

ARMED SERVICES BOARD OF CONTRACT APPEALS

Appeal of --)
)
Insulation Specialties, Inc.) ASBCA No. 52090
)
Under Contract No. DACA65-92-C-0170)

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OPINION BY ADMINISTRATIVE JUDGE KIENLEN

INTRODUCTION

The U.S. Army issued a solicitation for a water tower painting project and three optional construction projects at Fort Lee, Virginia. The Government awarded a contract to the appellant for all four projects. The project for water tower painting was for the rehabilitation and painting of three water towers. That water tower work is the subject of this dispute. The appellant certified a claim of \$1,080,910 for delay and other damages. After waiting more than two years, the appellant appealed from the deemed denial of its claim. Only entitlement is at issue. We decide in favor of the appellant, in part.

FINDINGS OF FACT

General Introduction to the Dispute

The U.S. Army Engineer District, Norfolk, Virginia, awarded the contract to the appellant, Insulation Specialties, Inc., on 30 September 1992. The Government's notice to proceed was received by the appellant on 30 November 1992. Under the contract the appellant had 360 days (25 November 1993) to complete the rehabilitation and painting of three water towers at Fort Lee, Virginia. The original contract amount for the water tower work was \$995,990.

The water tower work consisted of the repair, removal of lead-containing paint, and repainting, of the three water towers. During the water tower project there were numerous difficulties which resulted in delays, changes, and contract modifications, including 51 change orders, which extended the contract completion date by 765 days, until 30 December 1995. Substantial completion occurred on 30 November 1996. The Government assessed liquidated damages for each of the 336 days between the extended contract completion date and the substantial completion date. (R4, tabs 2, 21 at F-2, tab 71 at I-1, II-14; AR4, tab 45 at Change Orders Chart)

The towers are built of steel. They are similar in shape and structure, although they differ in height. Tower 1 (T-1) is 133 feet high at the low water level and 168 feet at the high water level; it was built in 1941. Tower 2 (T-2) is 146 feet high at the low water level and 180 feet at the high water level; it was built in 1944. Tower 3 (T-3) is 160 feet high at the low water level and 194 feet at the high water level; it was also built in 1944. Each tower is a six column tank of riveted and welded steel construction, and has a capacity of 300,000 gallons of water. (R4, tab 23, Detailed Technical Specifications (DTS) at 1; AR4, tab 45 at 3, sketch of water tower) We will refer to the towers as T-1, T-2 and T-3.

The water tower components are defined as follows: (1) “tank” is the part which holds water; (2) “bowl” is the bottom of the tank; (3) “shell” means the sides of the tank; (4) “roof” is the top of the tank; (5) “legs” mean the steel beams or columns that support the tank; (6) “riser” is the 4 foot diameter pipe which brings water to the tank through an underground vault (the riser enters the tank through a sealed opening in the bowl); (7) “vault” is an underground containment which houses the pipes and valves that connect the riser to the base water supply; (8) “water-bearing” means any portion of the tower that is in contact with water and which is necessary in order to fill, drain, or hold water in the tank (water-bearing components include the bowl, the shell, and the riser); and (9) “non-water-bearing” means any component of the tower which supports or is otherwise part of the tower, but which does not contact water and is not related directly to draining, filling, or holding water in the tank, *e.g.*, legs, roof, platforms, ladders, and catwalks.

Scope of Work and Specifications

Each water tower was to be drained of all water “during all cleaning, application, and curing of the paint. Draining of pipes shall be by Government personnel.” Only Government personnel were authorized to operate valves and equipment, including the closing of valves, and the switching, starting, stopping or removal from service of any equipment. (R4, tab 23, DTS, §§ D.4, D.5 at 2)

The original scope of the water tower work included: (1) sandblast removal of lead-based paint from the exterior of the towers; (2) a containment system to contain exterior lead-based debris sandblasted from the exterior of the towers; (3) sandblast removal of paint from the interior of the water towers (the interior paint was not considered to be lead-

based at the time the contract was awarded); (4) various internal and external steel repairs and welding; and (5) repainting of both the interior and exterior of the towers. (Tr. 43-44; R4, tab 23, DTS)

The contract required all paint to be sandblasted from the interior and exterior surfaces of the towers before welding work was started. Because the exterior paint contained hazardous lead material, the contract required the exterior sandblasting to be done under a negative pressure containment system that would fully enclose the blast debris and prevent it from escaping from the work zone and into the atmosphere. (Tr. 45, 48, 59; R4, tab 23, DTS, §§ D.14, D.15)

The containment system was expensive and the contractor planned on using one containment system. The contractor's original plan was to sequentially complete the work at each tower, beginning with T-3, the tallest and most remote, and then moving to T-1 and finishing with T-2. The containment system would be moved from tower to tower. (Tr. 57-59)

No containment was required for sandblasting the interior surfaces of the tanks, because the tanks themselves contained the debris. Moreover, under the governing regulations issued by the Occupational Safety and Health Administration (OSHA), Department of Labor, the interior paint was not considered to contain lead.

The specifications required removal of the paint prior to welding new items to the tank. All areas that were welded or ground smooth had to be cleaned prior to painting. Because the welding generated a lot of heat, this steel work on the exterior of the tank affected the ability to paint the interior, and *vice versa*. Heat from welding on one surface would transfer through the metal of the tank - the heat zone - and cause any paint on the opposite surface to blister and loose its bond. This was critical for the project, and the contract required that all of the welding on the water-bearing surfaces of the tanks had to be accomplished before either the interior or exterior of the tanks could be repainted. (Tr. 47-50; R4, tab 23, DTS, §§ D.8, D.9)

In addition to making repairs on the tank surface by welding all pits which are 1/8-inch or more deep, welding was required on nearly all the steel work. Steel work outside included new ladders, upgraded catwalk safety rails, and new washers on the cross-brace drift pins. Inside steel work included the installation of new riser safety grates in the bottom of the tank bowl, replacement of the spider rods, the dollar plate, and a drain or overflow line. (Tr. 47-48)

The contractor, Insulation Specialties, Inc., subcontracted with Southern Corrosion, Inc. to perform the painting operation. The painting operation included all interior and exterior sandblasting, and all interior and exterior painting. Southern Corrosion, Inc. also provided the containment system for the exterior sandblasting. (Tr. 53)

The containment was a tent-type system and was referred to as the tepee system. (Tr. 175) With the tepee system a wire was run up through the interior of the tank and through the top of the tower. A system of outriggers then extended out in a spider system over the roof of the tower, and tarps hung from the outriggers. The outriggers extended out beyond the catwalk of the towers, so that the tarps could be draped over the entire perimeter of the tower. (Tr. 177-78)

Insulation Specialties, Inc. subcontracted with Metals Fabrication, Inc. to provide the steel work on the water towers and the steel repair on the companion project to re-roof Building 6000. The steel work included welding work. Manpower requirements for welding on the water towers were two to three welders and three welding helpers. Insulation Specialties, Inc. planned to move steel workers between the two projects to keep them busy during times when steel work was slow or not being done on the water towers. (Tr. 53-55) The re-roofing contract completion date was extended by 421 days. It was completed by mid-December 1994. (AR4, tab 45 at figure 2)

Critical Work Sequence

The sequence of activities to accomplish the water tower work, as required by the contract, was as follows: (1) tank is drained by Government personnel; (2) interior steel demolition, sandblasting, and steel work, including welding; (3) concurrently set up the containment system for the exterior sandblasting; (4) exterior sandblasting and steel work, including welding on both water-bearing and non-water-bearing surfaces; (5) painting of the tank interior, with concurrent or subsequent painting of the tank exterior, including non-water-bearing surfaces; and, (6) sterilization, refilling, testing of the tank, and placing the tank back into service. (Tr. 52-53, 56-57; AR4, tab 42) The exterior work on non-water-bearing surfaces was not critical to the refilling or draining of the tanks.

Clauses and Specifications

The contract included the standard Default clause entitled DEFAULT (FIXED-PRICE CONSTRUCTION) (APR 1984), located at 48 CFR 52.249-10 (1994) (FAR 52.249-10) (R4, tab 2 at I-102 (52.249-0010)); the clause entitled CHANGES (AUG 1987), located at 48 CFR 52.243-4 (1994) (FAR 52.243-4) (R4, tab 2 at I-89 (52.243-0004)); and, the clause entitled SUSPENSION OF WORK (APR 1984), located at 48 CFR 52.212-12 (1994) (FAR 52.212-12), redesignated FAR 52.242-14 in 1995 (R4, tab 2 at I-18 (52.212-0012)).

The contract also included a clause for liquidated damages of \$230 for each day of delay in completing the water towers (R4, tab 2 at F-3 (52.212-0005)); and, a scheduling and determination of progress clause which described in detail the style of the progress chart required under the SCHEDULES FOR CONSTRUCTION CONTRACTS clause. That latter clause read in part as follows:

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.

(R4, tab 2 at I-85-86 (FAR 52.236-15)) The contract also contained an INTERRUPTIONS OF UTILITIES clause at paragraph 2.1 of Section 01005. In relevant part that clause stated:

2. INTERRUPTIONS OF UTILITIES:

2.1 Approval

Utility services shall [not ¹] be interrupted by the Contractor to make connections, to relocate, or for any purpose, without approval of the Contracting Officer.

(R4, tab 21, § 01005 at ¶ 2.1)

Performance of the Work Using the Containment System

Original Schedule To Begin 22 April 1993

Insulation Specialties, Inc. planned to work on one tower at a time, beginning with the security fence removal at T-3 on 22 April 1993, at T-1 on 27 July 1993, and at T-2 on 19 September 1993. The as-planned duration for each tower was approximately 10 weeks. The time scheduled for each tower, including fence removal, tower refurbishment, and containment disassembly, was 73 days for T-3, 72 days for T-1, and 67 days for T-2. Included in this schedule is a week for demolition of the security fence, a week for erecting the containment and another week for disassembly. This leaves 52, 51, and 46 days, respectively, for the refurbishment of the three towers. The schedule called for all work to be completed by 23 November 1993. (AR4, tab 25; tr. 57-58, 504)

Work did not begin in April 1993 as planned. Insulation Specialties, Inc. resubmitted its progress schedule for approval on 28 April 1993. (AR4, tab 25; R4, tab 71 at I-1) Also on that date, 28 April 1993, the Government notified Insulation Specialties, Inc. that it could start scheduling the fence removal at T-3. (R4, tab 90, tab 1 Quality Assurance Report (QAR) 149). The schedule was eventually approved by the Government on 5 May 1993. (AR4, tab 25; R4, tab 71 at I-1) The Government's scheduling expert stated that the approved progress schedule "was a reasonable general plan for completing construction by the contract completion date." (R4, tab 71 at III-1)²

Government Delay of 58 Days in Draining T-3: 24 May through 21 July 1993

On 19 May 1993 Insulation Specialties, Inc. asked the Government to drain T-3 so that work could begin on 24 May 1993. On 24 May 1993 Southern Corrosion, Inc. arrived on-site to set up its painting operation. (R4, tab 57 at 1st of 2 ISI letters of 2 March 1994) The Government began draining T-3 on that date. (R4, tab 90, tab 2) However, water leaked through the by-pass gate valve. This leak prevented complete draining of the riser.

The leaky valve problem was resolved on 20 July 1993, after the Government located another control valve outside of the valve pit for T-3. This leaky valve delayed the complete draining of T-3 from 24 May until 21 July 1993. Subsequently, responsibility for this delay was resolved by Modification No. P00023, of 30 August 1994, in which the parties agreed to a 58-day time extension due to the Government's delay in draining T-3. Insulation Specialties, Inc. began demolition at T-3 on 22 July 1993. The parties also agreed that there was no increase in the contract price as a result of the suspension or delay. (Tr. 767; R4, tabs 4, 57 at 1st of 2 ISI letters of 2 March 1994; tab 90, tab 3 (QAR 234))

T-3 Demolition Completed 28 July 1993; Appellant Wants to Drain Second Tower

After completing the demolition of T-3, Insulation Specialties, Inc. held a progress meeting with Southern Corrosion, Inc. on 28 July 1993 to discuss ways to complete the project in 1993. They discussed starting to work on a second tank while continuing to work on T-3. (Tr. 178-79; AR4, tab 45) D. Bowen Hyatt, president of Insulation Specialties, Inc., had several conversations with Government personnel, either directly with Daryl Merryman or through Garry Wade, concerning that proposal. Mr. Merryman was a civil engineer in charge of administering this contract on behalf of the Government; he was the project engineer and the primary point of contact. Mr. Wade was the project manager for Insulation Specialties, Inc. The Government response was that a second tower could not be drained while the first tower was drained, because the Government thought that the contract specifications provided that only one tower could be drained at any time. (Tr. 179-80)

Extra Work: Change in OSHA Regulations

In the meantime, on 3 June 1993 new OSHA regulations went into effect, which required the paint inside the towers to be treated as lead-based paint. This added extra work and time to the removal of the paint on the inside of the towers. Although the Government's scheduling expert speculated that these changes were implemented on 3 June 1993, the record is unclear as to when the parties became aware of these new regulations, or when they were applied to the contract. (*See* AR4, tab 4) However, additional time was necessary for identifying the requirements, and organizing, locating and mobilizing equipment, and for setting up and removing decontamination materials and for slowdown of work due to protective equipment requirements.

