ARMED SERVICES BOARD OF CONTRACT APPEALS

Appeals of --	)	
	)	
Whitesell-Green, Inc.	)	ASBCA Nos. 53938, 53939, 54135
	)	
Under Contract No. N65114-94-C-2146	)	

APPEARANCES FOR THE APPELLANT: Thomas E. Abernathy, IV, Esq.
Robert C. Chambers, Esq.
Smith, Currie & Hancock LLP
Atlanta, GA

APPEARANCES FOR THE GOVERNMENT: Susan Raps, Esq.
Navy Chief Trial Attorney
Mark R. Wiener, Esq.
Senior Trial Attorney

OPINION BY ADMINISTRATIVE JUDGE KIENLEN

INTRODUCTION

This case arises out of the renovation of bachelor officers' quarters at Pensacola, Florida. The government assessed liquidated damages because the contractor did not meet the standards imposed by the government, during the latter stages of the renovation, for primavera network critical path analyses.

The appellant submitted a certified claim seeking remission of $709,280 in liquidated damages on Building 3251 and of $524,576 in liquidated damages on Building 600. The appellant affirmatively sought an equitable adjustment of $108,659 in delay damages for field overhead at Building 600, of $94,126 for extended home office overhead, and of $103,182 for the cost of preparing government required contract schedule analyses.

On 13 September 2002 the appellant appealed to this Board from the deemed denial of its claims. The two claims for remission of liquidated damages were docketed as ASBCA No. 53938. The three claims for equitable adjustment were docketed as ASBCA No. 53939. Subsequently, the contracting officer formally denied the claims. The contractor appealed and that appeal was docketed as ASBCA No. 54135.

These appeals were consolidated for trial with a consolidated Rule 4. Only entitlement was at issue. Because we decide ASBCA Nos. 53938 and 53939, ASBCA

No. 54135 is moot and is dismissed as duplicative. We decide ASBCA No. 53938 in favor of the appellant. We decide ASBCA No. 53939 in favor of appellant in part and the government in part.

FINDINGS OF FACT

1. On 17 May 1996, the Navy Officer in Charge of Construction, Pensacola, Florida, issued solicitation N65114-94-B-2146. That solicitation was for the renovation of the Bachelor Officers' Quarters at Building Nos. 3251, 600A, and 600, at the Naval Air Station, Pensacola, Florida. (R4, vol. 1, tab 1, vol. 2, § 00020)

The Contract

2. Among the standard clauses included in the solicitation and subsequent contract were the following: SCHEDULES FOR CONSTRUCTION CONTRACTS (APR 1984), located at FAR 52.236-15; PAYMENTS UNDER FIXED-PRICED CONSTRUCTION CONTRACTS (APR 1989), located at FAR 52.232-5; CHANGES (AUG 1987), located at FAR 52.243-4; DIFFERING SITE CONDITIONS (APR 1984), located at FAR 52.236-2; DEFAULT (FIXED-PRICE CONSTRUCTION) (APR 1984) – ALTERNATE II, located at FAR 52.249-10; SUSPENSION OF WORK (APR 1984), located at FAR 52.242-12; GOVERNMENT PROPERTY (FIXED-PRICE CONTRACTS) (DEC 1989), located at FAR 52.245-2; DISPUTES (MAR 1994) – ALTERNATE I (DEC 1999), found at FAR 52.233-1; AVAILABILITY AND USE OF UTILITY SERVICES (APR 1984), located at FAR 52.236-14; SCHEDULES FOR CONSTRUCTION CONTRACTS (APR 1984) found at FAR 52.236-15, and PRICING OF CONTRACT MODIFICATIONS (DEC 1991), located at DFARS 252.243-7001. (R4, vol. 2, §§ 00720, 00721)

3. The contract contained a liquidated damages clause (see FAR 52.211-2) that provided for liquidated damages at the rate of $11,440 per day for Building 3251, at the rate of $350 per day for Building 600A, and at the rate of $2,704 per day for Building 600 (R4, vol. 2, § 00720, citing to prior FAR reference at 52.212-5 (APR 1984)).

4. The contract clause – SCHEDULES FOR CONSTRUCTION CONTRACTS (APR 1984), as found at FAR 52.236-15 – reads:

> SCHEDULES FOR CONSTRUCTION CONTRACTS (APR 1984)
>
> (a) The Contractor shall, within five days after the work commences on the contract or another period of time determined by the Contracting Officer, prepare and submit to the Contracting Officer for approval three copies of a practicable schedule showing the order in which the

Contractor proposes to perform the work, and the dates on which the Contractor contemplates starting and completing the several salient features of the work (including acquiring materials, plant, and equipment). The schedule shall be in the form of a progress chart of suitable scale to indicate appropriately the percentage of work scheduled for completion by any given date during the period. If the Contractor fails to submit a schedule within the time prescribed, the Contracting Officer may withhold approval of progress payments until the Contractor submits the required schedule.

(b) The Contractor shall enter the actual progress on the chart as directed by the Contracting Officer, and upon doing so shall immediately deliver three copies of the annotated schedule to the Contracting Officer. If, in the opinion of the Contracting Officer, the Contractor falls behind the approved schedule, the Contractor shall take steps necessary to improve its progress, including those that may be required by the Contracting Officer, without additional cost to the Government. In this circumstance, the Contracting Officer may require the Contractor to increase the number of shifts, overtime operations, days of work, and/or the amount of construction plant, and to submit for approval any supplementary schedule or schedules in chart form as the Contracting Officer deems necessary to demonstrate how the approved rate of progress will be regained.

(c) Failure of the Contractor to comply with the requirements of the Contracting Officer under this clause shall be grounds for a determination by the Contracting Officer that the Contractor is not prosecuting the work with sufficient diligence to ensure completion within the time specified in the contract. Upon making this determination, the Contracting Officer may terminate the Contractor's right to proceed with the work, or any separable part of it, in accordance with the default terms of this contract.

5. The original construction schedule specifications at section 01010 read:

1.28 CONSTRUCTION SCHEDULE

1.28.1 Progress Chart

Government forms will be furnished at the preconstruction conference for use in development of the construction schedule.

1.28.2 Network Analysis System

1.28.2.1 Option to Progress Chart

As an alternative to the preceding progress chart, the Contractor may use the critical path method (CPM), subject to the approval of the Contracting Officer, or some other approved network analysis computer generated (no hand drafts) affording similar and equal information and control to that provided by the CPM. Should the Contractor exercise the option to use a network analysis system, a network analysis system that includes cost may also be used and provided in lieu of the aforementioned "Schedule of Prices," so long as the required information is included in the method selected.

1.28.2.2 CPM Submittals and Procedures

The program software and all network analysis submissions and updates shall be made on 5 ¼ -inch dual sided, double density floppy disks, with hard copy. Two complete sets of the program software and user documentation shall be provided. The Primavera Project Planner System (latest version), operating a PC-DOS Version 3.2 or greater environment, is pre-approved for use on this project. Prior approval is required for any other system proposed by the Contractor. The program disks/diskettes and user documentation shall become the property of the Government, and the Government shall be granted all rights customarily afforded to a software licensee by the software company. The network analysis system shall be kept current, with changes made to reflect

> the actual progress and status of the construction. Updated software and copies shall be provided as directed.

(R4, vol. 1, tab 1, § 01010 at 14-15)

6. On 19 June 1996, the Navy issued Amendment No. 0002 to the solicitation. That amendment added section 01311 to the specifications for building 3251 and to the specifications for building 600. Section 01311 was entitled, "CONTRACTOR PREPARED NETWORK ANALYSIS SYSTEM (NAS)." (R4, vol. 1, tab 1, Amend. 0002) In its offer dated 6 August 1996, Whitesell-Green, Inc. acknowledged receipt of Amendment No. 0002 as part of the specifications (R4, vol. 2, tab 2, SF 1442 at 2).

7. Section 01311 required the successful bidder to prepare a construction schedule consisting of a network analysis system in accordance with FAR Clause 52.236-15, entitled SCHEDULES FOR CONSTRUCTION CONTRACTS (R4, vol. 1, tab 1, § 01311 at 1).

8. Paragraph 1.2 of section 01311 of the specifications required a network analysis system that utilized conventional Critical Path Method (CPM) techniques. These techniques were to be used to track and forecast scheduling progress. (R4, vol. 1, tab 1, § 01311 at 1)

9. Section 01311 not only requires the use of a network analysis system, it describes the processes and uses of the system. It is a detailed specification (although haphazardly formatted). It states:

> 1.1 REFERENCES
>
> The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.
>
> ASSOCIATED GENERAL CONTRACTORS OF AMERICA (AGCA)
>
> CORPS OF ENGINEERS (COE)
>
> COE ER-1-1-11 (1990) Progress, Schedules, and Network Analysis Systems
>
> 1.2 DESCRIPTION

Prepare a construction schedule in accordance with section entitled, “FAR 52.236-15, Schedules for Construction Contracts” of the Contract Clauses that shall consist of a network analysis system. Include scheduling of construction, creation of the network, production of the reports, execution of the plan described by the network, participation in meetings with the Contracting Officer, and submission of progress and revision data, as hereinafter set forth. In preparation of this system, the scheduling of construction is the responsibility of the Contractor. Conventional CPM techniques must be utilized to satisfy both [sic] time, cost, and resource (manpower, equipment) applications. In preparing the network analysis, the Contractor shall allow the normal logic flow and activity durations to determine activity completion dates. Artificial restraint dates such as required start dates, required finish dates, or expected finish dates, shall not be used. Limit single activity durations to a period of no longer than 10 working days. The principles and definitions of the terms used herein shall be as set forth in -AGCA UCPMC- but the provisions of this section shall govern.

All required network analysis submissions shall be submitted on 3.5”, double sided, high density (DS/HD) disks, which have been scanned for any virus. A statement shall accompany the the [sic] disk(s) stating the disk(s) has/have been scanned for any virus, listing the scanned [sic] program used, and certifying the disk is virus-free. The disk submittal requirements shall be in addition to the hard copy submittal requirements. The contractor may utilize the services of a qualified scheduling consultant to generate the submissions. This consultant must however attend meetings set forth in this section and a minimum of two update sessions on site per month with at least two weeks separation.

Primavera Project Planner, P3 for Windows (latest version), is pre approved for use on this project. Should the Contractor propose to use software other than the Primavera Project Planner System, the software must have equal capabilities. The contractor must provide one

LAN, (Local Area Network) Copy with a minimum of four user licenses and all related user documentation and rights thereof, 32 hours of training for up to four government personnel to be taught in the Pensacola Area at the contractor[']s expense, and an approved training syllabus. This software must run in a Windows environment and be provided to the contracting officer within 15 days of award. The contractor must have the training session available to government personnel within 20 days of award.

1.3 SUBMITTALS

Submit the following in accordance with Section 01300, "Submittals."

1.3.1 *SD-18, Records*

a. *Preliminary network* system analysis *G*
b. *Network system* analysis plan *G*
c. *Monthly reports* *G*
d. *Approved Network* *G*

1.4 *NETWORK SYSTEM* FORMAT

The system shall consist of time network scaled logic diagrams and accompanying mathematical analyses. Facilities with discrete completion dates shall be identified by separate subnetworks interconnected with the basic diagram.

1.4.1 Diagrams

Show the order and interdependence of activities and the sequence in which the work is to be accomplished as planned. The basic concept of a network analysis diagram will be followed to show how the start of a given activity is dependent on the completion of preceding activities and how its completion restricts or restrains the start of following activities. In addition to construction activities, detailed network activities shall include the submittal and approval of materials, samples, and shop

drawings, the procurement of critical materials and equipment, receipt of materials with estimated procurement costs of major items for which payment of materials will be requested in advance of installation, fabrication of special material and equipment, and their installation and testing. Show activities of the Government that affect progress and contract-required dates for completion of all or parts of the work. Show all activities relating to the CQC system. Show activities indicating Government furnished materials and equipment utilizing delivery dates indicated in "FAR 52.245-2, Government Furnished Property (Fixed-Price Contract)." Show the following information on the diagrams for each activity:

a. Preceding and following event numbers

b. Description of the activity

c. Cost where applicable for the activity

d. Duration in work days

e. Responsibility code indicating the party responsible for accomplishment of the activity. As a minimum, provide a separate responsibility code for each subcontractor, for the prime contractor, for the CQC organization and the ROICC with intelligence to sort and group.

f. Area code indicating the area in each building of the project in which the work will be performed with intelligence to sort and group.

g. Phase code for each specification division with intelligence to sort and group.

h. Location code indicating [in] which building the activity is occurring on [sic] with intelligence to sort and group.

1.5.2 Quantity and Numbering of Activities

Numbering shall be assigned so that predecessor activity numbers (I-nodes) are smaller numerically than the successor activity numbers (J-nodes). Skip numbering shall be used on the network to allow insertion of additional activities for contract modifications and logic changes. The minimum number of activities in the final network diagram shall be 1000. Of which a minimum of 80% should be actual construction or contractor owned actions. Dummies and interdependencies are not counted as activities.

1.4.2[sic] Mathematical Analysis Report

The network diagram mathematical analysis shall include a tabulation of each activity shown on the detailed network diagrams in computer generated report form. Provide the following information as a minimum for each activity on a monthly basis or with each invoice, whichever duration is less:

a. Preceding and following event numbers

b. Activity description

c. Estimated duration of activities (by work days)

d. Earliest start date (by calendar date)

e. Earliest finish date (by calendar date)

f. Actual start date (by calendar date)

g. Actual finish date (by calendar date)

h. Latest start date (by calendar date)

i. Latest finish date (by calendar date)

j. Total float or slack

k. Monetary value of activity

l. Responsibility code (including prime contractor, subcontractors, suppliers, Government , or other parties responsible for accomplishment of an activity)

m. Manpower required (by area of the project in which the work will be performed)

n. Percentage of activity completed

o. Contractor's earnings based on portion of activity completed

p. Location code

The program or means used in making the mathematical computation shall be capable of compiling the total value of completed and partially completed activities. The program shall also be capable of accepting revised completion dates as modified by approved time extensions and recomputation of tabulation dates/costs and float accordingly.

1.5.4 Schedule Reports

The following reports which the Primavera Project Planner software has the capability to produce, are to be furnished with each required submission. Equivalent reports produced by a different network analysis program, displaying as a minimum all of the data presented by the following Primavera Project Planner Reports, shall be furnished if a program other than Primavera Project Planner is used. These computer generated tabulation reports are to be submitted with each invoice or monthly, which ever duration is less.

a. Schedule Report listing the current status of all activities sorted by activity number from lowest to highest.

b. Total Float Report listing all uncompleted activities sorted first by total Float; then by early start date.

c. Late Start Report listing all uncompleted activities sorted first by the late start date then by activity number.

d. Cost Earned Report listing all activities having a budget amount used as the contractor's monthly invoice sorted first by responsibility, then by activity number.

e. Cost earned summary report showing the total budget and earned amounts for each responsibility code.

f. Activity Opened end listing report.

1.6 SUBMISSION AND APPROVAL

1.4.3[sic] Preliminary Meeting

A preliminary meeting is required within 15 days of notice of award to discuss the requirements of this section prior to submission of the preliminary network.

1.4.4 *Preliminary Network*

Submit 30 days after award a preliminary network defining the planned operations during the first 90 calendar days of the project. The general approach for the balance of the project shall be indicated. Cost of activities expected to be completed or partially completed before submission and approval of the whole schedule should be included. Submit three copies of both the preliminary network diagrams and required sorts listed in paragraph entitled, "Required Sorts." In accordance with paragraph entitled, "Monthly Reports," the preliminary network may be used for requesting progress payments for a period not to exceed 90 calendar days after receipt of "Contract Award." Payment requests after the first 90 calendar day

period shall be based upon the complete network and will not be processed if the network requirement set forth in this [s]ection [sic] are not met.

1.4.5 Completed Network

Submit the complete network analysis, consisting of the network mathematical analysis and network diagrams, within 50 calendar days after contract award. Submit two copies of all required materials and disks.

1.4.6 Review and Evaluation

The Contractor shall participate in a review and evaluation of the proposed network diagrams and analysis by the Contracting Officer. Revisions necessary as a result of this review shall be resubmitted for approval of the Contracting Officer within 10 calendar days after the conference. The approved schedule shall then be the schedule to be used by the Contractor for planning, organizing, and directing the work, reporting progress, and requesting payment for work accomplished. The approved schedule will become the as planned schedule with progress being tracked below the as planned items.

1.4.7 Changes to the Schedule

If changes in the schedule are made, the Contracting Officer shall be notified in writing stating the reasons for the change. If the Contracting Officer considers these changes to be of a major nature, the Contractor may be required to revise and submit for approval, without additional cost to the Government, network diagrams and required reports. A change may be considered of a major nature if the estimated time required or actually used for an activity or the network logic is varied from the original plan to a degree that there is a reasonable doubt as to the effect on the contract completion dates. Changes which affect activities with adequate float time shall be considered a major change when their cumulative effect could extend the contract completion date.

1.4.8 *Approved Network*

Once the completed network has been approved by the Contracting Officer, the Contractor shall within 15 calendar days furnish:

a. One Summary report showing the critical path on mylar or equivalent of the network diagrams

b. One copy of the network diagram

c. Three copies of the required reports.

d. Three copies of the I-J Look-Ahead Report specified in paragraph entitled, "Monthly Reports"

e. Three copies of the Cash Flow Report indicating the cash flow based upon both the early and late start schedules.

For major revisions or changes to the network diagrams, once approved by the Contracting Officer, the Contractor shall submit these same diagrams and reports except submit the cash flow report only after the original complete network has been approved.

