ARMED SERVICES BOARD OF CONTRACT APPEALS

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| Appeals of – | ) | |
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| B.V. Construction, Inc. | ) | ASBCA Nos. 47766, 49337, |
| | ) | 50553 |
| Under Contract No. NAS2-13253 | ) | |

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OPINION BY ADMINISTRATIVE JUDGE HARTMAN

The government awarded appellant a contract to construct a patio covering. After more than three years of contract performance, the government terminated that contract for default and entered into a contract with another to perform the work. In these appeals, appellant asks us to: convert the government's termination for default to a termination for the convenience of the government (ASBCA No. 47766); vacate the government's assessment against it of excess reprocurement costs (ASBCA No. 49337); and award it $325,318.00, plus interest, for a differing-site condition, defective specifications, direct costs and unabsorbed overhead attributable to government-caused delay, profit on its extra direct costs, professional and consulting fees incurred negotiating contract change orders, and damages arising from the government's breach of duty to cooperate and not hinder contract performance (ASBCA No. 50553). Entitlement only is before us.

## FINDINGS OF FACT

During 1988, managers of the National Aeronautics and Space Administration (NASA), Dryden Flight Research Center in Edwards, CA, advised the Engineering Branch that the Visitor's Center patio was a nice place to meet and eat if the elements were not severe, but would be "a lot more functional for the [C]enter" if there was a cover over it (tr. 4/116). Subsequently, Roy Tryon, a licensed architect employed by the Engineering Branch, developed a "concept" for a "space frame" patio covering, prepared the design for that patio covering and a preliminary cost estimate for performance of this work, and

obtained funding for the project as part of the Center's construction of facilities program (tr. 4/108-10, 117-18).[1]

## I. Contract Awarded

On 7 June 1991, NASA awarded a contract, No. NAS2-13253, in the amount of $152,057.00 to appellant, B.V. Construction, Inc. (BV), a small, woman-owned business, for installation of a patio covering known as a "space frame" at the Dryden Visitors' Center. The contract specified that BV was to "[p]rovide all material, labor and supervision necessary for the design, engineering, fabrication, erection and final inspection of the space-frame in complete accordance with the applicable contract drawings and . . . specifications." The contract stated BV was to: design the metal bracing comprising the space frame supports and covering; partially demolish an existing patio slab and build in accordance with NASA specifications concrete footings for 12 masonry piers designed by NASA to connect to steel support posts for the space frame; make necessary repairs to the patio slab; construct the 12 masonry piers and connecting steel support posts on top of the concrete footings and slab; assemble the steel-bracing covering the patio above the masonry piers and steel support posts; and install on the "space frame" a lighting system, windbreak system, steel roof and fascia panels, gutters and downspouts, skylights, and roof ventilators. (R4, tab C at §§ 01010, 05120, 05310, 16050, and drawings A-1, S-1; tr. 1/43)

The contract anticipated that BV would purchase the various component parts of the space frame from a manufacturer. The contact stated that the manufacturer selected by BV for the space frame must have at least "five (5) years experience in manufacturing space-frame structures." The contract further stated that all components of the space frame must be purchased from the same manufacturer. (R4, tab C at § 05120, ¶ 1.3; tr. 1/68-69)

Space frame structures often are installed by their manufacturer (Chambers dep. at 25-26). BV's contract, however, did not require the space frame manufacturer to perform the installation. It stated the space frame could be installed by a "fully-trained, factory authorized erector." Regardless of who erected the space frame, the contract provided that the project would not be complete until the manufacturer had reviewed and approved the finished structure. The contract stated:

> The completed space-frame structure shall undergo a full and complete final inspection by a duly trained representative of the manufacturer and shall be certified by the manufacturer that the finished product has been manufactured and erected in

[1] During 1994, the Dryden Flight Research Facility was re-established by NASA as a separate operating element not subordinate to the Ames Research Center, and renamed the "Dryden Flight Research Center." (Tr. 3/75-76, 102) We refer to the facility by its current name.

> accordance with manufacturer's approved erection drawings and these contract documents.

(R4, tab C at § 05120, ¶¶ 3.2(A)-(B), 3.5; tr. 1/70) Moreover, the contract required that both the manufacturer and erector warrant the completed structure. The contract stated:

> The manufacturer and erector shall issue the contractor/owner a full written guarantee valid for a period of one (1) year from the final project acceptance. The guarantee shall protect against any defects that may arise from the manufacture[] and/or installation of the space-frame structure.

(R4, tab C at § 05120, ¶ 1.7)

The contract stated that the space frame shall conform to the standards and requirements of the national, regional and local building codes governing the project site, and "be engineered to withstand" a dead load of 20 pounds per square foot (psf), a live load of 20 psf, a wind load of 70 miles per hour, and a seismic load of "Zone: 4." The contract further stated that the space frame engineering calculations shall be reviewed and sealed by a licensed California engineer prior to submittal, "[s]oil bearing capacity shall be assumed to be 1,000 psf," and "[a]fter the several pier design reactions are calculated, the engineer shall review and revise the pier concrete foundation design as required to uniformly support the roof load reactions." (R4, tab C at § 05120, ¶¶ 1.3(B)(1), (C)(1), (2), (5), 1.4)

Contract Drawing No. EDM-1311 depicted 12 cuts in the patio slab for 2-foot wide square masonry "piers" or columns, which were 4-foot high and had a bracket on top to connect to steel support posts for the space frame. The drawing further depicted concrete foundations for the masonry piers/columns which were three-feet wide, two feet in depth, and resting on a "95% Max. Dry" compact sub-base. This March 1990 drawing was approved by Mr. Tryon, NASA's "project manager," "project architect," "project engineer," and "contracting officer technical representative" (COTR). (R4, tab T; tr. 4/123-24, 202-03)

The contract incorporated by reference various standard clauses, such as: Federal Acquisition Regulation (FAR) 52.249-10, DEFAULT (FIXED-PRICE CONSTRUCTION) (APR 1984); 52.249-2, TERMINATION FOR CONVENIENCE OF THE GOVERNMENT (FIXED-PRICE) with ALT. I (APR 1984); 52.212-6, TIME EXTENSIONS (APR 1984); 52.212-12, SUSPENSION OF WORK (APR 1984); 52.233-1, DISPUTES with ALT. I (APR 1984); 52.236-2, DIFFERING SITE CONDITIONS (APR 1984); and 52.243.4, CHANGES (AUG 1987). The contract did not include a liquidated damages clause. (R4, tab C at § III)

The contract's default clause authorizes the government to terminate the contract for default "[i]f the Contractor refuses or fails to prosecute the work or any separable part, with

the diligence that will insure its completion within the time specified . . . including any extension, or fails to complete the work within this time." Upon said termination, the clause permits the government to seek monetary compensation from the contractor for "any increased costs incurred by the Government in completing the work." If the government improperly terminates the contract, and it is subsequently "determined that the Contractor was not in default, or that the delay was excusable," the clause provides that "the rights and obligations of the parties will be the same as if the termination had been issued for the convenience of the Government." FAR 52.249-10(a), (c).

On 21 June 1991, Space Frames, Inc. (SFI), a manufacturer of space frames, submitted a proposal to BV to provide BV the necessary space frame material, fittings, detailed calculations of space frame system, shop and erection drawings, and required California Engineering stamp for $53,000.00. SFI did not include installation in the proposal because BV intended to use its own personnel to install the space frame and had requested SFI to exclude such charges. (Ex. A-8; tr. 3/54) BV had obtained similar proposals from SFI prior to its award of the NASA contract (exs. A-5, -7).

## II. Contract Performance

On 3 July 1991, NASA's contract specialist, Leta Rai Neyman, issued to BV a notice to proceed with the "space frame" contract within 10 days after receipt of that notice and complete all contract work within 120 days (R4, tab F). Shortly thereafter, by letter dated 22 July 1991, SFI, the prospective subcontractor, confirmed an earlier telephone communication with BV, which provided an estimate "on engineering piers and footings" for the "space frame." SFI advised BV that "[t]welve piers on spread footings with an overall height of four foot can be designed for a total of $4,000.00," but that its estimate was "entirely based on the assumption that solid support for spread footings lies four foot below the finished grade." SFI added that, "[w]ithout the substantive information supplied in a certified soil test furnished by others, we cannot quote a firm price" for such work. On the same date, BV advised NASA that two days later, on 24 July 1991, it would do test openings in the patio slab for inspection of "existing compaction." (Ex. A-10; R4, tab 2)

On 24 July 1991, BV cut two openings in the patio slab to evaluate soil conditions. It found saturated soil at one of the openings, which did not appear to have a soil-bearing capacity of 1,000 psf, as assumed in the contract. (Ex. A-12; tr. 1/75-76, 4/150-51) Two days later, on 26 July 1991, Mr. Tryon, NASA's project manager and engineer, advised BV by letter that:

> I excavated the sub soil at pier #D down to a depth of three feet and found it to be saturated silty sand with poor compaction. This pier is believed to be the worst case situation. The other soils investigation site at the northwest corner of the slab demolition was found to be good dry firm subsoil material.

> The piers at B, C, E, and F all have a potential for some saturation and poor compaction similar to pier #D.
>
> On a pier-by-pier basis, the faulty subsoil will be excavated and removed down to firm, dry material. On-site granular material will be used to build up a compacted fill to contract excavation limits.
>
> The contract will be modified to correct this unforeseen site condition.

(R4, tab 3; tr. 4/153-54)

During late July 1991**,** SFI's consulting engineers, Tylk, Wright and Gustafson, Inc. (TWG), furnished a computer design analysis and other data for review by NASA's project engineer, Mr. Tryon. At least some of that data TWG furnished directly to Mr. Tryon. (Exs. A-14, -34, G-74; tr. 1/71, 4/125-28, 137-39; R4, tab 102; Chambers dep. at 28)

The calculations submitted analyzed the stresses placed on the various component parts of the space frame, and computed the loads transferred from the space frame onto the columns and foundation. The purpose of these calculations was to verify that the structure would be stable and safe when assembled. (Tr. 3/195, 4/127-36, 231-34)

On 1 August 1991, Mr. Tryon returned to BV the computer design calculations BV had SFI and TWG prepare for SFI's space frame, stating the analysis was to be revised and resubmitted using specified design loads, surface areas, and load combinations. Among the changes to be made, Mr. Tryon directed an increase in the wind uplift requirement from 10 to 25 psf based on his understanding of the building code. (Ex. A-34; R4, tab 103; tr. 4/130-35).

Eleven days later, on 12 August 1991, based upon manufacturer's literature and technical data submitted, Mr. Tryon approved the "basic component configuration and fabrication" for SFI's space frame. He reminded BV, however, that SFI's space frame "structural calculation package" had been returned unapproved on 1 August 1991 with a revise and resubmit request. (Ex. A-17) The same day, TWG submitted directly to Mr. Tryon by express mail prints, sepias, and revised design calculations that, among other things, utilized a wind uplift of 25 psf. (Exs. A-22, G-75; R4, tab 4; tr. 1/79, 4/142-43)

On 19 August 1991, BV notified SFI that it had been advised on 16 August 1991 that Mr. Tryon had approved the basic component configuration and fabrication of the space frame, Mr. Tryon was awaiting resubmittal of the structural calculation package, and BV would issue a purchase order to SFI for its space frame on completion of final acceptance from NASA of resubmitted calculations. The same day, 19 August 1991, Mr. Tryon

approved the revised structural calculation package and other items TWG had submitted directly to him on 12 August 1991. (Ex. A-22)

In mid-August, Mr. Tryon, in consultation with a NASA engineer, decided to assume that the unanticipated wet soil condition discovered by BV was typical beneath the patio and revise the masonry pier spread footings to caisson-type footings, which Mr. Tryon testified were to extend to bedrock five feet beneath the patio (tr. 4/155-56). Since the footings were being revised to resolve the "soil issue" and provide sufficient mass to withstand uplift forces on the space frame detailed in the TWG calculations, Mr. Tryon decided to eliminate the contract's 12 four-foot-high masonry columns, which connected to the 12 steel supports for the space frame, and to simply extend the length of the steel supports by four feet. Extended steel supports were easier to construct than masonry columns and thought to be an aesthetic improvement. (Tr. 4/157-59; *see* tr. 4/69-71, 90-94)

By letter dated 21 August 1991 and sent by telecopier, NASA Contracting Officer (CO) Brian Bowman asked BV "to submit a cost impact assessment pursuant to . . . [NASA's] proposed construction changes for the subject contract" no later than 28 August 1991. The CO stated:

> The scope of [contract] work will change as follows:
>
> Provide all engineering, materials, equipment and labor to provide *steel pipe columns* and pier-type concrete footings for space frame structure as shown on Sketch No. EDM-1311-04 dated 8/20/91; *in lieu of reinforced masonry piers and concrete spread footings as specified*. (Copy of Sketch is attached.)

(Ex. A-18) (emphasis added) The 20 August sketch attached, which was prepared by Mr. Tryon, depicted a 12-inch-wide steel pipe column which extended above the patio slab, rather than a two-foot-wide square masonry pier, and showed the steel pipe column embedded into the concrete pier foundation, which was of width and depth "per design." The 20 August sketch did not show the footings extending five feet beneath the patio to bedrock, as Mr. Tryon testified at trial he had decided. (*Id*.)