Two years later the parties agreed in Modification No. P00041 to provide a total of 45 days of additional time due to the change in requirements brought about by the new OSHA regulations, as those regulations affected T-3. They also agreed to an equitable adjustment of \$51,515 for T-3. (R4, tabs 61, 71 at III-3; tr. 768) The parties agreed that only 17 days each were added by the OSHA changes for T-2 and T-1. They also agreed to an equitable adjustment of \$45,667 for each of those two towers. They agreed to these additional 34 days and equitable adjustments of \$91,334 in Modification Nos. P00045 and P00046 of 3 March and 5 April 1995. (R4, tabs 64, 65)

Government Delay of 163 Days in Resolving Riser Pits: 10 August 1993 through 3 February 1994

Welding was required for the repair of pits on tank surfaces that were 1/8-inch or more deep. (R4, tab 21 at DTS-15) Interior pit welding became a major problem due to the excessive number of pits over 1/8-inch deep on the inside of T-3. The contractor considered the excessive number of pits to be a differing site condition. On 10 August 1993 Insulation Specialties, Inc. notified the Government that there was excessive pitting in the riser pipe in T-3.

The contractor hired a consultant who estimated that there were over 7,000 pits that required a corrective welding overlay. The Government directed the contractor to re-sandblast the area and conducted its own examination, which was completed on 3 February 1994. This issue consumed 177 days. (Tr. 61-62, 67; R4, tab 57) The Government maintained that it was entitled to 14 days to resolve the problem. Subsequently, responsibility for this delay was resolved by Modification No. P00023 of 30 August 1994, in which the parties agreed to a 163-day time extension, from 24 August 1993 to 3 February 1994, due to the excessive pits and the Government's delay in examining the site. The parties also agreed that there was no increase in contract price as a result of the suspension or delay. (Tr. 21, 61-62, 63-64, 67; R4, tab 57)

Replacement Welders: August/September 1993

While being delayed by the excessive pitting in the riser of T-3, Insulation Specialties, Inc. began hiring, sometime around August or September 1993, its own welders to supplement and replace those from Metals Fabrication, Inc., due to inadequate staffing by Metals Fabrication, Inc. Ultimately, Metals Fabrication, Inc. was terminated or abandoned the water tower project and the field house roof project. Its welders were replaced by welders hired directly by Insulation Specialties, Inc. through advertising and word of mouth. Insulation Specialties, Inc. also had some of its own people with welding experience. These were used primarily in a supervisory capacity. (Tr. 54-55)

The contractor also experienced difficulties with the tepee containment system, including high winds against the large square footage of the tarp. The force of the high winds against the tarp bent the outriggers holding the tarp. Due to the problems generated by the high winds against the enclosure, the work went slowly on T-3. Difficulties with the containment system delayed the start of exterior blasting until 16 October 1993. (R4, tabs 26-29, 71 at III-3, III-4; tr. 770-71)

Interior of T-3 Painted: 3 November 1993

During the excessive pitting delay, Southern Corrosion, Inc. was able to complete the sandblasting on the interior of the tank, which did not require an external containment. On the exterior of T-3, the contractor used special equipment and high-efficient particulate air vacuums to do point cleaning around specific areas which required welding. By using these methods, the lead paint covering could be spot removed and the debris pulled into a vacuum and filtered to remove the hazardous particles from the air. Using those methods the steel repairs on exterior water-bearing surfaces were completed, allowing the interior of T-3 to be repainted. By 3 November 1993, all interior work on the tank, including painting, had been completed on T-3. (Tr. 63-65)

Government Concurrent 61 Day Stop Work Order: 5 November 1993 through 5 January 1994

Also during the excessive pitting delay, the Government issued a Stop Work Order on 5 November 1993 with respect to all “lead paint removal.” The order was occasioned by a Government inspector’s contention that the contractor was not properly complying with the containment requirements of the contract. The Government’s order went beyond enforcing the contract requirements, it changed the Government’s prior authorization for work to be supervised by an industrial hygienist and imposed the requirement that the supervision be by a Certified Industrial Hygienist (CIH); and, it stopped work until a CIH was employed on-site and a revised Lead Paint Removal Plan was submitted and approved.

The revised plan was submitted on 14 November 1993. The Government did not approve the revised plan until 5 January 1994. This delay was caused by a Government change of position concerning the approved plan. Responsibility for this delay was subsequently acknowledged by the Government in Modification No. P00023 of 30 August 1994. However, the delay ran concurrently with the delay involving the differing site condition concerning the excessive pitting on the riser inside T-3, which issue was not resolved until 3 February 1994. (*See* AR4, tabs 6-8; R4, tab 57)

While the Government delayed work, the exterior sandblasting on T-3 was 25-30 percent complete by November 1993, mostly on the lower portions of the tower. Some painting work on the exterior of the riser on T-3 was accomplished in 1993, but none on the shell or bowl. (Tr. 65) Thus, while the Government had delayed the draining of T-3 and had delayed work on the riser pitting problem, work on the exterior of T-3 was also delayed by the high winds and other difficulties inherent in using a containment system on these high water towers. There is no evidence in the record that such a containment had ever been successfully used before.

New Tarps Arrive On-Site: 7 December 1993

New tarps arrived at the site on 7 December 1993 (R4, tab 71 at III-5). Because structural steel painting is difficult if not impossible during the cold weather of the winter months, little or no exterior painting work was done during the winter of 1993-1994. This critical work was essentially shut down during the winter. (Tr. 65)

The contractor had another discussion with the Government over draining two tanks at the same time; this was during “the December 1993 to January 1994 time frame.” Mr. Hyatt discussed this issue with Mr. Wade, who talked to the Corps and the Corps again told him that they would not drain a second tower. (Tr. 934; R4, tab 30)

Extra Work for New Entrance

On 7 and 12 January 1994 the parties signed Modification No. P00012, which provided for \$33,643 of extra work and an additional seven days. The extra work concerned new entrance panels for each of the towers, the replacement of a water bypass line for T-3, and electrical work for each of the towers. The extra seven days was for the bypass line at T-3, and was intended to be done after the painting was completed. The background papers indicate that this modification had been in various stages of negotiation since July 1993. (R4, tab 55)

Exterior Steel Work on Non-Water-Bearing Surfaces of T-1

Recognizing that the Government would not allow a second tank to be drained until the first tank was completed, Insulation Specialties, Inc. sought Government approval to

begin weld repairs on the exterior of T-1. This exterior work could be done without draining T-1, and would keep Insulation Specialties, Inc.'s welding crew intact. The Government approved that request on 23 February 1994. Insulation Specialties, Inc. immediately began exterior steel work at T-1. (R4, tabs 30, 31, 88)

Submission of Revised Progress Schedule: March 1994

Insulation Specialties, Inc. submitted an updated progress schedule in March 1994, showing interior steel work on T-1 beginning in April 1994, before T-3 was refilled. This schedule was subsequently approved by the Government. Insulation Specialties, Inc. was never allowed to proceed with the schedule because it required draining more than one tower at a time. The Government's project engineer, Mr. Merryman, testified that he recommended approval of the schedule, but did not realize at the time that the schedule required two towers to be drained at the same time. He would have disapproved it if he had realized that it called for two towers to be drained at the same time, because the Fort Lee Department of Public Works would not agree to drain more than one tower at a time. (Tr. 72-73, 676-80; AR4, tab 26)

Cold Weather Delay: 3 February through 9 April 1994

The specifications prevented painting during cold weather. This effectively prevented paint removal work as well, because unpainted metal would be unprotected from the elements. It was thus reasonable for Insulation Specialties, Inc. to wait for good weather before resuming painting operations, including installation of the new containment tarps which had arrived the prior December. (R4, tab 71 at III-5)

With the onset of good weather, on 9 April 1994 Southern Corrosion, Inc. began the installation of the new tarps. However, much of the cold weather delay, which ran 155 days from 5 November 1993 through 9 April 1994, was concurrent with the excessive pitting delay, which ran from 24 August 1993 through 3 February 1994, as noted *supra*. The 65 days of delay from 3 February through 9 April 1994 was attributable solely to the cold weather delay. Because Insulation Specialties, Inc. was pushed into the cold weather by prior delays, the cold weather delay becomes an extension of those prior delays. However, the parties resolved the cold weather delay in Modification No. P00024, wherein they agreed to an extension of only nine days. (R4, tabs 58, 71 at III-5, III-6)

Testing Containment Alternatives: 17 May through 18 June 1994

During the late spring and early summer of 1994, Insulation Specialties, Inc. and the Government began discussions on alternatives to the containment system. The parties explored alternatives to sandblasting the tower's exterior paint, because of the problems with the containment. Alternatives discussed included chemical removal and mini-enclosures. Southern Corrosion, Inc. was still working on the containment installation

on 16 May 1994, more than a month later. (R4, tab 71 at III-6, tab 88; tr. 774) From 17 May through 18 June 1994, a period of 33 days, Southern Corrosion, Inc. interrupted its work on the containment to test alternative methods. They tried both a chemical stripping agent and a slurry mixture. The chemical removal worked fairly well on the water-bearing surfaces such as the shell, the bowl, and the upper riser, because it was easy to apply the material to those larger surfaces. The chemical was harder to apply to the lattice work on the legs. The chemical method was abandoned. The slurry method involved open air blasting using a slurry mixture of water and sand which eliminated the dust particles. The slurry mixture was too messy; it was also abandoned. (Tr. 70-72, 775; R4, tab 71 at III-7)

Formal Request to Drain Second Tower: 27 May 1994

While exploring alternatives to the sandblasting, by letter of 27 May 1994 Insulation Specialties, Inc. asked the Government to drain T-1, so that Insulation Specialties, Inc. could begin critical steel work on T-1 and maintain its steel welding crew. As it explained in its letter to Mr. Merryman, the Government's project engineer at Fort Lee:

In order to continue making the best possible progress on the above referenced project, we are hereby requesting the Tower number 1 be drained down to allow interior steelwork to begin. We will we [sic] soon reach the point where it will be impossible to continue with steel repair to any of the vessels, and in order to avoid interruption and delay of the project, we must be able to continue with this phase of the work.

(AR4, tab 41)

Insulation Specialties, Inc. wanted to proceed with critical steel work on T-1, including water-bearing surfaces. This would allow Insulation Specialties, Inc. to make progress toward completion and maintain its welding crew. Because containment was not an issue for any of the interior work, draining a second tower would allow sandblasting and completion of all interior work on the next tank. Moreover, since its previous discussions with the Government about draining a second tank, Insulation Specialties, Inc. had reviewed the specifications and could not find any restriction prohibiting the draining of more than one tower at a time. (Tr. 67-68, 936)

The request to drain a second tower was discussed at a 9 June 1994 meeting with the Government. At the meeting, no one from the Government was able to find a contract prohibition against draining more than one tower at a time. The representative from the Fort Lee Department of Public Works thought that he had put such a restriction in the specifications, but he was not able to find it. Nevertheless, the Government told Insulation Specialties, Inc. that it could not have more than one tower drained at any one time because of the loss of water pressure to the fire protection system. (Tr. 69-70, 933-36)

Welders Laid Off Because of Government Refusal to Drain Second Tower

After the 9 June 1994 meeting, Insulation Specialties, Inc. had to lay off two welders and three welding helpers. They had to be laid off because Insulation Specialties, Inc. could not make any work available for them, because the Government refused to drain a second tower.

Extra Work: Replace Cathodic Protection System

On 24 June 1994, Modification No. P00020 provided a 30-day time extension for additional work, including replacement of the old cathodic protection system on T-3. That system is intended to help prevent rust and corrosion. It provides a minor electric charge between the tower and the water contents. The cathodic system goes in last after all the other tasks.