1.4.9 *Monthly Reports*

Submit at monthly intervals a report of the actual construction progress by updating the required reports, the time scaled logic diagram, and the generated relationship bar chart. Initially, and monthly thereafter, produce a projected report of scheduled activities to be started, in process or completed during the upcoming month, sorted by early start then I-J (Look-Ahead Report). Weekly during the reporting period, Contractor and Government representatives shall jointly make entries on the preceding Look-Ahead Report to show actual progress. As a minimum, the following action will be accomplished:

a. Identify activities started and completed during the previous period

b. Show estimated duration (in work days) to complete each activity, started but not completed during the previous period

c. Show estimated duration (in work days) to complete each activity started but not completed

d. Indicate percentage of cost payable for each activity

e. Reflect changes in the network diagram

Conformed modifications and pending proposed changes shall be shown on the update report. Submit a narrative report describing current and anticipated problem areas and/or delaying factors with their impact together with an explanation of corrective actions taken or proposed. Produce, from the marked-up Look-Ahead Report, updated required reports for the project and use the accumulated cost for completed and partially completed activities as the basis for requesting progress payments, pursuant to, "FAR 52.232-5, Payments Under Fixed-Price Construction Contracts" and "FAR 52.216-5, Schedules for Construction Contracts." Contract status shall be evaluated on the basis of relative float on the critical path at the time of updating with negative relative float indicating the contract is behind schedule and positive relative float indicating status ahead of schedule. (Relative float is the current status of an activity in relation to the approved schedule completion date.) Submit two copies of the required reports listed in paragraph entitled, "Required Reports" and the Look-Ahead Report with each payment request.

1.4.10 Submission Requirements

Provide network diagrams on size 30 by 42 inch sheets. Updated diagrams shall show the date of the latest revision.

1.7 CONTRACT MODIFICATION

When a contract modification to the work is required, submit proposed revisions to the network reflecting the impact. Submit the proposed network revisions with the cost proposal for each proposed change. Should it be determined that a mathematical analysis utilizing the computer is necessary to analyze the impact, submit three copies of the Total Float Report and Input Data with the cost proposal. Incorporate contract modifications into the subsequent monthly update. Financial data shall not be incorporated until issuance of a contract modification on standard form 30 is signed by the Contracting Officer. Those contract modifications determined to have no impact will require only the identification of the affected activities as part of the proposed change proposal.

1.5[sic] TIME EXTENSIONS

Float or slack is defined as the amount of time between the early start date and the late start date, or the early finish date and the late finish date of any of the activities in the Schedule. Float or slack is not time for the exclusive use or benefit of either the Government or the Contractor. Extension of time for performance required under the clauses entitled, “Changes,” “Differing Site Conditions,” “Default (Fixed-Price Construction)” or “Suspension of Work” of the Contract Clauses will be granted only to the extent that equitable time adjustments for the activity or activities affected exceed the total float or slack along the network paths involved. Submit time extension requests with a narrative report supporting the request and three copies of the Total Float Report and input data if a mathematical analysis is necessary to support the narrative report.

(R4, vol. 1, Amend. 2, § 01311) The primavera software forecasts the critical path to the end of construction, but does not produce an as-built critical path showing actual causal relationships (Musser, tr. 6/40).

10. On 22 November 1996, the Navy Officer in Charge of Construction, Pensacola, Florida, CAPT J. G. A. Riccio, Jr., CEC, USN, awarded Contract No. N65114-94-C-2146 to Whitesell-Green for renovation of Building 3251 at the Naval Air Station, Pensacola, Florida, in the amount of $6,156,500 (R4, vol. 2, tab 2, SF 1442 at 2).

Navy Personnel

11. The Navy's initial Project Manager was Mr. John Carruth (Zimmerman, tr. 1/69). Mr. Carruth served as Project Manager from the beginning of the project until early January of 1998, at which time he left to take an overseas assignment (Gibson, tr. 2/227-28). Prior to his departure, Mr. Carruth took an active daily role in the project and oversaw business matters, including the negotiation of modifications and time extensions on behalf of the Navy. The superior to whom Mr. Carruth reported was Mr. Bill Cooper, the Navy's civilian Resident Engineer in Charge of Construction. (Zimmerman, tr. 1/69)

12. Mr. Bill Cooper, the Navy's senior civilian Resident Engineer, was ultimately responsible for managing the project, but delegated significant day-to-day responsibilities to Mr. Carruth (Gibson, tr. 2/226). Following Mr. Carruth's departure, Mr. Cooper assumed a significantly more active role in negotiating modifications on behalf of the Navy (Zimmerman, tr. 1/246-47). Mr. Cooper was not a contracting officer.

13. Mr. Cooper reported to the Resident Officer in Charge of Construction (ROICC), who was Commander Ludowici. In October of 1998, Commander Ludowici was replaced by Commander Harris (Harris, tr. 4/188, -192). The ROICC has actual contracting officer authority (Harris, tr. 4/196). Commander Harris said that Ms. Anderson, as the contracting officer, had to actually sign the contract documents, but Commander Harris looked to Mr. Cooper, not to Ms. Anderson, to make decisions with respect to problems as they arose (Harris, tr. 4/196).

14. Upon Mr. Carruth's departure in early 1998, Mr. Ray Block assumed the role of Navy Project Manager (Zimmerman, tr. 1/68).

15. The Navy's Contracting Officer was Ms. B. J. Anderson. Ms. Anderson's role in the project was primarily administrative in nature. (Gibson, tr. 2/225-28) Ms. Anderson was not called to testify. From the record and the testimony of others, we conclude that she did not play an active role in the daily administration of this contract.

16. The Navy's Contract Specialist was Mr. Roger Odom (Gibson, tr. 2/225-26). He assisted Mr. Block and Ms. Anderson in the administration of the contract (Gibson, tr. 2/226-27). Mr. Odom also had contracting authority and often acted as a contracting officer on the contract (R4, vol. 8, tab 51 at memo of 2 June 1997 at end of tab). Whitesell-Green typically received formal correspondence signed on behalf of the Navy by Mr. Odom (Gibson, tr. 2/228-29). Mr. Odom had unilateral authority to negotiate and approve time extensions on the project (Odom, tr. 4/226).

17. Throughout the course of the project, Whitesell-Green received directions from time to time on behalf of the Navy from Commanders Ludowici and Harris, Messrs. Cooper, Carruth, Block, and Odom, as well as from Ms. Anderson. *E.g.*, a decision would actually be made by Mr. Block, but the formal correspondence on that matter would be signed by Mr. Odom. (Gibson, tr. 2/229-30, 3/75, -81)

Whitesell-Green Personnel

18. Mr. Jim Brewer was Whitesell-Green's initial project manager (Zimmerman, tr. 1/68). Mr. Brewer left the employment of Whitesell-Green in July of 1998, at which time Mr. Randy Gibson assumed the role of project manager for Whitesell-Green (Gibson, tr. 2/198-99).

19. Mr. Rob Zimmerman was Whitesell-Green's quality control manager (Zimmerman, tr. 1/71). Mr. Zimmerman's responsibilities included quality assurance matters along with the creation and maintenance of the project's daily reports. Those reports were also maintained in part by Ed Vaughn, who was Whitesell-Green's on-site superintendent. (Zimmerman, tr. 1/72) Mr. Zimmerman prepared a written daily report for each day work was performed on the project. The reports indicated what work activities were performed by Whitesell-Green or subcontractors. On the back of the daily report forms there were notations concerning quality control activities, meetings, and other information. (Zimmerman, tr. 1/74-77) Mr. Zimmerman was present at the project site on a daily basis during the life of the project and possesses a thorough understanding of the flow of the work on the project (Zimmerman, tr. 1/74-77, 1/240-42).

Mr. Carey Huff was the president of Bayou Mechanical, Whitesell-Green's mechanical subcontractor. He was responsible for the HVAC equipment and, through his subcontractors, the test and balance of the HVAC system.

Bill Whitesell is the President of Whitesell-Green, Inc.

Initial Contract Performance

20. The project consisted of renovation work on three separate buildings over three phases (R4, vol. 11, tab 1 at 1). The first phase involved Building 3251, a 1960's era 3-story Bachelor Officer's Quarters (BOQ). Phases 2 and 3 were option 1 of the contract. Phase 2 was the renovation of Building 600A, a single story administrative building. It was to be renovated so that it could be used as the location for BOQ check-in, while Building 600 was renovated. Building 600A is adjacent to Building 600 and connected underground through the building's crawl spaces, and above ground by covered walkways. The crawl spaces and walkways remained as part of the renovation. Phase 3 of the project involved the complete interior renovation of Building 600, a 1930's era, 3-story BOQ with a concrete frame and brick veneer. (R4, vol. 11, tab 1 at 1)

21. The contract was awarded initially for Building 3251. Work was to begin on 7 December 1996 and be completed on 17 December 1997.

22. Building 3251 consisted of three separate but connected wings (A – East, B - South, and C – North) with redesigned living quarters or apartments (R4, vol. 11, tab 1 at 1). The flow of work was planned to begin with Wing B. Next would be Wing A. Wing C would be last. (Zimmerman, tr. 1/85)

23. Following furniture removal and demolition, work on Building 3251 consisted of a renovation to each living quarter. Prior to Whitesell-Green's performance, the living quarters within Building 3251 consisted of two individual bedrooms with shared common areas. Each bedroom unit had a private bath, but no sitting or separate kitchen areas. (Zimmerman, tr. 1/83)

24. Work in Building 3251 included the replacement of the existing window wall system with a new exterior insulation and finish system, along with new horizontal sliding windows (R4, vol. 11, tab 1 at 1). The complete interior renovation included creation of new interior room layouts using metal stud partition walls, installation of new floors, wall and ceiling finishes, abatement of known asbestos materials, removal and the reinstallation of a fire suppression system, and installation of self-contained kitchen units (often referred to as the cervitor units). The renovation also included some modifications to the existing plumbing. (R4, vol. 11, tab 1 at 1; Zimmerman, tr. 1/84-89)

25. The mechanical system for Building 3251 was relatively new and the existing fan core units, air handlers, chilled water system, and the cooling tower were to remain (Zimmerman, tr. 1/86).

26. Whitesell-Green's scope of work on the mechanical system consisted only of modifications to control valves and the addition of dampers to allow a greater range of temperature control from within the individual living quarters (Zimmerman, tr. 1/86-87).

27. The existing fire alarm system in Building 3251 was to remain. The contract required Whitesell-Green to test, and then remove and store the existing system components. The components were to be reinstalled and tested after the reconfiguration of the building was completed. (Zimmerman, tr. 1/87)

Modification No. P00001

28. On 18 December 1996, the government issued Modification No. P00001. That modification extended the starting date from 7 December 1996 to no later than 31 January 1997; it extended the contract completion date for Building 3251 by 30 days to 16 January 1998. (R4, vol. 2, tab 2, Modification P00001, vol. 8, tab 48) No primavera network analysis was required for the issuance of this very first modification.

29. We have not found any evidence in the record that the weekly joint entries required by paragraph 1.4.9 of section 01311 of the specifications were ever made by the parties, at any time during contract performance.

Fire Alarm Circuitry Delay in Building 3251

30. By letter of 7 February 1997, before demolition work commenced, Whitesell-Green requested as-built diagrams for the existing fire alarm system in Building 3251 (R4, vol. 12, tab 88). The contract required the existing fire alarm devices in Building 3251 to be taken down from existing ceilings and walls; tested, inventoried, and stored for protection; and reinstalled and reactivated when renovation work was completed (Zimmerman, tr. 1/87, 135). Whitesell-Green was not required to install new conduit, wiring, or devices (Zimmerman, tr. 1/88).

31. Because Whitesell-Green was not to install new conduit, wiring, or devices, these as-built diagrams were necessary to enable Whitesell-Green to flag and protect areas where circuits and wiring were located during demolition (Zimmerman, tr. 1/135-36). The Navy did not respond because "How and where the alarm wiring ran throughout the building . . . is generally unknown as it can run in many directions" (R4, vol. 26, tab 218 at 009653, Modification P00020, Post Negotiation Memorandum prepared by R. Odom).

Asbestos Insulation Delay in Building 3251

32. On 19 February 1997, Whitesell-Green notified the Navy of its discovery of a significant amount of asbestos-laden materials in Building 3251, in addition to the asbestos described in the contract (R4, vol. 12, tab 1).

33. The additional asbestos was located within insulation on existing pipes in pipe chases. The chases were located in every fourth living unit on the first and second floors of the building. Each chase served two units, so access for follow-up work to many of the units was prevented. (R4, vol. 11, tab 3 at 1, vol. 12, tabs 2, 3)

34. Framing, utility rough-in, and drywall work in areas surrounding the chases could not be performed until the additional asbestos could be removed from the chases (R4, vol. 11, tab 3 at 1, vol. 12, tabs 2, 3).

Variable Air Volume Boxes Delay – Differing Site Condition

35. In late February 1997, Whitesell-Green discovered an additional differing site condition in Building 3251 (R4, vol. 11, tab 3 at 4). After removal of existing ceiling material, it was revealed that variable air volume (VAV) boxes existing in each unit, and not to be altered under the contract, were located in such a way as to prevent installation of new hot water coils, duct transitions, framing, and sheetrock at the ceilings around these devices (R4, vol. 11, tab 3 at 4). The Navy was notified of this matter by letter dated 24 February 1997 (R4, vol. 12, tab 17).

Option Exercise – Buildings 600A and 600

36. On 11 March 1997, the Navy exercised Option 1 for renovations to buildings 600A and 600 at the Naval Air Station, Pensacola, Florida, by Contract Modification No. P00003. The amount of the modification was $4,831,500. This increased the total contract price to $10,988,000. (R4, vol. 2, tab 2, Modification P00003)

37. This Option No. 1 provided for work to begin in Building 600A on 26 March 1997 and for work to be completed on 23 August 1997. Next, work on Building 600 was to begin on 7 September 1997 and to finish on 3 August 1998. At the same time, work was to continue on Building 3251. (R4, vol. 2, tab 2, Modification P00003)

Return Air System Modification Delay in Building 3251

38. By letter of 10 March 1997, Whitesell-Green advised the Navy of the concerns of its subcontractors (Bayou Mechanical and Systems Analysis) concerning the existing system's lack of sufficient return air ducts. Under the terms of the contract the

existing HVAC system in Building 3251 was to remain. (Zimmerman, tr. 1/161-63; R4, vol. 12, tab 33) Return air ducts were necessary for proper test and balance. If return air ducts and dampers were to be added to overcome this deficiency, this work would need to precede ceiling soffit framing and drywall for the affected rooms. (R4, vol. 11, tab 3 at 6)

39. "Return-air," as contrasted with "outside-air," refers to air re-circulated within a building (Zimmerman, tr. 1/165-66).

Return Air and VAV Meeting

40. On 24 March 1997, Navy personnel met on site with Whitesell-Green, Bayou Mechanical, and Systems Analysis representatives to discuss the return air duct issue on Building 3251 (R4, vol. 23, tabs 120, 121). By letter of 9 May 1997, Whitesell-Green provided the Navy a voluntary proposal for upgrading the flow of return air by addition of return air ducts, since no Navy direction had been issued at this time (Zimmerman, tr. 1/181; R4, vol. 12, tab 34).

41. On 24 March 1997, Navy personnel met on site to review the situation concerning the discovery of the VAV boxes in Building 3251. Sometime thereafter the Navy verbally requested a proposal from Whitesell-Green to relocate the VAV devices. No RFP documentation was issued. (R4, vol. 11, tab 3 at 4)

Network Analysis Not Received

42. By letter of 3 April 1997, Mr. John Carruth, the Navy ROICC project manager, advised Whitesell-Green that the government had not received the schedule of prices; and, had not received the 90-day preliminary network due within 30 days after award, nor the complete network analysis that was due within 50 days after the contract award. (R4, vol. 9, tab 113) The record is not clear on when this CPM was submitted. However, there is evidence that CPMs were developed at least as early as May 1997. (R4, vol. 16, tab 2)

Cervitor Delay – Rough-In Delay

43. By early April 1997 Whitesell-Green was prepared to start rough-in work for plumbing and electrical services in the metal stud walls in Wing B of Building 3251 (R4, vol. 11, tab 3 at 2). On 10 April 1997, Whitesell-Green issued a request for information (RFI) to the Navy for mechanical, electrical, and plumbing (MEP) rough-in instructions for the self-contained kitchen unit that the government would be providing for each of the living quarters in Building 3251. Whitesell-Green requested that this information be furnished by 15 April 1997. (Zimmerman, tr. 1/106-08; R4, vol. 12, tab 9) The daily

reports confirm that Whitesell-Green renewed this RFI on multiple occasions during the spring and early summer of 1997 (R4, vol. 11, tab 3 at 2, vol. 12, tab 10).

44. The contract required Government Furnished – Contractor Installed kitchen units (cervitors) in each of the living units within Building 3251 (Zimmerman, tr. 1/104). Cervitors are large, self-contained cabinet-like efficiency self-contained kitchen units. These cervitor units have built-in sinks, stove-top burners, ovens, and refrigerators. (Zimmerman, tr. 1/103) The cervitor units as shown on the drawings were not actually what was seen in the field. Those units were rotated 90 degrees. (R4, vol. 12, tab 8; Zimmerman, tr. 1/106)

45. The cervitors were required by the contract to be positioned against an interior wall and connected to in-wall water supplies, drains, vents, and electrical power sources. Unknown to the contractor, these connections were required to be made through specific rough-in boxes (Zimmerman, tr. 1/104-05).