On 22 August 1991, SFI sent BV a letter by telecopier confirming an earlier telephone conversation that SFI would "design twelve (12) piers on spread footing with an overall height of four foot" and "design and furnish the twelve . . . pipe columns including the base and top plates" for $9,500.00 "based on the assumption that a solid support for the spread footings exists at (4) four foot below the finished grade." SFI added that, without a certified soil test, it could only quote a firm price based on this assumption. (Ex. A-20)

Because BV was a small construction company, NASA's request – that BV furnish all "engineering" to provide steel pipe columns and pier-type concrete footings for space frame as shown on sketch – was not a matter BV could easily address in-house (tr. 1/42-43, 2/149-50). Two days after receipt of NASA's proposal request and one day after receipt of SFI's letter, on 23 August 1991, BV sent SFI by telecopier a copy of NASA's request for a cost impact assessment including "Alternate Pier Design." BV asked SFI in its response to specify the engineering costs separate from the material costs. (R4, tab 6; ex. A-53) SFI thereafter asked TWG to perform the necessary engineering services on a "time and materials basis," whereby SFI agreed to reimburse TWG for labor and other expenses incurred (Chambers dep. at 76).

By letter dated 26 August 1991, BV confirmed a telephone conversation that date with Mr. Tryon. BV stated that the price quoted by SFI for design and engineering for the space frame piers and posts, based on a four-foot fill with base soil compactible to a 95% compaction minimum up to two feet into base soil, ranged "from $3,000.00 to $3,750.00 approximately." BV added:

> As you discussed there is natural decomposed granite, at 1,500 p.s.f. charted to 3,500 p.s.f. confirmed soils test in surrounding areas.
>
> As per your recommendations the pier design will only go into the base soil 1 foot due to its load capacity.

(R4, tab 7) The information that the pier was to go only one foot into the soil was not set forth on the 20 August 1991 sketch prepared by Mr. Tryon and supplied to SFI (R4, tab 6; ex. A-53).

The next day, 27 August 1991, Mr. Tryon sent BV a soil engineering investigation report for a project located about 1,200 feet away, which showed a soil bearing capacity of 3,500 psf, and a typical structural section of the patio terrace wall. Mr. Tryon asked BV to note that NASA's intent with respect to the cost impact assessment was to obtain a total detailed cost proposal that includes credits for deletion of the masonry piers. (R4, tab 8; tr. 1/87)

On 29 August 1991, BV advised Mr. Tryon and NASA's contract specialist, Ms. Neyman, that: the sums to be deleted from the contract due to NASA's desired change in piers were $6,500.00 for slab and piers and $7,544.00 for block support pilasters; the $5,172.00 for demo and compaction would remain as an allowance toward compaction needs; and to be added was an "engineering allowance of $3000.00 to $3750.00 approximate for change in Post Support System." BV requested that NASA "authorize Verbal changes with your signatures below" so engineering can start immediately and asked NASA to "[p]lease issue a change order to this effect." (Ex. A-23)

Mr. Tryon considered $3,750.00 to be a "very reasonable" amount of money to perform the necessary engineering (tr. 4/159-60). By letter dated 30 August 1991, Ms. Neyman, NASA's contract specialist, notified BV that "[y]ou are hereby authorized to proceed with redesign of the pipe column as part of the proposed change order." She added that "[t]he final pricing and payment settlement [sic] of this work item will be included in your total scope of work proposal as requested in NASA letter dated August 21, 1991." (R4, tab 9) The record indicates contract specialist Neyman did not possess authority from NASA to enter into a contract or contract modification with BV for the engineering services (*see* ex. A-126).

On 3 September 1991, SFI sent BV a note by telecopier reminding BV that SFI needed a purchase order for the space frame, purchase order on columns and footings, copy of certified soil report, and a "cut of existing foundation/retaining wall" to tie into at one end of the patio (ex. A-25). The next day, 4 September 1991, BV issued to SFI a $53,000.00 purchase order for the space frame (ex. A-26).

On 6 September 1991, BV sent SFI the 1988 soil report taken near the site and given to it by NASA, and the wall detail (ex. A-53). Three days later, on 9 September 1991, SFI received from BV a purchase order "[t]o design and calculate load for 12 support piers of space frame structure using, information supplied by NASA." The purchase order stated that, "[i]f cost is to exceed $3,000.00[,] please notify [BV] for approval before proceeding." (Ex. A-29)

On 16 September 1991, SFI submitted to NASA via BV a submittal with respect to the revised support piers (ex. A-53; R4, tab T; tr. 4/164-65). Due to the unstable fill conditions beneath the slab and the lift factor for the space frame, the submittal depicted spread footings which were five to six feet square (tr. 1/95-96). One week later, NASA rejected SFI's submittal and ordered a redesign. In a letter dated 23 September 1991, Mr. Tryon advised BV:

> This revised design is incorrect and misses the point. First, we were striving to save time and money. Second, we were trying to solve the unstable fill situation at 3 or 4 piers. The Alternate Pier Design sketch No. EDM-131-04, dated 8/20/91 showed a caisson-type foundation that takes advantage of the depth to natural grade, the existing slab restraint, and the limited diameter of the caisson hole to prevent destruction of the existing slab.
>
> What we received was spread footings, 8 feet deep and 5 and 6 foot square. Excavation for these footings will probably destroy the existing slab. Six of the piers fall on the existing

> retaining wall. But the drawings do not even reflect that condition, and instead show the column down to the patio slab level. Even when the wall condition is corrected up, the excavation for the other six piers and subsequent damage to the existing slab will probably result in increased construction costs.
>
> Please comply with the change order request dated 8/21/91 wherein we seek caisson-type pier footings in lieu of . . . spread footings. Also resolve the six short column conditions where they mount . . . onto the top of the existing retaining wall.

(R4, tab 10) By letter dated 23 September 1991, BV advised Mr. Tryon it agreed with his comments that the footings would destroy the existing slab and increase costs, a copy of his letter had been sent to SFI, and "[t]he problem will be rectified A.S.A.P." (R4, tab 11; tr. 1/96-97)

On 24 September 1991, SFI issued an invoice to BV for $3,000.00 to "design and calculate load for 12 support piers for space frame structure using information as supplied by N.A.S.A." and "began to redesign as ordered." During the next several days, various telephone calls occurred between SFI, TWG, BV, and NASA regarding the footings and conduct of a soil test at the site due to engineering concerns expressed. SFI said 18,000 psf was required for each footing to offset the 12,000 psf of uplift per column. (Exs. A-28, -29, -53; R4, tab 106; tr. 1/103-05)

By letter dated 30 September 1991, Mr. Tryon advised BV that "[e]xcavations to locate granitic bedrock under the subject project were made" that day and "decomposed bedrock was encountered 5.0 to 5.5 feet below the top of the patio slab." Mr. Tryon then advised BV for the first time that it should "[k]ey into granitic bedrock at bottom of caisson as required for moment restraint" and "[p]lease proceed to accomplish [the] caisson type foundation design with this information." (Ex. A-30; R4, tab 12)

On 7 October 1991, TWG sent SFI a revised drawing of piers that intersect with the retaining wall "for concept approval" by Mr. Tryon. SFI forwarded the drawing to BV, which sent it to Mr. Tryon for review. On 21 October 1991, BV sent Mr. Tryon a letter confirming a telephone contact that morning regarding the second submittal, which provided:

> This letter is to confirm our phone conservation this morning, 10-21-91, regarding the results of your collaboration with Mr. Ron Sun[, a structural engineer,] at NASA.

> The engineer for Space Frames Inc., is to proceed with caisson type modified footing for the wall portion. He is to use dowel type modifications etc., and bring it to the correct height, still using the points provided by the wall. This information was immediately passed on to Space Frames Inc., along with Mr. Ron Sun's phone # . . . for direct contact, should any questions arise between structural engineers.

(Exs. A-32, -33, -53, G-12; R4, tab 13; tr. 4/172-76)

On 29 October 1991, TWG sent revised drawings to SFI for submission to BV and NASA. The drawings depicted foundations three feet in width, which contained steel reinforcement extending a minimum of six feet, six inches into underlying bedrock. The drawings stated that, "[u]nless noted otherwise, or required by conditions shown on the drawings, excavation for the footings shall be such that the bottom of [the] pier measures 5' – 6 [sic] below finished first floor level," *i.e*., the depth of the bedrock beneath the slab according to Mr. Tryon. (Exs. A-34, -53; tr. 4/176-78)

On 4 November 1991, Mr. Tryon advised BV that the revised drawings "look good" and he wants TWG "to send calcs for latest design" (ex. A-35). The next day, on 5 November 1991, TWG sent directly to Mr. Tryon by telecopier the calculations he requested (ex. A-37).

On 7 November 1991, Mr. Tryon approved the most recent drawings from TWG with several revisions, which included having the footings' steel reinforcement extend a minimum of two feet into the underlying bedrock, rather than six feet. Mr. Tryon asked BV in his letter transmitting the approved drawings to "[p]lease proceed ASAP with on-site construction and [to] also finalize . . . [its] cost proposal for this change order." With respect to the approved drawings, Mr. Tryon testified at trial that they were "really a great design" and that:

> This is the concept that we started out to get. We were trying to move that mass down into a constructable foundation system that didn't cause a lot more cost to the project and this was it. This was what we were looking for.

(R4, tab 14; ex. A-53; tr. 4/176-78)

Five days after Mr. Tryon approved the revised foundation drawings, on 12 November 1991, SFI delivered the required space frame to NASA's Dryden Flight Research Center (R4, tab 15; ex. A-38). On 15 November 1991, BV submitted to Mr. Tryon an invoice of $53,000 for the "space frame" and $4,561.71 for job bond (ex. A-

39). BV subsequently received a check from NASA for $57,532.00, $29.71 less than the amount of its invoice (ex. A-40).

By letter dated 18 November 1991, Mr. Tryon directed BV to submit a revised construction schedule by close of business on 22 November 1991 (R4, tab 16). While the date for completing performance under its contract had passed, BV did not respond to Mr. Tryon's request to submit a revised performance schedule because, at that time, it did not have a revised design that had been incorporated into the contract by the CO (*see* tr. 1/112-15).

On 2 December 1991, Mr. Tryon recommended to Ms. Neyman that the contract performance period be extended 69 calendar days "to cover redesign period from 8/30/91 . . . to 11/07/91." He added that this period might be further extended "for construction time impacts of this change order, but they are not yet known." (R4, tab 110; tr. 4/180-81)

On 3 December 1991, BV submitted to NASA's contract specialist, Ms. Neyman, proposed price deletions and additions for the change to the masonry piers, "[e]xcluding all footing prices" which were being addressed in another change order. BV set forth a proposed deletion of $14,044.00 for slab, piers, and block support pilasters and an addition of $13,917.30 for slab and steel columns. BV also submitted to Ms. Neyman a proposed addition to the contract price for the footing changes of $34,758.75, which included $3,450.00 for new engineering plans and calculations, and $31,308.75 for all labor and material for new footings "not to exceed a max. depth of 6'6" and 3' wide" as per plan. (Ex. A-43) Ms. Neyman forwarded BV's submissions to Mr. Tryon for review and "technical evaluation" (R4, tab 18).

While no modification had been issued amending the contract to reflect a change in foundation design and supports, on 5 December 1991, Ms. Neyman sent BV a contract modification, No. 1, extending the completion date for the project by 78 days, *i.e*., from 31 October 1991 to 17 January 1992, and stating a "subsequent modification will be issued upon negotiation of final pricing for the revision of column and foundation design and construction." BV signed and returned this modification to NASA on 10 December 1991. (Ex. A-44, -45; R4, tab 112)

On 12 December 1991, Mr. Tryon advised Ms. Neyman that he was unable to evaluate BV's proposed changes in contract price because he "cannot determine what costs are increased and decreased, and what net change order cost is proposed." Mr. Tryon said "[t]here is absolutely no detail breakdown of work item costs" and "no proposal for additional contract time." He added that NASA "anticipated no additional contract cost, and perhaps some cost savings." The next day, 13 December 1991, Ms. Neyman sent BV a copy of modification No. 1 executed by CO Betty Hall and advised BV with respect to its proposed contract price changes:

> . . . NASA technical was unable to evaluate this proposal as it could not be determined what work is included or excluded, what costs are increased or decreased or what net change order cost is proposed. Also, there was absolutely no detailed breakdown of work item costs such as materials, equipment, labor, other direct and indirect costs. There was no proposal for additional contract time.
>
> Please clarify the scope of deleted/included work and provide a detailed cost breakdown of all work items. Also, please detail the deleted spread footing and reinforced masonry pier foundation work.