Damage to Containment by High Winds: 18 June through 17 August 1994

Also on 24 June 1994, the containment tarps at T-3 were damaged by high overnight winds. (R4, tab 71 at III-7, tab 90, tab 6; tr. 776) On 13 July 1994 the containment support structure broke and the containment had to be lowered at T-3. It took nearly a week to make repairs, including repairing or replacing broken poles and cables. The repairs were completed on 19 July 1994. (R4, tab 71 at III-7, tab 90, tabs 7-12, Daily Construction Quality Control Report (CQC) 589-594; tr. 776)

Once the containment was repaired, Southern Corrosion, Inc. was only able to perform exterior blasting for about 15 workdays in the period from 20 June through 17 August 1994, due primarily to the high winds. (R4, tab 71 at III-8; tr. 777)

Switch to Carboline Encapsulation System

Extra Work - Carboline Change for T-3: 18 August through 11 September 1994

By letter of 18 August 1994 the Government issued a change order, directing Insulation Specialties, Inc. to apply a new Carboline paint. This required a switch to power washing of the exterior of T-3, in lieu of exterior blasting, containment, and negative air pressure. This changed the scope and method of the remaining exterior work from sandblast removal of the lead-based paint to one in which the lead material remains in place but is “encapsulated” or covered by a coating which holds and seals the lead-based paint. (Tr. 74-75; AR4, tab 10)

The encapsulation method eliminated the tepee containment system. The only containment required under the encapsulation method was a ground cloth. The

encapsulation method eliminated the requirement for abrasive sandblasting, substituting power washing, wire brushing and scraping with hand tools. (Tr. 75-76; AR4, tab 10) The change order applied only to the exterior of T-3. Southern Corrosion, Inc. proceeded with the changed scope of work. (*Id.*, R4, tab 63)

Progress Meeting Discussion of Mini-Enclosures: 7 September 1994

On 7 September 1994 Insulation Specialties, Inc. attended a progress meeting with the Government. The Government presented a consultant who proposed an alternative containment system using “mini-enclosures.” The mini-enclosure system required vertical legs. However, the legs on these water towers were not vertical, but angled outside the circumference of the tower shell. Another difficulty was the absence of data on whether the mini-enclosures would withstand the wind at 200 feet in the air. The use of the mini-enclosure system would require the structural cross-members at the base of the towers to be removed, creating a possibility that the heavy tanks would not be adequately supported. There was no consensus that the mini-enclosure system was feasible and it was rejected as a solution. (Tr. 182-88)

Government Rejection of Draining Second Water Tower: 7 September 1994

After the mini-enclosure suggestion was rejected, Mr. Kenneth Herndon, Jr., the area engineer, asked if there was anything else that the Government could do that would help Insulation Specialties, Inc. expedite the completion of the project (tr. 189). Mr. Hyatt, president of Insulation Specialties, Inc., responded that it would help if a second tank was drained. Mr. Maurice Singleton, from the Department of Public Works, again argued that he had put a provision in the contract which prohibited draining more than one tank at a time. Again, no one could find such a restriction in the contract. Mr. Singleton said during the meeting that they had 65 psi in the water system at the time, and he did not want to go below 60 psi, because that is what the fire code required. He said that draining another tower would take the water pressure below 60. (Tr. 189-90)

In the meantime, the Carboline system had worked well. By 28 September 1994 Southern Corrosion, Inc. had completed the application of the Carboline system to the exterior water-bearing surfaces of T-3. (Tr. 854) At that time, both the interior and exterior water-bearing surfaces of T-3 were completed. On the exterior non-water-bearing surfaces, paint work still needed to be done on the legs, portions of the riser rod bands, and some of the support structure steel, and possibly the catwalk. The tank itself was nearly ready to be refilled and the tower put back in service while the remaining non-water-bearing work was completed. (Tr. 76-77; R4, tab 63)

Carboline System Successful; but Terminated: 28 September 1994

On 28 September 1994 the Government rescinded the Carboline change order. Insulation Specialties, Inc. understood this was done because the base did not accept the three year warranty for the Carboline system as long enough. (Tr. 77-78) No explanation was offered by the Government. The parties subsequently agreed that the Carboline change had added an extra 24 days of new work to the contract. They also agreed that there was no change in the contract price. *See* Modification No. P00044. (R4, tab 63)

Government Delay of 219 Days Switching to Noxyde: 28 September 1994 through 5 May 1995

At that time in September the Government had been discussing another paint encapsulation method referred to as the Noxyde Corrosion Coating System (Noxyde) for the exterior of the tower. As a result of these discussions, work on the exterior painting of the non-water-bearing surfaces stopped. Southern Corrosion, Inc. demobilized its painters for the winter. (Tr. 715-16) On 25 October 1994, Mr. Herndon, the area engineer and administrative contracting officer, made a finding in favor of changing to a Noxyde system. (AR4, tab 29; tr. 77-79)

On 1 November 1994 the Government formalized the Findings and Determination supporting the utilization of the Noxyde system for the exterior painting of the towers. The Findings authorized the purchase of the non-American made Noxyde system. The Findings stated that:

The original contractual requirement was to remove lead containing paint, within a negative pressure containment enclosure, then apply a new paint system. Due to the water tower height and consequent wind exposure, the containment requirement proved infeasible and the work cannot be accomplished open to the wind.

(AR4, tab 29; tr. 78-79) This finding by the Government is fully supported by the facts developed at the hearing and in the written record. There does not appear to be any evidence of incompetence by the contractor

On 1 November 1994 Southern Corrosion, Inc. advised that there would be no cost savings on T-3, although there would be savings on T-1 and T-2. The pertinent part of the letter stated:

For Tank #3, due to the amount of work completed, and because we have to apply a coat of the Noxyde finish coat (Pegacryl) over areas now considered completed under

the current specifications, we have no savings under this alternative, and actually anticipate expenditures in excess of the original contract amount for this tank.

(R4, tab 62)

As early as 25 November 1994 the appellant made it known that the Noxyde system was labor intensive. (R4, tab 62) In a letter of 24 January 1995³ the appellant made it clear that the Noxyde system was going to be more labor intensive than the containment system. (AR4, tab 28; R4, tab 62) In a letter of 6 February 1995 the appellant said that the contract time extension should include “a stop work order for that period of cold weather when the Noxyde system cannot be applied.” (R4, tab 62) The appellant subsequently quantified the time it would take for this additional effort, in a letter of 21 March 1995, when it asked that “197 calendar days be added to the completion date of the contract to allow for installation of this new system.” (R4, tab 62)

Government Delay for Fill Line at T-3: 7 November 1994 through 3 March 1995

Meanwhile, Insulation Specialties, Inc. had completed the Cathodic protection system and the electrical panel installation, work added by Modification Nos. P00012 and P00020; and, it was preparing to flush the fill line for T-3 on 7 November 1994, when it discovered a break in the fill line. The fill line pipe was being flushed in preparation for requesting the Government to refill T-3, so that T-1 could be drained and critical water-bearing work on T-1 could proceed. During the flushing process a large crack was discovered in the fill line pipe at the last flange prior to the elbow going up into the riser pipe. This break prevented the Government from refilling T-3, as had been requested by Insulation Specialties, Inc. But for this break in the fill line, T-3 would have been refilled and Insulation Specialties, Inc. would have requested the draining of T-1, and would have begun work on the interior of that tower. (Tr. 80, 709, 714-16; R4, tabs 10, 88 at 13 October to 7 November 1994)

The fill line break was reported to the Government as soon as it was discovered, and Insulation Specialties, Inc. hoped to get a speedy resolution on repair of the line. Upon inspecting the crack on 14 November 1994 the Government inspector thought that it was caused by the pipe freezing. (Tr. 81-83, 87-88; AR4, tab 32)

It was the Government’s initial position that Insulation Specialties, Inc. was responsible for repairing the broken fill line. However, negotiations led to an equitable adjustment. That adjustment was codified in Modification No. P00040 on 3 March 1995. It provided for replacing the broken fill line with a new 12-inch cement mortar lined ductile iron pipe. The negotiations leading to the modification included a credit from Insulation Specialties, Inc. for not having to repair the broken fill line. The modification increased the

contract price by \$10,226 and added 21 calendar days for performance of the new work for the pipe replacement. (R4, tab 60; tr. 80, 85-87, 650-53, 724-27)

But for the break in the fill pipe on 7 November 1994, T-3 would have been filled at that time and T-1 drained so that critical water-bearing work could progress on the interior of T-1. No critical work was done from 7 November 1994 to 3 March 1995 while Insulation Specialties, Inc. was waiting for the Government to decide on the repair of the fill line pipe and the switch to noxyde. (Tr. 89, 94)

Nevertheless, it is apparent that the contractor did perform some work on the cathodic protection systems for all three towers. This work was subsequently the subject of Modification No. P00020, which added money and 30 days to the contract schedule. Although Mr. Ockman testified that all of this work was done in the Fall of 1994 (tr. 785), he was wrong. Mr. Ockman's own records show that 15 days were spent on cathodic protection in February 1995 and several days were spent later during the summer of 1995 (R4, tab 38; AR4, tab 89). After reviewing the available records, we find that the contractor spent 25 days on the cathodic protection systems and related electrical work, which later became the subject of Modification No. P00020, during the period 1 November 1994 through 3 March 1995.

Fill Line Repaired: 3 through 29 March 1995

When Insulation Specialties, Inc. received Modification No. P00040 on 3 March 1995, work began immediately on the fill line in accordance with the Government's specifications. The modification required the contractor to replace the cracked section of the 12-inch fill pipe with a new ductile iron pipe, and then seal the fill pipe where it entered the riser pipe that goes up into the tank. This required a welded seal between the ductile iron fill pipe and the base of the riser, which was made of carbon steel. (Tr. 94; R4, tab 60; AR4, tab 23, diagram at end of report titled "Pipe Trench at T-3 Fill Line")

The weld between the pipe and the base of the riser was completed on 29 March 1995. However, Insulation Specialties, Inc. could not refill T-3 at that time because of the pending switch to the Noxyde system and the expected requirement for painting the external water-bearing surfaces of T-3 with a pegacryl topcoat, as part of the Noxyde system.⁴ (Tr. 198-99, 591) Thus, on 29 March 1995 the appellant demobilized from the tower work because of the change being contemplated for the new Noxyde system. But for the performance of this extra work to replace the fill line pipe, Insulation Specialties, Inc. continued to be delayed by the Government's indecision with respect to the change to the Noxyde system.

The Change to the Noxyde System of Encapsulation

New Noxyde System Agreed to on 5 May 1995

Effective on 13 April 1995, in Modification No. P00042, the Government issued a bilateral change providing for the change to the Noxyde system. On 5 May 1995 the appellant agreed to the price and other terms of the modification, including a reduction in contract price of \$25,250 and a time extension of 212 days. The modification stated that, “The contract adjustment in this modification includes all costs for the change and all claims incidental thereto have been satisfied.” (R4, tab 62) This change for the application of the Noxyde system constituted extra work.

The use of the Noxyde system was limited to those exterior areas of T-3 that had not been treated with the Carboline system, such as columns, struts, rods, and braces. In addition, the change required the application of the pegacryl topcoat to areas completed with the Carboline system, such as the roof, shell, catwalk, bowl, and riser. The change did not apply to the interior of T-3. (R4, tab 62; tr. 100) Separate modifications were issued for the use of the Noxyde system on T-1 and T-2. (Modifications P00047, P00048) Those modifications are not in the record. (AR4, tab 45; R4, tab 71 at III-1, III-2)

Like the Carboline system, the Noxyde system eliminated sandblasting and the need for exterior containment. The scope of exterior painting operations utilizing the Noxyde system was more extensive and time consuming than envisioned under the containment system. (AR4, tabs 27, 28) Those operations were as follows:

1. Power wash with high pressure of 4,000 psi to remove loose materials.
2. Spot power tool with wire brush to smooth the edges.
3. A second hot power wash at 2,000 psi to kill fungi and to clean debris off the vessel so paint will cure better.
4. Spot prime coat.
5. Mist coat, a very fine coat of the whole vessel.
6. Three full coats of Noxyde.
7. Finish with Pegacryl topcoat.

(Tr. 105-07; AR4, tab 43)

The Noxyde system was manufactured in Belgium. The only vendor on the east coast of the United States was located in New York. The product had a one month lead time for orders. Upon execution of Modification No. P00042, Southern Corrosion, Inc. ordered the pegacryl to complete T-3. The product specifications limited application of the Noxyde to periods when the temperature was 45 degrees Fahrenheit or higher and the relative humidity was below 85 percent. (Tr. 108-09, 199)

Submission of Revised Progress Schedule in May 1995

In May 1995, after the scope of the project was changed to incorporate the Noxyde system, Insulation Specialties, Inc. submitted a revised progress schedule showing work on the final two towers (T-1 and T-2). After the steel work was to be finished on T-1, work was to begin on T-2, requiring both towers to be drained concurrently. The schedule showed a project start date of 1 May 1995 and a completion date of 13 November 1995 (197 days inclusive, as requested in Insulation Specialties, Inc.'s letter of 21 March 1995). (Tr. 120; AR4, tab 27; R4, tab 62)

Under the May 1995 schedule the duration for each activity on the interior of T-1 and T-2 was the same as the duration in the original as-planned schedule with the addition of 17 days to each tank on account of the new OSHA regulations, which now required the interior paint to be treated as containing lead. (AR4, tab 27; R4, tabs 64, 65, Modifications P00045, P00046) The exterior duration shown in the proposed schedule of May 1995 was also slightly longer due to the increased number of activities required by the Noxyde system.