46. The cervitor rough-in boxes were separate galvanized sheet metal boxes specially manufactured by the fabricator of the cervitor units. The boxes were about 18 inches square and 3 ½ inches deep. (Zimmerman, tr. 1/109-10) This rough-in box was roughed-in at the back side of the units in a chase. The rough-in box had to be roughed-in to the metal stud framing. (Zimmerman, tr. 1/105)

47. The Navy was responsible for furnishing Whitesell-Green with the cervitor rough-in boxes and accompanying installation specifications (Zimmerman, tr. 1/111-12, 114). Furnishing of these items and specifications was necessary for completion of metal stud framing and installation of piping and electrical utilities to service the cervitor units (Zimmerman, tr. 1/110). Prior to receipt of the cervitor rough-in boxes and installation specifications, Whitesell-Green was able to stub-in, or run, conduit and piping to the approximate areas where the cervitors would be connected, but then had to stop work because it did not know how the final connections would be configured (Zimmerman, tr. 1/110).

48. The need for these specific cervitor rough-in boxes was not indicated by the contract specification, nor was Whitesell-Green otherwise made aware that these units were required until June 1997 (Zimmerman, tr. 1/107-08, 111-12).

Ceiling Tile Asbestos Delay in Building 600A

49. On 12 April 1997, Whitesell-Green discovered asbestos in the ceiling tiles in Building 600A. This delayed the original contract work in both Building 600A and Building 600 until the asbestos removal issue was resolved. (R4, vol. 8, tab 51 at 008752-A-16; Zimmerman, tr. 2/31)

50. Ceiling tiles in Building 600A were attached to the hidden wooden ceiling with a glue compound. Based on the period when these materials would have been fabricated, it was likely that the ceiling tiles, glue, or both could contain asbestos materials. (R4, vol. 8, tab 51 at 16; Zimmerman, tr. 2/32)

51. Whitesell-Green verbally notified the Navy of its concern and requested that Navy personnel inspect and provide direction as to how to proceed with respect to the asbestos in the ceiling tiles of Building 600A (R4, vol. 8, tab 51 at 16; Zimmerman, tr. 2/33).

Excessive Asbestos Delay in Crawl Space under Building 600

52. The contract required Whitesell-Green to remove 5725 cubic feet of asbestos contaminated soil from the crawl space beneath Building 600. Based on the area to be abated, approximately two inches of soil was to be removed under the contract. (R4, vol. 1, § 02081, ¶ 1.3.1(4), vol. 13, tab 178; Zimmerman, tr. 2/45-46)

53. The crawl space beneath Building 600 is connected to a crawl space and boiler room area underneath Building 600A (Zimmerman, tr. 2/39-43). Asbestos abatement was scheduled to be performed concurrently in Buildings 600A and 600 during the spring of 1997 (Zimmerman, tr. 2/43-44).

54. Whitesell-Green's asbestos abatement subcontractor, Asbestos Free, Inc., began abatement work in both Buildings 600A and 600 in the early spring of 1997 (Zimmerman, tr. 2/43-44).

55. By letter of 21 April 1997, Asbestos Free notified Whitesell-Green that the conditions in the crawl spaces under Buildings 600 and 600A were "deplorable." Asbestos Free reported that asbestos removal had been commenced and was abandoned at some prior date. (Zimmerman, tr. 2/34-35; R4, vol. 8, tab 50) Asbestos containing materials had been removed from piping but left standing or piled up under both buildings, and other environmental infractions were noted. A copy of the Asbestos Free letter of 21 April 1997 was provided to the Navy. Thereafter, John Carruth investigated the crawl spaces of Buildings 600 and 600A on behalf of the Navy. (Zimmerman, tr. 2/36-38)

56. It later came to light that it was Navy Public Works who previously had commenced and then abandoned performance of asbestos removal in the crawl spaces of Buildings 600 and 600A (Zimmerman, tr. 2/38-39).

57. Access to Building 600's limited height crawl space was necessary for the connection and distribution of the mechanical, electrical, plumbing, and fire sprinkler systems throughout the building. The asbestos abatement had to be completed before that work could begin. This work involved extensive running of new large piping, related insulation, and electrical circuitry, encased in conduit, throughout the entire crawl space. (Zimmerman, tr. 2/26-29)

Asbestos Insulation Delay in Building 3251

58. On 29 April 1997, Whitesell-Green offered a proposal for the necessary asbestos abatement work in the chases of Building 3251, by letter and in response to the Navy's verbal request (R4, vol. 11, tab 3 at 1-2, vol. 12, tab 6). No request for proposal documentation was issued by the Navy (R4, vol. 11, tab 3 at 1). On 12 May 1997, Whitesell-Green issued a proposal to relocate the VAV devices in Building 3251 (R4, vol. 12, tab 20).

Ceiling Tile Asbestos Delay in Building 600A

59. In the meantime, the Navy inspected the ceiling tile condition in Building 600A. As a result of the Navy's inspection, the Navy agreed that removal of the ceiling tiles and other asbestos containing ceiling materials was not within Whitesell-Green's contract and would require compensation in both time and money. On 17 June 1997 the parties reached oral agreement. After oral agreement between the parties, as to the changed work for the removal of the asbestos, the contractor removed the ceiling tiles by 11 July 1997.

Cervitor Delay

60. On 23 June 1997, more than two months after its initial request, Whitesell-Green received the requested cervitor rough-in information, which was initially furnished by a faxed "cut sheet" (Zimmerman, tr. 1/105-08). Included with the Navy's response, however, was the clarification that the cervitor units selected by the Navy would require the specific manufacturer's rough-in box to be used in connecting plumbing and electrical utilities to the cervitors (Zimmerman, tr. 1/111-12). These boxes were unique to the units selected by the Navy (Zimmerman, tr. 1/105). Although the Navy initially disagreed, the Navy later conceded that the provision of these rough-in boxes was a government responsibility (Zimmerman, tr. 1/112-14).

61. Whitesell-Green was provided a copy of the cut sheet informally by Navy field personnel. The cut sheet provided detail as to the size of the rough-in boxes and the necessary location of electrical and plumbing utilities (Zimmerman, tr. 1/108-09).

62. Installation of the rough-in boxes, once ultimately provided by the Navy, required metal stud framing to accommodate the boxes' dimensions at a set height above the floor that was unknown to Whitesell-Green and its framing subcontractor. This framing was required within one framed wall of each living unit in Building 3251. After the boxes were framed-in, piping, conduit and wiring into the boxes was required in order to service the cervitor units. (R4, vol. 11, tab 3 at 3)

63. Mr. Zimmerman informed the Navy on several occasions throughout June of 1997, of the critical need for the provision of the rough-in boxes (R4, vol. 12, tab 13).

64. Whitesell-Green received a single shipment of one or more rough-in boxes by Federal Express on or about 27 June 1997 (Zimmerman, tr. 1/115; R4, vol. 12, tab 14). Thereafter, the boxes arrived in piece meal fashion, in multiple shipments (Zimmerman, tr. 1/116-17).

65. The Navy did not complete the delivery of the rough-in boxes until sometime after 23 January 1998 (R4, vol. 12, tab 16; Zimmerman, tr. 1/117). This was seven months after the initial partial shipment and more than nine and one-half months after the initial disruption of framing and drywall work in the living units of Building 3251 (R4, vol. 12, tab 16; Zimmerman, tr. 1/116-17).

66. Whitesell-Green could not finish off the drywall, paint, or install carpet before installation of the rough-in boxes and connection of the cervitor units themselves (Zimmerman, tr. 1/117-18).

67. Once the rough-in boxes for each individual room arrived, electrical, plumbing, framing, and multiple finish subcontractors were required to return and complete work necessary to install the rough-in boxes and complete previously scheduled work that was restrained by the Navy's failure to provide these boxes (Zimmerman, tr. 1/106, 119).

Return Air System Modification Delay in Building 3251

68. On 1 July 1997, the Navy met on site and provided Whitesell-Green a copy of a memorandum from Navy Public Works. That memorandum, in response to Whitesell-Green's 10 March 1997 letter, provided for the addition of return air ducts and dampers in Building 3251. (Zimmerman, tr. 1/181-82; R4, vol. 12, tab 35) By letter of 16 July 1997, Whitesell-Green provided its proposal for this additional scope of work. After discussions concerning pricing, the Navy provided verbal authorization for the work on 5 August 1997. (Zimmerman, tr. 1/191) Whitesell-Green's daily reports indicate that Whitesell-Green and its subcontractors commenced installation of the ducts and dampers immediately thereafter (R4, vol. 11, tab 3 at 6).

69. In addition to the direct impact on mechanical activities, this issue affected metal stud framing and drywall work in Building 3251. By 5 August 1997, framing and drywall work had been in progress for over three months, although disrupted by cervitor installation issues, discussed above. Framing and sheetrock had been installed in many areas not previously impacted and in areas where the modification ductwork was to be installed. As such, installation of the return air ducts and dampers required Whitesell-Green and its subcontractors to tear out and reinstall previously completed work. This re-work was done at no extra charge to the Navy. (R4, vol. 11, tab 3 at 6)

Variable Air Volume Boxes Delay in Building 3251
Asbestos Insulation Delay in Building 3251

70. On 10 July 1997 the Navy verbally authorized Whitesell-Green to relocate the VAV devices in Building 3251. Also on 10 July 1997, the Navy verbally authorized the proposed asbestos abatement work to commence in the chases of Building 3251. (R4, vol. 12, tabs 6, 20, vol. 11, tab 3 at 2)

71. These authorizations came long after the delays had already impacted MEP rough-in and framing work in Wings B and A of Building 3251, which had commenced nearly three months before (R4, vol. 11, tab 3 at 2). In addition, the Navy directive was issued nearly five months after the Navy was first notified by Whitesell-Green of this differing site condition (R4, vol. 11, tab 3 at 2).

Request for Network Analysis

72. On 27 August 1997 Mr. Carruth wrote a memo to Jim Brewer noting that the earliest possible start of Building 600 was essential to the Navy. Mr. Carruth noted that the sooner work was completed in Building 600A the sooner work could start in Building 600. He asked Mr. Brewer to "prepare a current CPM schedule for building 600A and call me so we can schedule a meeting to discuss." Mr. Carruth went on to note that "we have only received your 'preliminary schedule' for Building 600A and still need to see your complete schedule, as well as all cost loading data." (R4, vol. 9, tab 94)

Fire Sprinkler System Testing

73. The contract required Whitesell-Green to install and test a fire sprinkler system as a component of Building 3251's overall fire protection system (R4, vol. 1, § 15330).

74. Contractor Quality Control Reports confirm successful hydrostatic testing of the sprinkler piping system on 12 September 1997 (Wing B), 13 October 1997 (Wing

A – South), 10 December 1997 (Wing A – North), and 4 February 1998 (Wing C) (R4, vol. 12, tabs 96-99). At the hearing, Mr. Zimmerman was asked to review these reports, which he authored, for accuracy (Zimmerman, tr. 1/144-46). Mr. Zimmerman responded by stating that as Whitesell-Green's quality control inspector he was responsible for recording test results and his reports were accurate (Zimmerman, tr. 1/144-46). Based on his demeanor and obvious familiarity with the project, Mr. Zimmerman's testimony on this matter is credible.

Request for Network Analysis as Scheduling Tool

75. On 19 September 1997, Mr. Carruth advised Mr. Jim Brewer (Whitesell-Green) to present a P-3 schedule for buildings 3251 and 600A. His letter read in part as follows:

> 1. As you approach the final stages of your work in both buildings 3251 and 600A, it is essential that you closely monitor "all remaining work activities" versus the "time remaining to complete those activities". Your Primavera P-3 network should be the tool you use to know if you are on schedule to achieve the required completion deadlines.
>
> 2. On a recent Navy contract completed by Whitesell-Green (A/E School), your Randy Gibson led an intense contractor effort to achieve an on-time completion by preparing a detailed production schedule required to complete the project on-time. This production schedule was updated weekly and discussed at weekly jobsite production meetings. All subcontractors reviewed the schedule requirements and discussed their weekly progress; if work-in-place progress fell behind pace, work hours and crew sizes were adjusted to get back on schedule. This is the kind of "schedule emphasized" effort which you need to undertake in order to ensure you complete this current contract on time.

(R4, vol. 9, tab 98) The memo was concerned with the use of primavera as a production schedule forecasting tool.

Network Analysis as Tool for Scheduling But not for Liquidated Damages

76. Although Mr. Cooper testified that he and Mr. Carruth made verbal requests to Jim Brewer (Whitesell-Green's project manager) for the CPM schedules required by the contract for Buildings 3251 and 600, there is no evidence that these verbal requests

were associated with requests for time extensions or the assessment of liquidated damages. (Cooper, tr. 5/16-19)

Excessive Asbestos Delay in Crawl Space under Building 600A and 600

77. By letter of 7 October 1997, Asbestos Free advised Whitesell-Green that the amount of asbestos in the soils beneath Buildings 600 and 600A was beyond the scope of the contract. Asbestos Free stated that performance of its contract stated quantity or scope of work was completed. A copy of this letter was provided to the Navy. (R4, vol. 13, tab 178; Zimmerman, tr. 2/46)

78. In October of 1997, several on-site meetings between Whitesell-Green and the Navy representatives addressed the necessary extent of asbestos abatement and the conditions of the crawl space soils (Zimmerman, tr. 2/46).

79. The Navy failed to resolve these issues. The problem of contaminated soil in the crawl space beneath Building 600 continued into the summer of 1998. (Zimmerman, tr. 2/47) This impacted and stopped Whitesell-Green's utility subcontractor's efforts to demolish the existing utilities in the crawl space, and caused Asbestos Free to perform additional cleaning and testing in the crawl space (R4, vol. 13, tab 179).

Modification No. P00004 – Ceiling Tile Asbestos Delay Resolved in Building 600A

80. After the asbestos containing ceiling tiles had been removed in Building 600A by 11 July 1997, and while other delays were continuing, on 27 October 1997, the parties mutually agreed, in contract Modification No. P00004, to a time extension of 80 days and an increase in the contract amount of $23,916, for Building 600A because of the differing site condition involving unforeseen asbestos in ceiling tiles in Building 600A. This increased the contract total price to $11,011,916. (R4, vol. 2, tab 2, Modification P00004)

81. Modification No. P00004 revised the completion dates for buildings 600A and 600 and the start date for Building 600. For Building 600A, the start date remained 26 March 1997, while a new completion date of 15 November 1997 was established (an 80-day extension). For Building 600, the new start date was 15 November 1997 and the new completion date was 11 October 1998 (a 69-day extension). (R4, vol. 2, tab 2, Modification P00004)

Cervitor Delay

82. The delay in the Navy's provision of the cervitor units themselves delayed the completion date of the building (R4, vol. 11, tab 3 at 7-8; Zimmerman, tr. 1/242).

83. The original CPM schedule submitted by Whitesell-Green premised on notice to proceed on 31 January 1997 and project to finish by 16 January 1998 (see finding 28), alerted the Navy that cervitor units would be needed on site as of 16 September 1997 (early start) and no later than 13 October 1997 (late start) (activity 14145). The late start for the last group of cervitor units was 24 November 1997 (activity 17145). At that point in the schedule there was only 6 days of float between early and late start for the installation of the final group of cervitor units. We note that days of float are work days. (R4, vol. 21, tab AB Development, Whitesell-Green fax of 1-16-00, day one schedule for Building 3251 at 8-10; *see also* May 1997 submission, R4, vol. 16, tab 2) Because of the delays to the framing, rough-in, and sheetrock work caused by the Navy's failure to provide information and rough-in boxes for the cervitors, the need for the cervitors was extended to November of 1997 (R4, vol. 11, tab 3 at 7). As noted above, the rough-in boxes did not begin to arrive until 27 June 1997 (finding 64).

84. Progress was such that by November 1997, some of the quarters in Building 3251 were ready for cervitor installation. By 13 October 1997, the government had appropriated the 19 days of the available float between the early start and late start for the cervitor units, and further delayed Whitesell-Green by an additional 30 days into November 1997. (R4, vol. 11, tab 3 at 7) Timely provision of these government furnished units was imperative as floor finish work, final paint, and other finish work could not be completed until the cervitors were in place due to the potential for scrapes and other damage related to installing the units and connecting their utility services. It is not efficient or economical to do finish work when rough-in crews still need access to the site. (Zimmerman, tr. 1/128-29)

85. In addition, the installation of the handrails required on levels 2 and 3 of Building 3251 could not be accomplished, because the units had to be hoisted from the ground and moved straight in to the quarters through balcony doors. The cervitors were too large to be installed inside the quarters in any other way. (Zimmerman, tr. 1/129-30).

86. Between early November 1997 and March of 1998, Whitesell-Green continuously sought provision of a single cervitor unit for Building 3251 to allow inspection in order to determine all necessary work that would be required to place and install the units in Building 3251 (Zimmerman, tr. 1/120).

Delays to Stud Wall Framing – Floor Trenches in Building 600 Introduction

87. Demolition work in Building 600 commenced on the third floor on 18 November 1997 and flowed down through the second and first floors. Demolition work was completed on the first floor on 18 April 1998. (R4, vol. 14, tab 218)

88. Several different issues impacted Whitesell-Green's ability to begin stud wall framing on the third floor of Building 600. They are: unexpected floor trenches and associated floor leveling issues; irregularities with existing hallway and perimeter walls that were to remain in place and receive a metal furring channel and new sheetrock finish layer; and problems associated with the removal of a terrazzo base tile and the attachment of the new wall at the base. (R4, vol. 11, tab 5 at 1-4)

Cervitor Delay

89. On 20 November and 30 December 1997, the Navy was reminded of Whitesell-Green's need for delivery of the cervitor units on site. On 24 November 1997, Mr. Zimmerman advised the Navy's project manager, Mr. Carruth, of a conversation with a Navy Supply representative during which Mr. Zimmerman was told delivery of the cervitor units was being held up due to Navy funding problems. (Zimmerman, tr. 1/119-20; R4, vol. 12. tab 43)

90. As we have found, the Navy did not even complete the delivery of the rough-in boxes until sometime after 23 January 1998 (finding 65).