(R4, tab 19)

Six days later, on 19 December 1991, BV submitted to NASA a three-page cost breakdown sheet for the change orders. The cost sheet provided, among other things, that: "[n]ew footing piers" with specified rebar per plan to a maximum depth of 6 foot 6 inches (assuming bedrock at that depth) costs $17,020.00 for concrete/rebar/forms/saw, $345.00 for air compressor, $1,897.00 for bob cat, $316.25 for shoring material, and $11,730.00 for labor; the "[e]ngineering for support columns and pier footings" costs $3,450.00; and the "[e]xtra heavy duty steel column space frame supports, per new design" costs $10,235.00. The cost sheet noted that the "soil *is not according* to the original plan" and "may require more than a 1 ft. compaction level," and the "new plan corrects only the problem of 1,800 lbs. of concrete versus the 18,000 lbs. needed for overcoming the lift problem." (Ex. A-47; R4, tab 20)

Mr. Tryon testified at trial that he was "shocked" by the costs set forth in BV's 19 December cost breakdown sheet and thought he should "try and reduce bottom-line costs." He explained that: the space frame project was being funded by monies allocated through Congressional line item via a directed program; the contract was for $152,000.00; only $155,000.00 had been allocated by Congress for the project; he did not believe it was possible to get additional monies for the project; and, thus, BV's $30,000.00 proposal for changed work "broke the bank." Mr. Tryon knew that there was an existing facilities contract for the Dryden Flight Research Center, which utilized "local funds," pursuant to which work could be ordered and decided to explore having EDG, the Dryden facilities contractor, perform some of the changed BV contract work. (Tr. 4/190-93) Mr. Tryon prepared a list of work to be deleted from BV's contract, which included furnishing of steel support columns he believed could be supplied as government-furnished property (Ex. A-49). At a meeting with BV on 28 January 1992, Mr. Tryon stated that he has a "problem" with BV's proposed cost for revised support columns and "WANTS TO 'SEE' CHEAPER COLUMNS!" (R4, tab 114; tr. 1/118-19)

By letter dated 3 February 1992, SFI advised BV that it was owed $3,000.00 for "engineering spread footings (September)," $2,400.00 for the "two redesigns of footings (October)," and could supply to BV "columns fabbed and coated to match frame" for $6,500.00. SFI added that it did not care whether it made the columns or not for NASA, but would "like to get paid for the re-designs." (Ex. A-48)

On 12 February 1992, BV advised Mr. Tryon and Ms. Neyman that it was revising its price to supply the steel support columns for the space frame to $7,850.00, "subject to written approval of changes in the revised plans, as per engineer, Roy Tryon's, request" (R4, tab 21). By letter dated 25 February 1992, Mr. Tryon asked Ms. Neyman to have BV proceed on the space frame project as follows:

> 1. Delete all masonry piers and concrete spread footings as shown on the right hand side of Drawing No. EDM-311/S-1.
>
> 2. Contractor shall provide new structural design for steel columns and caisson pier foundations. (Completed on Spaceframes, Inc. Drawing S-1 dated 10/29/91).
>
> 3. NASA will provide government-furnished saw cutting and slab removal for the remaining ten piers not already done by B.V. Construction.
>
> 4. At piers #12, 162, 272, 336, 418 and 421, NASA will provide the reinforced concrete caisson up to four inches below top of patio slab, including the vertical steel reinforcing bars which project up to near the top of the existing battered wall.
>
> 5. At piers #9, 95, 98, 159, 269 and 333, NASA will provide the reinforced concrete caisson up to twelve inches below top of patio slab, including the spiral reinforcing cage which projects up to near the top of the existing patio slab.
>
> . . . .
>
> 8. The contractor shall install government-furnished steel pipe columns (with design based on structural spaceframe analysis by Spaceframes, Inc., dated 8/5/91) [sic].
>
> 9. All other work shall be the original contract requirements.

10. NASA assumes responsibility for the structural integrity of its government-furnished caisson foundations.

11. The contract performance period shall be extended 90 additional calendar days.

No change in the contract price is justified.

(Ex. G-17; R4, tab 22) The next day, Mr. Tryon issued a Facilities Work Order, No. 079-02-92, directing EDG to perform the foundation preparation work he had asked Ms. Neyman to delete from BV's contract and fabricate the steel support columns. Mr. Tryon stated in the order's cover letter that, pursuant to his discussions, the cost of the work order was not to exceed $20,000.00. (Ex. A-50)

On 6 March 1992, BV met with Mr. Tryon, Ms. Neyman, a NASA price/cost analyst, and Daniel Crowley, a licensed engineer who was replacing Mr. Tryon as the COTR and project manager. During this meeting, NASA presented BV with a list of tasks/materials Mr. Tryon proposed be provided by NASA and deleted from BV's contract. BV then asked NASA what authority it was relying on to delete work from BV's competitively-awarded, fixed-price contract and move that work non-competitively to a cost-plus-fixed-fee facilities contract. BV also asked NASA to address several constructibility concerns regarding the revised work, including the safety of workmen installing rebar below grade in six-foot-deep excavations. NASA, in turn, asked BV to submit a proposal identifying the cost of work deleted, the cost of work added, and the cost of delays. Mr. Tryon promised to provide revised contract drawings addressing the constructibility concerns no later than 11 March 1992 and BV stated, if it received those drawings, it would submit to NASA by 23 March 1992 a firm cost proposal and new schedule. After the meeting adjourned, the chief of the Contract Management Branch at Dryden met with the acting chief of the Facilities Engineering Branch (Mr. Tryon's boss), Ms. Neyman, and NASA's price/cost analyst. It was decided at this meeting that the work order to the facilities contractor to perform work set forth in BV's contract would be withdrawn and new instructions issued to BV. (R4, tab 23; ex. A-51; tr. 3/160, 169-70, 172, 183, 4/196-97, 200-01)

By letter dated 13 March 1992, Ms. Neyman reminded BV of its agreement to submit a proposal based on the list of changes to contract work provided at the 6 March 1992 meeting and requested BV also "submit an alternate proposal on the complete job using Government Furnished Property" consisting of all reinforcing steel for the concrete foundations and pilasters, six steel column assemblies with six-inch diameter pipes and base plates, and six steel column assemblies with eight-inch diameter pipes and base plates. (R4, tab 24) On 25 March 1992, BV notified NASA that it had received NASA's new plans on 19 March 1992, was reviewing those plans, still needed answers to some of the questions it raised at the 6 March 1992 meeting, needed clarification with respect to one of the items of work changed by NASA, and was concerned about "the structural integrity" of

the finished product, which it believed was its responsibility, if the top structure is erected without using the connection procedures established by SFI. (R4, tab 25)

On 9 April 1992, Mr. Tryon sent Ms. Neyman a memorandum stating:

> . . . I have prepared detailed construction drawings for the change order work on the foundations, piers and columns on the subject project. The drawings consist of five pages . . . and are labeled NASA SKETCH #1311-A, B, C, D and E, dated 4/06/92.
>
> The idea is for the caissons to be excavated with a small "Bobcat" machine with a 24 inch diameter auger bit down five to six feet to decomposed granitic bedrock. Some caissons will require over-excavation by hand methods (shovel and post hole digger) to achieve the required mass. The caissons at the perimeter wall will require some dirt at the wall side to be removed by similar hand methods to square up the circle against the wall. All the rebar dowels in the wall are drilled in above the existing slab. At no time will any workers be required to climb down into any of these caisson excavations to perform this change order work.
>
> NASA will provide the base plates for the new steel columns. B.V. Construction shall provide the new steel pipe columns and all weldment. All welds at the caps shall be shop welds. Per the contractor's statements about his erection procedure, the sketches show field weldment of the column to the base plate.
>
> . . . .
>
> The roof structure and columns are now engineered with 1/4 inch per foot of slope to drain. Elevation shots were taken throughout the project, and columns are detailed to grade out accurately with proper grout space clearance at the base plate.
>
> . . . .
>
> Please forward this information to B.V. Construction for their prompt proposal. And let's get on with construction of this project.

The drawings prepared by Mr. Tryon, who was not a licensed engineer, moved the reinforcing bars required to be installed above grade to alleviate safety concerns about workers entering the excavations. The drawings also depicted square holes, two feet and one inch across, to be cut in the existing slab for excavation of the footings, and did not depict any steel reinforcement extending beyond the concrete footings into underlying bedrock. (R4, tab 26; tr. 3/183-84, 192-93, 4/197-98)

Five days later on 14 April 1992, Ms. Neyman sent to BV Mr. Tryon's five drawings dated 6 April 1992 (R4, tab 27). The same day, 14 April 1992, SFI sent Ms. Neyman a letter, which confirmed a conversation with her that day requesting payment to SFI of $3,000.00 for original design of the canopy foundation and $2,400.00 additional engineering expenses incurred redesigning the foundations. SFI's letter set forth a chronology of events to substantiate payment for the engineering services provided and stated:

> [SFI] provided engineering services in good faith, responding as quickly as data we required to perform those services was obtained through BV from NASA. [SFI] reacted in a timely and efficient manner, providing NASA with designs and redesigns each and every time it was requested.

(Ex. A-54; R4, tab 115)

On 22 April 1992, BV sent one of Mr. Tyron's 6 April 1992 sketches by telecopier to two different steel fabricators (ex. A-54). The next day, on 23 April 1992, BV sent Ms. Neyman a copy of its letter of the same date to SFI, stating that "B.V. . . . can not be responsible for cost incurred between outside agencies without prior written authorization from funding entities." BV's letter to SFI explained:

> B.V. . . . with written authorization, approved to pay for $3000.00 of the engineering fees, as agreed upon by Space Frames Inc. If the firm of [TWG] was on a time and material basis with [SFI], [BV] really can[']t help in recovering your cost incurred expenses of a company, [BV] do[es] not have a contract with.
>
> I realize that [SFI] has incurred additional cost for engineering, however may I suggest at this time, the request for additional compensation for extra work between engineers be addressed from agreements made between [TWG] and Mr. Tryon at NASA. Please submit . . . [your] documentation to Leta Neyman at NASA. [B.V.] . . . cannot authorize additional cost

> compensation without first a signed purchase order from NASA.

(R4, tab 28; tr. 1/132-34)

On 24 April 1992, BV submitted to NASA its "piers/concrete quote." The quote was for $34,012.00 to perform the changed work specified and $14,044.00 in deductions for contract work eliminated or a net of $19,968.00 (R4, tab 29). Ten days later, on 4 May 1992, NASA's new COTR, Dan Crowley, utilizing *Means Repair and Remodeling Cost Data, 1992*, prepared a cost estimate for the changed work of $19,454.00 (R4, tab 30).

The next day, 5 May 1992, Mr. Crowley wrote a note stating:

> While excavating foundations it was discovered the foundation design was not sufficient for the soil conditions. It was determined the foundations would have to be increased in size. A redesign was performed and foundation details redrawn. The change will require an additional $20K. The contract calls for completion within 120 calendar days after notice to proceed is given. A formal negotiation will be scheduled after approved funding is received. Tentative completion is estimated to be mid September."

(Ex. A-55) Two days later, on 7 May 1992, Ms. Neyman requested that BV submit a cost breakdown for its quote using sheets prepared by Mr. Crowley as the format for the breakdown (R4, tab 31). BV submitted a cost breakdown for its quote to NASA on 12 May 1992, but the breakdown was not in the format prepared by Mr. Crowley (R4, tab 32). Three weeks later, on 2 June 1992, Mr. Crowley sent Ms. Neyman a 4-page memo, which questioned $9,302.00 of the costs sought by BV for the changed work (R4, tab 33). Ten days after receiving Mr. Crowley's memorandum, on 12 June 1992, Ms. Neyman sent BV a list of the 18 items Mr. Crowley was questioning for quantity or unit price, but did not provide BV any specifics regarding Mr. Crowley's concerns (R4, tab 34).

On 23 June 1992, during a conference call between BV, CO Brian Bowman, Ms. Neyman, Mr. Crowley, and NASA's price/cost analyst, the analyst stated that "what ever has been verbal in the past is not binding, nothing verbal is binding" on NASA. CO Bowman stated that: he wanted BV to start work the next week; Modification No. 2 to the contract would determine the exact start date; and work was to be completed within 90 days of the start date even though the original performance period for the contract was 120 days. Mr. Crowley stated that the government would take responsibility for structural integrity of the project, but that BV was responsible for letting NASA "know what was wrong." (Ex. A-57)

One week later, on 30 June 1992, Ms. Neyman, NASA's contract specialist, sent BV a letter to clarify the contract requirements and the pending modification for the column piers and foundations. The letter stated it is understood: that BV will complete all work under the contract and pending modification (Modification No. 2) for column piers/foundations utilizing the revised design developed by Mr. Tryon during April of 1992 at an additional cost of $19,968.00; this sum includes price consideration for the engineering analysis performed by SFI and TWG; all work is to be completed within 90 days of issuance of Modification No. 2; Modification No. 2 cannot issue until BV provides justification for its hourly labor rate; BV is "not to follow any direction, verbal, oral, or written prior to this letter from any person other than the contracting officer;" NASA will bear liability for failures resulting from design faults; BV will bear liability for faulty workmanship or materials; and if BV is in agreement with the letter and provides justification for its labor cost or reduces its price, Modification No. 2 will issue later that week. (R4, tab 35; ex. G-24)

On 6 July 1992, BV advised NASA that it had prepared a written response to Ms. Neyman's 30 June letter, which was being reviewed by its legal counsel, and a response would be sent by telecopier on 7 July 1992 (ex. G-25). Two days later, on 8 July 1992, BV sent NASA a letter stating:

> The project has been suspended since July 1991 due to the many changes directed by NASA, and due to difficulties caused by unanticipated site conditions which differed from those represented in the solicitation and contract documents. We hope that the discussion in the remainder of this letter, describing the current problems which have so severely impacted the project over the last year, will help to break the current impasse.
>
> . . . [T]he changes discussed must be incorporated into a modification which will be signed by the contracting officer so that we may proceed with the work. This modification will also need to incorporate a new schedule for completion since the original schedule and the extended schedule . . . have been rendered meaningless by the extended delays which have impacted this project. . . . We also ask that you identify the individuals who are currently authorized to act as contracting officer for this contract.
>
> 1. <u>Design Changes</u>
>
> Our principal concern is with the change in design responsibility and the direction that we use a NASA design for the foundation, footings and caissons that will support the

structure. As you know, the contract states that BV . . . will design and construct the project. By substituting the NASA design, . . . NASA has assumed design responsibility for that portion of the structure. As we have stated to you in conversations regarding this design, we cannot guarantee that your design is adequate, and we have concerns regarding the suitability of the NASA design. There are numerous design flaws that have been brought to NASA's attention over the last year, which are not addressed in your letter. These deficiencies need to be addressed before the project can go forward. Further, the foundation appears to rest on an uncompacted base (see report of Mr. Price, attached), which will not support such a foundation. At the very least, NASA should have its design reviewed and certified by a registered engineer, as is the standard practice in the construction industry.