Since the Noxyde system had an acquisition lead time of one month, the revised schedule begins with a remobilization at the site on 1 May 1995 and plans for the application of the Noxyde pegacryl on T-3 beginning 15 June 1995. In early July the schedule shows the beginning of the first wash of T-1, while completing the pegacryl application on T-3. The refilling of T-3 and the draining of T-1 was scheduled for 13 July 1995. The work on T-1 was scheduled to be completed on 10 October 1995. From first wash to completion the schedule called for 95 days of work on T-1. The schedule called for work on T-2 to begin concurrently with the work on T-1. The draining and first wash of T-2 was to begin on 14 August and actual painting to begin on 22 September 1995, 18 days before completion of T-1. The work on T-2 was to be completed on 7 November 1995. From first wash to completion the schedule called for 85 days of work on T-2. At the end, 6 additional days were allowed for demobilization. (AR4, tab 27)

Using the concurrent schedule, work was to begin on 1 May 1995, with the completion of T-2 on 7 November 1995 and demobilization on 13 November 1995 - a new schedule of 197 days from start to finish. If the work was done sequentially, the new schedule called for mobilization to take 45 days, work on T-3 to take 28 days, the work on T-1 to take 95 days, the work on T-2 to take 85 days and 6 additional days for demobilization. This is a total of 259 days. By doing the work concurrently, the contractor's schedule saved 62 days. Neither this nor any other schedule was ever approved after the switch to the Noxyde system. (AR4, tab 27; R4, tabs 64, 65; tr. 122)

Work Begins On Application of the Noxyde System: 5 May through 15 June 1995

The Noxyde system was available on site on 25 May 1995. The shell, bowl, and riser for T-3 were coated with the pegacryl finish coat on 14 and 15 June 1995. At that point T-3 was ready to be refilled. (R4, tab 71 at III-38, tab 90, tabs 13 (CQC 917), 14 (QAR 918); tr. 790)

Delay in Refilling T-3: 16 June and 21 July 1995

The filling of T-3 began on 16 June 1995, at which time a break was discovered in the fill line weld at the bottom of the riser. This work had been completed in March, as provided in Modification No. P00040. The tower was again drained. (R4, tab 71 at III-39, tab 90, tab 15 (CQC 919); tr. 791)

Southern Air, the mechanical subcontractor for Insulation Specialties, Inc., repaired the weld break in the fill line on 19 June 1995, and painted the new weld area on 20 June 1995. (Tr. 655; R4, tab 71 at III-39, tab 90, tab 16 (CQC 922), sketch of T-3 attached to the daily reports dated June 20, 1995; tr. 791) Filling of T-3 resumed on 21 June 1995. At that time the repaired weld and two pipe flanges broke. (R4, tab 71 at III-39, tab 90, tab 16 (CQC 922, attached sketch of T-3), tab 17 (QAR 924); tr. 791)

Insulation Specialties, Inc. was advised by a welding expert that obtaining a weld between these two incompatible metals had only about a 15 to 20 percent chance of success on a shop bench under controlled conditions, and virtually no chance of being accomplished in the field. (Tr. 98-99) After several attempts to redo the weld, the Government accepted Insulation Specialties, Inc.'s recommendation to replace the last section of the fill line with a carbon steel pipe so that there would be two compatible metals to weld. With this change, the pipe was re-welded to the riser base plate with no further problem. (Tr. 99) We find that it was practicably impossible to obtain a good weld between ductile iron and carbon steel.

Southern Air replaced the ductile iron pipe section at the weld with a carbon steel pipe section on 28 June 1995, and painted the new fill pipe on 3 July 1995. The tank was refilled on 6 July 1995 to test for leaks. The tower was then drained on 17 July 1995. It was then refilled on 18 July 1995 and placed back in service. (R4, tab 71 at III-40, tab 90, tabs 18 (CQC 931), 19 (QAR 936), 20 (QAR 950), 21 (QAR 951); tr. 791-92)

The Government is responsible for the delay caused by the break in the fill line weld, since it directed the use of a ductile iron pipe, which was not compatible for a weld seal with a carbon steel pipe. (R4, tab 60, 21 November 1994 construction cost estimate, line 7 at page 15 of multi-page exhibit; tr. 87-89; AR4, tab 23 at 9)

Although T-3 was refilled and put back in service on 18 July 1995, T-1 was not drained until three days later on 21 July 1995. The delay from 16 June through 21 July 1995 was 35 days. Those days of delay are also the responsibility of the Government.

T-1 Drained: Work Begins on T-1 on 21 July 1995

After T-3 was refilled, Insulation Specialties, Inc. requested the Government to drain the second tower, T-1. At that time, 21 July 1995, Insulation Specialties, Inc. had lost its experienced welding crew, which had been laid off after completing the work on T-3 in November 1994. Insulation Specialties, Inc. had advertised and hired new welders and got them certified for the project. Insulation Specialties, Inc. had hired two new welders and two new helpers to complete its crew. After the long layoff, the start of T-1 was essentially a remobilization for Insulation Specialties, Inc. and its welding crew. It was, however, not so much the long layoff, since Insulation Specialties, Inc. had the lead time to hire more steel workers; rather, it was the lost learning that added time to the steel repair cycle. Nevertheless, those responsibilities were the contractor's since, in Modification No. P00042, the parties had agreed on 212 days for the new Noxyde work. (Tr. 110-11, 790; R4, tab 71 at III-10, tab 90, tab 22 (CQC 954))

Government Refuses Request to Drain T-2: 28 July 1995

By letter dated 28 July 1995, while performing work on T-1, Insulation Specialties, Inc., in order to permit it to make up time and expedite completion, and in accord with its latest progress schedule, asked the Government to drain T-2. Insulation Specialties, Inc. had re-staffed its welding crew, had applications from others available to hire, and had the capability to increase its staff to perform welding on two tanks at once. Accordingly, Insulation Specialties, Inc. requested that T-2 be drained so they could do critical steel repairs and painting operations. (Tr. 111; AR4, tab 44) The Government denied Insulation Specialties, Inc.'s request to drain T-2 on the basis that only one tower could be taken out of service at a time. (Tr. 112; AR4, tab 35)

Steel Work on T-1 Completed: 28 July 1995 through 12 September 1995

Insulation Specialties, Inc. performed steel work on T-1 beginning on 25 July 1995. The steel work was completed and turned over to Southern Corrosion, Inc. for exterior painting operations on 12 September 1995. (Tr. 123; AR4, tabs 38, 45 at 10) Southern Corrosion, Inc. was also painting while the steel work was ongoing. If the steel work had

been completed in 1994, the painters would have had the site to themselves and would not have been hindered by the presence of the steel workers. The painters and steel workers combined would have cut their schedule by a month. (Tr. 673) The total number of calendar days of steel work on water-bearing portions of T-1 in July through September 1995 was 49 days. (Tr. 614-15)

Mr. Wade, the project manager, explained that there were weather and other difficulties which prevented the completion of T-1 in the Fall of 1995:

Q. All right. In fact, T-1 was not completed in 1995, right?

A. That is correct.

Q. Why not?

A. I think part of the problem was, you know, we did have a little bit of weather delay involved there. I believe it was something like 17 to 19 days of weather delay, and we had, as I stated earlier, some difficulties of our own with getting these new welders in, getting them up to speed, their learning curve, and just the general overall momentum of starting a project, stopping a project. I mean this is what we had continually been doing for several years now, and we had to get everybody flowing again. So, that probably cost a few days there.

(Tr. 122-23)

Winter Shut Down from 1 November 1995 through 8 April 1996

When the project shut down for the winter of 1995-96, a large percentage of the exterior of T-1 had been power washed and power tooled. The interior had been blasted and primed, and only needed two finish coats, which would have been completed in only 7-10 days by spray painting. Mr. Wade did not testify as to how long it would have taken to finish the exterior. (Tr. 123-24) However, we find, *infra*, that it actually took 43 days to complete the exterior painting. Consistent with the appellant's May 1995 schedule, the interior and the exterior painting could be done concurrently.

Nevertheless, we further find that the contractor would not have completed the 43 days of painting work on T-1 prior to the winter of 1995, even if the Government had not caused the 35 day delay associated with the break in the fill line weld and the delay in draining T-1. (The interior paint removal and repainting had not changed from the original

specifications; the problems with the containment and the switch to encapsulation with the Noxyde system applied only to the exterior painting operations.)

We find, as Mr. Robert J. Curtis, consultant with T.A. McMullen Consultants, Inc. testified, that from 1 November 1995 until 8 April 1996, because of adverse weather conditions, Insulation Specialties, Inc. lost 149 days. (AR4, tab 23 at 11) (The specifications limited Noxyde application to periods when temperature was 45 degrees Fahrenheit or higher and relative humidity below 85 percent.) (See tr. 109, 199)

T-1 Completed: 8 April through 5 July 1996

Work resumed on the interior of T-1 on 2 April 1996 and the touchup of interior painting was completed on 4 April 1996. Work resumed on the exterior of T-1 on 8 April 1996, with preparations for water blasting. During the winter, paint in areas that had been power washed had flaked and popped due to expansion and contraction of the empty tank. Accordingly, there was additional clean-up, re-washing, and re-tooling of areas required before work could be resumed. The blast and prime exterior work was completed on 29 April 1996. Rain and high humidity prevented exterior painting work on 23 full days from 30 April through 5 July 1996. The exterior painting was completed on 5 July 1996. (Tr. 124-25; R4, tab 71 at III-42, III-43, tab 90, tab 23 (CQC 1211, CQC 1213, CQC 1215); AR4, tab 45 at 11) Thus, during this period it took the contractor 43 calendar days to complete the exterior painting. The Government did not inspect the tower until 8 July 1996. It found deficiencies which were remedied by Insulation Specialties, Inc. on 9 July 1996. Thus, from 8 April until 9 July 1996, Insulation Specialties, Inc. spent 92 days completing T-1.

Government Delay in Filling T-1 and Draining T-2: 9 through 22 July 1996

The Government took two days, from 10 until 11 July 1996, to fill T-1. It then drained and filled T-1 several times to clear sediment. On 16 July 1996 the Government told Insulation Specialties, Inc. that the earliest that T-2 could be drained was 22 July 1996. The Government drained T-2 on Monday, 22 July 1996. This 13 day delay, from 9 July until 22 July, in draining T-2 was the responsibility of the Government. (R4, tab 71 at III-43, III-44; AR4, tab 45 at 11-12)

Work on T-2: 23 July through 30 November 1996

When T-2 was drained and ready for steel work, Insulation Specialties, Inc. had only one welder left from the crew that had completed the steel work on T-1 in September 1995. Insulation Specialties, Inc. hired another welder and two helpers. (Tr. 126) Steel work began at T-2 on 25 July 1996. (R4, tab 71 at III-44) Three days were lost to the remobilization for steel work. The interior and exterior steel work on water-bearing

portions of T-2 was completed within 41 calendar days, on 4 September 1996. (Tr. 616; AR4, tab 38)

During 1996, Southern Corrosion, Inc. was not being paid by Insulation Specialties, Inc. for its work on T-1 or T-2, because the Government was assessing liquidated damages against Insulation Specialties, Inc. This adversely affected Southern Corrosion, Inc.'s morale. However, the record does not provide any basis for quantifying the delay effect, if any, of the lost morale. (Tr. 296)

On T-2, Insulation Specialties, Inc. substituted Eakin & Sons (Eakin) to perform the internal painting operations. Southern Corrosion, Inc. remained on the job to perform the exterior painting operations with the Noxyde system. (Tr. 126) Eakin was not hired to supplement Southern Corrosion, Inc., which had sufficient manpower to do both the interior and exterior of T-2. Eakin gave Insulation Specialties, Inc. a proposal to perform the work for less than Southern Corrosion, Inc., and Southern Corrosion, Inc. was willing to reduce the scope of its work and reduce its financial exposure on a job for which it was already losing money and not being paid. (Tr. 202, 295)

The number of people who could work inside the tank at any one time was limited. During blasting, the maximum was two workers due to dust and blast debris; and only one person in the 4 foot diameter riser pipe. Southern Corrosion, Inc.'s standard crew for painting the interior was three or four (2 inside and 1 outside support). (Tr. 127, 295)

Eakin had a five man crew at the beginning of the work on T-2 because they constructed a scaffold on the interior of the tank. That took four to five men about two weeks to bring in all the pipes, boards, and other materials, and erect the scaffolding. Once this was done, Eakin had a third person on the ground, and possibly a fourth at times, but only two people at a time actually working inside the tank during sandblasting and painting. Because of the paint fumes and ventilation, two people was the normal crew inside a tank. (Tr. 294-95)

Southern Corrosion, Inc.'s standard crew for exterior painting on T-2 was five; four on the tank and one man supporting them on the ground. The four men on the tank would do all the work, including the power washing and wire brushing. If Eakin had not come in, Southern Corrosion, Inc. had the crew capacity to do the interior painting. (Tr. 295-96)

T-2 was substantially completed on 30 November 1996. (Tr. 128)

The as-built duration for T-2 was 131 calendar days from when it was drained to substantial completion. When days are subtracted for weather and other non-contractor delays (*i.e.*, Modification P00060 (5 days for cadmium abatement), Modification P00061, (21 days for excusable weather)), the actual duration for T-2 is 105 days. Of that, 41 days were for steel work and 64 days were for painting. In Insulation Specialties, Inc.'s proposed

May 1995 schedule, the as-planned duration for T-2 was 85 days (14 August to 7 November 1995). (Tr. 398-400; AR4, tab 27)

The Base Water Supply

During the course of the project, the only reasons given by the Government for refusing to drain a second tank was either that the specification specifically prohibited it, or that the base would not allow it for reasons of fire protection (tr. 121, 228-29).