91. Drywall work could not proceed in the affected area of the living units in Building 3251 until the cervitor rough-in boxes were installed. The metal studwork in the area could be completed once the configuration of the rough-in boxes was known, but the walls had to be left open without the drywall until the rough-in boxes arrived and could actually be installed. (Zimmerman, tr. 1/117-18)

92. Once the rough-in boxes for each individual room arrived, the electricians had to return to hookup the electric and the plumbers also had to return. The plumber had to bring in a sanitary crew for the drains and a water crew for the water supply. (Zimmerman, tr. 1/106, 119)

93. Because of the piecemeal delivery of the rough-in boxes, this work was performed sporadically between July 1997 and 23 January 1998 (Zimmerman, tr. 1/116-18).

Delays to Stud Wall Framing – Floor Trenches in Building 600

94. By letter of 27 January 1998 Whitesell-Green advised the Navy that demolition had revealed that Building 600's existing floors (which were to remain) had an unforeseen topping which had been cast against removed walls, causing the previously constructed walls to extend below the top of the slab elevation. When the previous walls were removed, a trench-like void remained in the floor surfaces. The Navy was advised that these voids would need to be filled to allow metal stud framing to commence. (R4, vol. 13, tab 110; Zimmerman, tr. 2/62-64)

95. At the time the trench issue was discovered, Whitesell-Green was scheduled to commence framing and furring to follow behind the demolition work and to precede in-wall utility rough-in and drywall work, all of which was planned to flow from the third floor down to the first floor (R4, vol. 14, tab 218).

96. Framing for all areas of Building 600 was delayed until the floor trench issue was resolved (R4, vol. 11, tab 5 at 1, vol. 14, tab 219).

97. Metal and stud framing, in-wall MEP rough-in and drywall activities were on the critical path of planned work in Building 600 (R4, vol. 11, tab 5 at 1). The government argues that "Without showing all the activities, updated with progress, there is no certainty that the critical path went through framing although that is a possibility" (gov't br., ¶ 692). However, the government offers no evidence that the critical path for the project did not run through these activities.

98. On 28 January 1998, Whitesell-Green provided the Navy with proposed pricing for the work necessary to fill the floor trenches and indicated that the additional time required to perform the work would be determined at a later date (R4, vol. 13, tab 111; Zimmerman, tr. 2/63-64).

99. Several options for leveling the floors in Building 600 were discussed. The trenches could be filled or an entire new floor cap could be poured on each floor of the building. (Zimmerman, tr. 2/63-65).

100. Pouring a new floor cap would have insured level floor surfaces within Building 600 (Zimmerman, tr. 2/66-69).

101. While less expensive, filling the floor trenches would leave floors that were not perfectly level because the flooring materials removed on either side of the former partition walls were not necessarily the same thickness (Zimmerman, tr. 2/66-68).

102. The Daily Report for 28 January 1998 indicates that Navy representatives met on site to inspect the floor trench situation and asked Whitesell-Green for a revised cost proposal based on a different method of remedying the trench situation (R4, vol. 13, tab 112).

Cervitor Delay

103. On 26 January 1998, Whitesell-Green informed the Navy by letter that its failure to provide the cervitor units in Building 3251 was causing critical delay to the project and costing Whitesell-Green money due to increased installation time and re-mobilization on the part of multiple subcontractors (R4, vol. 12, tab 44). By this time Whitesell-Green had already been delayed by the late and seriatim delivery of the cervitor rough-in boxes over the period beginning 27 June 1997 and lasting through 23 January 1998.

Resolution of the Asbestos Insulation and VAV Boxes Delay – Modification No. P00005

104. While other delays in Building 3251 continued, delays due to the asbestos pipe insulation in the chases of Building 3251 and the Variable Air Volume boxes were resolved. On 30 January 1998 Modification No. P00005 was issued. It granted Whitesell-Green an additional 109 days to complete work on Building 3251. This extended the contract completion date for that Building to 5 May 1998. (R4, vol. 8, tab 43)

105. Modification No. P00005 encompassed four items, but primarily was in response to two separate differing site conditions discovered in Building 3251 by Whitesell-Green in late February of 1997 (R4, vol. 11, tab 3 at 1-2).

106. The Navy negotiated with Whitesell-Green an extension of time due to the additional asbestos and discovery of the VAV devices, among other issues, without the use of a network analysis system CPM (R4, vol. 8, tabs 43, 69, vol. 11, tab 1 at 2; Gibson, tr. 3/71).

107. The Navy signed Modification No. P00005 without a network analysis system CPM documentation. Mr. Carruth's 8 January 1998 memo for record (located in the Navy's work file for Modification No. P00005) cites Navy caused delays which began with the commencement of Whitesell-Green's performance in Building 3251 and included reference to the necessary additional asbestos abatement in the chases and the repositioning of VAV devices. (R4, vol. 8, tab 43)

108. After referencing Navy caused delays, Mr. Carruth explained in his 8 January 1998 memo:

> 2. All of the above issues occurred over a period of 6 months, causing a helter-skelter shifing [sic] of both labor efforts as well as required materials. Often answers were not immediately available so the contractor had to stop and wait on direction. Also often, once the contractor knew what a required solution was, he took it on his own risk to begin the additional new work – which saves us time on delays, but for which the contractor should not be taken advantage of, by cutting possible time extensions.
>
> 3. I believe the contractor should be due considerable time due to all of the above issues. We are dealing with large quantities of rooms on this project which also impacts the effect of any additional work. A time extension of 100 days would not be unreasonable.

(R4, vol. 8, tab 43 at Bates 008583)

109. In accordance with Mr. Carruth's recommendation, the Navy issued Modification No. P00005, granting Whitesell-Green 109 days of time extension, signed by Mr. Odom on 30 January 1998 (R4, vol. 8, tab 43).

110. In the time leading up to Modification Nos. P00004 and P00005 the Navy did not require monthly CPM updates and did not require CPM updates for those modifications. As noted earlier, the Navy never participated in weekly joint updates to the Look-Ahead Reports, as required by paragraph 1.4.9 of section 01311 of the specifications.

111. The Navy does not dispute that the informal justifications formed the basis for the negotiations for Modification Nos. P00004 and P00005 (stipulation at tr. 4/214; R4, vol. 25, tab 216, Navy admissions 9, 63).

Delays to Stud Wall Framing - Perimeter and Hallway Wall Delay in Building 600

112. Prior to 2 February of 1998 discussions were held between Whitesell-Green and the Navy concerning the irregularity of Building 600's exterior and hallways, which were to remain under the contract (R4, vol. 13, tab 123).

113. The existing walls left in place were as much as 1 ½″ out of plumb in many areas of Building 600 (R4, vol. 13, tab 137).

114. Specifications called for application of new furring channels directly onto the existing stucco walls within Building 600. The irregularities to the walls were substantial so that applying furring channels directly to the existing walls would have resulted in visible irregularities on the completed drywall. (Zimmerman, tr. 2/77-78; R4, vol. 1, § 09250)

115. This irregularity was so pervasive that it was impracticable to apply the standard furring channel framing to them, as required by the plans and specifications (Zimmerman, tr. 2/77-78).

116. At the time the wall irregularities were discovered, Whitesell-Green was scheduled to commence framing and furring just behind the demolition work and to precede in-wall utility rough-in and drywall activities. All of these activities were on the critical path of the planned work. (Zimmerman, tr. 2/77, 86-87; R4, vol. 11, tab 5 at 2) The government has not offered credible evidence that the delay in resolving the wall irregularity did not delay overall project completion.

117. On 2 February 1998 Whitesell-Green provided the Navy its proposal to substitute a free-standing 1 5/8" metal stud wall which would be installed adjacent to the existing wall instead of installing furring channels on the problem surfaces (R4, vol. 13, tab 123; Zimmerman, tr. 2/84).

Cervitor Delay in Building 3251

118. As late as 2 February 1998, Navy representatives met on site and announced that the Navy was considering changing the cervitor model in order to reduce costs (Zimmerman, tr. 1/121-22, 124; R4, vol. 12, tab 45). The alternative kitchenette units would have required a different rough-in box (Zimmerman, tr. 1/121-22). By this time, the rough-in boxes specific to the anticipated cervitor model units were already in place throughout Building 3251 (Zimmerman, tr. 1/122).

119. On 6 February 1998 the Navy advised Whitesell-Green that it would not change the cervitor model for Building 3251 (Zimmerman, tr. 1/123; R4, vol. 12, tab 46).

Delay to the Stud Wall Framing - Floor Trench Delay for Building 600

120. On 13 February 1998, Whitesell-Green provided the Navy a revised proposal to fill the floor trenches for Building 600 (R4, vol. 13, tab 113).

121. On 23 and 24 February 1998 Navy representatives visited the site again to review the trench situation and to measure the scope of the necessary remedial work (R4, vol. 13, tabs 114, 115; Zimmerman, tr. 2/65-67).

122. On these dates (23, 24 February 1998) Jim Brewer, Rob Zimmerman, and Ed Vaughn for Whitesell-Green and Ray Block for the Navy orally agreed that pea gravel would be used to fill the trenches and that leveling concerns would be addressed by the flooring subcontractor at a later date (Zimmerman, tr. 2/66-67).

123. On 26 February 1998 Whitesell-Green provided the Navy a second revised cost proposal for filling the trenches (R4, vol. 13, tab 119).

124. Between 26 February and 23 March 1998 negotiations over Whitesell-Green's proposals took place resulting in a third revised cost proposal (R4, vol. 11, tab 5 at 2).

125. In the interest of time, Whitesell-Green performed the work necessary to fill the trenches in the walls of Building 600 between 3 and 20 March 1998, prior to finalizing its price with the Navy. (R4, vol. 13, tab 119; Zimmerman, tr. 2/69-76)

Delay to Stud Wall Framing - Perimeter and Hallway Wall Delay for Building 600

126. At the Navy's request on 3 March 1998 Whitesell-Green provided a revised proposal for substituting a 2 ½" stud system in lieu of furring channels and instead of the previously proposed 1 5/8" system for Building 600 (R4, vol. 13, tab 124).

Cervitor Delay

127. On 4 March 1998, six months after the originally scheduled delivery date, the first partial delivery (25 of 129) of cervitor units arrived on the project site for Building 3251 (Zimmerman, tr. 1/123-24; R4, vol. 12, tab 47).

128. Upon arrival of the initial shipment of cervitor units, Whitesell-Green discovered that the units were not assembled as indicated on previously provided documentation. Because of this, Whitesell-Green had to do more than simply make the flex connections for the units. The sink drains and faucet handles were not assembled. They were represented on the cut sheet as being assembled. Instead of being assembled, the sink drains and faucets came in bulk boxes and had to be assembled and installed in the units before the kitchenette units could be installed. (Zimmerman, tr. 1/126; R4, vol. 12, tab 48).

129. The Navy memorandum of 18 March 1998 indicates the Navy's perception that Building 3251's cervitor problems were "really a big deal," and that Whitesell-Green had continually informed the Navy of the critical nature of these delays, while requesting Navy direction on how to proceed. The government's memo of 18 March 1998 from Bill Cooper states in part:

> This is really a big deal. CAPT Denkler wants 5 May 98 BOD. No way we are going to make if we don't have these answers in next few weeks. Contractor saying "give me direction or forget 5 May". Denkler is going to go ballistic.

(R4, vol. 13, tab 128)

Delay to Stud Wall Framing - Perimeter and Hallway Wall Delay for Building 600

130. On 10 March 1998 Navy representatives visited the site to observe the wall irregularities and to discuss the possible substitution of studs for furring (R4, vol. 13, tab 125). During the course of this meeting, it was also determined that Navy specified pin fasteners that would attach metal framing to the existing perimeter walls would not hold in the wall, due to the brittle nature of the existing wall surfaces. (R4, vol. 13, tab 124; Zimmerman, tr. 2/76-78)

131. Navy representatives met on site again on 11 March 1998 to discuss various alternatives for fastening metal framing to the existing walls. During this meeting, Whitesell-Green continued to emphasize the extreme irregularity of the plane of the existing perimeter wall surfaces and that this condition was causing delay to critical framing activities. (R4, vol. 13, tab 126; Zimmerman, tr. 2/76-77)

132. The Daily Report for 12 March 1998 confirms that Whitesell-Green installed samples of a "Tapcon" fastening system, with promising results (R4, vol. 13, tab 127; Zimmerman, tr. 2/76-79).

133. Rather than installing pins with automatic equipment, use of the Tapcon fastening system required manual drilling of holes and then attachment of the Tapcon fasteners themselves. This process was time consuming and outside the scope of Whitesell-Green's contract. (Zimmerman, tr. 2/78-79)

Delay to Stud Wall Framing - Terrazzo Base Removal for Building 600

134. In addition to the irregularity, and brittle nature, of Building 600's existing walls, the removal of terrazzo base tiling gave rise to unforeseen consequences (Zimmerman, tr. 2/79-80).

135. As part of Whitesell-Green's demolition work, it was to remove the terrazzo base from all hallway and existing perimeter walls within Building 600 (R4, vol. 11, tab 5 at 3; Zimmerman, tr. 2/86-87).

136. The removal of the terrazzo base resulted in an unforeseen "offset" void at the bottom of the walls that would have to be filled to maintain the plane of the wall along the floor line (R4, vol. 11, tab 5 at 3).

137. Internal Navy memoranda confirm that the Navy was aware of, and considering options to remedy, the situation caused by the terrazzo removal, on or before 18 March 1998 (R4, vol. 13, tab 128; Zimmerman, tr. 2/80-82).

138. On 23 March 1998 the Navy first proposed to provide for the changed work, for filling the trenches in the floors for Building 600, by adding $44,400 to the contract price, but no time extension (R4, vol. 13, tab 118).

139. Whitesell-Green refused to sign the modification as originally drafted by the Navy because it did not provide for an extension of time or, in the alternative, for a reservation of rights to resolve the time impact (R4, vol. 13, tabs 120, 121). Modification No. P00007 was issued on 4 January 1989, with a reservation of a right for appellant to claim a time extension (R4, vol. 2, tab 2).

140. Because the entire inner area of Building 600 required floor trench remediation, the critical metal stud framing activities for the third floor of Building 600 were delayed by this differing site condition and untimely Navy response from 27 January 1998 until 3 March 1998 – a delay of 35 days. This was followed by an additional delay between 3 March and 20 March 1998 for Whitesell-Green to complete the filling of the floor trench voids. This accounted for a total delay of 52 days relating to the floor trench voids. This extended the schedule from 11 October 1998 to 2 December 1998.

141. To date no time extension has been granted Whitesell-Green for the floor trench issue – a delay of 52 days (R4, vol. 13, tab 122).

Government Furnished Chilled Water for Building 3251

142. The contract called for the use of an existing cooling tower and chilling equipment for operation of the updated HVAC system in Building 3251. The contract required Whitesell-Green to connect the modified HVAC system to the existing chiller equipment. (Zimmerman, tr. 1/86) A continuous supply of re-circulated chilled water was required for the activation and efficient test and balance of the HVAC for Building

3251 (Zimmerman, tr. 1/199-200). The Navy supplied chilled water system was not fully operational.

143. According to the original schedule for Building 3251, test and balance of the entire HVAC system was to have been completed by 12 December 1997. This was approximately 9 weeks after test and balance operations were originally scheduled to begin on 7 October 1997. Proper test and balance required a fully operational chiller. (R4, vol. 12, tab 105) Due to other Navy delays, commencement of this activity was pushed into March of 1998 (Huff, tr. 2/175-76).

144. By letter of 20 March 1998, Whitesell-Green reminded the Navy that chilled water would be required within two weeks in order to prevent further delay to test and balance of Building 3251 (R4, vol. 12, tab 63). Bayou Mechanical was already attempting to coordinate the commencement of the test and balance work before this date. These efforts were unsuccessful due to the lack of chilled water. Without a continuous supply of chilled water, Systems Analysis would have to perform its work in fragments, extending its time for performance and requiring it to return to the site if and when chilled water was available. (R4, vol. 12, tab 105)

145. The Navy requested a cost proposal for performing test and balance in fragments (Huff, tr. 2/178-79). After consultation with Bayou Mechanical and Systems Analysis, Whitesell-Green proposed a cost of $1,600 to perform test and balance in this fashion. This cost proposal was rejected by the Navy (Huff, tr. 2/178-79). Despite this denial, the project records and testimony from Messrs. Huff, Whitesell, and Zimmerman confirm that test and balance was eventually performed in an even more fragmented manner due to the personal requests made to Messrs. Huff and Whitesell from the ROICC at that time, Commander Ludowici. (Zimmerman, tr. 1/219)

146. On 25 March 1998, the Navy met on site, and after inspecting the cooling tower and chiller, determined that the cooling tower would need to be overhauled by Navy Public Works. During one of the weekly construction meetings, Navy representatives informed Whitesell-Green that the cooler would be operational on 25 March 1998 and that the chilled water would be available by 31 March 1998. (R4, vol. 12, tabs 64, 65)

147. By 30 March 1998, Navy Public Works had not yet manned the site to perform the necessary overhaul (R4, vol. 12, tab 66). On this date, Whitesell-Green told the Navy by letter that because of their statements that beneficial occupancy would not be accepted without the submission of a test and balance report, delay to completion of Building 3251 should be expected as a result of the lack of chilled water. (Zimmerman, tr. 1/203)

148. On 6 April 1998, the Navy met on site at Building 3251 and determined that the chilling equipment would not be overhauled. Instead, new equipment would be installed. (R4, vol. 12, tab 64) The Navy informed Whitesell-Green that its projection for the availability of chilled water was extended to 16 April 1998 (R4, vol. 12, tabs 66, 67; Zimmerman, tr. 1/203).

149. On 7 April 1998, Navy Public Works commenced work on its new cooling tower equipment (Zimmerman, tr. 1/204-05; R4, vol. 12, tab 68).