Your statement in your June 30, 1992 letter that NASA bears liability for failures resulting from design faults is a significant change in the terms of the contract, and should be accomplished by modifying the contract. . . .

We are also concerned with the constructability [sic] of the NASA design. Drawing No. 1311-A provides for square holes, two feet and one inch across, to be cut in the existing slab to permit excavation of the piers and foundations, and requiring rebar to be constructed in the excavated hole. This space is too small to accomplish the excavation and install the rebar. In addition, the loose fill ground conditions surrounding the area to be excavated will not permit excavation of a 2 foot square hole without creating a dangerous condition for the workers. Under these soil conditions, a larger hole would be required and excavation to the required depth could not be accomplished through a two foot square opening. Finally, given the summer heat at the job site, the hole size specified by NASA would not allow adequate ventilation and would cause dangerous working conditions.

. . . .

2. Government Furnished Material

. . . We inspected the[] [NASA predrilled] plates and found that they will be out of alignment with the columns when installed on the existing wall, where rebar is encountered.

> Thus, some of them must be redrilled, replaced or otherwise corrected. Further, a modification to the contract should be made, to incorporate a government furnished material clause. Such a clause would protect B.V. . . .
>
> 3. Site Conditions
>
> We have encountered several differing site conditions that have caused us to change our anticipated method of construction. First, the soil conditions are not as represented. See attached report of Mr. Price. Second, we have discovered gaps and voids between the slab and the underlying grade. Further, reinforcing bars have not been incorporated into the slab in several places. The slab appears to have been improperly constructed, and these conditions cause us to question the strength of the slab. . . .
>
> 4. Design Deficiencies
>
> We are concerned that the design of the structure is inadequate for the seismic and wind conditions existing at the site. See attached report of Mr. Price. We request that the government respond to these concerns by verifying its design and by having the design certified by a registered professional engineer.

Attached to BV's letter was a 29 June 1992 letter from James Price, a consulting architectural and civil engineer, who had reviewed the "documents incidental to . . . [BV's] contract" for the project. Mr. Price's letter asserted, among other things, that the seismic and wind loading calculations for the space frame approved by Mr. Tryon (0.135 and 13 psf, respectively) did not conform to the specification requirements for seismic and wind loading (0.186 and 20.28 psf, respectively). (R4, tab 36)

During a meeting on 14 July 1992 between BV, Ms. Neyman, Mr. Crowley, and Mr. Crowley's supervisor, Steve Hodsdon, NASA clarified that the contracting officers for BV's contract were Betty Hall, Brian Bowman, and Russ Davis. It also stated that a Federal court of law will not require an engineer's signature on the drawings furnished BV and that it "does not want changes to stop project from starting." (Exs. A-61, -64) Two days later, on 16 July 1992, Mr. Crowley advised BV by telephone that the Center's facilities contractor was excavating two of the caissons to establish the depth of the bedrock. When BV asked if NASA was going to have a soil analysis performed, Mr. Crowley responded negatively. The same date, Mr. Crowley made a list of four NASA "options" – "Execute bilateral [contract modification] @ $19,968," execute a unilateral modification "@ amount of government estimate" with a long court battle, terminate the contract for convenience

"[b]ased on poor specs," and terminate the contact for default. (Exs. A-62, G-28, -29, -30, -31; tr. 3/189-92)

By memorandum dated 23 July 1992, Mr. Crowley notified Ms. Neyman that "Mr. Price's statement is true" – the space frame "calculations do not conform to the Uniform Building Code (UBC)" as required by the specifications. Mr. Crowley wrote "the space frame should not be constructed until the contractor demonstrates full compliance to the contract." (R4, tab 37)

During August of 1992, Mr. Crowley made a list of 10 "negotiation concerns" with respect to the space frame project. Among the concerns set forth by Mr. Crowley were that "[d]irection from NASA has been unclear" and:

> [W]e never issued a modification for [BV] to do the design.
> It[']s our fault we got a lousy design and package to enforce.
> Construction Contractors aren't set up to do design work!!

(Ex. G-19; tr. 4/65-66, 69)

On 21 August 1992, an attorney for NASA asked BV's lawyer, an attorney with Pettit and Martin, to arrange discussions between NASA engineers and BV engineers to resolve outstanding design issues before it was determined whether and under what terms BV would continue installation of the space frame. According to a memorandum to the file prepared by BV's attorney, NASA's attorney said the most significant issue appears to be the validity of the computer analysis of the space frame – apparently, some values were used in conducting the analysis which were not consistent with the UBC. The attorney said it appears Mr. Tryon provided those incorrect values directly to the space frame maker, but the government needs a computer analysis based on the correct numbers in order to accept and install the space frame. NASA's attorney acknowledged NASA's specified design was inadequate and stated NASA would accept BV's design for the foundation. The attorney said, however, that since BV's design was more expensive, NASA was "seeking ways to reduce the [design's] overall cost to the contractor so that the government can accomplish the work within budget." The parties' attorneys arranged a meeting for the second week of September. (Ex. A-68)

On 11 September 1992, Mr. Crowley, Mr. Crowley's supervisor (Steve Hodsdon), and Ms. Neyman met with BV's consultant, James Price, and BV personnel to resolve technical engineering issues. All agreed that the engineering calculation approved was not in compliance with the contract and that the space frame would not be built unless it conformed to the UBC requirements. Mr. Hodsdon stated that NASA would establish the soil strength characteristics through responsible testing by a geotechnical engineering firm and, after completion of the soil report, BV would be asked to submit a proposal to perform the re-design of the foundation. Mr. Hodsdon said that design prices would be negotiated

after NASA reviewed BV's proposal, and a contract modification would then be issued and signed by both sides. Mr. Hodsdon added that, after an approved final re-design, BV would be asked to submit a proposal to construct the project as re-designed and construction prices would be negotiated. He noted, however, that due to a fund shortfall for the project, NASA intended to perform the excavation portion of the work "with in house labor and equipment to afford the contract changes." (Exs. A-69, -70, -71, -73, G-32; R4, tab 40)

On 15 September 1992, Mr. Crowley prepared a purchase order for a soil investigation report by Kovacs-Byer and Associates, Inc. (Kovacs-Byer), which was required to "provide necessary engineering data to correct the foundation design for the 'Patio Rehab' construction project." The purchase order stated:

> Due to differing site conditions on contract NAS2-13253 the original foundation design is inadequate. The contract is over 1 year behind schedule. This report is needed by Oct. 2, 1992 to meet the new schedule.

(Ex. A-72; R4, tab 38)

By letter dated 28 September 1992, SFI advised BV:

> We submitted engineering per contract documents, [sic] it was rejected. We were then instructed to run engineering per written instructions from NASA, this engineering was approved by NASA.
>
> The frame was fabricated, accepted and paid for by NASA. We also provided engineering for the columns and footing on this project, that has not been paid for, a matter that we are not to [sic] happy about, nor do we understand.
>
> If you wish to contract us to do additional engineering we will be happy to do so after we resolve our column engineering payment issue.

(R4, tab 39) BV forwarded a copy of SFI's letter to Ms. Neyman on 30 September 1992. BV requested that NASA "issue a change order for this additional effort" and stated, "[i]n any event, this work will not proceed until we receive written direction from NASA, instructing us to proceed." (R4, tab 39; ex. A-75; tr. 1/163-65)

In a 20-page Geotechnical Engineering Investigation report dated 5 October 1992, Kovacs-Byer stated it used five exploratory test pits at the space frame patio site and

"[b]edrock was encountered in all of the test pits between 4 and 6 feet in depth." Based on its investigation, Kovacs-Byer concluded:

> The existing fill materials are not suitable for support of the proposed foundations. Existing fill materials should be penetrated by new foundations. In order to preclude differential settlement, all foundations should bear in the underlying bedrock. Native soils which would otherwise be competent to support the space frame were only encountered in one of the test pits. In order to avoid excessive differential settlement, the frame should be supported entirely on bedrock.

(R4, tab 47 at 1, 5, 6; tr. 3/210)

On 13 October 1992, NASA CO Betty Hall sent BV by telecopier a 9 October letter stating, "[r]egardless of the payment issue/problems raised by your subcontractor, you are required to take the necessary steps to insure your company successfully complies with the terms and conditions of your contract" and "I hereby direct proper completion and submittal of the space frame engineering calculations in accordance with contract requirements." BV's personnel, however, do not appear to have received a copy of the CO's letter at this time. (R4, tab 42; *see* exs. A-78, -79)

By letter dated 23 October 1992, SFI advised BV that: the originally rejected calculations reflected the loadings specified by the contract documents; the loadings were changed by the project architect to different values; SFI is owed $3,000.00 pursuant to BV's purchase order and $2,400.00 for "the second and third designs" of the footings necessitated by circumstances beyond its control; and, once the column/footings payment issue is resolved, SFI would be happy to rerun the engineering on the space frame for $750.00. (Ex. A-77) Five days later, BV sent NASA a copy of SFI's letter and a letter from it stating:

> The engineering calculation as originally specified, were presented to NASA in July of 1991. . . . NASA . . . should have a copy of these calculations, which would be in Mr. Tryon's file on this project.
>
> The Project Engineer, Mr. Roy Tryon, refused to approve the calculation as submitted. He specified the calculation *he would approve* and directed [SFI] to change the calculations with written direction to [SFI]. . . .
>
> Calculations require time and effort for preparation and review. . . .

> Your request [for calculations] will be honored and expedited, upon written direction from NASA.
>
> We understand Mr. Crowley attempted to be in contact with [BV] by phone. However, at the June 23, 1992 meeting with NASA, it was suggested . . . further discussion of this issue should be in writing.
>
> . . . We agree with NASA that written communication is the preferred method for resolving the current problems. However, if the [CO] wishes us to communicate by telephone directly with Mr. Crowley, or any other NASA representative please advise us and identify those individuals and authorize them to commit the government to one course of action or another.

(Ex. A-78)

On 3 November 1992, NASA CO Betty Hall sent BV by telecopier a letter stating that her letter of 9 October 1992 apparently had not come to BV's attention and she was enclosing a copy of that letter to emphasize the written direction given in the letter, as requested in BV's 30 September 1992 letter. CO Hall stated that the calculations contained in NASA's files were unsatisfactory because they had been sent directly to NASA by TWG, were not entitled "Engineering Calculations" for the contract, did not contain a seal by a licensed California engineer, and utilized incorrect wind uplift and wind lateral loads. She said that she was once again directing proper completion and submittal of the space-frame engineering calculations and, if BV perceived any of her directions as being constructive changes, it had "the right to proceed in accordance with the changes clause of the contract, FAR 52.243-4." (R4, tab 42)

By letter dated 9 November 1992, TWG advised SFI that:

> . . . The original submittal did not use the proper wind uplift load. The original submittal also used a conservative lateral load to cover both the lateral wind and the seismic loading. This lateral load, being conservative, not only meets the code specification, but it exceeds the code specification.
>
> The second submittal does follow the [UBC] for all loadings that are specified by UBC. Enclosed are various sections of this code to further illustrate that the loads used are correct.
>
> . . . .

> Each computer analysis contains a pullout section which contains the allowable loads on specific space frame member types. This pullout section has been stamped and is an accompaniment to the computer analysis.

SFI forwarded a copy of TWG's letter to BV by telecopier on 10 November 1992. (Ex. A-80; R4, tab 43)

During a conference conducted by telephone on 12 November 1992 between Mr. Crowley, NASA's counsel, BV's counsel, SFI, and two engineers from TWG, TWG explained that the computer program it used for the space frame calculations "ha[d] some factors added" to the calculations which were "hidden inside the computer program," resulting in the correct wind lateral psf being utilized. Thereafter, it was agreed that an addition to the second submittal stating its contents were "in compliance with the UBC and the contract" would be sufficient for NASA to re-approve the August 1991 calculations. This addition was to include sample calculations, sketches showing how loads were imparted on the structure, and an engineer seal. (R4, tab 44; tr. 3/212) One day later, on 13 November 1992, TWG submitted its addition to the calculations to SFI. On 16 November 1992, the "addition" was sent to BV. After review, BV submitted that "addition" to NASA on 3 December 1992. (R4, tab 45; *see* ex. A-81; tr. 3/214-15)

With respect to TWG's "addition," Mr. Crowley advised CO Hall and Ms. Neyman on 17 December 1992 that: "[t]he contractor performed the analysis using the proper building code criteria;" the analysis was reviewed and sealed by a licensed California engineer; the submittal came directly from BV, rather than a lower tier; and he recommended "accepting and approving the Aug. 5, 1991 analysis, with the Dec. 3, 1992 supplement, as the space-frame engineering calculation" (R4, tab 45; tr. 3/215). On 15 January 1993, 29 days after Mr. Crowley's recommendation, CO Hall notified BV that NASA had accepted and approved the 5 August 1991 analysis with the 3 December 1992 supplement, as the space frame engineering calculation, and a "subsequent letter will follow requesting a formal design and cost impact proposal regarding foundation design" (R4, tab 46; ex. A-83).