During the hearing the Government acknowledged that if there were concerns about the base water supply in connection with the project, a specific restriction limiting the contractor's access to one tower at a time should have been stated in the specifications. (Tr. 703-04) In fact, no such restriction exists and there is nothing in the specifications or elsewhere which prohibits more than one tank being drained at any one time, or otherwise limits the appellant's access to the work site. (R4, tab 23; AR4, tab 37)

Fort Lee has its own fire department and fire chief. The person who was the fire chief during the first years of this contract had retired. He was not called to testify. (Tr. 897; AR4, tab 49 at 5-6). The Government did call a pipe fitter plumber who had worked at Fort Lee since 1975. He testified that if the water pressure dropped to 20 psi then "most likely, on the sprinkler systems, the top floors on some of the five-story buildings wouldn't have enough water." However, the pipe fitter was not knowledgeable about required water pressures, nor did he seem to understand the relationship between water pressure and what he called water flow. (Tr. 982-85) Although he said that he did not know what the water pressure would be with only one water tower, he acknowledged that water pressure was a function of the height of the water column, not the volume of water (tr. 984).

The Government acknowledged that water pressure in the water system is determined by the height of water in the tower, and has nothing to do with volume. As long as the height of the water column is maintained, one tower can generate the same amount of pressure in the system as can two towers. (Tr. 754-57)

The Government also called the business manager for the Fort Lee Public Works Department. He testified that the then fire chief was concerned at the time that with only one water tank there might not be a sufficient supply to handle a major fire on the installation. It was his best recollection that the fire chief was concerned with both water supply and water pressure. (Tr. 748, 751) The business manager testified that he did not know whether or not 20 psi was required at the water mains for fire-fighting purposes (tr. 750). Likewise, he had no recollection or knowledge of any amount of water pressure being mentioned by the fire department as a requirement for fire-fighting purposes (tr. 751). In fact, water pressure of 20 psi is maintained at the two pump stations bringing in water from the Virginia American Water Company and from the City of Petersburg.

A water pressure of 20 psi is sufficient for fire protection purposes. (AR4, tab 49 at 9; tr. 752)

The deposition testimony of the current fire chief was admitted in evidence. His testimony established that the water flow, or gallons per minute, was more a function of the size of the water main at a particular fire hydrant, rather than the water pressure, as had been suggested by the pipe fitter. (AR4, tab 49 at 14-15) The deposition testimony of the fire chief was that two people in the Department of Public Works were the ones most knowledgeable about the requirements for water pressure. They were Mr. Sicaranza and Mr. Miller. They were both still with the Department of Public Works. Neither was called to testify; and, we draw the negative inference that their testimony would not have supported the Government position if they had been called to testify by the Government. (AR4, tab 49 at 18-19)

The Government agreed that Fort Lee gets its water from two sources: Virginia American Water Company in Hopewell, and the City of Petersburg. The base has two water stations that obtain water from these sources. The water is brought in continuously, 24 hours per day, to maintain the water supply for the base. There are pumps at both stations to pump water to the base water towers, from which the water is distributed to the base. (Tr. 752, 754-56)

Fort Lee typically uses a million gallons of water a day, which it brings in from those two sources. This is more water than is contained in all three water towers. Fort Lee has the capability to bring in more than a million gallons of water a day if needed, perhaps as much as 3.6 million (tr. 752). Because of the availability of water from the two sources, the Fort Lee business manager acknowledged that water supply is not really a problem for the base. Fort Lee can get as much water as needed on any given day. (Tr. 754-57)

We find that there was no credible evidence that draining more than one tank posed any serious threat to the fire fighting capability at Fort Lee. We find that there was no credible evidence that Insulation Specialties, Inc., or any reasonable contractor, should have thought or known that there would, because of fire fighting requirements, be any limitation on the number of water towers which could be drained at any one time.

Contract Modifications

Bilateral modifications extended the contract time by 641 days for changes, Government caused delays, and excusable weather delays (Modifications P00012, P00020, P00023, P00024, P00031, P00040, P00041, P00042, P00044, P00045, P00046, P00050, P00060). In addition, unilateral modifications were issued extending the contract time by 124 days for excusable weather delays (Modifications P00052, P00053, P00054, P00061). (*See* R4, tab 71 at III-2; AR4, tab 23 at Change Orders chart) These modifications provided a total contract time extension of 765 days.

Modification No. P00012

Modification No. P00012, of 7 January 1994, added extra work at all three towers. This extra work included replacing the electrical service panel boards and providing new underground electric service. Additionally, the modification provided for replacing the 8-inch diameter water bypass pipeline and valve located in the valve pit for T-3. The Government issued notices to proceed with this work in August and September 1993.

Negotiations were completed on 21 December 1993. In January 1994 the parties signed the modification in which they agreed that this extra work would add \$33,643 to the contract price. The pipeline bypass work was intended to be done after the painting was completed. Thus, the parties agreed that “performance is increased by seven calendar days” for the work at T-3 for adding the bypass pipeline. The electrical work at each of the towers could be done at any time, and did not add time to the completion of the work. The parties agreed that the “adjustment in this modification includes all costs for the change and all claims incidental thereto have been satisfied.” There was no discussion of delay days associated with this change. The Government cited the Changes clause as authority for this modification. (R4, tab 55)

We are bound by the parties’ agreement in this modification. The contractor is not entitled to any additional time or compensation for performing the extra work added by this modification.

Modification No. P00020

Modification No. P00020, of 6 July 1994, added extra work at all three towers. This extra work required new underground 2-inch duct and telephone cables between the utility poles and the tower obstruction warning lights at each of the three towers. It also required a new Cathodic protection system and new area flood lights for T-3. The Government issued notices to proceed with this extra work on 24 June 1994.

Negotiations were completed on 30 June 1994. The parties signed Modification No. P00020 in early July, in which they agreed that this extra work would add \$49,313 to the contract price. Although the Government estimate was for a 35 day time extension, the parties agreed that “performance . . . is increased by 30 calendar days.” This included the extra work at all three towers, although most of the work was done at T-3. The parties agreed that the “adjustment in this modification includes all costs for the change and all claims incidental thereto have been satisfied.” There was no discussion of delay days. The Government cited the Changes clause as authority for this modification. (R4, tab 56)

We are bound by the parties' agreement in this modification. Consistent with the Changes clause, the contractor is not entitled to any additional time or compensation for performing this extra work.

Modification No. P00023

Modification No. P00023, of 30 August 1994, added a total of 221 calendar days. As reflected in a letter agreement signed by both parties in early August 1994, these additional days were to compensate the contractor for three periods of delay caused by the Government during the work at T-3. The first delay was for 58 days in draining T-3, from 24 May through 21 July 1993; the second delay was for 163 days in evaluating and resolving the differing site condition of the excessive pitting in the riser of T-3, from 24 August 1993 through 3 February 1994 (beginning 10 August 1993 through 3 February 1994, with 14 days as the reasonable time for Governmental review); and the third delay was for the Government's CIH stop work order issued on 5 November 1993, which continued through 5 January 1994 (57 days). This last delay was concurrent with the excessive pitting delay.

Negotiations were completed on 8 August 1994. On 30 August and 6 September 1994 the parties signed the modification in which they agreed that the contract amount remained unchanged. The parties also agreed that "performance . . . is increased by 221 calendar days." The parties agreed that the "adjustment in this modification includes all costs for the suspension and all claims incidental thereto have been satisfied." The Government cited the Suspension of Work clause as authority for this modification. (R4, tab 57)

The language in the modification, along with the signed letter agreement, establish that the parties intended this modification to compensate the contractor for Government caused delays. It also establishes that the parties intended that the contractor would not receive any monetary award in compensation for these delays.

Modification No. P00024

Modification No. P00024, of 26 August 1994, added a total of nine calendar days. This modification was initiated by the Government on 26 August 1994 and agreed to by the contractor on 31 August 1994. The parties agreed that the "amount remains unchanged." The parties also agreed that "performance . . . is increased by nine calendar days." The parties agreed that the "adjustment in this modification includes all costs for the excusable delay and all claims incidental thereto have been satisfied." The Government cited the Default clause as authority for this modification. (R4, tab 58)

We are bound by the parties' agreement that only these nine days would add to the total contract completion time, without any additional compensation for the contractor.

These nine days are simply added to the total contract time. Consistent with the Default clause, the contractor is not entitled to any monetary compensation for these weather delays.

Modification No. P00031

Modification No. P00031, of 4 November 1994, added a total of 14 calendar days. This modification was initiated by the Government on 4 November 1994 and agreed to by the contractor on 2 December 1994. The parties agreed that the “amount remains unchanged.” They also agreed that “performance . . . is increased by 14 calendar days.” The scope of work in the modification made it clear that it covered undifferentiated excusable weather days in July 1994. The parties agreed that the “adjustment in this modification includes all costs for the excusable delay and all claims incidental thereto have been satisfied.” The Government cited the Default clause as authority for this modification. (R4, tab 59)

Although these 14 calendar days in July may have been concurrent with high winds which damaged the containment in July, they might not have been. In any event, we are bound by the parties’ agreement that these days would separately add to the total contract completion time, without any additional compensation for the contractor. These 14 calendar days are simply added to the total contract time. Consistent with the Default clause, the contractor is not entitled to any monetary compensation for these weather delays.

Modification No. P00040

Modification No. P00040, of 3 March 1995, added work at T-3 for replacing the existing 12-inch diameter water pipeline in the valve pit with a “flanged cement mortar lined ductile iron.” This pipeline connects to the pipeline that extends into the riser base at T-3. The parties agreed that this extra work added \$10,226 to the contract price, and that “performance . . . is increased 21 calendar days.” They also agreed that the “adjustment in this modification includes all costs for the change and all claims incidental thereto have been satisfied.” There was no discussion of any delay days. The Government cited the Changes clause as authority. (R4, tab 60)

The modification was silent with respect to any compensation for delays caused by the break in the fill pipeline. We are bound by the parties’ agreement that the modification expressly dealt only with the direct and incidental costs and time for implementing the changed work. Consistent with the Changes clause, the contractor is only entitled to 21 calendar days and \$10,226 for performing this work.

Modification No. P00041

Modification No. P00041, of 3 March 1995, added work to comply with new OSHA regulations requiring that the paint on the interior of each tower be treated as lead-based paint. Negotiations for this extra work began sometime on or before 29 November 1993, when the contractor wrote to the Government about the OSHA changes and how they impacted the paint removal process for the interior of the towers. Negotiations extended through 1994. Agreement in principle occurred in December. (R4, tab 61)

The parties agreed that the extra work added \$51,515 to the contract price, and that “performance . . . is increased by 45 calendar days” for this extra work at T-3. The parties also agreed that the “adjustment in this modification includes all costs for the change and all claims incidental thereto have been satisfied.” There was no discussion of any delay days. The Government cited the Changes clause as authority for this modification. (R4, tab 61)

We are bound by the parties’ agreement, consistent with the Changes clause, that the appellant is only entitled to an additional 45 calendar days and \$51,515 for the extra work at T-3, due to the changes required by the OSHA regulations.

Modification No. P00042

Modification No. P00042, signed by the Government on 13 April 1995 and agreed to by Insulation Specialties, Inc. on 5 May 1995 (after signing Modification P00044), changed the scope of the painting work with respect to T-3 (deleted the sandblasting and containment requirement, and substituted the Noxyde system for the portions of the exterior of T-3 unpainted with the Carboline system, and added a pegacryl topcoat to exterior surfaces already painted with the Carboline system).

