a "winter break," and the 6 June 2002 progress meeting minutes, signed by Mr. Webb, also describe its absence prior to June as a "winter break." (Findings 84, 86, 88)

We conclude that NASA constructively, partially, suspended appellant's work for an unreasonable period of time beginning on 7 February 2002 continuing through appellant's de-mobilization on 20 February 2002. The earliest date GRC had indicated that the D5 would be available was 25 February 2002. At some point thereafter, which we estimate to be 14 days later, on 11 March 2002, appellant's winter break, rather than any cause solely attributable to GRC, kept it offsite. We thus conclude that GRC constructively, partially, suspended appellant's work during the period 7 February to 11 March 2002, a total of 32 days, prior to appellant's remobilization in June 2002.

After its return, appellant planned to finish the D6 primary cable feed installation by 7 June 2002, then to move to demolition and replacement of the D5. However, because the D2 was down, GRC advised that the D5 might not be available until 17 June.

Appellant notified GRC that there would not be enough productive work unless the Sub D area were made available soon. On 7 June, appellant installed a cable on an incorrect breaker. It took only four hours to fix but weeks for GRC to arrange for the required Sub B outage. At the hearing, NASA raised this as a delay attributable to appellant, but did not show that it affected overall contract completion time or that it is relevant to appellant's alleged Sub D delays due to its inability to work on more than one transformer at the same time. Appellant assumed responsibility for the costs of the fix in its claim but did not assign any delay time to the matter. NASA has not pursued this issue in briefing and we find it to be irrelevant to whether GRC partially constructively suspended appellant's D transformer work. (Findings 88, 119)

GRC arranged for a Sub D outage starting on 17 June 2002, to last about three weeks, and appellant began removing the D5 on 18 June. On 20 June it submitted a schedule showing the D2, D3, and D5 work as complete by 30 September 2002 and, as of 20 June, D5 work proceeded. As of 27 June D5 cable installation was halted due to an asbestos wrapped cable, which GRC was to move on 6 July 2002. However, appellant had planned no work for the holiday week of 1 July 2002, and to return on 8 July, and the asbestos problem is irrelevant to GRC's outage restrictions at issue. (Findings 89, 90, 92)

The D5 was energized, after initial phasing problems had been corrected, as of 7 August 2002. Thereafter, through 29 August 2002, appellant worked on the D3. As of 29 August, GRC was requiring appellant to fix a leaking terminator and a torn weather proofing boot on the D5 before it released any more equipment, including the D2, for removal. Appellant disputed GRC's required solutions to the terminator and boot problems and ultimately took over a month to fix them, although the D5 remained energized and could be used until repairs began. In the meantime, on 28 August 2002, GRC approved energizing the D6 and, by 30 August, appellant had installed the D3's door and tested the D3. It left for a holiday break on 30 August, to last until 9 September 2002. (Findings 96, 99-102)

On 5 September 2002, while appellant was away, GRC notified it that a D2 outage planned for the following week would not take place for two reasons. The D6 still was not on-line due to unresolved problems and appellant had not yet repaired the D5 items. GRC advised that, because there would be no D2 outage, the work appellant could perform the week of its planned return would be limited. GRC suggested that appellant postpone its return by a week because the D6 problems might be resolved by then. GRC acknowledged a delay claim possibility, referring to appellant's continuing desire to take down the D2 and the D3 at the same time, which GRC would not then allow because the D6 was not operational. (Finding 102)

Instead of returning in force on 9 September 2002 as planned, appellant returned on 11 September with a partial crew, until the D6 and D5 issues were resolved. The D6 was operational at least by 13 September 2002. Appellant had repaired the D5 terminator and boot by 18 September, by which date the D5 was energized and the D2 de-energized. By the time COTR Patton left the project after the end of September 2002, and no later than 3 October 2002, when Mr. Mayer took over as COTR, the D5 and the D6 were operational and appellant was working on the D3 and the D2 together, as it had sought to do. (Findings 103, 105, 106, 108)

We conclude that, after appellant's return from winter break, the first time it was delayed in its D2, D3, and D5 installation, due to factors attributable solely to GRC's requirement for separate installation until the D6 was online, was during the period commencing 13 June 2002, the date of the outage requested by appellant on 15 May 2002 (finding 87), to 17 June 2002, when GRC provided the required outage at Sub D. The second period began on 9 September 2002, when appellant had planned to return to the site after a holiday break and take down the D2 and the D3 at the same time. GRC blamed its decision not to de-energize the D2 on both the unavailability of the D6 and upon appellant's failure to make the D5 repairs GRC sought, a matter in dispute. However, the D5 had remained energized pending that dispute and presumably could have remained so while appellant worked on the D2 and the D3. In practicality, as GRC's 5 September 2002 acknowledgment of a potential delay claim reflects, it was the continuing problems with the D6 that caused GRC to deny appellant the D2 and D3 outages it sought. The D6 was operational by 13 September 2002, which marks the end of the D2, D3, and D5 transformer delays attributable solely to GRC. Thus, we conclude that GRC constructively partially suspended appellant's work from 13 June 2002 to 17 June 2002, a period of 4 days, and from 9 September 2002 to 13 September 2002, a period of 4 days, for a total of 8 days.

In sum, applying the Suspension of Work clause, we determine that GRC constructively partially suspended appellant's work for a cumulative total of 40 days (32 + 8) due to its requirement that transformers be installed sequentially until at least the D6 and one other transformer were on line. GRC has not established, and we have not found, that appellant's performance would have been so suspended for any other reason, and no other contract provision provides for, or excludes, an adjustment for this reason. Appellant is not entitled to any contract extension beyond those GRC already accorded it, but is entitled to such increased performance costs it can demonstrate were necessarily caused by the partial constructive suspension, excluding profit.

VIII. Alleged DSP Delays

Finally, appellant alleges that CHI was biased against it because it was a competitor, and it claims that the DSPs supplied by CHI delayed its work, but it does not allege that they were critical path delays (app. br. at 202). We found no evidence of bias (finding 126), but we conclude that any established, segregable, DSP delays, for an unreasonable period of time, would be partial constructive suspensions of appellant's work. However, appellant's expert's Delay Summary chart does not include such delays; his report speculates about them without identifying the specific sources of his conclusions; and appellant did not otherwise present specific evidence quantifying its claimed DSP delays (finding 143). As we have stated, "[w]e are not required to review the voluminous record, including the daily reports, to discern appellant's proof." *Page Construction Co.*, ASBCA No. 30266, 89-1 BCA ¶ 21,488 at 108,256; *see also Chaney and James*, *supra*, 421 F.2d at 740 (not feasible for court to examine voluminous record in search of pertinent evidence).

Nevertheless, NASA acknowledges:

> There is no argument on the part of the Government that the CHI designated safety persons and [Webb's] personnel may have been delayed in connecting with one another in a timely manner during the June - September 2002 time frame . . . .

(Gov't br. at 85) This issue is remanded to the parties for a calculation of any NASA-acknowledged DSP-caused suspensions that do not overlap with the above suspension days determined by the Board.

DECISION

The appeal is dismissed in part without prejudice for lack of jurisdiction; is sustained in part, as set forth above; and is remanded to the parties for resolution of any DSP suspensions and quantum.

Dated: 6 November 2007

CHERYL L. SCOTT
Administrative Judge
Armed Services Board
of Contract Appeals

I concur

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

I concur

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. 54293, Appeal of Webb Electric Company of Florida, Inc., rendered in conformance with the Board's Charter.

Dated:

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