By letter dated 3 February 1993, CO Hall invited BV "to submit a cost impact assessment pursuant to the proposed redesign for the subject contract as delineated in the attached Statement of Design Services for Redesign of Foundations and Columns for Rehab Patio, Bldg 4825 dated February 2, 1993 . . . not later than close of business February 12, 1993." The attached statement of design services provided:

**Scope of Work**

The Contractor shall furnish all services, materials, supplies, labor, equipment, superintendency, and travel required for redesign of the foundations and columns needed to support the space frame of the project titled Rehab Patio, Bldg. 4825. The Contractor shall provide a redesign that complies with the latest edition of the Uniform Building Code (UBC). . . .

**1 Specific Requirements.** In performing this redesign, the Contractor shall comply with the following requirements:

. . . .

1.2 The Contractor shall provide a drawing submittal that is 100% complete. The Contractor shall use the previously submitted drawing dated 10/29/91 by Space Frames Inc., titled FOUNDATION PLAN, as the concept and basis of design. . . .

1.3 The Contractor shall use the reaction forces of the approved space frame engineering calculations as the design forces on the columns and foundations. See NASA letter dated Jan. 15 1993, computer analysis dated Aug. 5, 1991, and supplement dated Dec. 3, 1992. . . .

1.4 The Contractor shall visit, inspect, and investigate the site of the project as necessary and required during the preparation and accomplishment of the redesign. The Contractor shall relate all work and data developed under this contract to current site conditions and to other proposed work within the specific project area. . . .

1.5 All travel, costs and expenses incurred by the Contractor, including consultants for such site visits, inspections, and investigations are to be included in the lump sum price of this contract.

. . . .

1.8 The Contractor shall review any soil investigation reports provided by the government and comply with all requirements of the report, see section 4.1. The Contractor shall use the government provided geotechnical report as a basis of soil

> bearing strength and resistance. The Contractor shall consider drainage problems and provide solutions for any problems discovered.
>
> . . . .
>
> 4.1 The Government will provide the Contractor a report on geotechnical information for the building site. . . . This report is by Kovacs-Byer and Associates Inc., dated October 5, 1992.
>
> 4.2 The Contracting Officer will furnish review comments for the drawings submitted. The Contractor shall comply with these review comments.

(R4, tab 47; ex. A-82) (emphasis in original)

With respect to NASA's request for a cost impact assessment, on 16 February 1993, BV sent CO Hall a letter stating "more time is necessary for us to prepare such an analysis" and seeking answers to four questions, including "What is the thickness of the bedrock?" BV added that the Kovacs-Byer soil report required column footings to be imbedded 24 inches into bedrock, but gave no indication if the bedrock located was sufficiently thick to support the loads or only a sedimentary lens. Due to this uncertainty, BV recommended that the redesign effort be done as a time and materials contract. (R4, tab 48; ex. A-84)

By letter dated 19 February 1993, CO Hall suggested BV's cost impact assessment be submitted on or before 5 March 1993, and gave answers to questions posed by BV, such as the project area parameters. She stated that, if the bedrock is found to be a lens during construction, contract provisions for unforeseen sight conditions will provide a solution at that time, and that NASA wishes to eliminate all uncertainties so a firm price can be agreed upon because its motive is "to stay with the firm fixed price . . . to ensure [BV] ha[s] incentive to control costs." (R4, tab 49)

On 16 March 1993, BV advised Mr. Crowley that its cost impact proposal was complete, except BV's attorney was consulting with NASA's attorney regarding whether the original invitation for bids "covers engineering design legalities" (ex. A-85). During early April 1993, counsel for BV and NASA agreed that paragraph 1.4 of NASA's scope or statement of work (SOW) was in conflict with its desire for BV to use NASA's soil report (paragraph 4.1 of NASA's SOW) and to change the language of the SOW to make NASA responsible if the subsurface conditions differ from the soil report (ex. A-86). Shortly thereafter, BV sent NASA a proposed price of $18,520.00 for the SOW, provided NASA intends BV to "rely on the existing Geotechnical Engineering Investigation" and will be "responsible for the accuracy and validity of the report." BV advised NASA that its 2 February 1993 "Statement of Design Services" needs to be changed to provide:

> The contractor shall rely on the Kovacs-Byer Geotechnical report . . . in lieu of its own investigation of subsurface conditions at the construction site. NASA shall be responsible for any costs incurred in the redesign effort or the construction of the project, or thereafter, which are attributable . . . to conditions which differ from those represented in the Kovacs-Byer report.

(R4, tab 50)

On 3 May 1993, Mr. Crowley completed an analysis of BV's cost proposal. He found the proposal's labor hours, rate, and mix to be fair and reasonable. He questioned only BV's inclusion of $7,500 for errors and omissions (E&O) insurance and $1,380 for legal preparation fees, which he thought were part of overhead. (Exs. A-91, G-43) By letter dated 13 May 1993, BV advised NASA "[t]he cost quoted for the Errors and Omissions Insurance expires May 23, 1993, and is subject to change after that date" (R4, tab 51; *see* exs. A-88, -93, G-38, -39).

On 27 May 1993, Ms. Neyman sent BV for review a draft modification which directed the furnishing of all labor, equipment and materials "to accomplish redesign of foundations and columns in accordance with the [statement] dated February 2, 1993," increased the contract price by $9,774.00, allowed 14 days for performance, and released the contractor's claims to date (ex. A-94; *see* R4, tab 52). The next day, 28 May 1993, BV's counsel sent Ms. Neyman a letter stating that BV rejects the proposed modification because: its proposal was for $18,520.00, almost twice the amount of the modification; the modification excludes E&O Insurance; and the modification does not include BV's proposed language regarding the Kovacs-Byer soil report. BV's counsel's letter further stated "it is clear that the project cannot be completed as currently specified," "NASA is making no progress toward obtaining a workable design for the foundation and columns necessary for completion," and, "[t]herefore, B.V. Construction requests that [NASA] terminate this contract for the convenience of the Government so that the Government can start over on its project with a new design that can be accomplished . . . and so that B.V. Construction's mounting costs due to the extended delay in contract performance can be halted" (R4, tab 52; ex. A-95).

Due to an extended sick leave for NASA's counsel and an "extremely heavy schedule" for NASA's other on-site counsel, NASA officials did not meet until 27 July 1993 to discuss BV's counsel's 28 May 1993 letter. During the meeting, NASA officials decided to issue a unilateral change order to BV directing BV to proceed with redesign of the foundations and columns for the space frame. Sometime during the next few weeks, however, NASA officials decided to hold issuance of a unilateral change order in abeyance. (Ex. A-96) In a letter dated 27 August 1993 to CO Hall, BV advised that, when it inquired

about a response to its counsel's 28 May letter to NASA on 16 August 1993, she said she thought its contract was to be terminated, the information was with the contract specialist, and she would get back to BV on 19 August 1993. BV stated that it "would appreciate some communication regarding this project." (R4, tab 53)

On 9 September 1993, Mr. Crowley furnished Ms. Neyman a proposed schedule whereby NASA's facilities contractor, EDG, would perform the demolition, excavation, and reinforcement work for the space frame foundations between 15 September and 14 October 1993, and BV would perform the remainder of the space frame contract work in 85 days, *i.e*., from 15 October 1993 to 8 January 1994. Mr. Crowley stated this action would result in a net increase to BV's contract of $12,936.00. The following week, EDG procured proposals from two prospective subcontractors for the necessary demolition, excavation of 12 pier foundations, and installation of rebar – one for $30,913.00 and another for $56,000.00. (Exs. A-96, G-44, -45) On 15 September 1993, Mr. Crowley prepared a 16-item list entitled "Summary of Work for Redesigned Foundations and Columns." Mr. Crowley concluded his list/summary by stating "simply put, the Government will dig the holes and put in the rebar," and "B.V. will do everything else." (R4, tab 54; ex. A-97)

On 27 September 1993, NASA CO Nancy Brown sent BV an unpriced contract modification, No. 2, making changes to the drawings and specifications of its contract and directing BV to proceed with construction of the project. The modification stated BV was required to inform the CO immediately of any costs incurred above $13,000.00. Among the changes set forth was that the government would perform the following contract work by 14 October 1993:

1. Sawcut and remove existing concrete patio slab at twelve locations
2. Remove soil to bedrock and subsequently remove 6" of bedrock full width of excavation in 12 locations.
3. Provide and place sono-tube and steel plate shoring/form
4. Drill 2 inch by 6 foot hole in bedrock
5. Cement grout vertical rebar into bedrock
6. Drill and epoxy grout rebar into battered wall at 6 locations
7. Provide and install rebar cages
8. Provide 12 steel base plates

The modification stated that BV was to commence work 15 October 1993 and complete its work "No Later Than January 8, 1994." The modification revised one of the contract drawings and added a new contract drawing, which was approved by Mr. Crowley and showed, among other things, use of steel pipe columns, rather than masonry piers, cement foundations approximately seven-feet deep, and steel reinforcement extending beyond the base of the foundations six feet into underlying granite. The design was essentially the

same as that furnished by TWG and BV to Mr. Tryon in October 1991. (R4, tab 55; ex. A-98; *see* ex. G-44; tr. 3/241-43)

After receipt of the change order modification, BV's attorney asked NASA to explicitly state the effect of that modification upon the parties' respective design responsibilities (tr. 1/198; *see* R4, tab 56). During October 1993, an EDG subcontractor performed the demolition and excavation work deleted from BV's contract. On the morning of 15 October 1993, Mr. Crowley contacted BV by telephone and asked whether BV could immediately place concrete in the foundation excavations because weather and moisture would cause problems if the excavations were left unprotected for an extended period and BV could "then complete [the] contract later." BV responded that it would have to consult its attorney, who was attempting to "straighten things out." Later that day, Mr. Crowley again called BV and asked BV to come to the site on Monday, 18 October 1993, to see the excavations and bedrock. Mr. Crowley emphasized that the government must protect its investment, *i.e*. work performed to date, because if the vertical walls of the excavation begin to slough NASA risks losing much work. BV stated it would come to the site on 18 October 1993 to see the excavations and was awaiting a telephone call from its attorney. (Ex. G-46; *see* exs. A-107, G-52)

By letter dated 21 October 1993, CO Brown advised BV in response to its attorney's clarification request that "[t]he government views Modification No. 2 as shifting the design responsibility for the foundation and supporting columns to the government." She said she hopes this satisfies BV's concerns and that it will resume work under the contract promptly. (R4, tab 56; tr. 3/244-45)

The CO's letter satisfied BV's concerns (tr. 1/198). BV, however, was not able to start work immediately at the NASA site because its personnel were occupied with other projects (tr. 1/199-202).

On 27 October 1993, BV advised Ms. Neyman of possible dates to pour the concrete for the space frame footings – 3, 4, or 5 November 1993 (R4, tab 57; *see* ex. A-99). Four days later, on 1 November 1993, BV sent CO Brown submittal sheets regarding the concrete and anchor bolt data for NASA approval (R4, tab 58). The next day, 2 November 1993, CO Brown advised BV that its schedule for placement of the concrete and anchor bolt and concrete submittals had been approved. CO Brown added that BV is "directed to proceed with concrete placement as per Modification 2" of its contract and the "price of work will be settled at a later date." (R4, tab 59; exs. G-48, -49)

On 4 November 1993, BV notified CO Brown by letter that it was not responsible for the following items apparent at the site: placement of rebar not consistent with plans, damaged handrails, and chipping and fracturing damage to slab (R4, tab 60). The same day, CO Brown advised BV that NASA was aware of the site conditions and, if BV is concerned

about them and feels the need to document them, it should take photographs for its files (R4, tab 61).