Negotiations concerning the use of Noxyde followed the end of the Carboline change, and began on or before the meeting of 11 October 1994 between the Government and the contractor. On 27 October 1994 the Government prepared its first estimate of a \$92,129 price credit and no time extension. On 2 November 1994 the Government issued a letter to the contractor approving the use of Noxyde and requesting a proposal from the contractor. Neither the estimate nor the time extension was shared with or communicated to the contractor. (R4, tab 62, Price Negotiation Memorandum of 23 March 1995)

By letter of 21 March 1995 the contractor offered a \$25,250 price credit for the use of Noxyde on the remaining exterior of T-3; and, an over all time extension of 197 calendar days “to allow for installation of this new system.” (R4, tab 62 at 41)⁵ The contractor’s final proposal was accepted. On 13 April 1995, the contracting officer issued a proposed modification to the contractor containing those terms and providing for the

change to the Noxyde system.⁶ After issuance of the modification, but also on 13 April 1995, the area engineer made a Government initiated pen and ink change from 197 to 212 calendar days for the time extension. The effective date remained 13 April 1995. The record contains no explanation for this change in the time extension.⁷

Upon signing the modification, the parties agreed that the “contract amount is decreased by \$25,250;” and that “performance is increased by 212 calendar days.” The parties also agreed that the “adjustment in this modification includes all costs for the change and all claims incidental thereto have been satisfied.” The modification stated that the contractor shall “Perform work in accordance with the attached scope of work,” which described the application of the new Noxyde system. There was no discussion of any delay days. The Government cited the Changes clause as authority. (R4, tab 62)

The agreement communicated between the parties, and unambiguously expressed in the modification, provided for a change in the painting of the towers. The modification was silent with respect to any compensation for the delay while the Government decided on the change to the Noxyde system. We are bound by the parties’ agreement that the modification dealt only with the change and direct and incidental costs and time for implementing the changed work. Consistent with the Changes clause, the contract is modified by the addition of 212 calendar days and a price deduction of \$25,250 for performing this work.

Modification No. P00044

Modification No. P00044, signed by the Government on 27 March 1995 and agreed to by Insulation Specialties, Inc. on 8 April 1995, codified the change to the scope of work directed by the Government on 18 August 1994 (deleting the sandblasting and containment for T-3 and substituting the Carboline system). The work set out in this modification actually preceded the work ordered in Modification No. P00042.

The Government developed the scope of work for the Carboline system on 17 August 1994 and issued a notice to proceed with the work on the next day, 18 August. The parties completed the work and continued price and time negotiations from September 1994 through March 1995.

The parties agreed that the “contract amount remains unchanged;” and, that the “performance . . . is increased by 24 calendar days.” The parties also agreed that the “adjustment in this modification includes all costs for the change and all claims incidental thereto have been satisfied.” There was no discussion of delay days. The Government cited the Changes clause as authority. (R4, tab 63)

It took the contractor 41 days, from 18 August to 28 September 1994, to complete the application of the Carboline system. Nevertheless, we are bound by the parties' agreement. Consistent with the Changes clause, the contractor is only entitled to 24 calendar days for performing this work; the contractor is not entitled to any additional monetary compensation for performing this work.

Modification No. P00045

Modification No. P00045, signed by the Government on 5 April 1995 and agreed to by Insulation Specialties, Inc. on 8 April 1995, added extra work (new OSHA lead-based treatment of the interior of T-1). The parties agreed that the extra work added \$45,667 to the contract price; that "performance . . . is increased by 17 calendar days;" and, that the "adjustment in this modification includes all costs for the change and all claims incidental thereto have been satisfied." (R4, tab 64) There was no discussion of delay days. The Government cited the Changes clause as authority. (*Id.*)

We are bound by the parties' agreement, consistent with the Changes clause, that the appellant is only entitled to an additional 17 calendar days and \$45,667 for the extra work at T-1, due to the changes required by the OSHA regulations.

Modification No. P00046

Modification No. P00046, signed by the Government on 5 April 1995 and agreed to by Insulation Specialties, Inc. on 8 April 1995, added extra work (new OSHA lead-based treatment of the interior of T-2). The parties agreed that the extra work added \$45,667 to the contract price; that "performance . . . is increased by 17 calendar days;" and, that the "adjustment in this modification includes all costs for the change and all claims incidental thereto have been satisfied." (R4, tab 65) There was no discussion of delay days. The Government cited the Changes clause as authority. (*Id.*)

We are bound by the parties' agreement, consistent with the Changes clause, that the appellant is only entitled to an additional 17 calendar days and \$45,667 for the extra work at T-2, due to the changes required by the OSHA regulations.

Modification No. P00050

Modification No. P00050, of 25 August 1995, added a total of 19 calendar days to performance due to delays caused by the weather in June and July 1995. The parties agreed that there was no increase in contract price; and, agreed that "performance . . . is increased by 19 calendar days." The scope of work in the modification made it clear that it covered eight undifferentiated excusable days in June 1995 and 11 undifferentiated excusable weather days in July 1995. The parties agreed that the "adjustment in this modification includes all costs for the excusable delay and all claims incidental thereto

have been satisfied.” This modification was initiated by the Government. The Government cited the Default clause as authority for this modification. (R4, tab 66)

We are bound by the parties’ agreement that these days would be separately added to the total contract completion time, without any additional compensation for the contractor. These 19 days are simply added to the total contract time. (*Infra*, we apportion these days to a concurrent delay.) Consistent with the Default clause, the contractor is not entitled to any monetary compensation for these weather delays.

Modification No. P00052

Modification No. P00052, issued by the Government on 12 March 1996 but not agreed to by Insulation Specialties, Inc., added 34 calendar days to contract performance due to delays caused by the weather in October, November, and December 1995. The scope of work set forth in the modification made it clear that these 34 days were for undifferentiated excusable weather delays, of which two were in October, 13 were in November and 19 were in December 1995. Insulation Specialties, Inc. did not sign the modification because the time period covered “is included in our Request for Equitable Adjustment.” Notwithstanding the refusal of Insulation Specialties, Inc. to sign the agreement, the modification contained the usual statement that the adjustment “includes all costs for the excusable delay and all claims incidental thereto have been satisfied.” This modification was initiated by the Government. The Government cited the Default clause as authority. (R4, tab 67)

The contracting officer has not withdrawn the unilateral decision in this modification. Therefore, in accordance with the terms of the Default clause, these weather delays are not compensable under the terms of this modification, but they do extend the contract completion date by 34 calendar days.

Modification No. P00053

Modification No. P00053, issued by the Government on 24 April 1996 but not agreed to by Insulation Specialties, Inc., added 59 calendar days to contract performance due to delays caused by the weather in January, February, and March 1996. The scope of work set forth in the modification made it clear that these 59 days were for undifferentiated excusable weather delays, of which 21 were in January, 18 were in February, and 20 were in March 1996. Notwithstanding the fact that Insulation Specialties, Inc. did not sign the agreement, the modification contained the usual statement that the adjustment “includes all costs for the excusable delay and all claims incidental thereto have been satisfied.” The Government initiated this modification. The Government cited the Default clause as authority. (R4, tab 68)

The contracting officer has not withdrawn the unilateral decision in this modification. Therefore, in accordance with the terms of the Default clause, these weather delays are not compensable under the terms of this modification, but they do extend the contract completion date by 59 calendar days.

Modification No. P00054

Modification No. P00054, issued by the Government on 5 August 1996, but not signed by Insulation Specialties, Inc., added 10 calendar days to the period of contract performance due to delays caused by the weather in April, May, and June 1996. The modification itself is not in the record, although both consultants cited to the modification in their reports. (R4, tab 71 at III-2; AR4, tab 23 at Change Orders chart)

The contracting officer has not withdrawn the unilateral decision in this modification. Therefore, in accordance with the terms of the Default clause, these weather delays are not compensable under the terms of this modification, but they do extend the contract completion date by 10 calendar days.

Modification No. P00060

Modification No. P00060, issued by the Government on 14 May 1997 and agreed to by Insulation Specialties, Inc. on 22 May 1997, added work due to the discovery of cadmium at T-2 (including procedures to comply with OSHA regulations). The parties agreed that the extra work increased the contract price by \$25,000; and, agreed that the “performance . . . is increased by 5 calendar days” (beginning 28 September through 2 October 1996, including periods of delay). The parties also agreed that the “adjustment in this modification includes all costs for the change and all claims incidental thereto have been satisfied.” There was no discussion of any delay days. The Government cited the Changes clause as authority. (R4, tab 69)

We are bound by the parties’ agreement, consistent with the Changes clause, that the appellant is only entitled to an additional five calendar days and \$25,000 for the extra work.

Modification No. P00061

Modification No. P00061, issued by the Government on 14 May 1997, but not signed by Insulation Specialties, Inc., added 21 calendar days to the period for contract performance due to delays caused by the weather in July, September, October, and November 1996. Notwithstanding the fact that Insulation Specialties, Inc. did not sign the agreement, the modification contained the usual statement that the adjustment “includes all costs for the excusable delay and all claims incidental thereto have been satisfied.” This modification was initiated by the Government. The Government cited the Default clause as authority. (R4, tab 70)

The contracting officer has not withdrawn the unilateral decision in this modification. Therefore, in accordance with the terms of the Default clause, these weather delays are not compensable under the terms of this modification, but they do extend the contract completion date by 21 calendar days.

Request for Equitable Adjustment, Claim, and Appeal

In January 1996, before project completion, Insulation Specialties, Inc. submitted a request for equitable adjustment (REA) to the Government for the delays in completing the project. The Government reviewed the request and, realizing that there was no explicit language in the specifications which prohibited draining more than one tower at a time, suggested that the parties negotiate. The negotiations were not productive and the Government rejected the REA.

On 7 February 1997 Insulation Specialties, Inc. resubmitted its 27 January 1996 REA as a claim. Insulation Specialties, Inc. asserted that “numerous problems were discovered” during the project and that “significant changes to the contract resulted.” Insulation Specialties, Inc. noted that the contract encountered many problems which necessitated numerous change orders, which greatly extended the completion date. (R4, tab 3, Executive Summary at 1)

Insulation Specialties, Inc. then noted that “modifications to the fill line to water tower #3, coupled with the refusal of the Army to allow work to proceed on more than one tower at a time delayed ISI further, required a demobilization and remobilization of work crews, and pushed production into a fourth winter season.” (*Id.*) The claim sought a total of \$1,080,910 in impact costs, subcontractor costs, and markups. The claim also sought a schedule extension through the date of substantial completion, which would result in the remission of liquidated damages imposed by the Government. (R4, tab 3, Executive Summary at 7)

On 11 February 1997 the appellant added a proper certification to its claim in the amount of \$1,080,910 for delays and other damages incurred in the performance of the water tower work. (R4, tab 3) The contracting officer did not issue a final decision on the appellant’s claim. After waiting two years, on 11 March 1999 the appellant appealed from the Government’s deemed denial of its claim. (R4, tab 3; comp. & ans. ¶¶ 9)

DECISION

How Many Tanks May Be Drained

The appellant maintains that it was entitled to decide on and to change its method of performance as long as the contract did not prohibit such method of performance. The

refusal of the Government to drain more than one tank at a time prevented the appellant from effective utilization of its resources and thus constituted a constructive change to the contract. Where a contract permits a manner or method of performance, forbidding such manner or method is a constructive change under the Changes clause. *Jerry Dodds d/b/a Dodds & Associates*, ASBCA No. 51682, 02-1 BCA ¶ 31,844 at 157,352; *Clauss Construction*, ASBCA No. 51707, 02-1 BCA ¶ 31,678 at 156,546 (contract permitted removal of housing units and Government order for demolition was a change); *Walashek Industrial & Marine, Inc.*, ASBCA No. 52166, 01-1 BCA ¶ 31,385 at 155,000.

The Government acknowledges that there is no clause in the contract which expressly precludes the appellant from having more than one tank drained at any one time; however, the Government argues that such a construction is unreasonable; and, that the absence of a clause restricting the number of tanks that may be drained at any one time is a patent ambiguity. Thus, argues the Government, the appellant was under a duty to inquire prior to bidding as to how many tanks could be drained at one time. This presents a question of contract interpretation.

The Government's position is simply wrong. The rules on contract interpretation seek to avoid ambiguity. *C. Sanchez and Son, Inc. v. United States*, 6 F.3d 1539, 1543 (Fed. Cir. 1993); *Beta Systems, Inc. v. United States*, 838 F.2d 1179, 1185 (Fed. Cir. 1988); *Firestone Tire & Rubber Co. v. United States*, 444 F.2d 547 (Ct. Cl. 1971); *Hol-Gar Manufacturing Corp. v. United States*, 351 F.2d 972, 976 (Ct. Cl. 1965).

In order for a contract to be susceptible to an ambiguity the contract must be capable of having two different reasonable interpretations. The Government has failed to point to any contract language which is susceptible to an interpretation that only one tank can be drained at any one time. In the absence of an inconsistency, *Beacon Construction Co. of Massachusetts v. United States*, 314 F.2d 501, 504 (Ct. Cl. 1963) (cited by Government), or in the absence of two parts of the contract saying different things, *Newsom v. United States*, 676 F.2d 647, 649 (Ct. Cl. 1982) (cited by Government), there is no ambiguity. See, e.g., *SCM Corp. v. United States*, 675 F.2d 280 (Ct. Cl. 1982); *Norflor Construction Corp.*, ASBCA No. 31577, 89-1 BCA ¶ 21,265, *recons. denied*, 90-1 BCA ¶ 22,277. Contrary to the Government's contention, the law prefers an interpretation which does not create an ambiguity. E.g., *Tomi, Inc.*, ASBCA No. 43284, 94-3 BCA ¶ 27,140.

In the instant case there is nothing in the contract which remotely suggests an interpretation which places any limitation on the number of tanks which may be drained at any one time. Indeed, the Government does not point to language in the contract which can be so interpreted. Instead, the Government offers the novel construction that the omission of such a limitation was a patent and obvious mistake because it is manifest that only one tank could be drained at any one time.