150. The daily report for 9 April 1998 indicates that the Navy discovered that the valves and dampers for its existing water-cooled equipment were inoperable and would also need to be replaced (R4, vol. 12, tab 69; Zimmerman, tr. 1/204-06).

Cervitor Delay

151. Deliveries of the cervitor units for Building 3251 continued at a rate of 25 units per shipment with a final delivery of 4 units sometime after 13 April 1998. A total of six shipments arrived at approximately one week intervals (Zimmerman, tr. 1/128). The late start for the last group of cervitor units was originally scheduled for 24 November 1997**.**

152. The last cervitor units did not arrive until 13 April 1998. This is a 140-day delay in furnishing the last group of cervitor units. The work had already been delayed 109 days by the asbestos ceiling tiles and other delays detailed and resolved by Modification No. P00005. Thus, the delay to the original schedule for the cervitor boxes pushed the schedule out an additional 31 days – from 5 May 1998 to 5 June 1998.

Government Furnished Chilled Water Delay to Test & Balance

153. On 15 April 1998, the Navy attempted a startup of the chilled water system without success. The controls for the bi-pass valves had apparently frozen in place. (R4, vol. 12, tab 70)

154. On 16 April 1998, Whitesell-Green notified the Navy that the existing chilled water system did not have water in its lines (Zimmerman, tr. 1/207; R4, vol. 12, tab 71).

155. Sometime after 16 April 1998, the chilled water system was activated. However, it experienced sporadic breakdowns, and because of problems with its valves and dampers, the chilled water system was without sufficient controls to allow test and balance to proceed in Building 3251. (Zimmerman, tr. 1/207, 211; R4, vol. 11, tab 3 at 11)

156. Initially, the Navy started the chilled water system solely to ensure the functionality of the cooling tower and chiller (Zimmerman, tr. 1/209).

157. Without properly functioning valves and dampers, Whitesell-Green was unable to control the volume of water entering or exiting the chilled water system. The system operated in only one mode – wide open. (Zimmerman, tr. 1/209)

158. It was not possible for Whitesell-Green to perform a normal test and balance in Building 3251 prior to the chilled water system becoming fully operational (Zimmerman, tr. 1/210).

159. By April of 1998, despite not having the correct blend of outside and return air, nor chilled water, test and balance efforts were ongoing in Building 3251 (Zimmerman, tr. 1/219; Huff, tr. 2/173-74).

160. On 29 April 1998, Navy personnel met again on site to discuss this and other HVAC related issues at Building 3251 (R4, vol. 12, tab 84; Zimmerman, tr. 1/213, 217).

161. During the 29 April 1998 meeting, it was finally resolved by the Navy that insufficient outside air was being introduced into Building 3251 and that outside air supply fans would need to be added to correct this problem. The government noted during this meeting that people would not be able to move into the building until the test and balance was performed because it was a question of air quality. (Zimmerman, tr. 1/213-17)

162. During the 29 April 1998 meeting it was agreed that the Navy Public Works engineer would provide the scope and size of the necessary outside air supply fans to allow Whitesell-Green to make the appropriate purchase (R4, vol. 12, tab 84; Huff, tr. 2/174-75).

163. Sometime after 29 April 1998, the Navy requested that Whitesell-Green provide a price proposal for adding 22 new outside air supply fans, making numerous duct repairs, installing almost 300 duct blockoffs, along with necessary control modifications, electrical work and mechanical system cleanup throughout Building 3251 (Zimmerman, tr. 1/215).

164. Whitesell-Green gave a cost proposal to the Navy by letter of 12 May 1998 (R4, vol. 12, tab 85; Zimmerman, tr. 1/217).

Fire Alarm System Delay

165. After the delayed delivery of the last cervitor units on 13 April 1998, Whitesell-Green attempted to retest the reinstalled fire alarm system for Building 3251 on 30 April 1998. This test revealed that numerous circuits had been cut by floor saw work and other demolition activities (Zimmerman, tr. 1/136-37).

166. On 1 May 1998, the Navy verbally authorized Whitesell-Green to proceed with a modification to isolate damaged circuits and reinstall them as necessary to provide a complete, operating system for Building 3251 (Zimmerman, tr. 1/137; R4, vol. 12, tab 95). Daily reports maintained by Mr. Zimmerman and Mr. Vaughn throughout the month of May 1998 confirm that Whitesell-Green's electrical subcontractor, East Bay Electric, worked almost exclusively on this modification during that month (R4, vol. 11, tab 3 at 14, vol. 12, tab 90). This work was completed by East Bay Electric on 5 June 1998 (Zimmerman, tr. 1/140). Thus, Whitesell-Green was required to work from 1 May 1998 to 5 June 1998 (Friday) on changed work relating to the fire alarm wires.

Delay to Stud Wall Framing – Terrazzo Base Removal for Building 600

167. On 1 May 1998 the Navy provided a detail calling for the installation of a wood blocking to fill the voids created by the removal of the terrazzo base (R4, vol. 13, tabs 129, 130; Zimmerman, tr. 2/84-85).

168. On 6 May 1998 in a meeting noted in the Daily Report, Whitesell-Green reminded the Navy that decisions were needed regarding each of the wall issues in Building 600 (R4, vol. 13, tab 131).

169. The Daily Report for 12 May 1998 confirms a production meeting that took place between Whitesell-Green and the Navy, during which the Navy was reminded again that the wall and floor trench issues would delay completion of Building 600 (R4, vol. 13, tab 132; Zimmerman, tr. 2/85-86).

170. At the Navy's request, Whitesell-Green issued its cost proposal for installation of the wood blocking to the existing walls' base voids on 13 May 1998 (R4, vol. 13, tab 133; Zimmerman, tr. 2/89).

HVAC Outside Air Delay in Building 3251

171. On 12 May 1998, Whitesell-Green submitted its proposal for outside air and exhaust fans needed for the HAVC system and for proper test and balance. The proposal was for $50,295 and 20 days time extension. Mr. Odom's signature on Navy work papers indicates that price and time extensions were being negotiated in the same

manner as previous time extensions. For reasons not explained in the record, and for which Mr. Odom testified he had no recollection, on Monday, 18 May 1998 Mr. Odom negotiated the amount down to $48,916, but made no change in the number of days. (R4, vol. 24, tab 171 at Bates 009615, 009612, vol. 23, tab 133; Odom, tr. 4/225-28)

Fire Sprinkler System Delay in Building 3251

172. On 12 May 1998, seven days after the current disputed contract completion date, and while Whitesell-Green's fire sprinkler subcontractor, Bay Sprinkler, was performing punch list work, the Navy made a verbal request for Whitesell-Green to provide the fire sprinkler hydrostatic test results for building 3251 (Zimmerman, tr. 1/148; R4, vol. 12, tab 100). On 22 May 1998, Whitesell-Green issued a letter to the Navy, signed by Mr. Zimmerman, in which Mr. Zimmerman certified that he personally witnessed the sprinkler systems' previous successful test (line pressure remained above 200 psi for 2 hours) on the above referenced dates (R4, vol. 12, tab 100; Zimmerman, tr. 1/143-47).

173. Whitesell-Green was not asked to provide certification verifying other tests which occurred throughout the project (Zimmerman, tr. 1/144).

174. As confirmed by the daily reports, by 16 May 1998, Bay Sprinkler had begun work in Building 600, due to the lack of work needed on Building 3251 (Zimmerman, tr. 1/148; R4, vol. 12, tabs 108, 101).

Lobby Suspension in Building 600

175. The Navy first indicated to Whitesell-Green that it was considering undetermined changes to Building 600's first floor lobby area on 19 May 1998, when the Navy representatives met on site to discuss lobby finishes (R4, vol. 13, tab 142).

Government Furnished Chilled Water

176. The daily reports from 18 May to 21 May 1998 confirm that the chilled water system was shut down to allow the Navy Public Works to install bypass valves and due to a related low water alarm (Zimmerman, tr. 1/210-11; R4, vol. 12, tabs 72, 73).

HVAC Outside Air Delay in Building 3251

177. On 21 May 1998, more than two weeks after the current contract completion date of 5 May 1998, the Navy issued undefinitized Modification No. P00013, first authorizing the additional work for the HVAC outside air, without final

agreement as to price or time. That modification recited that "Pending negotiation of time" the total price was increased by $48,916. (R4, vol. 12, tab 86) All prior modifications to the contract, except the option exercise, had been bilateral modifications. This modification was the first that was not a bilateral modification. (R4, vol. 2, tab 2)

178. On 21 May 1998, Whitesell-Green instructed Bayou Mechanical to proceed with the additional work required for proper introduction of outside air (Huff, tr. 2/180; R4, vol. 12, tab 107). Because of the lag time taken by the Navy in deciding whether to accept Bayou Mechanical's proposal, Bayou Mechanical had accepted other work and did not have available manpower to complete the job in the original timeframe. Bayou Mechanical estimated that it would take at least 30 work days to complete the work contained in the modification. (R4, vol. 12, tab 107, letter of 21 May 1998; Huff, tr. 2/181-82)

179. On 25 May 1998, Memorial Day, Whitesell-Green and Bayou Mechanical commenced the work covered by Modification No. P00013 (Zimmerman, tr. 1/218; Huff, tr. 2/181-82).

Chilled Water Delay in Building 3251

180. At no time prior to 22 May 1998 had the chilled water system been fully operational so as to allow test and balance operations to proceed (Zimmerman, tr. 1/211; R4, vol. 11, tab 3 at 11). The date on which the system first became operational, 22 May 1998, is 17 days beyond the current contract completion date of 5 May 1998 established by Modification No. P00005 for Building 3251.

181. The Navy's failure to meet its contract requirement to adequately and timely provide chilled water has not been addressed by any time extension issued by the Navy (R4, vol. 11, tab 3 at 11).

Delay to Stud Wall Framing – Terrazzo Base Removal for Building 600

182. The Navy's letter of 29 May 1998 forwarded Modification No. P00014 to provide Whitesell-Green monetary compensation for the wood blocking needed to fill the terrazzo base voids in Building 600. This modification, unlike Modification No. P00013, recited that "The contract period of performance remains unchanged." Whitesell-Green did not sign that modification. (R4, vol. 13, tabs 134, 135). This ended the delay on the terrazzo voids – an additional delay on the wall and flooring issues that extended from 20 March to 29 May 1998 – a total of 70 additional days of delay. This meant that the Navy had delayed the metal stud work a total of 122 days from 27

January 1998 to 29 May 1998 for Building 600. This extended the schedule from 2 December 1998 to 10 February 1999.

183. On 1 June 1998 Whitesell-Green continued to remind the Navy of the need for direction as to the remaining wall plane irregularity issue which the Navy first became aware of prior to 2 February 1998 (R4, vol. 13, tab 136; Zimmerman, tr. 2/90-91).

184. Whitesell-Green's letter to the Navy of 3 June 1998, passed along two separate letters from Whitesell-Green's framing and drywall subcontractor, Foster-Keller Construction, indicating that use of the "Tapcon" fastening system was in addition to its and Whitesell-Green's contract requirements and would require additional compensation (R4, vol. 13, tab 137).

185. On 3 June 1998, Whitesell-Green informed the Navy that it could wait no longer for the Navy instruction as to the wall plane irregularities and that work would be commenced using the original contract materials for wall furring, but the Tapcon fasteners were the only viable means of attaching the furring and would be used (R4, vol. 13, tab 137).

186. To date, Whitesell-Green has not been monetarily compensated, nor granted a time extension, for the use of the Tapcon fastening system and the delay in resolving the wall plane irregularities issue in Building 600 (R4, vol. 11, tab 5 at 3).

Fire Alarm System Delay for Building 3251

187. The Navy's designated fire inspector, Mr. Bob Tabet, was scheduled to inspect Building 3251's fire alarm system on Sunday, 8 June 1998 (Zimmerman, tr. 1/140; R4, vol. 12, tab 92). Daily reports confirm that, although Whitesell-Green and Navy personnel had gathered on the site in preparation for the inspection, Mr. Tabet had to reschedule the inspection at the last minute due to his own schedule conflict (Zimmerman, tr. 1/140-41; R4, vol. 12, tab 92). The inspection was rescheduled to occur on 15 June 1998, on which date Mr. Tabet began inspection of the fire alarm system and declared it acceptable to the Navy (Zimmerman, tr. 1/141; R4, vol. 12, tab 93).

188. Thus, the fire alarm system was accepted by the Navy at least 41 days after the current disputed contract completion date, due to Navy directed modification work first authorized on 1 May 1998; and, which work continued through 5 June 1998; and, Navy inspection and acceptance activity that continued until 15 June 1998 and which had been delayed at no fault of Whitesell-Green (Zimmerman, tr. 1/140-42). Thus, after the delayed delivery of the cervitor units resulting in delay to 5 June 1998, the

government added another delay along the critical path for Building 3251 from 5 June until 15 June 1998 for the changes to, and testing of, the fire alarm circuitry. This delay added ten more days of delay to the 31 days added by the late delivery of the cervitor units, for a total of 41 days of delay beyond 5 May 1998. This was along the critical path.

Navy Change in Policy with Respect to Time Extensions for Navy Caused Delays

189. During a meeting in early June 1998, Mr. Cooper told Mr. Brewer and Mr. Zimmerman that he was going to insist on a complete primavera network analysis before agreeing to a time extension (Zimmerman, tr. 1/246-48; R4, vol. 10, tab 100).

190. Mr. Cooper, who was not a contracting officer, was beginning, at this late date in contract performance, to take over the government's management of the construction. In his memo for the file of 17 June 1998, Mr. Cooper recorded the following opinion:

> 6. Ray Block tells me that the HVAC testing and balancing should be done early next week. This was the only item effected by some design deficiencies. Therefore, the government "got to the float first" and contractor problems with fire protection (and other items) would appear to now be driving critical path. These problems do not appear to be related to design in any way. This being the case, the HVAC testing and balancing STILL HAS FLOAT IN THE ACTIVITY!! We could even finish this test and balance activity later that [sic] this week and Fire Protection would still be driving critical path. There is clearly no excuse for the contractor's incredibly late delivery of this facility.

(R4, vol. 9, tab 100) We concluded from Mr. Cooper's testimony that he had many opinions about this project, but that he was not well informed about the facts on the ground. He did not understand the causal relationship of events. His opinion testimony was not credible.

HVAC Delay for Building 3251

191. Both Whitesell-Green and Bayou Mechanical crews worked substantial overtime and weekend hours to complete the additional scope of work covered by Modification No. P00013. The work was completed by 19 June 1998. (Zimmerman, tr. 1/218-19; Huff, tr. 2/181-82; R4, vol. 11, tab 3 at 13) This is 45 days beyond the

contract completion date of 5 May 1998 established by Modification No. P00005, and substantial test and balance work still had to be performed (R4, vol. 8, tab 43).

192. Installation of the outside air supply fans required work in extremely tight spaces directly above newly installed and previously successfully pressure tested sprinkler lines. In fact, Bayou Mechanical had only one employee small enough to fit into many required areas. (Huff, tr. 2/183)

HVAC Delay and Test and Balance

193. Throughout late May and June 1998, Systems Analysis, Inc. continued its attempt to perform test and balance operations despite the Navy's refusal to pay the additional $1,600 to have the work performed in distinct segments (Zimmerman, tr. 1/219).

194. As Bayou Mechanical's crews were working on the outside-air supply fan installation, they discovered that the existing exhaust system, which had not previously been inspected because it was outside the scope of Whitesell-Green's contract, was in disrepair (Huff, tr. 2/183-84).

195. Several exhaust ducts were broken or had openings or were not properly connected to exhaust grills (Huff, tr. 2/183-84).

196. Bayou Mechanical informed the Navy that the exhaust system needed repair in order to allow proper and complete test and balance of the HVAC system (Huff, tr. 2/184).

197. Bayou Mechanical was directed by the Navy to identify and repair portions of the exhaust system that were accessible without damaging existing structures (*i.e.*, drywall) in the building (Huff, tr. 2/184).

198. Mr. Huff testified that this repair process was "kind of haphazard" due to the Navy's directive not to disturb existing sheetrock walls (Huff, tr. 2/184).

199. Due to the condition of the existing exhaust ducts, it was not possible for Bayou Mechanical to secure a proper seal between newly installed exhaust fans and the ducts (Huff, tr. 2/188-89).

200. The condition of the existing exhaust system resulted in a greater pressure drop and less outgoing airflow than desired for Building 3251 (Huff, tr. 2/188-89).

201. In an effort to resolve the pressure situation, Bayou Mechanical removed the dampers to the exhaust registers to obtain additional airflow off the exhaust grills. This measure was not successful in fully remedying the exhaust problem. (Huff, tr. 2/189)

202. Bayou Mechanical informed the Navy that a proper test and balance operation would not be possible due to the condition of the existing exhaust system that was outside the scope of its or Whitesell-Green's contract (Huff, tr. 2/189-90).

203. Performance of test and balance activities and preparation of a test and balance report for a building similar to 3251 (which had 192 different living zones and 24 air handling units) could take up to three months after all mechanical components were installed and properly functioning (Zimmerman, tr. 1/219-21: Huff, tr. 2/176-79).

204. In late May or early June of 1998, Commander Ludowici had phoned Bill Whitesell to discuss expediting submission of the test and balance report for Building 3251 (Whitesell, tr. 4/167-68).

205. During the phone conversation, Mr. Whitesell informed Commander Ludowici of the mechanical problems that were delaying submission of the test and balance report (Whitesell, tr. 4/168).

206. As noted above, the outside air supply fan and accompanying duct work, covered by Modification No. P00013, was not completed until 19 June 1998 (R4, vol. 11, tab 3 at 13; Zimmerman, tr. 1/219).