By letter dated 11 November 1993, BV's counsel advised CO Brown that recent statements by Mr. Crowley suggested that he interprets the contract as limiting BV's recovery to the original contract price plus $13,000.00 and that, while BV recognizes Mr. Crowley is not a CO, it wishes to clarify that it does not share his understanding. BV's counsel stated that BV is proceeding with the work as directed and will inform the CO when costs incurred in performing the change order exceed $13,000.00, but does not believe it must stop work when the $13,000.00 amount is incurred and "will proceed with the work to completion unless directed otherwise." (R4, tab 62; ex. G-53)

On 17 November 1993, BV notified CO Brown by letter that "the cost have exceed thirteen thousand dollars [sic]" (R4, tab 63). On the same date, BV sent CO Brown several submittals, and notified her that the "[c]oncrete piers on wall must be made larger than shown on plans" because "[r]ebar was set too wide and off center to accommodate 3" space needed between concrete and dirt," and that "[t]wo steel plates must be moved to accommodate H.V.A. (Hillity Bolts) in existing wall," which was "[f]ield verified with Dan Crowley." (*Id*.; *see* exs. A-100, G-52)

The next day, on 18 November 1993, BV sent CO Brown a letter advising that its "estimated dates to complete the concrete portion of the patio are Nov. 22 thru Nov. 24 and Nov. 29 & 30 of 1993" if its submittals are approved by NASA, and that it must determine the condition and completeness of the space frame components because, "[s]ince the time of delivery the Space Frame has been moved and opened by others." Attached to BV's letter was an estimate of costs totaling $25,163.13. (R4, tab 64)

NASA notified BV on 22 November 1993 that it had approved BV's recent submittals for joint sealant, expansion joint cap, and concrete curing compound (exs. A-102, G-51). BV sent NASA an additional submittal for Liquid Roc 300 capsules "not as per specifications . . . due to material unavailability" on 30 November 1993 (R4, tab 65).

On 1 December 1993, Mr. Crowley sent BV a letter stating that the "Government is concerned that your firm is not providing sufficient effort to ensure completion within the time specified." He said the contract completion date is 8 January 1994 and NASA "ha[s] not received a schedule showing the order in which you intend to perform the work." He asked BV to "[p]lease provide a practicable schedule as soon as possible." (R4, tab 66)

By letter dated 6 December 1993, BV submitted to CO Brown a proposed schedule with a completion date of 25 March 1994, which BV stated was the "best practicable schedule" it could provide. BV explained in its cover letter that:

> [T]here are many material changes and corrections to the project site still to be addressed that may effect the actual performance of the work.
>
> Our current work in progress limits a full time set aside for this job. We scheduled this project exclusively in 1991 and were unable to proceed with the project at that time due to the difficulties just now being corrected.
>
> We cannot jeopardize the company[']s jobs in progress that were on line before the Modification #2 on 9-27-93 was issued. We are diligently working with this project with all practical measures and time.

(R4, tab 67)

By letter dated 10 December 1993, CO Hall notified BV with respect to its proposed work schedule that the "completion date indicated . . . is unacceptable" because the "cafeteria patio has been closed since 23 September [19]93." CO Hall requested that BV "provide a more reasonable schedule" and "documentation of 'the company's jobs' causing conflict with this NASA Project." She explained that "there has been no visible progress since 24 November 93" and "[w]e need to know why the project is not moving forward." (R4, tab 69)

The same date, CO Hall sent BV another letter stating that a contractor must assert its right to an adjustment under FAR 52.243-4(e) within 30 days after receipt of a change order and to date she has not received a "proposal" from BV to perform the additional requirements for the contract, as delineated in Modification No. 2. She told BV that: its proposal should arrive at her office no later than 20 December 1993; should not include legal fees; and should include credit for deleted work. She added that she was returning BV's billing of 15 November 1993 because it included legal fees and did not include credit for deleted work. (R4, tab 68)

On 13 December 1993, BV sought approval to install with three holes up to two inches too shallow because "rebar is in the way to drill vertically in the wall any deeper." Mr. Crowley concurred with BV's request and CO Hall approved that request the same day. (R4, tab 70; ex. A-105)

On 15 December 1993, BV supplied NASA with information about the seven other projects affecting its schedule. BV stated that, due to the lengthy suspension of work and NASA's uncertainty over when the job would go forward, it was "required eventually to take on other work, and could not remain idle." BV explained it "could not endure periods of time without jobs in progress as this would be extremely detrimental to the financial

structure of th[e] company." BV told the CO that other issues potentially causing delay were: the completeness of space frame components; any corrections or discrepancies between the plans and site conditions; and material availability. BV added that its "submitted schedule is the best, practicable schedule that can be provided." (R4, tab 71)

By letter dated 17 December 1993, BV's counsel notified CO Hall that BV asserted its entitlement to a price adjustment within 30 days of receiving Modification No. 2 and NASA acknowledged the contract price would be adjusted later in CO Brown's letter dated 2 November 1993. BV's counsel added that, contrary to CO Hall's assertion, FAR 31.205-33 "clearly provide[s] for [the] inclusion of legal fees incurred during the administration of a contract with the Government in the calculation of the pricing of changed work." (R4, tab 72; ex. G-54)

On 22 December 1994, BV submitted a revised schedule to NASA. This schedule showed: completion of fabrication of the steel supports or columns on 5 January 1994; completion of erection of the steel supports on 17 January 1994; erection of the space frame beginning on 15 January 1994; completion of erection of the space frame on 20 February 1994; start of the roofing application on 15 February 1994; start of electrical work on 15 March 1994; and completion of all contract work on 10 April 1994. (R4, tabs 73, 74; tr. 2/6-8) The next day, 23 December 1993, Mr. Crowley approved in the "field" BV's use of one-half-inch expansion joint material with A-CAP (R4, tab 75).

On 3 January 1994, Mr. Crowley approved BV's soil tests with respect to compaction of fill (exs. A-109, -111). By letter of the same date, BV asked NASA to provide a check sheet for its processing of payments and a date that it can expect payment for the costs it submitted 15 November 1993. BV explained that Mr. Crowley had told it he must approve BV's bills and he has never seen any billing by BV. (R4, tab 76)

On 5 January 1994, BV resubmitted to CO Brown its 15 November 1993 billing, which had been returned by CO Brown on 10 December 1993 (ex. A-112). By memorandum dated 5 January 1994, Mr. Crowley notified CO Brown that, based on review of BV's labor logs for the space frame contract and his telephone interviews with representatives of companies listed in BV's letter dated 15 December 1993, BV appears to have been working full-time on the space frame or other contracts, and he recommends that NASA pursue a bilateral agreement with BV regarding its proposed completion date of 10 April 1994. (R4, tab 77)

On 12 January 1994, Ms. Neyman notified BV that the U.S. Treasury would be sending BV a check for its billing resubmitted 5 January 1994 the following week (ex. A-113). The next day, on 13 January 1994, CO Brown sent BV a bilateral contract modification, No. 3, extending the contract performance period to 10 April 1994. The modification contained the following release:

> RELEASE OF CLAIMS: In consideration of the modification agreed to herein as complete equitable adjustment for the Contractor's proposed completion date of April 10, 1994 (received via facsimile on December 22, 1993), the Contractor hereby releases the Government from any and all liability under this contract for further equitable adjustments attributable to the extension of time from January 8, 1994 to April 10, 1994.

(R4, tab 78; exs. A-114, -115)

By letter dated 18 January 1994, BV's attorney notified CO Brown that BV does not agree to release the government from costs attributable to government delays and that BV never agreed on the 8 January 1994 completion date being extended by NASA. BV's counsel further notified CO Brown that, when NASA processed BV's progress payment billing, it stated the change order modification was "not to exceed" $13,000.00 and retained all monies exceeding 80% of the $13,000.00 "not to exceed" amount. BV's counsel stated that NASA's change order modification was not a "not to exceed" modification, and FAR 52.232-5 provides for full payment when satisfactory progress is being made. (R4, tab 79; ex. G-56)

On 26 January 1994, BV advised Mr. Crowley by telephone that NASA's September 1993 drawing for fabrication of the space frame supports shows a "3/8 inch Fillet weld" at the top of the 8-inch steel-pipe support columns, but the connector plate diameter for those columns is not large enough for such a weld. Mr. Crowley told BV this issue needed to be handled through the CO via a cost proposal since it comprised a change in scope and affected the cost of the contract with respect to six columns. (Ex. G-7; R4, tab 82; tr. 2/236-39, 4/24)

Two days later, on 28 January 1994, BV submitted to Mr. Crowley by telecopier a sketch of an alternate weld connection for the eight-inch steel supports. This submission did not include a cost proposal for the proposed change or statement of schedule impact. (R4, tabs 80, 82)

On 3 February 1994, BV notified NASA by letter that, due to circumstances beyond its control, caused by an earthquake on 18 January 1994, it had been delayed by two weeks in finishing its Camarillo State Hospital contract (R4, tab 81). At the time, the hospital project occupied most of BV's work force (tr. 2/9-10). On the same date, Mr. Crowley advised BV that: he liked the alternate column weld; NASA needed a cost proposal in order to approve the change; NASA's contract with BV did not provide for cost reimbursement; and BV's attorneys were incorrect in stating that BV could bill NASA for the actual costs it incurred with respect to such issues (exs. A-116, G-58; R4, tab 82; *see* ex. A-117).

By letter dated 11 February 1994, CO Brown advised BV she had concluded BV did "not intend to sign and return Modification No. 3," and she was "therefore rescinding Modification No. 3" (R4, tab 83). CO Brown further advised that she could not approve BV's weld change as submitted and, to avoid further delay, she was enclosing a unilateral change order (Mod. No. 4) directing a change in the eight-inch steel pipe weld from fillet to bevel and establishing a new contract completion date of 24 April 1994. CO Brown stated that she established this completion date by adding two weeks of earthquake delays set forth in BV's 3 February 1994 letter to BV's 22 December 1993 proposed schedule completion date. CO Brown did not state that any time was added to BV's proposed schedule completion date due to the problem BV experienced with the column weld. CO Brown also did not state that, in reestablishing a contract completion date, she considered BV's progress or lack thereof with contract work during the seven weeks since BV had submitted its proposed schedule. (R4, tab 83) After receiving CO Brown's unilateral modification changing the weld, BV completed fabrication of the eight-inch steel support columns (*see* ex. A-122).

On 15 March 1994, Mr. Crowley left a message for BV asking when it will be on site and if he can do anything to help BV finish the contract work on time (ex. A-122). The next day, 16 March 1994, BV left a message for Mr. Crowley that the steel support columns had been fabricated and it was waiting for SFI to advise when its personnel were coming to California to observe erection of the space frame, as required by the contract (ex. G-60).

One week later, on 23 March 1994, during a conference call between BV, Mr. Crowley, Mr. Hodsdon, and Ms. Neyman, BV informed NASA that SFI had stated that date it was not willing to come to the site due to nonpayment of amounts for engineering. BV therefore suggested NASA change the specifications to not require the presence of SFI at the site or delay completion of the project pending resolution of litigation with SFI. BV indicated it expected a contract modification compensating it before it reimbursed SFI for any engineering work, and that NASA should pay the amount not authorized by BV and sought by SFI because it represented "extra engineering ordered by Roy Tryon." Mr. Crowley reminded BV of its April completion deadline and Ms. Neyman said she would forward to BV as soon as possible a bilateral modification with respect to the engineering work. (Exs. A-125, G-63; tr. 2/17-22, 153; *see* exs. G-62, -81)

On 29 March 1994, Ms. Neyman sent BV by telecopier a unilateral modification changing the contract to incorporate outside engineering costs in the amount of $3,450.00 "for new structural design of steel columns and caisson pier foundations" (ex. A-126). The modification did not address the extra $2,400.00 sought by SFI for October 1991 engineering costs. In a memorandum for the file, Ms. Neyman stated:

> Due to the myriad of problems involved in this Contract, subject change was never definitized. It is imperative at this

> time to separate this change from other existing problems so that erection and installation of the space frame itself may be accomplished in accordance with the requirements of the specifications.

(R4, tab 86; tr. 2/24-27)

In a letter to CO Brown dated 30 March 1994, BV confirmed in writing that SFI may refuse to come to the work site due to the unresolved money issue regarding extra engineering. BV asserted that Mr. Tryon's ordering of extra engineering from TWG, BV's second-tier subcontractor, was "interference by NASA" which created a dispute between BV and SFI, and advised that it was working diligently to resolve the issue, but its current contract completion date may need to be extended. (R4, tab 87; ex. A-127; tr. 2/27-28) The same date, BV advised SFI by letter that SFI's refusal to perform with respect to erection of the space frame was a breach of contract and jeopardizing BV's performance of its NASA contract (R4, tab 140).

On 31 March 1994, CO Brown advised BV to bill NASA for the extra engineering authorized in the modification and, if BV brings the steel support columns to the site the next day, it could then go ahead and bill NASA for those (exs. A-129, G-64). The same day, Mr. Crowley advised BV in a separate call that NASA had received BV's 30 March letter and the letter was being discussed. BV advised Mr. Crowley that it had received no further response from SFI and the issue "WOULD SOON INVOLVE ATTORNEYS!" (Ex. A-130)

On 1 April 1994, BV delivered the steel support columns to the project site and again advised Mr. Crowley it had received no further response from SFI (exs. A-131, -132, G-65). Three days later, on 4 April 1994, BV submitted another request for a progress payment to NASA (ex. G-66). On 7 April 1994, BV left a message for SFI that it had not received a reply from SFI with respect to its refusal to come to the project site and it "NEED[S] IT NOW" (ex. A-133; tr. 2/39, 246-47).

## III. Cure Notice

On 15 April 1994, BV advised CO Brown by letter that:

> The length of time delay in the erection of the Space Frame components and additional engineering ordered by Roy Tryon directly with Space Frames, Inc., has created a dispute between Space Frames, Inc. and B.V. Construction, Inc.
>
> B.V. Construction will not receive cooperation from Space Frames, Inc. without further delays and possible legal action against Space Frames, Inc.