The Government is not explicit as to why it was manifestly obvious that only one tank could be drained at one time. We take the Government to be asserting that it is common knowledge and that anyone would have realized that it was essential for fire fighting purposes that two tanks be in service at all times. The evidence in the record does not support the Government's contention.

We found that there was sufficient water pressure at both water mains coming into Fort Lee to support fire fighting efforts, even without the extra pressure provided by one water tower. We also found that one water tower provided as much water pressure as two or more water towers. We also found that water capacity was not an issue related to the volume of water in the water towers, but an issue related to the size of the water main at the fire hydrant. We also found that all the water Fort Lee needed was available from the two separate water sources serving the installation.

In short, there was no reason for the appellant to assume that there would be any limit on the number of water towers which could be drained at any one time. The contract being silent on the matter, there was no ambiguity. There simply was no contractual limit on the number of tanks which could be drained at any one time. The Government's refusal to allow more than one tank to be drained at the same time was a constructive change to the contract.

To the extent that the Government refused to permit the appellant the opportunity to have more than one tank drained at the same time, the Government constructively changed the contract. The appellant is entitled to recover its extra costs and to an extension of the contract caused by that change in accordance with the Changes clause.

Periods of Government Caused Delay

The appellant contends that it is entitled to 459 days of compensable delay, including 143 days of unilateral weather extensions, as well as remission of the 336 days of liquidated damages assessed by the Government. The Government denies that it is responsible for any days of delay. However, the Government acknowledges that if we find that its failure to drain more than one tower at a time is a constructive change, then the appellant would be entitled to a time extension of 47 calendar days. The Government does not explain how it arrives at or calculates those 47 days.

In discussing delay days there are two ways of viewing those delays. From the Government's perspective they are days of delay for which the Government is entitled to be paid liquidated damages. From the contractor's perspective they are days of delay for which the contractor is entitled to be paid compensation for its extra direct and indirect

costs as a result of the delay. If both parties or the weather cause the delay, the delay is excusable, but neither party is compensated.

The issue of liquidated damages is a Government claim which arises under the provisions of the default and liquidated damages clauses. On that question the Government has the burden of proof. *William F. Klingensmith, Inc.*, ASBCA No. 52028, 03-1 BCA ¶ 32,072; *Arens Corp., Inc.*, ASBCA No. 50289, 02-1 BCA ¶ 31,671 (report only shows 2 judges, actually a 4 judge opinion, see 2001 WL 1458492); *Idela Construction Co.*, ASBCA No. 45070, 01-2 BCA ¶ 31,437 at 155,257; *Gaffny Corp.*, ASBCA Nos. 37639 *et al.*, 94-1 BCA ¶ 26,522 at 132,010; *United States v. United Engineering & Contracting Co.*, 234 U.S. 236, 241-242, 58 L. Ed. 1294, 1297 (1914); see also *United States v. Brooks-Callaway Co.*, 318 U.S. 120, 87 L. Ed. 653 (1943).

The parties agree that the extended contract completion date, through all contract modifications, was 30 December 1995; and, that the date of substantial completion was 30 November 1996. Thus, the Government has established a *prima facie* case that the contract completion was delayed by 336 days, and that the Government is entitled to liquidated damages at the rate of \$230 per day for 336 days - a total assessment of \$77,280 in liquidated damages. In order to defeat the Government's claim for liquidated damages, 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.*, *supra* at 132,009-11. See, *Arens Corp., Inc.*, *supra*.

However, because a demand for liquidated damages is a Government claim, the Government continues to have the overall burden of proof. 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 the preponderance of the evidence "a clear apportionment of the delay and expense attributable to each party." *William F. Klingensmith, Inc. v. United States*, 731 F.2d 805, 809 (Fed. Cir. 1984). 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. *Idela Construction Co.*, *supra*; *International Fidelity Insurance Co.*, ASBCA No. 44256, 98-1 BCA ¶ 29,564 at 146,551; *Gaffny Corp.*, *supra* at 132,011. *Accord Airprep Technology, Inc.*, 30 Fed. Cl. 488, 504-07 (1994).

On the other hand the appellant has the burden of proof on the issue of compensable delays, which is an affirmative monetary claim by the contractor. *Jennie-O Foods, Inc. v. United States*, 217 Ct. Cl. 314, 327, 580 F.2d 400, 408 (1978); *Wunderlich Contracting Co. v. United States*, 173 Ct. Cl. 180, 351 F.2d 956 (1965); *Gaffny Corp.*, *supra*; *WBM Building Maintenance, Inc.*, ASBCA No. 39560, 90-2 BCA ¶ 22,929. For the appellant to recover for a compensable delay, the appellant must prove that the Government was the sole cause of the delay and that the appellant did not contribute to or concurrently cause such

delay. *J.A.K. Construction Co., Inc.*, ASBCA No. 43099, 94-1 BCA ¶ 26,536; *Gaffny*, *supra*.

Because the Government has established a *prima facie* case for its liquidated damages claim, we turn now, as an evidentiary matter, to an analysis of the periods of delay which the appellant asserts were caused by the Government. Each of these delays was on the critical path and contributed (sometimes in conjunction with or concurrently with another delay) to the overall delay in contract completion. The appellant began work on site on 24 May 1993. Since the original contract completion date was 25 November 1993, the appellant had 185 days to complete the tower work.

It was the Government's responsibility to promptly drain T-3. The Government delayed the draining of T-3. In Modification No. P00023 the parties agreed that the delay was 58 days, that the contract should be extended by 58 days, but that no additional compensation was due by reason of the delay. (This delay was thus excusable and extended the completion date from 25 November 1993 to 22 January 1994.)

The next delay began on 10 August 1993, when the appellant discovered the excessive pitting and differing site condition at T-3. The parties agreed, in Modification No. P00023, that the Government delayed the extra welding work at T-3 for a period of 163 days, until 3 February 1994. However, the parties also agreed that no additional compensation was due by reason of the delay. (This excusable delay of 163 days extended the completion date from 22 January to 4 July 1994.)

The next delay arose from the Government's stop work order on 5 November 1993. That delay, however, as agreed to by the parties in Modification No. P00023, was concurrent with the excessive pitting delay. The appellant is not entitled to any further time extension for this concurrent delay. However, an effect of these three delays was to push critical paint removal and painting work into the winter months, when the cold weather prevented work.

That cold weather becomes the next period of delay. It began on 5 November 1993 and extended through 9 April 1994. Part of this delay was concurrent with other delays, but it was the sole cause of 65 days of delay from 3 February (end of the excessive pitting delay) until 9 April 1994. However, the parties agreed that the contract would only be extended by nine days of excusable weather delay, as provided in Modification No. P00024. (This excusable delay of nine days extended the completion date from 4 July 1994 to 13 July 1994.)

Additionally, in January and June 1994 the Government added extra work to the contract in Modification Nos. P00012 (7 days) and P00020 (30 days). These were bilateral modifications which added 37 days to the contract. These additional days were for extra work. The compensation for the extra work was included in the modifications. (The

additional time extended the contract completion date by 37 days from 13 July to 19 August 1994.)

The next period of delay occurred during the month of July 1994. There were 14 days of excusable weather delay, as agreed to by the parties in Modification No. P00031. (This excusable delay extended the contract completion date by 14 days from 19 August to 2 September 1994.)

Beginning on 18 August 1994 the Government added Carboline paint work to the outside of T-3. Subsequently, in Modification No. P00044 signed by the parties in March and April 1995, the parties agreed that this extra work added 24 days to performance. These additional days were for additional work. The parties agreed that no additional compensation was due for this extra work. (The additional time extended the contract completion date by 24 days from 2 September to 26 September 1994.)

The next period of delay occurred on 28 September 1994, as the appellant reasonably demobilized while waiting for the Government to decide on the terms for switching over to the Noxyde system. This delay lasted for 219 days until the parties reached agreement on 5 May 1995 for the application of the Noxyde system. Since it was the Government that was delaying the resolution of the change to Noxyde, the delay was the responsibility of the Government. *Gaffny Corp., supra* at 132,005 (Government is responsible for consequences of a delay it caused). We find that the Noxyde decision process delay of 219 days was solely the responsibility of the Government. *Hol-Gar Manufacturing Corp., supra*. Because this delay was due to the fact that the Government containment requirement proved infeasible and the work cannot be accomplished open to the wind, the delay was caused by erroneous or defective specifications and the entire period was an unreasonable delay under the Suspension of Work clause. *Chaney and James Construction Co., Inc. v. United States*, 421 F.2d 728, 732 (Ct. Cl. 1970).

There were other delays during this period as well. One delay was related to the break in the fill line discovered on 7 November 1994. The delay in resolving this issue is solely attributable to the Government. This delay was not resolved until 3 March 1995, when the Government issued Modification No. P00040 providing extra work to correct the cause of the fill line break. This delay in resolving the fill line issue was concurrent with the Noxyde decision process delay. The appellant is not entitled to additional time for this concurrent delay.

Also concurrent with the Noxyde decision process delay was the work performed on the cathodic protection systems and related electrical work. This work was performed in accordance with the terms of Modification No. P00020, which provided money and 30 days extra time for performing that work. We found that 25 of those days were performed during the period 1 November 1994 through 3 March 1995. Those 25 days, which were agreed to by the parties in Modification No. P00020, are not compensable as a delay, but

must be allowed for in calculating the delay for the Noxyde decision process delay. Thus, allowing for the 25 days of cathodic work performed, the Noxyde decision process delay must be reduced from 219 by the 25 concurrent days already agreed to, leaving a Government caused Noxyde decision process delay of 194 days. (These 25 days have already been added, *supra*, as part of the 30 days in Modification No. P00020.)

Further concurrent with the Noxyde decision process delay was the extra work for the replacement of the fill line pipe, as provided by Modification No. P00040 of 3 March 1995. The extra work occurred during the period of 3 to 24 March 1995 and added 21 days to the contract period. This additional time is not compensable as a delay. The compensation for the extra work was included in the modification. Those 21 days, which were agreed to by the parties in Modification No. P00040, must be allowed for in calculating the delay for the Noxyde decision process delay. Thus, allowing for the 21 days of extra work, the Noxyde decision process delay must be further reduced from 194 by 21 concurrent days already agreed to, leaving a total Government caused Noxyde decision process delay of 173 days. These 173 days are a compensable delay. (Together with the 21 days of extra work, these 173 days of compensable delay, extended the contract completion date 194 days from 26 September 1994 to 8 April 1995.)

After the Government decided to end the use of the containment system, it added the Noxyde system by Modification No. P00042. That modification added 212 days for the extra work occasioned by the new Noxyde system. These additional days were for the extra work of the Noxyde system. The Government has argued that the 212 days contained in this modification were intended by the Government to provide for the delay in reaching the Noxyde decision. As we noted *supra* in discussing Modification No. P00042, there is evidence of this Government intent in the Government's internal records, but no conclusive evidence that this intent was conveyed to and understood by the appellant. However, this is all irrelevant under the parol evidence rule.

Reference is made to the previous negotiations which led to the making of the contract All of this is irrelevant matter. The written contract merged all previous negotiations, and is presumed, in law, to express the final understanding of the parties. If the contract did not express the true agreement, it was the claimant's folly to have signed it.

Brawley v. United States, 96 U.S. 168, 173 (1877)

The parol evidence rule is a rule of substantive law. *David Nassif Associates v. United States*, 557 F.2d 249, 256 (Ct. Cl. 1997). In *SCM Corp. v. United States*, 675 F.2d 280, 284 (Ct. Cl. 1982), the Court of Claims held that "when a contract is clear and unambiguous evidence of prior negotiations and drafts is barred from consideration by the parol evidence rule," citing *Butz Engineering Corp. v. United States*, 499 F.2d 619,

628-29 (Ct. Cl. 1974). The Federal Circuit has applied this rule in *McAbee Construction, Inc. v. United States*, 97 F.3d 1431 (Fed. Cir. 1996).

What is important is the language of the modification itself. That modification deals only with the Noxyde “change” made by the modification and claims incidental to the Noxyde change. The modification cites the Changes clause as authority for the modification. The modification does not purport on its face to deal with the delay leading up to the changed work. Such a delay would have been covered under the Suspension of Work clause, as were earlier delays. *See* Modification No. P00023, wherein the Government specifically recognized in the modification that the extra days were added because of the suspension and cited the Suspension of Work clause as authority. In interpreting this language we begin with the plain language, giving the words their ordinary meaning unless the parties mutually intended and agreed to an alternative meaning. *Forman v. United States*, 329 F.3d 837, 842 (Fed. Cir. 2003).