207. Thereafter, in late June of 1998, Commander Ludowici called Mr. Huff into his office to inform him that the test and balance report was urgently needed by 7 July 1998. Commander Ludowici said that he needed the test and balance report before the building could be accepted. Mr. Huff responded that submission of the report in that short time frame would be nearly impossible, but he would make every effort to honor his request. (Huff, tr. 2/184; R4, vol. 12, tab 107)

Sprinkler System Delay in Building 3251

208. On 12 June 1998, three weeks after Whitesell-Green had certified the testing results of the fire sprinkler system, the Navy requested the retesting of the sprinkler system in Building 3251 (R4, vol. 12, tab 103).

209. The Navy directed re-test of the fire sprinkler system followed direction by the Navy for Whitesell-Green to perform substantial modification work to the mechanical systems located in tight crawl spaces in ceiling areas of Building 3251, which required Whitesell-Green and Bayou Mechanical's personnel to access locations

directly above newly installed, and previously successfully tested, sprinkler lines (Huff, tr. 2/182).

210. The Navy's direction regarding the changes to the mechanical systems in Building 3251 were out of Whitesell-Green's construction sequence and most probably were the cause of inadvertent damage to the fire sprinkler system, and we so find (Huff, tr. 2/182).

211. The fire sprinkler system for Building 3251 was retested in the presence of government representatives on 22 June 1998 (Zimmerman, tr. 1/150). On this date the system failed to hold required pressure in Wings B and C of Building 3251 (R4, vol. 12, tab 103).

Lobby Suspension in Building 600

212. A 26 June 1998 memo from the Navy's Bachelor's Quarters Director to Navy Public Works confirmed that the user was questioning several aspects of the lobby design, including location and dimensions of the planned millwork (R4, vol. 13, tab 142; Zimmerman, tr. 2/95-97).

Fire Sprinkler System for Building 3251

213. On 2 July 1998, the fire sprinkler system for Building 3251 was successfully retested in the presence of government representatives (Zimmerman, tr. 1/150-51; R4, vol. 12, tab 104).

HVAC Delay and Test & Balance

214. Following completion of the work covered by Modification No. P00013 and the requests by Commander Ludowici, Whitesell-Green, Bayou Mechanical, and Systems Analysis expedited test and balance operations, and the initial test and balance report for Building 3251 was submitted to the Navy on 6 July 1998 (Zimmerman, tr. 1/222; Huff, tr. 2/185; R4, vol. 12, tab 107).

215. The contemporaneous record establishes that the receipt of the test and balance report was on the critical path and was the event keeping the Navy from occupying Building 3251**.** The receipt of that report was delayed because of the Navy's failure to make the chilled water system available and because of the differing site conditions and the changed work involving the outside air supply fan and accompanying ductwork.

216. The government did not authorize the performance of the changed work for the outside air until 21 May 1998 and it then reasonably took the mechanical subcontractor until 19 June 1998 to complete the work. The performance of the test and balance work was expeditiously done and the original report delivered on 6 July 1998, after which the government immediately occupied Building 3251 on 7 July 1998. These delays along the critical path extended the completion date to 6 July 1998, thus adding 21 more days of delay.

217. The next day, 7 July 1998, the Navy began moving furniture into Building 3251 and otherwise occupying the building (Zimmerman, tr. 1/226; R4, vol. 4, daily report for 7 July 1998).

Government Rejection of Test and Balance Report

218. The initial test and balance report for Building 3251 that was submitted by Whitesell-Green was rejected by the Navy on 8 July 1998 (R4, vol. 12, tab 87; Zimmerman, tr. 1/223-25).

219. In its rejection letter, drafted by Mr. Odom, the Navy stressed that a "properly tested and balanced" building was essential to beneficial occupancy and that "This was an item that was brought to your attention at the beginning of the contract that BOD cannot be established until the T & B is complete" (R4, vol. 12, tab 87).

220. On 8 July 1998, Rob Zimmerman spoke with Ray Block and Roger Odom and the parties scheduled a meeting for 13 July 1998 to discuss outstanding test and balance issues for Building 3251. Mr. Odom again informed Mr. Zimmerman that the Navy would not be issuing its letter to establish the beneficial occupancy date for Building 3251 until the test and balance issues were resolved. (Zimmerman, tr. 1/224-25; R4, vol. 4, daily report 8 July 1998)

221. The daily report for 15 July 1998 confirms that Navy personnel were on site to review and discuss progress concerning test and balance with Mr. Zimmerman (Zimmerman, tr. 1/226-27; R4, vol. 4, daily report 15 July 1998).

222. Prior to 15 July 1998, moisture problems had developed within the building. Among other things, "sweat" from condensation appeared on sprinkler piping, dryer boxes, and light fixtures throughout Building 3251 (Zimmerman, tr. 1/227-30).

223. Navy review and inspection, on and following 15 July 1998, was for the purpose of determining the cause of the moisture problems existing in Building 3251 (Zimmerman, tr. 1/227-28).

224. On 16 July 1998 Navy personnel continued their efforts to determine the causation of the air balance and moisture problems in building 3251. On this date, Doug Chaistang and Ray Block, both Navy mechanical engineers, stated that Systems Analysis had done all that was possible concerning test and balance. (R4, vol. 4, daily report for 16 July 1998) These government engineers acknowledged on behalf of the Navy, and we so find, that the balance and moisture problems were "design related." Design of the system was the responsibility of the Navy (Zimmerman, tr. 1/229-30; R4, vol. 4, daily report for 16 July 1998).

Lobby Suspension for Building 600

225. Meanwhile, over in Building 600, as of 20 July 1998 the release of the lobby cabinet activity was necessary to allow for the expected duration of factory fabrication (R4, vol. 11, tab 5 at 4).

226. On 20 July 1998 Whitesell-Green advised the Navy of the need for the Navy to respond to submittal #65A, concerning cabinets and millwork (R4, vol. 13, tab 143; Zimmerman, tr. 2/97). Whitesell-Green advised the Navy (Mr. Block):

> . . . [A]bout urgency of getting the cabinetry submittal returned. We are ready to begin work in the lobby area. We have heard rumors that the user wants to implement changes on the cabinet/millwork. The ROICC must let us know immediately.

(R4, vol. 13, tab 143)

227. On 22 July 1998 Whitesell-Green again reminded the Navy of the urgent need for action on millwork submittal #65A for the lobby in Building 600 (R4, vol. 13, tab 144).

228. Submittal #65A had been submitted by Whitesell-Green to the Navy on 24 March 1998 (R4, vol. 11, tab 5 at 5).

229. On 24 July 1998 Whitesell-Green was informally notified that issuance of a stop work order was likely in the lobby at Building 600 to allow a Navy decision as to its desired changes in the area (Zimmerman, tr. 2/99).

230. Mr. Zimmerman's letter to the Navy of 26 July 1998 repeated the desperate need for review action on submittal #65A for the lobby of Building 600 (R4, vol. 13, tab 147).

231. On 28 July 1998, the Navy issued a formal Suspension of Work Order for the lobby area of Building 600. The stop work order specified an initial duration of sixty days, and noted, "Upon resumption of work, a time extension will be negotiated" (R4, vol. 13, tab 148; Zimmerman, tr. 2/99).

Crawl Space Asbestos Delay at Building 600

232. On 29 July 1998 a meeting between Whitesell-Green, Asbestos Free, and Navy representatives occurred during which the Navy claimed that because the contract's full scope of soil removal beneath Building 600 had not been documented, Whitesell-Green was obligated to perform additional abatement work (Zimmerman, tr. 2/48; R4, vol. 13, tab 179).

233. At this same meeting, however, Navy representatives finally acknowledged that the scope of abatement envisioned by the contract would not be sufficient to adequately decontaminate all of the crawl space. It was agreed that asbestos abatement would continue until the contract quantity was documented and at that point, work would cease, the crawl space areas would be tested and the Navy would be advised of the soil conditions. (Zimmerman, tr. 2/50; R4, vol. 13, tab 179)

234. At the hearing of this appeal, Mr. Cooper acknowledged that the additional asbestos in the crawl space of Building 600 was a differing site condition (Cooper, tr. 5/126). Further, when questioned concerning the duration of this delay, Mr. Cooper admitted that his calculations or estimates of delay due to this issue were based upon incorrect dates, which resulted in an error totaling one full year and that this delay first arose in early October of 1997, instead of 1998 (Cooper, tr. 5/127-29).

235. During the meeting of 29 July 1998, the idea of encapsulating the crawl space was first voiced by Tommy Reed of Asbestos Free's testing subcontractor, Reed Technical Services, Inc. He suggested that because the depth of contaminated soils was not known, installation of a barrier or "cap" may be preferable to, and less expensive than, additional soil removal. (R4, vol. 13, tab 179; Zimmerman, tr. 2/49-50)

Denial of Test and Balance Report in Building 3251

236. On 7 August 1998, the Navy held another on site meeting to discuss the moisture situation affecting the test and balance of Building 3251. On this date, Navy personnel announced that they would be experimenting with several options in an attempt to control moisture. The Navy stated that it would perform all future work. (Zimmerman, tr. 1/232; R4, vol. 9, tab 91)

237. Throughout August of 1998, Navy Public Works continued to make several modifications and adjustments to Building 3251's mechanical system (Zimmerman, tr. 1/235; Huff, tr. 2/188).

Crawl Space Asbestos Delay at Building 600

238. By 11 August 1998, Whitesell-Green had advised the Navy that it had removed the contracted quantity of asbestos laden soil, but that significant quantities of contaminated soils remained in the crawl space and would need to be removed in order for mechanical and electrical work to commence (R4, vol. 13, tab 182).

239. On 11 August 1998, Whitesell-Green informed Asbestos Free that the Navy was considering a change order for asbestos abatement in Building 600 and requested an estimate for removing the necessary additional soils (R4, vol. 13, tab 182).

240. Mr. Cooper was asked for authority to proceed with additional soil removal, pending resolution of a change order addressing costs and time. Mr. Cooper stated that he would need at least a "rough estimate" of the related cost to authorize the work. (R4, vol. 13, tab 183)

241. On 13 August 1998, Asbestos Free provided Whitesell-Green its estimate of cost and time necessary to perform the work (R4, vol. 13, tab 184).

242. Mr. Gibson's letter to the Navy, dated 13 August 1998, confirms a phone conversation between Mr. Gibson and Mr. Cooper in which the Asbestos Free estimate was discussed. As a result, Whitesell-Green agreed to also solicit prices from other abatement subcontractors to perform the envisioned additional scope of work. Mr. Cooper was advised that bringing in a new abatement subcontractor at this point of performance would extend the response time as new personnel would need time to familiarize themselves with the project and the remaining abatement scope of work. (R4, vol. 13, tab 185)

243. Later, also on 13 August 1998, Whitesell-Green received verbal notice from Navy representatives that the Navy Public Works (PWC) would, after all, be permanently encapsulating the contaminated crawl space soils with their own Navy furnished crews. After performing its work, PWC was to air-test the crawl space area to ensure the safety of Whitesell-Green and its subcontractors' personnel. In his letter confirming the verbal authorization, Mr. Gibson advised the Navy that Whitesell-Green stood ready to continue the MEP work in the crawl space, as soon as this work could be safely performed. When PWC completed the encapsulation, Whitesell-Green stated that it would determine this differing site condition's impact on the project schedule and advise the Navy accordingly. (R4, vol. 13, tab 186)

Lobby Suspension for Building 600

244. Submittal #65A was finally addressed by the Navy on 20 August 1998. On this date, the Navy verbally authorized fabrication of cabinets and millwork for all areas in Building 600 except the lobby. (R4, vol. 13, tab 151)

245. On 25 August 1998 Whitesell-Green requested information from the Navy as to the scope of the potential lobby changes and what work, if any, could go forward in the lobby area. The Navy did not respond to this request. (R4, vol. 13, tab 153; Zimmerman, tr. 2/100)

Crawl Space Asbestos Delay at Building 600

246. The Daily Report for 25 August 1998 confirms a meeting that took place on site during which Mr. Zimmerman enquired as to the status of the PWC encapsulation and the Navy's anticipated schedule and duration for the work (Zimmerman, tr. 2/50-53). As of this date no PWC abatement work had been performed (R4, vol. 13, tab 187).

247. Apparently, despite informing Whitesell-Green that the encapsulation process would be employed to decontaminate the crawl space between 26 August and 10 September 1998, the Navy continued to consider other abatement options such as applying a layer of liquid sealer, or of sand, to the soil (R4, vol. 13, tab 188; Zimmerman, tr. 2/53).

248. Testing of an oil based encapsulate coating was conducted on 27 August 1998. After inspection by the Navy, this method of encapsulation was deemed unsatisfactory (R4, vol. 13, tab 189).

Lobby Suspension for Building 600

249. On 10 September 1998 the Navy informed Whitesell-Green that by 16 September 1998 the ROICC office expected further clarification as to the changes to the lobby design (R4, vol. 13, tab 154).

250. During a 10 September 1998 meeting between Mr. Gibson and Navy representatives, the Navy first advised Whitesell-Green that changes to the lobby would likely affect placement of interior walls (R4, vol. 13, tab 154; Gibson, tr. 2/238-39).

251. On 11 September 1998 Mr. Block and Mr. Zimmerman met on site and Mr. Block stated that the Navy was investigating pumping concrete into the crawl space to encapsulate the contaminated soils (R4, vol. 13, tab 190; Zimmerman, tr. 2/54).

252. Whitesell-Green's 15 September 1998 letter to the Navy confirmed the Navy's verbal clarification that the suspension of work order affected all areas and aspects of work in the lobby and would likely include changes to the layout of the lobby walls (R4, vol. 13, tab 155).

253. The Navy was advised on 15 September 1998 that Whitesell-Green and its subcontractors' utility rough-in crews were being forced to work around the lobby area and that framing and sheetrock crews would be forced to do the same (R4, vol. 13, tab 155).

254. On 16 September 1998 Mr. Gibson contacted Mr. Cooper to inquire concerning the scope of changes to the lobby, which had been promised to Whitesell-Green by that date. Mr. Cooper informed Mr. Gibson that the Navy was "still working" on the changes. (R4, vol. 13, tab 156)

255. On 23 September 1998 Mr. Gibson was contacted by Mr. Odom, who informed him that the Navy expected finalization of the lobby changes "within a few days" (R4, vol. 13, tab 157). Two days prior to that date, on 21 September 1998 Mr. Gibson had submitted Whitesell-Green's first schedule showing the full extent of the lobby suspension. This schedule showed that the lobby suspension impacted a total of 29 activities. (R4, vol. 9, tab 104, vol. 28, tab 3)

256. On 25 September 1998 the Navy wrote to Whitesell-Green and requested a proposal for lobby changes indicated on attached drawings, emphasizing that the proposal request was "NOT a notice to proceed" (R4, vol. 13, tab 158; Zimmerman, tr. 2/100-01).

Crawl Space Asbestos Delay at Building 600

257. On 30 September 1998 the Navy advised Whitesell-Green that concrete would be used for encapsulation and PWC would begin this work on 5 October 1998 (R4, vol. 13, tab 191; Zimmerman, tr. 2/56).

Lobby Suspension for Building 600

258. On 5 October 1998 Whitesell-Green received notice from the Navy that the lobby suspension would extend for up to an additional sixty days (R4, vol. 13, tab 161).

259. Whitesell-Green wrote to the Navy on 7 October 1998 to offer its proposal of $21,239 to perform the changes to the lobby (PC000063). This figure did not include

changes made to the flooring, which was covered as a separate proposal. (R4, vol. 13, tab 162)

260. Whitesell-Green also sent its proposal of $4,678 for the lobby flooring modifications (PC000057) to the Navy on 7 October 1998 (R4, vol. 13, tab 163).

Crawl Space Asbestos Delay at Building 600

261. Navy pumping equipment arrived on site on 7 October 1998, and the work commenced in the crawl space of the west wing of Building 600 the next day, 8 October 1998 (R4, vol. 13, tabs 192, 193; Zimmerman, tr. 2/56-58).

Lobby Suspension for Building 600

262. On 9 October 1998 Whitesell-Green provided the Navy its revised proposal for the lobby flooring change. Whitesell-Green proposed a credit of $4,832 based on its determination that carpet from other portions of the building could be used to implement this change. (R4, vol. 13, tab 165)

263. The overall cost proposal for the extent of the Navy's desired lobby changes equaled only $16,407 as of 9 October 1998 (R4, vol. 11, tab 5 at 6).

CPM Submitted with Pay Request #11

264. On 12 October 1998 Whitesell-Green submitted its Request for Payment #11, for work performed through 7 October 1998 (R4, vol. 13, tab 164). Included in this pay request was a progress narrative and primavera CPM schedule indicating that Building 600's critical path ran through the lobby suspension of work and that the projected completion date for Building 600 was 31 March 1999 (R4, vol. 13, tab 164; Gibson, tr. 3/16-17).

265. This CPM schedule depicted the durations and sequence of activities to be performed in the lobby following the lifting of the suspension of work in that area as separate actions (R4, vol. 13, tab 164; Gibson, tr. 3/16-32). This was a progress updating of the schedule Mr. Gibson had forwarded on 21 September 1998, which first depicted the full impact of the lobby suspension on the work schedule.

266. This same updated Primavera CPM Schedule with a data date of 7 October 1998, showed that the crawl space MEP and HVAC work was delayed by the Navy encapsulation, and that both were within eight days of the critical path (R4, vol. 13, tab 164; Gibson, tr. 2/212-14).

267. The cover letter that accompanied Whitesell-Green's submission of the 7 October 1998 CPM update also advised that a formal request for time extension would be made upon determining the full impact of all Navy caused delays (R4, vol. 13, tab 164).