> Space Frames position in these matters is based on their company policy. Not to enter into further agreements with entities who currently owe them money and dispute the amount of $2,400.00 that were verbal, over the telephone, and performance of work was completed in good faith [sic].

BV stated that it will continue its efforts to resolve these issues with SFI. (R4, tab 88; ex. A-135) The same date, CO Brown sent BV two letters. The first letter denied BV an extension of time to complete the contract because the completion date "has already been extended three (3) times beyond the original contract date" and rejected BV's suggestion that NASA delete the contract requirement SFI be present at the work site because "[a] manufacturer trained installer/erecter is required to ensure proper erection, structural integrity and warranty." (R4, tab 90) The second letter was a cure notice, stating "the Government considers [BV's] failure to start space frame erection a condition that is endangering performance of the contract" and, "unless this condition is cured within 10 days after receipt of this notice, the Government may terminate for default . . . this contract" (R4, tab 91; exs. G-68, -69).

On 19 April 1994, BV forwarded to SFI a copy of the Cure Notice, demanded SFI participate in erection of the space frame, and warned SFI, "if a solution is not reached very soon," SFI may become embroiled in litigation (R4, tab 146; tr. 2/38-39, 175-76). The same day, SFI advised BV by letter that it will furnish supervision for installation of space frame material beginning 2 May 1994 if it receives $3,000.00 past due which is not in dispute and the $2,400.00 "past due on our re-engineering of the footings two times as ordered by Roy Tryon," plus round-trip air fare, a pre-paid hotel reservation, and $2,600 for the first week of work (ex. A-134). The next day, 20 April 1994, BV's counsel advised NASA by telephone that BV was "working things out with [SFI]" and "it appears that [SFI] will be at [the NASA site] very soon" (exs. G-70, A-141).

On 21 April 1994, BV sent SFI a $3,000.00 check by priority mail, and advised SFI it needed SFI to complete a security clearance form and furnish the qualifications of the SFI employee who would supervise installation of the space frame material beginning 2 May 1994 for submission to NASA (exs. A-139, G-71). The next day, 22 April 1994, SFI furnished BV the completed security clearance form for submission to NASA and notified BV that the "[t]ime of installation will be two to three weeks from start," depending "on weather" (R4, tab 92; ex. A-140). The same day, 22 April 1994, BV notified NASA by letter that:

> [B.V.] will be on site, with NASA's permission, April 27 through April 29, 1994, to locate and move [s]pace [f]rame components to the patio area of building 4825. The patio area

> needs to be cleared by this date and usage of area suspended until [s]pace [f]rame [is] complete.
>
> The assembly and erection of [s]pace [f]rame components is to be started on May 2, 1994, and will be performed by [B.V.] personnel under the supervision of SFI factory trained representative. . . .
>
> The lack of proper and prompt payment on behalf of NASA has created financial difficulties for [B.V.]. At present, approximately $115,000.00 is outstanding and unpaid on this contract, causing B.V. difficulties in financing the work and in paying money owed to subcontractors who are necessary for completion of the project.
>
> Your analysis of the billing of April 4, 1994, is incorrect. The amounts billed were for completed work in 1991 and October 1993 through January 15, 1994. This work was not behind schedule as indicated in the letter.
>
> . . . .
>
> You . . . stated that progress was not being made by [B.V.]. The fabrication of the columns for the [s]pace [f]rame were field approved by Dan Crowley on March 25, 1994, and delivered to the NASA site on April 1, 1994. There were delays in this effort due to incorrect design by NASA regarding the six 8 inch columns. Work was in progress, but not at the NASA site.
>
> . . . .
>
> . . . We believe we have resolved our impasse with [SFI] and we will proceed to install the [s]pace [f]rame. However, NASA's cooperation in resolving outstanding progress billings, including amounts for changed work, is essential to B.V.'s successful completion of the job.

(R4, tab 93; ex. A-142; *see* ex. A-164 at 18-23)

Three days later, on 25 April 1994, during a telephone conference between BV, Mr. Crowley, Mr. Hodsdon, Ms. Neyman, and CO Russ Davis, CO Davis said BV's 22 April letter tells NASA BV does not have money to finish the job. BV replied that CO Davis' interpretation of the letter was incorrect — that it simply wanted to know when the parties

could start resolving the Modification No. 2 costs and if NASA was going to pay on time for the original contract amounts. CO Davis asked for a completion schedule. BV told him that three to four weeks was required with no bad weather. CO Davis said an SFI employee had told him it would only take a week to erect the space frame. BV stated that erection in one week was impossible. CO Davis said he had "no problem in defaulting" BV and that he was very experienced at terminating a contractor for default — he had done it three times in the past. CO Davis said he would decide the next day whether to terminate BV's contract for default and that BV has no authorization to come on site to do the work until he decides whether to default BV or not. Immediately after this telephone conference, BV contacted SFI by telephone and verified that the erection of the space frame could not be accomplished in a week. SFI told BV that: the space frame was a complex configuration; assembly of the modules alone would require a week; a minimum of two to three weeks was required for erection, and SFI's representative would be on his way to California in a week according to plan. (Ex. A-145; R4, tab 94; tr. 2/62-73, 75-79) Later the same day, BV advised CO Davis by telephone of the three-week erection time supplied by SFI by telephone that day. When CO Davis asked about materials necessary to complete the project, BV advised him that: electrical parts necessary for the job were at a subcontractor's facility; the roofing material was coming from a company in Los Angeles but not on order because the lead time was only two to three weeks; and the lead time for plexiglass windows, which the supplier did not want in his inventory for several weeks because they can be scratched, was three weeks. (R4, tab 94; ex. A-145)

## IV. Default Termination

By letter dated 26 April 1994, Brian Bowman, Termination Contracting Officer, notified BV that its contract was terminated for default pursuant to FAR 52.249-10. Mr. Bowman stated that "[t]he act constituting the default is the failure to commence space frame erection and failure to order necessary materials." He added that BV's failure to perform is not excusable and that BV's response to NASA's cure notice dated 15 April 1994 "did not reflect a satisfactory course of action for progressing with the work and completing the requirement by the required date." (R4, tab 97)

By letter dated 29 June 1994, BV's counsel notified TCO Bowman that BV: was not in default at the time of contract termination; had cured the only deficiency cited in NASA's 15 April 1994 Cure Notice; and was attempting to perform when NASA halted the work by denying BV access to the site for erection of the space frame. BV's counsel, therefore, contended the termination for default was improper and should be converted immediately to a termination for the convenience of NASA. (R4, tab 99)

On 13 July 1994, TCO Bowman denied BV's request to convert the default termination to a termination for the convenience of the government. TCO Bowman stated "no substantive effort was accomplished by [BV] during the Cure Notice period," BV "never commenced erection of the space frame," and BV never demonstrated that it had a

"commitment" from SFI for continued participation in the NASA project. (R4, tab 100) By letter dated 15 July 1994, BV appealed NASA's termination of its contract for default to this Board (R4, tab 101). We docketed the appeal as ASBCA No. 47766.

## V. Reprocurement

Approximately six weeks later, on 26 August 1994, NASA issued a resolicitation for performance of the space-frame work. On 30 September 1994, NASA awarded the resolicited contract in the amount of $110,000.00 to Stevens Construction (Stevens). The contract provided for completion of the space frame within 90 days using the components supplied by SFI. On 5 October 1994, NASA issued Stevens a notice to proceed with the resolicited contract. (R4, tab L; ex. A-153; *see* R4, tabs 153, 154)

During mid-October 1994, Stevens advised Mr. Crowley that its ability to perform the resolicited contract was being impacted by SFI's refusal to cooperate with Stevens absent payment by NASA of $2,400.00 SFI believed it was owed from the prior contract. Mr. Crowley advised Mr. Hodsdon and CO Davis of this problem. (Exs. A-155, -156, -157; R4, tabs 155, 156, 158, 161, 162)

Mr. Crowley subsequently advised NASA contracting that "[w]e did not make it clear in the [resolicitation] that there was a problem with past due payment to [SFI]" and "[w]e have plenty of contingency funds to cover this." CO Davis thereafter agreed to pay the $2,400.00 sought by SFI. (Exs. G-79, A-156, -158, -160, -173; R4, tabs 159, 160, 163)

On 8 November 1994, CO Davis issued a final decision demanding BV pay NASA $33,266.32 in excess reprocurement costs. NASA calculated these costs by deducting the unliquidated balance of BV's contract ($76,773.68) from the price of the contract NASA awarded to Stevens ($110,000.00). NASA computed the unliquidated balance of BV's contract by adding the value of the contract awarded BV and the modifications to that contract ($152,057.00 + $3,514.00), and then subtracting the payments NASA made to BV during contract performance ($78,797.32). NASA did not seek to recover from BV the $2,400.00 it paid SFI during Stevens' contract. (R4, tab 174; tr. 2/84-85, 3/127-29) BV timely appealed the assessment of reprocurement costs to this Board. We docketed the appeal as ASBCA No. 49337.

By letter dated 14 November 1994, Stevens informed NASA that the space frame interfered with the mansard roof on the existing building (R4, tab 164; ex. A-162). Two days later, on16 November 1994, SFI advised Stevens it received payment from NASA for the $2,400.00 owed to it after it agreed to take a half percent discount for "prompt payment." SFI additionally advised it was unable to have anyone travel to California to supervise erection of the space frame prior to the week of 11 December 1994. (R4, tab 165; exs. A-160, -173)

On 9 January 1995, Stevens submitted a cost proposal for modifying the space frame to avoid conflict with the building's mansard roof. Stevens requested a contract modification be issued immediately so that it could proceed with the work and stated that, until it receives direction as to this issue, it was not able to proceed with work on the site. In its letter transmitting the cost proposal, Stevens expressly reserved its right to claim for changes and any amount of delay in performance. (R4, tab 168; ex. A-162)

On 17 February 1995, Stevens began to remobilize at the job site. Three days later, Stevens submitted to NASA a request for equitable adjustment totaling $65,078.00 and a request for extension of the contract performance period by 98 calendar days (70 working days). (Ex. A-163; *see* R4, tab 169)

By letter dated 23 March 1995, SFI issued a warranty for the space frame material it supplied. In another letter dated 6 April 1995, SFI certified that Stevens had received factory training to assemble and install the project's space frame. Shortly thereafter, on 19 April 1995, Stevens completed its work on the resolicited contract. (R4, tabs 170, 171, 172; exs. A-167, -168)

By letter dated 6 June 1995, Stevens sought $61,082 from NASA "for 106 days of damages" and requested that NASA's CO issue a final decision on this matter. Stevens stated:

> NASA's failure to resolve the past due bill with [SFI] prior to award of the contract, provide direction when we informed them that the Government furnished material interfered with the existing building and respond to our request for compensation regarding the resolution of the impact, delays and extended overhead, which we incurred, has caused an undue financial hardship upon [Stevens].

(Ex. A-169; *see* R4, tab 173)

## VI. Affirmative Claims

On 31 July 1996, BV submitted to NASA a request for a final CO's decision on a claim for $325,318.00 for direct and indirect costs resulting from differing site conditions, defective plans and specifications, failure to make prompt payment, interference with its subcontractor and termination of its contract for default. BV's five-page request had 35 attachments relating to the events giving rise to its request. (R4, tabs 176, 178) By letter dated 13 September 1996, CO Davis advised BV he had determined that BV's request "does not constitute a claim under the Contract Disputes Act of 1978, 41 U.S.C. § 601 *et seq.* as interpreted in FAR Subpart 33.2 since . . . you have not provided an adequate basis of [sic] your alleged claim," and he was returning the request "without taking action to decide the

merits of the allegations listed therein" (R4, tab 177). BV's new counsel, Mr. Brew, wrote CO Davis two letters disputing his assertion that BV's submission did not constitute a "claim" (R4, tabs 178, 179). On 21 November 1996, CO Davis sent BV another letter stating that its request "does not constitute a claim" and he is not "taking action to decide the merits of the allegations listed therein" (R4, tab 180). Thereafter, BV appealed to this Board based upon the CO's failure to issue a final decision. We docketed this appeal as ASBCA No. 50553.

We consolidated BV's three appeals for purposes of trial. During a four-day trial in San Diego, CA, Mr. Crowley testified he not only deemed BV's 22 December 1993 proposed schedule to be reasonable as a whole, but to be reasonable with respect to each component of work set forth in that schedule. Mr. Crowley additionally testified that, when CO Brown established a new contract completion date for BV on 10 February 1994, the erection of the steel supports or columns had not commenced, none of the space frame erection work had been performed, no allowance was made for the five weeks of work not performed by BV as indicated on the proposed schedule, and "we probably should have slipped a completion date a little longer" based on BV's proposed schedule. (Tr. 4/98-103) BV's president and majority owner, Helen Barnett, testified at trial that, during the period BV was unable to perform its space frame contract because it was awaiting direction from NASA's CO, BV's gross revenues declined significantly (tr. 1/39-40, 56-57, 200-01, 2/110-11, 114-15).

## DECISION

BV appeals two final CO decisions, one terminating its contract for default and one assessing excess reprocurement costs against it, and a deemed denial by the CO of its affirmative claims for equitable adjustments to its contract. We address each of BV's appeals separately.