We have treated language similar to that in the instant case as not including compensation for delay leading up to the execution of the modification. In *Chantilly Construction Corp.*, ASBCA No. 24,138, 81-1 BCA ¶ 14,863, the parties agreed that:

This modification will be issued in two parts. This Part I provides for furnishing all labor, equipment, materials and all costs incidental thereto, necessary to perform the work herein before described. A tentative estimated price adjustment in the lump sum amount of \$92,416.00 is established for the purpose of making progress payments. The time for performance tentatively remains unchanged.

Part 2 of this modification will be issued subsequent to audit of the proposal by the Government and final negotiations.

Part 2 will establish final price and time adjustments for this modification.

(*Id.* at 73,391) Final negotiations for Part 2 of this modification were held and a price and time extension were agreed upon. The final Part 2 of the Modification read as follows:

In accordance with the provisions of Initial Modification No. P-00007, Part 1, this Part 2 is issued to provide for full price and time adjustment. . . . Part 1 as revised herein is \$156,074.00. Accordingly, this Part 2 allows for the additional amount of \$63,658.00 which together with the Part 1 tentative amount of \$92,416.00 constitutes a full and complete price adjustment of \$156,074.00 for all work required by Initial Modification No. P-00007, as revised herein.

The total time adjustment for site work only required by Modification No. P-00007 is One-hundred twenty-four (124) calendar days. The Initial Modification No. P-00007, Part 1 did not include any time adjustment.

It is understood and agreed that in consideration of the foregoing, the contract price shall be increased in the equitable amount of \$156,074.00 in lieu of the tentative lump sum amount of \$92,416.00 and the time for performance of the site work only shall be increased One-hundred twenty-four (124) calendar days. There has been no suspension of work for the convenience of the Government within the meaning of Clause 23 of this contract incidental to or arising out of (1) the extension of time covered by this change order or (2) this change to the contract.

(*Id.* at 73,392) The Board explained that none of the modifications in issue contained any language indicating that the parties had agreed upon an accord and satisfaction, a settlement, a release, or a waiver of any delay claims. (*Id.* at 73,393) In discussing the contractor's overall delay impact claim, and the Government's contention that the claim was barred by the modifications, we held, in sustaining the contractor's claim, that:

The language [of the modification] simply states that the price agreed to constitutes a full and complete price adjustment for all work required by the modification. On its face, therefore, the modification covers only the additional work recited in the modification itself. To conclude that it also encompasses the [overall delay impact] claim herein asserted would require a showing that both parties understood the language to accomplish that purpose. Such evidence is completely lacking in the record.

(*Id.* at 73,397)

See also Algernon Blair, Inc., ASBCA No. 25825, 87-1 BCA ¶ 19,602, where the modifications stated that they were entered into "because of the foregoing changes." Most of the modifications provided both a price adjustment and a time extension. The compensation provision was applicable only to costs "related to this change order" or "modification." The claim by the appellant was for delay and impact expenses due to the delay in initial site access, which resulted primarily from defective specifications. We held that "To the extent this is a claim for delay costs incurred waiting for the Government to issue change orders correcting defective specifications, and not delay costs waiting for completion of the changed work, the claim is not barred by the modifications." *Id.* at 99,179. *Algernon* relied on *Chaney and James Construction Co. v. United States*, 421

F.2d 728, 740-41 (Ct. Cl. 1970), recognizing that modifications for changed work do not address or bar claims for suspension of work pending issuance of change orders.

The Federal Circuit has made it clear that we may not construe such modifications based on parol evidence. *Rumsfeld v. Freedom NY, Inc.*, 329 F.3d 1320, 1327 (Fed. Cir. 2003) (containing an integration clause). *See also Meisel Rohrbau GmbH & Co. KG v. United States*, 914 F.2d 271, 1990 WL 118898 (Fed. Cir. 1990) (table) (*rev'g* ASBCA No. 35567, 90-1 BCA ¶ 22,357)

We hold that the parties are bound by the clear, unambiguous terms of Modification No. P00042, which provided that the 212 days in the modification are applicable for the changed work. This additional time is not compensable as a delay. The compensation for the extra work was included as an adjustment in the modification. (However, the additional time extended the contract completion date by 212 days from 8 April 1995 to 6 November 1995).

The next delay occurred when there was a delay in filling T-3 and draining T-1. The delay in filling T-3 began on 16 June 1995 when the T-3 fill line weld gave way. The weld broke loose because the Government had specified an incompatible ductile iron pipe for the fill line repair. The ductile iron pipe had been specified by the Government in Modification No. P00040 of 3 March 1995. The Government is responsible for the delay caused by the defective specification. *Hol-Gar Manufacturing Corp. v. United States*, 360 F.2d 634, 638 (Ct. Cl. 1966) The time spent correcting this defective Government specification, along with Government delay in filling T-3 and draining T-1 added 35 days of delay from 16 June until 21 July 1995. This 35 day delay was the sole responsibility of the Government. This delay was due to the defective specifications. (This period of delay further extended the completion date by 35 days from 6 November 1995 until 11 December 1995.)

During these months of June and July 1995 there were 19 days of excusable weather delays. As agreed to by the parties in Modification No. P00050 these were 19 undifferentiated days; and, there is no evidentiary basis upon which to determine if all or any of those days were concurrent with the 35 day delay associated with the repair of the fill line. On the assumption that some of these excusable weather delays were concurrent with the 35 days of compensable delay, we have apportioned the weather days throughout the months of June and July. We find that of the 19 weather days, 12 days were concurrent, thus we add only 7 excusable weather days to the contract period. (Thus, this period of delay further extended the completion date by 7 days from 11 December 1995 to 18 December 1995.)

We then add the additional days of extra work resulting from changes in the OSHA regulations, as provided for in Modification Nos. P00041, P00045, P00046, and bilaterally agreed to, for a total of 79 additional days. These additional days were for extra work. This additional time is not a compensable delay. The compensation for the extra work was

included in the modifications. (However, the additional time extended the contract completion date by 79 days from 18 December 1995 to 6 March 1996.)

The next period of delay is the delay occasioned by the refusal to drain T-2 on 28 July 1995 at the same time T-1 was drained. This delay lasted until 22 July 1996. This delay only impacted the work on T-2. It did not impact the current effort on T-1. We will come back to this delay with respect to T-2, but first we return to consideration of the delays impacting the ongoing work on T-1.

The next period of delay is an excusable weather delay unilaterally granted by the Government for the month of October 1995. The Government unilaterally granted two days of excusable weather delay under the Default clause, by Modification No. P00052. These two days are not compensable, but they do extend the contract completion date by two days from 6 March to 8 March 1996.

The next period of delay is the cold weather beginning 1 November 1995 and ending on 8 April 1996. There were 149 days during this period which were unsuitable for applying the Noxyde system because of the humidity and temperature conditions. Because the Government delayed the work on T-2 and because the appellant had not completed T-1 before the onset of cold weather, both parties were responsible for pushing the remaining tower work through the 149 days of cold weather of 1995-1996. The delay, while not compensable, is excusable. The Government unilaterally granted 91 weather days during the months of November through March, in Modification Nos. P00052 and P00053. Those delays are subsumed by the 149 days of excusable delay and thus do not further extend the contract completion date. (This period of delay extended the contract completion date by 149 days from 8 March 1996 to 4 August 1996.)

Beginning on 9 April 1996 the appellant resumed work on the exterior of T-1. This work was completed on 5 July 1996. During this period there were 10 excusable weather days during the months of April, May, and June, as recognized by Modification No. P00054. These weather days were excusable delays and thus extended the contract; but, they were not compensable. (This period extended the contract completion date by 10 days from 4 August 1996 to 14 August 1996.)

The work and inspection on T-1 was completed and T-1 was ready for filling on 9 July 1996. The Government delayed draining T-2 until 22 July 1996. This period of 13 days is a delay solely caused by the Government. It is a compensable delay under the Changes clause. (It extended the contract completion date by 13 days from 14 August 1996 until 27 August 1996.) To this must be added the 5 day extension for cadmium, to which the parties agreed in Modification No. P00060. The parties also agreed on the compensation for this work, so there is no compensable delay. (However, it extended contract completion by 5 days from 27 August 1996 to 1 September 1996.)

The final days of delay are the 21 days of excusable weather delay provided by Modification No. P00061. These weather delays occurred in July, September, October, and November 1996. Because they are delays due to weather, they are not compensable. (They extend the contract completion by 21 days from 1 September 1996 to 22 September 1996.)

We return now to a discussion of the work on T-2, which was delayed by the Government's refusal to allow T-2 to be drained on 28 July 1995. We found that it actually took 131 calendar days to complete the work on T-2, from the date T-2 was drained on 22 July 1996 until completed on 30 November 1996. If the Government had permitted T-2 to be drained at the same time as T-1 was drained on 28 July 1995, as requested, the work on T-2 would have easily been completed by the extended completion date of 22 September 1996.

We found that of the 131 calendar days to complete T-2, after excluding weather and non-contractor delays, the actual number of work days for steel and painting work was 105 days. While it took 49 days to do the steel work on T-1, it only took 41 days to do the steel work on T-2. Thus, even if the steel work on T-2 did not begin concurrently with the steel work on T-1, but followed on immediately after the steel work on T-1 was completed on 12 September 1995, Insulation Specialties, Inc. could have completed the steel work on T-2 during the 49 days between 12 September and 1 November 1995, before the onset of the winter shut down period.

Having been able to complete the steel work on T-2 in 1995, the contractor would have begun the painting on T-2 no later than 18 days before the painting was completed on T-1. The exterior painting on T-1 was completed on 5 July 1996. Thus, painting on T-2 would have begun on 17 June 1996. The 64 days of painting work on T-2 would thus have been completed between 17 June 1996 and 20 August 1996. But for the constructive change, prohibiting the draining of more than one water tower, substantial completion would have occurred on 29 August 1996, after the five days of cadmium work was completed and after allowing for four days of weather delays in July.

The delay in completing T-2 from 29 August until the actual substantial completion on 30 November 1996 is a period of 93 days. Because the Government is solely responsible for that delay, those 93 days of delay are compensable. They also extend the contract completion date beyond the date of substantial completion.

The Government has argued that the appellant was often inefficient in its work performance; however, we conclude that no other contractor inefficiencies concurrently caused, or contributed to, the critical path delays which we have attributed solely to the Government. A discussion of other contractor inefficiencies would not add anything of significance.

CONCLUSION

The contractor is entitled to the complete remission of all liquidated damages.

As to the contractor's claim for compensable delays, we have found that the uncompensated 173 days of delay associated with the Noxyde process decision delay from 28 September 1994 until 5 May 1995, the 35 days of delay in draining T-1 between 16 June and 21 July 1995, the 13 days between 9 July 1996 and 22 July 1996, and the 93 days between 29 August 1996 and 30 November 1996, were compensable delays which were solely caused by the actions of the Government. The contractor is entitled to recovery for the delays pursuant to the Suspension of Work clause and the Changes clause, as indicated above.

The appeal is sustained in part and denied in part as set forth above. The parties shall confer and agree upon quantum. If the parties fail to reach agreement on quantum, either party may return to this Board on motion, for resolution of the quantum.

Dated: 14 August 2003

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

(Signatures continued)

I concur

I concur

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

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

NOTES

1 The clause does not contain the “not” and thus reads that the contractor may interrupt utilities without the approval of the contracting officer. The Government treated the clause as clearly requiring the added “not” in the clause. However, in view of our decision, we need not discuss the implications of the clause as written.

2 The Government’s scheduling expert was Stuart Ockman. The appellant’s scheduling experts were Robert Curtis and Victor Ostrowski.

3 The date on the letter is 1994, but the received date stamp is 1995. We find that the letter, in fact, was written in 1995.

4 The parties agree that pegacryl could not be applied to a full tank; apparently because of humidity limitations.

5 The Government put into evidence a Government file copy of a 22 March 1995 letter suggesting that the 197 days was to compensate for delay in deciding to change to the Noxyde system (R4, tab 91). This letter is unsigned. There is no evidence that it was mailed to or received by the contractor. There was no testimony concerning this file copy. We do not find it to be credible evidence.

6 After receiving the initial 13 April 1995 proposed modification, the contractor wrote, on 17 April 1995, advising its subcontractor that the Government was agreeing to provide 197 days to complete the work in performing the Noxyde change. The letter was signed by Insulation Specialties and accepted by a signature from the subcontractor. We find this letter to be credible evidence. (R4, tab 39)

7 There is a reference in the Rule 4 file to the effect that the 212 days in Modification No. P00042 “was based on time period 01 October 1994 to 30 April 1995.” This reference is found in a document at R4, tab 4, page 7. The author of this document is unknown. There was no testimony concerning this document. This document is marked “Encl 4” and has a heading which reads, “4. CHRONOLOGICAL SEQUENCE OF EVENTS/DOCUMENTS:”. It is clearly an enclosure to another document. The other document to which it was enclosed is not identified. We do not find this document to be credible evidence.

I certify that the foregoing is a true copy of the Opinion and Decision of the Armed Services Board of Contract Appeals in ASBCA No. 52090, Appeal of Insulation Specialties, Inc., rendered in conformance with the Board's Charter.

Dated:

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