Lobby Suspension for Building 600

268. On 20 October 1998 an on-site meeting was held between Whitesell-Green and the Navy during which Whitesell-Green emphasized the need for Navy action on the lobby changes, proposals and overall suspension of work affecting the lobby (R4, vol. 13, tab 166; Zimmerman, tr. 2/101).

269. During a meeting of 21 October 1998 the Navy provided further change instructions concerning the flooring to be installed in the lobby area and requested that Whitesell-Green provide another revised cost proposal for performing the work (R4, vol. 13, tab 167).

270. In an attempt to avoid further delay caused by the Navy's reported lack of funds, Whitesell-Green arranged for its carpet subcontractor and its material suppliers to suggest a revised scope of work which lowered the overall cost to the Navy to only $6,370. Whitesell-Green provided the Navy its second revised cost proposals for the full extent of the lobby change (PC000063 and PC000057) on 22 October 1998. (R4, vol. 13, tab 168)

271. Whitesell-Green's 22 October 1998 cover letter to the Navy reserved its right to request necessary time extensions due to the Navy's prolonged deliberation over the lobby changes, and advised the Navy that Whitesell-Green would not proceed with any change work until receiving the Navy's written authorization (R4, vol. 13, tab 168).

Crawl Space Asbestos Delay at Building 600

272. On 22 October 1998 the Navy verbally notified Whitesell-Green that PWC's work in the crawl space of Building 600 would be completed by 26 October 1998 (R4, vol. 13, tab 195; Gibson, tr. 2/222).

273. On 23 October 1998 PWC was pumping concrete in the crawl space connecting Buildings 600 and 600A (Zimmerman, tr. 2/59; R4, vol. 3, daily report of 23 October 1998).

274. The Daily Report for 26 October 1998 confirms that PWC completed pumping on that day and that testing of the crawl space was to occur the following day (R4, vol. 13, tab 196).

Lobby Suspension

275. On 27 October 1998 Mr. Block informed Mr. Gibson by telephone that the Navy was still reviewing Whitesell-Green's latest cost proposal concerning the carpet in the lobby area of Building 600 (R4, vol. 13, tab 169).

Crawl Space Asbestos Delay at Building 600

276. On 2 November 1998, the Navy notified Whitesell-Green by fax that PWC had completed its encapsulation operations. It also notified Whitesell-Green that Navy environmental personnel had analyzed air samples indicating it was now safe to access the crawl space area. (R4, vol. 13, tab 198; Zimmerman, tr. 2/60; Gibson, tr. 2/223)

277. The 2 November 1998 authorization effectively released Whitesell-Green to commence crawl space mechanical, electrical and fire sprinkler work twenty-two days after the current contract completion date of 11 October 1998. This was the first time demolition and other work could safely begin in the crawl space. (Gibson, tr. 2/222-23)

Lobby Suspension for Building 600

278. On 5 November 1998, twenty-five days after the current contract completion date (11 October 1998), the Navy lifted its formal lobby suspension of work by letter to Whitesell-Green, advising Whitesell-Green that a modification would be forthcoming for the scope of lobby changes suggested by the most recent proposal (R4, vol. 13, tab 170; Zimmerman, tr. 2/101-02).

279. Whitesell-Green responded immediately, sending a letter to affected subcontractors, dated 6 November 1998, which lifted the suspension as to the subcontractors and advised that a modification would be issued in the near future. Whitesell-Green's letter requested its subcontractors to resume work immediately. The following subcontractors were notified to prepare to finish work in the lobby area: Bayou Mechanical, Bay Sprinkler Specialists, Inc., East Bay Electric, Inc., ESA, Inc., Pioneer Woodworking, Suncoast Flooring, Foster-Keller Construction, and Perdido Tile. (R4, vol. 13, tab 171) The government's delay in the lobby was 100 days, for a total of 222 days including prior delays for floor trench remediation and the terrazzo voids – extending the contract period to 21 May 1999.

280. Whitesell-Green's letter of 6 November 1998 to its millwork vendor, Pioneer Woodworking, requested an acceleration of its replacement shop drawing efforts for the lobby millwork in Building 600 (R4, vol. 13, tab 171).

CPM Report

281. On 9 November 1998, Whitesell-Green provided the Navy an updated CPM Schedule with a data date of 2 November 1998, to coincide with the Navy's "all clear" notice for the crawl space (R4, vol. 13, tab 200). This analysis showed that crawl space activities continued to be just eight days behind the critical path, which remained in the suspended lobby work (R4, vol. 13, tab 200). In its letter, Whitesell-Green advised the Navy it deemed the delays caused by the lobby suspension and the additional crawl space abatement to be concurrent delays, in that both were delaying major remaining activity sequences until the crawl space all clear was given on 2 November 1998 (R4, vol. 13, tab 200; Gibson, tr. 2/224).

282. Also on 9 November 1998, Whitesell-Green provided the Navy an updated primavera CPM Schedule with a data date of 6 November 1998. This 6 November 1998 update showed the still suspended lobby work on the critical path, with the crawl space HVAC work still slightly off the critical path for Building 600. (R4, vol. 13, tab 199)

Crawl Space Asbestos – Delay to Demolition in order to Provide HVAC

283. As the weather was becoming colder, heat to the building would be required to allow for the finish work (Gibson, tr. 2/220). To combat this colder weather, Bayou's work was resequenced to remove only the portions of the old heating line needed to get new lines in place and allow the building's heat to be turned on and finish work to proceed (R4, vol. 11, tab 5 at 11). After installing the new heat lines, Bayou doubled back to complete the remaining demolition required in the crawl space (Huff, tr. 2/192). This work was a voluntary acceleration and resequencing by Whitesell-Green and its subcontractor which benefited the Navy (R4, vol. 11, tab 5 at 11).

284. Because of the prolonged lack of access to the crawl space area, Bayou Mechanical was forced to install and test plumbing components for Building 600 in an out of sequence and inefficient manner (Huff, tr. 2/191-95). This extra time and effort was caused by the Navy's delay in resolving the crawl space asbestos issue.

285. Bayou Mechanical had planned to install and test all plumbing systems in the crawl space prior to installing riser piping into the upper levels of Building 600 (Huff, tr. 2/192).

286. Because all plumbing system piping could not be connected in the crawl space area, each riser pipe had to be separately tested to ensure proper fitting (Huff, tr. 2/192-93). This process was accomplished by capping the bottom and filling each riser pipe with water for an overnight period (Huff, tr. 2/194).

287. Once access to the crawl space was allowed, Bayou Mechanical was forced to return and complete and test all mechanical components contained underneath Building 600, as well as connect each capped riser pipe to the areas within the crawl space (Huff, tr. 2/194).

Lobby Work Delay

288. During an on-site meeting of 24 November 1998, Whitesell-Green requested approval of the lobby millwork re-submittals. Whitesell-Green was promised approval action by the next day, 25 November 1998 (R4, vol. tab 173).

289. On 25 November 1998, Whitesell-Green received Navy approval for the lobby millwork and cabinetry resubmittal (R4, vol. 13, tab 174).

CPM Schedule

290. Whitesell-Green's cover letter of 21 December 1998 served as its Request for Payment #13, for work performed through 18 December 1998 (R4, vol. 13, tab 175). Included with its request was Whitesell-Green's primavera CPM schedule and accompanying narrative which demonstrated that the critical path continued to run through in-progress lobby activities. This schedule indicated completion of Building 600 would occur on 29 April 1999. (R4, vol. 13, tab 175; Gibson, tr. 3/17-22, 38-39) Between the 5 November 1998 lifting of the lobby suspension and 21 December 1998, Whitesell-Green's performance in the lobby area of Building 600 proceeded on pace, making the progress forecasted in the 12 October 1998 CPM schedule, which reflected the forecasted impact of the Navy suspension of work to that area. (Gibson, tr. 3/17-22, 38-39)

291. Whitesell-Green's letter to the Navy of 28 December 1998 returned a fully executed Modification No. P00018, for monetary compensation of only $6,370 due to the lobby changes. Whitesell-Green reserved its right to negotiate time impact at a later date. (R4, vol. 13, tab 175)

292. On 21 December 1998, Whitesell-Green provided the Navy an updated CPM Schedule with a data date of 18 December 1998 (R4, vol. 13, tab 202). This schedule demonstrated that the accelerated work on the critical heating portions of the crawl space HVAC system had been completed as of 11 December 1998 (R4, vol. 13, tab 202).

293. Without the acceleration efforts of Whitesell-Green and Bayou Mechanical, the activities controlled by the crawl space issue would have overtaken the lobby issues and, as a result, become critical activities rather than concurrent with the lobby

suspension impacts (R4, vol. 11, tab 5 at 11; Gibson, tr. 2/213-20). As a result, the crawl space abatement activity, which began on 11 August 1998 and extended through 2 November 1998 (a delay of 83 days), was concurrent with the lobby suspension issue (R4, vol. 11, tab 5 at 11; Gibson, tr. 2/213-20; Cooper, tr. 5/126-30).

294. Because the Navy opted to self perform the crawl space asbestos abatement work needed in Building 600, no modification has been issued to address the issue (R4, vol. 11, tab 5 at 11). This is true despite the undisputed fact that Whitesell-Green and its subcontractors were not allowed safe access to the crawl space until 2 November 1998, three weeks after the current contract completion date of 11 October 1998 (R4, vol. 13, tab 198).

295. Following the Navy's notice to proceed after the crawl space encapsulation, on 2 November 1998, Whitesell-Green completed all crawl space activities in only five months, with work completing on 28 February 1999. This represents a full month's acceleration for this work as compared to the as-planned duration for crawl space activities. (R4, vol. 14, tab 218)

296. Whitesell-Green's letter to the Navy of 1 February 1999 served as its Request for Payment #14, for work performed through 26 January 1999 (R4, vol. 13, tab 177). Included with its request was Whitesell-Green's primavera CPM schedule and accompanying narrative which demonstrated that the critical path remained in the lobby activities, which were underway. This schedule projected completion of Building 600 would occur on 30 April 1999 and that work in the lobby was proceeding as scheduled. (R4, vol. 13, tab 177)

Lobby Work in Building 600

297. Other than standard punch list work, the work in the lobby was the final work performed by Whitesell-Green and its subcontractors on Building 600 (R4, vol. 14, tab 218).

298. The Navy established Beneficial Occupancy for Building 600 as 23 April 1999 by Modification No. P00039. That modification also assessed $524,576.00 in liquidated damages for Building 600 at the rate of $2,704.00 per day for 194 days. (R4, vol. 2, tab 2)

299. The establishment of the 23 April 1999 BOD evidences Whitesell-Green's effort in completing Building 600 ahead of its 12 October 1998 projected duration for completion of lobby activities based on the lobby suspension of work being lifted on 5 November 1998 (R4, vol. 11, tab 5 at 8).

300. To date, Whitesell-Green has received no time extension to address the Navy changes to Building 600's lobby (R4, vol. 11, tab 5 at 7).

Test and Balance Delay in Building 3251

301. After 15 July 1998, Whitesell-Green was not directed to assist in the efforts to resolve the balance and moisture issues, nor was this work within its contract with the Navy (Zimmerman, tr. 1/235).

302. The problems with test and balance operations for Building 3251 were not readily resolvable because of the mechanical design deficiencies, which were the responsibility of the Navy and eventually acknowledged and addressed by Navy personnel (Zimmerman, tr. 1/232; R4, vol. 9, tab 91).

303. The Test and Balance report was resubmitted on one or two occasions without any changes, because neither Whitesell-Green nor any of its subcontractors did any additional work on the system after the initial submission of the test and balance report on 6 July 1998. The last resubmittal by Whitesell-Green was hand delivered on 7 October 1998. The government finally approved the submittal on 9 December 1998. (Huff, tr. 2/190; R4, vol. 25, tab 198) All of the delay related to the test and balance report is the responsibility of the government.

304. On 16 March 1999, the government finally acknowledged 6 July 1998 as the beneficial occupancy date by Modification No. P00031. That modification also assessed $709,280.00 in liquidated damages for Building 3251 at the rate of $11,440.00 per day for 62 days. (R4, vol. 9, tab 73)

305. At the Navy's request, Whitesell-Green provided its cost proposal for the required and substantial additional work for the fire alarm circuitry in Building 3251, by letter dated 24 July 1998 (Zimmerman, tr. 1/143-44; R4, vol. 12, tab 94). Ultimately, Modification No. P00020 was issued on 17 November 1998; approximately seven months after the subject work was authorized (R4, vol. 12, tab 90, vol. 26, tab 218). By Modification No. P00020, the Navy agreed to payment of $43,369 for the direct cost of the additional work covered by Modification No. P00020 (R4, vol. 12, tab 90, vol. 26, tab 218).

Other Issues

306. The appellant submitted a properly certified claim on 16 January 2001, seeking remission of all liquidated damages. The certified claim also sought 193 days of delay damages on Building 600 in the amount of $108,659.00 for field overhead, and $94,126 for extended home office overhead; and, $103,182.00 for the cost of preparing

schedule analyses. The claim was submitted by Mr. Gibson, Executive Vice-President. He was also the last project manager in the Pensacola office. We find that the claim was hand carried and received by the government on 16 January 2001. (R4, vol. 11, cover letter to the certified claim)

307. At the hearing of this matter the Navy indicated that it now accepted that Whitesell-Green was entitled to at least an additional 23 days of government caused delay to the critical path for Building 3251. Government counsel stated:

> . . . [W]e now believe that the date should have been extended from May 5th to May 28th, and upon completion of this hearing, we will find and issue them a unilateral mod for 23 days of liquidated damages on 3251, which will be roughly about $300,000 worth of compensation. So, in that, I just want to point out that the Government has been consistent because, "If you can persuade us, we will take the necessary action."

(Tr. 1/51)

308. The government, in its post hearing brief, now avers that the above agreement was based on the assumption that the appellant's data was accepted as valid, and that now the government wishes to wait and see if the Board will accept the appellant's data, as presented by its scheduling consultant, as valid. (Respondent's Second Post Hearing Brief at 50, ¶ 115)

309. The parties now agree that beneficial occupancy for building 3251 occurred on 6 July 1998.

310. The parties agree that beneficial occupancy for building 600 occurred on 23 April 1999.

311. A CPM schedule is, "at best in most cases a good estimate, because all contractors at the beginning of a job do not know exactly how the flow will take place from start to finish" (Musser, tr. 6/24). Without constant and consistent monitoring and agreed updating by the parties, the primavera schedule loses much of its utility as a definitive schedule. Mr. Musser, the government's expert in the use of primavera, described the primavera process as a dynamic one.

> The dynamics of CPM scheduling is that every day, because progress shifts, and because it is so dynamic, the CPM schedule, by updating, will allow

> you to be able to see how certain activities that are critical at one point in time in a project no longer become critical, and can shift to other activities. And, of course, that's the result of any one of a number of factors; they can be whether it's delays in the actual work itself or some other issue that takes place on a contract. It's represented very simply on the CPM schedule.

(Musser, tr. 6/23)

312. We find that CPM schedules were submitted from time to time to the government, especially for progress payment purposes. Government personnel, including Mr. Carruth and Mr. Odom called for those schedules to be used for purposes of determining the forward looking critical path. However, they did not rely on those schedules for determining time extensions or excusable delay for purposes of the default and liquidated damages clauses.

313. We find that the government abandoned the use of the primavera software network analysis as the sole method for determining time extensions. The government did not use or require the primavera network analysis for the time extensions granted by Modification Nos. P00001, P00004, and P00005. Moreover, it granted these time extensions while knowing that other Navy caused delays to both Building 3251 and Building 600 were in process of being addressed by both parties. The Navy did not participate in weekly joint updates. To the extent that the Navy used the primavera network, it used it as a tool for projecting the critical path as a forecasting tool.

314. We find that Mr. Cooper's demand for a day one primavera schedule with all contemporaneous updates, coming in June 1998, was unreasonable. It was too late in the construction progress to re-impose a schedule that had been abandoned for purposes of determining time extensions.

315. The contractor has presented credible evidence that the government was solely responsible for delay of the project with respect to building 600. The government has not presented any credible evidence to establish that Whitesell-Green was solely or concurrently responsible for delay of the project with respect to Building 600.

DECISION

There are two overriding issues in these appeals. The first deals with section 01311 of the specifications and how it was treated by the parties. The second deals with black letter law issues concerning the applicable burden of proof relating to the

government's claim for liquidated damages and the appellant's affirmative claims for delay and other damages.

Section 01311 of the Specifications

Paragraph 1.2 of section 01311 of the specifications states that the contractor is to prepare a construction schedule in accordance with the contract clause entitled SCHEDULES FOR CONSTRUCTION CONTRACTS (APR 1984). That clause, as found at FAR 52.236-15, and as incorporated in the contract, provides in the last sentence thereof that termination actions are to be taken "in accordance with the default terms of this contract." Claims by the government for liquidated damages arise under the provisions of the default and liquidated damages clauses. Interestingly, paragraph 1.5 (misplaced as the last paragraph of section 01311, following paragraph 1.7) asserts:

> . . . Extension of time for performance required under the clauses entitled, "Changes," "Differing Site Conditions," "Default (Fixed-Price Construction)" or "Suspension of Work" of the Contract Clauses will be granted only to the extent that equitable time adjustments for the activity or activities affected exceed the total float or slack along the network paths involved.

One reading of that paragraph is that it modifies the default clause by specifying that time extensions for purposes of the default clause shall be determined, not by the default clause, but by section 01311 of the specifications. That reading would seem to make the language of the specification inconsistent with the very contract clause (SCHEDULES FOR CONSTRUCTION CONTRACTS (APR 1984)) authorizing the specification section dealing with construction schedules. Moreover, a specification that is in conflict with, or deviates from, one or more contract clauses, would appear to be a deviation that needs to comply with the provisions of subpart 1.4 of the FAR.

However, we do not need to resolve those issues, because we found that the parties abandoned the use of the primavera network analysis for purposes of determining time extensions; and, that the government's attempt to require the use of a primavera network analysis for that purpose came too late in the construction process.

We note that the government relies on *Galaxy Builders, Inc.*, ASBCA Nos. 50018, 50136, 00-2 BCA ¶ 31,040, for its argument that it did not abandon the use of the primavera network analysis for determining time extensions. This case is unlike *Galaxy*, because in *Galaxy* the contractor submitted CPM schedules and both parties justified bilateral time extensions with CPM analyses. (00-2 BCA at 153,278) As we found, in the instant case, no CPM schedules were used to justify the bilateral time extensions.

Burdens of Proof – Government Claim for Liquidated Damages

Procedurally, we have before us the appellant's appeal from the government's refusal to remit liquidated damages. However, as a matter of substantive law, the government's assertion of the right to assess liquidated damages is a government claim for liquidated damages which arises under the provisions of the default and liquidated damages clauses. The government bears the burden of proof for its claims. *Southwest Welding & Manufacturing Co. v. United States*, 413 F.2d 1167, 1176 n.7 (Ct. Cl. 1969); *Insulation Specialties, Inc.*, ASBCA No. 52090, 03-2 BCA ¶ 32,361 at 160,100-01, and cases cited. As a matter of substantive law, because the government is claiming that it is entitled to collect liquidated damages from the appellant, the government – as the claimant – must prove that it is entitled to assess liquidated damages in the amount claimed. This means that the government, as the proponent or claimant, must prove each element by a preponderance of the evidence. 9 *Wigmore, Evidence* § 2485 (Chadbourn rev. 1981) (risk of nonpersuasion).

If the government establishes that the contractor was late in completing the contract work by the scheduled contract completion date, and establishes that the assessment of liquidated damages was correctly computed, the government has established a *prima facie* case. In these appeals the parties do not dispute the scheduled completion date, the date of substantial completion (beneficial occupancy), and the computation of the amount of liquidated damages.

Once the government has established its *prima facie* case, the appellant must come forward with evidence to show that the government prevented performance or contributed to the delay or that the delay was excusable. *Lisbon Contractors, Inc. v. United States*, 828 F.2d 759, 763-765 (Fed. Cir. 1987); *Gaffny Corp.*, ASBCA Nos. 37639 *et al.*, 94-1 BCA ¶ 26,522 at 132,010; *Insulation Specialties, supra,* 03-2 BCA at 160,100-01. *See* FED. R. EVID. 301; 9 *Wigmore, Evidence* §§ 2487, 2489 (Chadbourn rev. 1981) (duty of producing evidence, shifting burdens). However, because the assessment of liquidated damages is a government claim, the government continues to have the overall burden of proof. *See* FED. R. EVID. 301; 9 *Wigmore, Evidence* § 2490 (Chadbourn rev. 1981) (Thayer theory).

If the responsibility for days of delay is unclear, or if both parties contribute to the delay, the government may not recover unless it carries its burden to prove by a preponderance of the evidence a clear apportionment of the delay and the expense attributable to each party. *William F. Klingensmith, Inc. v. United States*, 731 F.2d 805, 809 (Fed. Cir. 1984); *see also Essex Electro Engineers, Inc. v. Danzig*, 224 F.3d 1283, 1295 (Fed. Cir. 2000).

Thus, in order for the government to carry its burden, it must prove that the appellant was solely responsible for the period of delay, that the government did not contribute to or concurrently cause such delay, and that the delay was not otherwise excusable. *Insulation Specialties, supra*, 03-2 BCA at 160,100-01; *Idela Construction Co.*, ASBCA No. 45070, 01-2 BCA ¶ 31,437 at 155,257; *International Fidelity Insurance Co.*, ASBCA No. 44256, 98-1 BCA ¶ 29,564 at 146,551; *Gaffny Corp.*, *supra,* 94-1 BCA at 132,011. *Accord Airprep Technology, Inc. v. United States*, 30 Fed. Cl. 488, 504-07 (1994).

The government relies on *Donohoe Construction Co.*, ASBCA Nos. 47310, 47312, 99-1 BCA ¶ 30,387 (motion for recon.), *aff'g* 98-2 BCA ¶ 30,076. *Donohoe* is inapposite because it did not turn on the issue of concurrent delay. In that case we specifically said, "We do not see the issue as one of concurrent delay." 99-1 BCA at 150,190. The government also relies on *Advanced Engineering & Planning Corp.*, ASBCA Nos. 53366, 54044, 05-1 BCA ¶ 32,806, *modified in part on recons.*, 05-1 BCA ¶ 32,935. However, that case is inapposite because it did not involve liquidated damages.

In *Essex Electro Engineers, supra,* 224 F.3d at 1295, the court gave specific guidance on the calculation of government and contractor caused delays. Although that guidance was given in the context of a contractor claim for delay damages, as opposed to a government claim for liquidated damages, the issues of concurrent delay are the same. In remanding the case to the Board to determine appropriate apportionment of the overall delay in contract performance, the court said:

> This inquiry requires the Board to focus on the overall effect that government-caused delay had on the beginning of First Article testing, and not to focus on each discrete period of delay and then automatically treat as concurrent delay any period of government-caused delay during which Essex was causing unrelated delay. That type of instance-by-instance analysis of the delays could result in distortion of the proper measure of overall delay. The reason is that, in the absence of any government-caused delay, Essex's unrelated delays might have been concurrent with each other (rather than concurrent with government-caused delays), so that the overall delay in contract completion would not have been as great.

Essex Electro Engineers, supra, 224 F.3d at 1296. We apply these rules and the relative burdens to the issues in these appeals. We also note that with respect to the contractor's affirmative claims in ASBCA No. 53939, the contractor has the initial burden of proof.

The government then has the burden to come forward to show that there was concurrent delay, but the contractor retains the overall burden to "prove that the Government was the sole cause of the delay and that the [contractor] did not contribute to or concurrently cause such delay." *Insulation Specialties, Inc.*, ASBCA No. 52090, 03-2 BCA ¶ 32,361 at 160,101; *See Essex Electro Engineers, supra*, 224 F.3d at 1295.

De Novo Findings

We have considered the testimony of the experts, the various schedules produced, the testimony of the witnesses, the documents of record, and the arguments of counsel. We have not abdicated our *de novo* review to a contest between scheduling experts. Our fact findings are *de novo* findings of fact based on the entire record.

Government Claim for Liquidated Damages – Building 3251

We turn first to the government's claim that it is entitled to liquidated damages for 62 days of contractor delay to Building 3251. The work in Building 3251 was done in three separate but connected wings (Wing A – East, Wing B – South, and Wing C – North). Following furniture removal and demolition, work on Building 3251 consisted of a renovation to each living quarter. Prior to Whitesell-Green's performance, the living quarters within Building 3251 consisted of two individual bedrooms with shared common areas. Each bedroom had a private bath, but no sitting or separate kitchen areas.

Work in Building 3251 included the replacement of the existing window wall system with a new exterior insulation and finish system, along with new horizontal sliding windows. The complete interior renovation included creation of new interior room layouts using metal stud partition walls, installation of new floors, wall and ceiling finishes, abatement of existing asbestos materials, removal and the reinstallation of a fire suppression system, and installation of self-contained kitchen units. The renovation also included some modifications to the existing plumbing.

Building 3251's mechanical system was relatively new and the existing fan core units, air handlers, chilled water system, and the cooling tower were to remain. Whitesell-Green's scope of work on the mechanical system consisted only of modifications to control valves and the addition of dampers to allow a greater range of temperature control from within the individual living quarters.

The existing fire alarm system in Building 3251 was also to remain. The contract required Whitesell-Green to test, and then remove and store the existing system components. The components were to be reinstalled and tested after the reconfiguration of the building was completed.

The contract was awarded on 22 November 1996. The original completion date for Building 3251 was 17 December 1997. The government, as a result of its own delay, issued Modification No. P00001. That modification extended the start date from 7 December 1996 to a maximum of 31 January 1997. That modification also extended the contract completion date by 30 days to 16 January 1998.

The beneficial occupancy date for Building 3251 was 6 July 1998. The Navy assessed liquidated damages against this building for 62 days at a rate of $11,440 per day—in the total amount of $709,280 (finding 304).

The contractor began work and ran into differing site conditions involving asbestos and other government caused delays. These delays began early in February 1997 and lasted through July 1997. It took the Navy a long time to acknowledge responsibility for those delays. The parties negotiated a time extension of 109 days for those delays and signed Modification No. P00005 on 30 January 1998. This time extension was negotiated without a network analysis by Mr. Carruth and signed by Mr. Odom. (Findings 104-09) The new contract completion date for Building 3251, as a result of the Navy caused delays, was 5 May 1998.

Meanwhile, Whitesell-Green's original schedule called for the Navy to deliver the cervitor units on site in September 1997. Because of the delays to the framing, rough-in, and sheetrock work caused by the Navy's delay in providing the rough-in boxes, the need for the cervitor units was pushed back to November. We found that the last cervitor units did not arrive until sometime after 13 April 1998. We also found that this caused a 140-day delay in furnishing the last group of cervitor units. We further found that the cervitor work had already been delayed 109 days by the asbestos ceiling tiles and other delays detailed and resolved by Modification No. P00005. Thus, we found that the delay to the original schedule for the cervitor boxes pushed the schedule out an additional 31 days – from 5 May 1998 to 5 June 1998. (Finding 152)

We also found that the Navy caused delay to the fire alarm system, causing delay from 1 May 1998 until 15 June 1998 (finding 188). This delay was along the critical path, although it overlapped the cervitor delay between 1 May and 5 June. As a result, the fire alarm system delay only added ten additional delay days to the project completion. This extended the schedule to 15 June 1998.

The test and balance of the HVAC system was, during contract performance, a required item before acceptance of the building. We found that the Navy's failure to provide adequate air flow and adequate chilled water delayed the completion of the initial test and balance until 6 July 1998. But for the appellant's uncompensated acceleration of its test and balance efforts, the test and balance would have been

completed much later. We found that this Navy delay added 21 days to the overall delay of the completion of Building 3251. (Finding 216) This extended the schedule to 6 July 1998.

There were other delays along the critical path. There were also mitigations, re-sequencings, and accelerations of work done by Whitesell-Green along the critical path. However, we need not discuss those because it is clear that the Navy contributed at least 62 days of delay along the critical path for Building 3251 that have not been reflected in corresponding adjustments. Where the Navy has contributed to the days of delay the Navy is not entitled to assess liquidated damages. Whitesell-Green is entitled to the remission of all liquidated damages for Building 3251, plus CDA interest.

Government Claim for Liquidated Damages – Building 600

The original contract completion date for Building 600 was 3 August 1998. On 27 October 1997, in Modification No. P00004, the parties agreed to a price increase and a time extension of 69 days as a result of a differing site condition involving unforeseen asbestos in ceiling tiles in Building 600A. This modification changed the contract completion date for Building 600A to 15 November 1997, and for Building 600 to 11 October 1998. (Findings 80, 81)

The beneficial occupancy date for Building 600 was 23 April 1999. The Navy assessed liquidated damages against this building for 194 days at a rate of $2,704 per day – in the total amount of $524,576. (Finding 298)

By letter of 7 October 1997, the Navy was advised of additional asbestos in the crawl spaces beneath Buildings 600A and 600. This issue was not resolved by the Navy until 2 November 1998. (Findings 77, 277)

In the meantime, on 27 January 1998 the Navy was told about the issue of floor trenches as a result of the demolition of the walls in Building 600. (Finding 94) With respect to this differing site condition, it took the Navy until early March to accept and decide on a solution for filling these trenches; and then, it took the appellant until 20 March 1998 to complete this changed work. We found that this floor trench issue delayed critical metal stud framing activities at least from 27 January until 20 March 1998 – a delay of 52 days along the critical path. This delayed the critical metal stud and framing work throughout Building 600, including the work that was to be done in the lobby area. This delay added 52 days to the scheduled completion date of 11 October 1998, entitling Whitesell-Green to an extended completion date of 2 December 1998. (Finding 140)

Also in March 1998 the Navy was aware of the differing site condition involving the out of plumb perimeter walls and hallway walls. In addition, another differing site condition involving offset voids at the bottom of walls where terrazo base had been removed took the Navy from 18 March 1998 until 29 May 1998 to resolve. Whitesell-Green could not proceed with all metal stud and framing work until these issues were resolved. We found that this extended the contract completion date by an additional 70 days (from 20 March – end of trench delay – to 29 May 1998). This added 70 days to the scheduled completion date, extending the completion date from 2 December 1998 to 10 February 1999. (Finding 182)

In the meantime, on 19 May 1998 the Navy indicated to Whitesell-Green that it was considering changes to the lobby area. On 26 June 1998 the Director for Bachelor's Quarters sent a memo to the Navy Public Works office confirming that it was questioning several aspects of the lobby design, including location and dimensions of the planned millwork.

On 20 July 1998 Whitesell-Green reminded the Navy that its approval of the cabinets and millwork for the lobby area was overdue. Whitesell-Green advised the Navy (Mr. Block):

> [A]bout the urgency of getting the cabinetry submittal returned. We are ready to begin work in the lobby area. We have heard rumors that the user wants to implement changes on the cabinet/millwork. The ROICC must let us know immediately.

(Finding 226)

Then, on 28 July 1998, the Navy ordered a 60-day suspension of all work on the lobby area of Building 600. The suspension order noted, "Upon resumption of work, a time extension will be negotiated." The suspension affected all work in the lobby area, including sheetrock, mechanical work, and even cabinetry for the lobby area. On 10 September 1998 the Navy advised Whitesell-Green that changes to the lobby area would likely affect placement of interior walls.

Whitesell-Green advised the Navy on 15 September 1998 that utility rough-in crews were being forced to work around the lobby area, and that framing and sheetrock crews would need to re-sequence their work. On 23 September 1998 Whitesell-Green advised the Navy that the lobby suspension impacted 29 work activities.

On 5 October 1998 Whitesell-Green received notice that the suspension in the lobby would continue for at least another 60-days. On 5 November 1998 (25 days after the scheduled completion date) the Navy lifted the lobby suspension and advised Whitesell-Green that a modification for the lobby changes would be forthcoming.

Whitesell-Green immediately notified its subcontractors that the lobby suspension was lifted and that they should prepare to resume work in that area. We found that from 28 July until 5 November 1998 – a period of 100 days – the Navy suspended all work in the lobby. On 25 November 1998 the Navy finally approved the lobby millwork and cabinetry submittals. We found that this delay added 100 days to the scheduled completion date of 10 February 1999, entitling Whitesell-Green to an extended completion date of 21 May 1999. (Finding 279)

Other than standard punch list work, the work in the lobby was the final work performed by Whitesell-Green and its subcontractors on Building 600. The Navy established 23 April 1999 as the beneficial occupancy date. Because the appellant had re-sequenced and accelerated its work, it had greatly mitigated the delays caused by the Navy. The appellant thus finished 28 days earlier than the extended schedule.

There were other actions by the Navy that did or could have contributed to delays along the critical path, including the government's delay in resolving the asbestos in the crawl space leading to delays in MEP. However, we need not discuss those because it is clear that the Navy contributed more than 194 days of delay along the critical path for Building 600. Where the Navy has contributed to the days of delay the Navy is not entitled to assess liquidated damages. Whitesell-Green is entitled to the remission of all liquidated damages for Building 600, plus CDA interest.

Whitesell-Green's Claim for Field Overhead and Extended Home Office Overhead Delay Damages

We found that the government did not come forward with credible evidence to establish that Whitesell-Green contributed to the delay in completing Building 600. (Finding 315) On the contrary, we found that Whitesell-Green finished early. Under these circumstances, Whitesell-Green is entitled to delay damages. We decide only that the appellant is entitled to delay damages, the issue of quantum is remanded to the parties – including the extent or amount of any additional field overhead not already compensated; and the total number of days and the amount of any extended home office (Eichleay) overhead.

Whitesell-Green's Claim for Preparing Government Required Contract Schedule Analysis

We conclude that Whitesell-Green has failed to establish that it is entitled to recover its costs for "schedule analysis fees necessitated by the Navy's unjustified change in policy." We might very well, in other circumstances, conclude that such recovery is appropriate. We are not so convinced in the specific circumstances of this case.

We also note that under the contract Whitesell-Green was required to prepare an updated primavera network analysis. Although we found that the parties had abandoned primavera for purposes of determining time extensions, the abandonment of the primavera for such purposes does not necessarily relieve the appellant of the obligation to prepare the primavera schedules otherwise required by § 01311 of the specifications. Moreover, it is not clear that much of this expense was not for done for purposes of litigation. Because the appellant failed to carry its burden, this claim is denied.

CONCLUSION

The appeal of ASBCA No. 53938 is sustained in the full amount of the liquidated damages. Whitesell-Green is awarded the entirety of the liquidated damages withheld, plus interest on amounts withheld or collected. Interest is to be paid under section 12 of the Contract Disputes Act of 1978, as amended (41 U.S.C. § 611), from 16 January 2001 until the principal sum is paid. Because documents in the record suggest that the entire sum claimed ($1,233,856.00) has not been withheld or may not have been collected, the issue of the exact quantum is remanded to the parties.

The appeal of ASBCA No. 53939 is sustained as to entitlement to delay damages, but denied as to the costs for preparing government required contract schedule analyses.

The above appeals are remanded to the parties for the determination of quantum. If the parties fail to reach agreement on quantum, either party may, on motion, return to the Board for resolution of quantum.

The appeal of ASBCA No. 54135 is dismissed as moot.

Dated: 23 June 2006

RONALD A. KIENLEN
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 Nos. 53938, 53939, 54135, Appeals of Whitesell-Green, Inc., rendered in conformance with the Board's Charter.

Dated:

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