### ASBCA No. 47766 — Default Termination

NASA contends it properly terminated BV's contract for default because BV "demonstrated a lack of diligence [in completing the contract work] such that [NASA] could not be assured of timely completion" (gov't br. at 32). According to NASA, its CO unilaterally established "a reasonable completion date" of 24 April 1994 for BV's work, BV did not commence space frame erection by that date and timely complete the project, BV had at least five weeks of contract work remaining as of 25 April 1994, and NASA therefore was justified in terminating BV's contract for default upon that date (gov't br. at 31-33; gov't reply at 6-7).

BV contends NASA improperly terminated its contract for default because it was delayed by NASA in performing contract work. According to BV, NASA breached its duty to cooperate or not hinder the contractor's performance by ordering services directly from

a subcontractor (SFI), ignoring requests from BV and the subcontractor for payment of the subcontractor's services for more than two years, and creating a dispute with the subcontractor whereby the subcontractor refused to supervise BV's erection of the space frame, as required by the contract, until the subcontractor received payment from NASA for its prior services.[2] (App. reply at 10-13)

It is well established that a default termination is a drastic sanction, which should be imposed and sustained only on good grounds and solid evidence. *Lisbon Contractors, Inc. v. United States*, 828 F.2d 759, 765 (Fed. Cir. 1987); *J.D. Hedin Constr. Co. v. United States*, 408 F.2d 424, 431 (Ct. Cl. 1969). Provisions of government contracts giving the government the right by notice to terminate a contract for default and subjecting the contractor to liability for monetary damages are a species of "forfeiture" and must be strictly construed. *E.g., DeVito v. United States*, 413 F.2d 1147, 1153 (Ct. Cl. 1969); *King v. United States*, 37 Ct. Cl. 428, 434 (Ct. Cl. 1902). "Forfeitures" are not favored in law, and parties who assert that there has been a forfeiture usually are held to the very letter of their authority. *King v. United States*, 37 Ct. Cl. at 436. Thus, a party such as NASA who insists that there has been a forfeiture must comply strictly with all contract requirements and conditions authorizing the forfeiture, and be free from blame for the other party's default. *E.g*., *Tri-State Tool Co*., ASBCA No. 16300, 73-1 BCA ¶ 9886 at 46,217.

BV's contract provided that BV had 120 days to complete performance of the space-frame work. NASA issued BV's notice to proceed with contract work on 3 July 1991. The completion date for BV's contract accordingly was 31 October 1991. During December of 1991, the parties agreed in contract Modification No. 1 to extend the contract completion date by 78 days to 17 January 1992. NASA, however, did not terminate the contract for default until 26 April 1994, over two and a quarter years later.

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[2] BV additionally contends NASA improperly terminated the contract because the CO's cure notice did not mention a "failure to order materials." According to BV, the CO's failure to include this in the cure notice prevented it from addressing one of the reasons the CO believed there was a failure to make progress. (App. reply at 13-14) The default clause which was set forth in BV's construction contract, however, unlike the default clause used in government supply and service contracts, did not require NASA to provide BV with a cure notice before terminating the contract for default. Rather, it merely instructed the CO to consider issuing a "show cause" notice to the contractor, if practicable. *Compar*e FAR 52.249-10 (APR 1984) *with* FAR 52.249-8(b) (APR 1984). Since NASA was under no obligation to furnish BV with a cure notice, or a show cause notice, any supposed defects in that notice were not legally significant. *E.g., Sach Sinha and Assocs., Inc.*, ASBCA No. 46916, 96-2 BCA ¶ 28,346 at 141,563 (where show cause notice not required by law, contractor "has no basis to complain about quality or quantity of information set forth in . . . notice").

In *DeVito v. United States*, 413 F.2d at 1153, the United States Court of Claims stated that, where the government elects to permit a delinquent contractor to continue performance past a due date, it surrenders its contractual right to terminate for default if the contractor has not abandoned performance and a reasonable time has expired for a termination notice to be given. The Court noted that this is popularly, if inaccurately, referred to as a "waiver" of the right to terminate. *Id*. The Court explained that there are two elements necessary to find a governmental election to waive default — (1) failure to terminate within a reasonable time after the default under circumstances indicating forbearance, and (2) reliance by the contractor on the failure to terminate and continued performance of the contract by the contractor with the government's knowledge and implied or express consent. *Id*. at 1154.

The waiver doctrine set forth in *DeVit*o is seldom applicable to construction contracts, such as BV's, because those contracts generally contain clauses which entitle the contractor to receive payment for work performed after the specified completion date and the government to recover liquidated damages for late completion. *Brent L. Sellick*, ASBCA No. 21869, 78-2 BCA ¶ 13,510 at 66,194-95; *Corway, Inc.*, ASBCA No. 20683, 77-1 BCA ¶ 12,357 at 59,804. The rationale for not applying the waiver doctrine is that, where a contract contains such provisions, detrimental reliance by the contractor cannot usually be found merely from a period of government forbearance and continued contractor performance. *John R. Glenn*, ASBCA No. 24028, 80-1 BCA ¶ 14,428 at 71,133; *Brent L. Sellick*, 78-2 BCA at 66,195.

This Board, however, has applied the waiver doctrine enunciated in *DeVito* to construction contracts containing such clauses where there is a manifestation by the government that it no longer considered the contract completion date enforceable. *John R. Glenn*, 80-1 BCA at 71,133. For example, in *Corway, Inc.*, 77-1 BCA at 59,804, we held the waiver doctrine applicable where the government permitted the contract completion date to pass without apparent concern, the contractor continued to perform contract work, and the government did not mention or assess liquidated damages.

Unlike most government construction contracts, BV's contract did not contain a liquidated damages clause. Accordingly, NASA made no mention or assessment of liquidated damages after the original contract completion date passed. Further, as found above, NASA permitted the original contract completion date to pass without apparent concern. For 20 months after the completion date passed, from January of 1992 to September of 1993, NASA continued to discuss and negotiate with BV proposed changes to the contract work concerning the space frame foundations and column supports. It was not until 27 September 1993 that NASA's CO issued a modification, No. 2, changing the contract specifications and drawings to specify foundations suitable for the unanticipated soil conditions encountered by BV underneath the patio during July 1991. Thereafter, at the direction of NASA, BV resumed work constructing the space fame. BV's activities with

respect to its space frame contract were known to NASA's CO and constituted substantial reliance on an election having been made to not terminate the contract. *See, e.g*., *DeVito*, 413 F.2d at 1154; *John R. Glenn*, 80-1 BCA at 71,134. NASA showed no degree of urgency in resolving the problems that occurred at the start of BV's contract. NASA's contract administration reasonably indicated to BV that time was not of the essence. In its post-trial briefs, NASA does not state it waived the 17 January 1992 completion date for BV's contract (gov't br. at 1-39; gov't reply at 1-11). However, by asserting in its post-trial briefs that its CO unilaterally established new completion dates of 8 January 1994 and 24 April 1994, NASA implicitly concedes it waived the January 1992 contract completion date (gov't br. at 17, 21, 32). Based upon these unique circumstances, we conclude that NASA waived the January 1992 completion date for BV's construction contract.

In *DeVito*, 413 F.2d at 1154, the Court of Claims held that, when a performance date has passed and the contract has not been terminated for default within a reasonable time, time does not again become of the essence until the government issues a notice that sets a new time for performance, which is both specific and reasonable from the standpoint of the performance capabilities of the contractor at the time notice is given. Accordingly, after waiving a contract completion date, the government cannot terminate a contract for default based upon a contractor's failure to make progress with, or complete, the contract work unless it either reaches agreement with the contractor on a new completion date or establishes by specific notice a new completion date, which is reasonable based on the contractor's performance capabilities at the time that date is established. *ITT Corp. v. United States*, 509 F.2d 541, 548-50 (Ct. Cl. 1975); *Lanzen Fabricating, Inc.*, ASBCA No. 40382, 93-3 BCA ¶ 26,079 at 129,608-09.

There is no evidence in the record before us that, in establishing the 8 January 1994 date, NASA's CO considered BV's performance capabilities. Rather, the record indicates the CO gave no consideration to BV's performance capabilities. The CO did not request a proposed schedule from BV prior to the 27 September 1993 modification, discuss with BV the modified performance period of 86 days set forth in the contract modification, or otherwise obtain information from BV regarding its ability to perform the modified contract work starting in October 1993. The CO did not learn that BV, a small business, was performing seven other construction contracts during the fall of 1993 and needed time to remobilize for the space frame project until more than 10 weeks after she established her 8 January completion date. In its post-hearing briefs, NASA does not contend that, when its CO unilaterally established 8 January 1994 as the completion date on 27 September 1993, she selected a completion date that was reasonable based on BV's performance capabilities at the time (*compare* gov't br. at 17 *with* gov't br. at 21-22). We, therefore, conclude that NASA's CO did not select a completion date that was reasonable based upon BV's performance capabilities when she established 8 January 1994 as the new contract completion date on 27 September 1993. *See, e.g., Spasors Electronics Corp*., ASBCA Nos. 12877, 12936, 70-1 BCA ¶ 8119 at 37,725 (when unilaterally establishing a

new contract schedule, the government must act with full consideration of the situation as it exists at the time the new schedule is established).

As found above, on 11 February 1994, BV had completed foundation work for the space frame and was fabricating steel support columns necessary to erect the space frame structure. BV was unable to complete its fabrication of those columns until it received direction from NASA's CO because the weld that had been specified in the drawings for the eight-inch steel pipe was not physically possible. In a contract modification, No. 4, dated 11 February 1994, NASA's CO directed a change in the eight-inch steel pipe weld from fillet to bevel and established a new contract completion date of 24 April 1994. The CO stated in her cover letter for the contract modification that the new completion date was based on BV's 22 December 1993 revised proposed schedule and BV's 3 February 1994 letter indicating it had experienced a two-week delay to one of its other projects as a result of an earthquake.

In its post-hearing briefs, NASA contends that 24 April 1994 was a reasonable completion date when established by the CO on 11 February 1994 because that date provided BV with 10 weeks to complete contract performance (gov't br. at 32). At trial, however, NASA's COTR, Mr. Crowley, testified that he deemed BV's 22 December 1993 proposed schedule to be reasonable both in its entirety and with respect to each individual work component. The 22 December schedule showed that, on 11 February 1994, BV was more than five weeks behind in performing contract work depicted on the schedule since it had been unable to complete fabrication of the steel support columns necessary to begin erection of the space frame. The schedule depicted completion of fabrication of the steel support columns on 5 January 1994 and completion of all contract work on 10 April 1994, *i.e.*, more than 13 weeks of additional work after fabrication of the columns to complete the space frame contract. Since BV only received CO direction necessary to complete fabrication of the columns on 11 February 1994 and had more than 13 weeks of work remaining after it completed fabrication of the columns regardless of the two-week earthquake delay it experienced, the CO's establishment of a completion date 10 weeks subsequent, on 24 April 1994, appears unreasonable on its face. During trial, NASA introduced no testimony showing that the CO's new completion date was reasonable. NASA bears the burden of proving the propriety of its default termination. *Nuclear Research Corp. v. United States*, 814 F.2d 647, 650 (Fed. Cir. 1987); *Lanzen Fabricating, Inc.*, 93-3 BCA at 129,608. If NASA desired to establish a new schedule, it was obligated to do so only after full consideration of the existing circumstances. *Oklahoma Aerotronics, Inc.*, ASBCA Nos. 25605 *et al.*, 87-2 BCA ¶ 19,917 at 100,775; *Spasors Electronics* Corp., 70-1 BCA at 37,725. In establishing the new completion date, NASA's CO did not consider BV's performance capabilities, which were set forth in BV's proposed schedule and believed reasonable by NASA's COTR. We conclude the 24 April 1994 completion date set by NASA's CO on 11 February 1994 was unreasonable in light of circumstances existing at that time.

NASA's attempt to reestablish a completion date for BV's contract, therefore, was ineffective and did not result in a legally enforceable completion date that could serve as a basis for a default termination. Accordingly, NASA's subsequent termination of BV's contract for default on 26 April 1994 was improper. *See ITT Corp*., 509 F.2d at 553-54; *DeVito*, 413 F.2d at 1154-56; *Motorola Computer Sys., Inc.*, ASBCA No. 26794, 87-3 BCA ¶ 20,032 at 101,416.

In its post-trial brief, NASA suggests that we need not resolve the issue of the reasonableness of the CO's 24 April 1994 completion date. It asserts that BV does not challenge the reasonableness of that completion date. (Gov't br. at 32 ("BV never objected to the schedule at all, based on unreasonableness")) As noted above, however, it is not BV's burden to show deficiencies in NASA's termination for default. Rather, NASA bears the burden of proving the propriety of its default termination. *E.g*., *Nuclear Research Corp*., 814 F.2d at 650. Only if NASA establishes sufficient grounds exist to justify its default termination must BV show that its failure to perform was "excusable." *American Int'l Contractors, Inc.*, ASBCA Nos. 39544 *et al*., 95-2 BCA ¶ 27,920 at 139,374; *Michigan Joint Sealing, Inc*., ASBCA No. 41477, 93-3 BCA ¶ 26,011 at 129,325, *aff'd*, 22 F.3d 1104 (Fed. Cir. 1994) (table).

Moreover, we note that it is well-established that this "Board is not bound by the theories raised by the parties but may base its decision on a different theory of relief or defense, providing the facts have been adequately developed in the record." Thus, we are free, irrespective of the burden of proof, to determine the "reasonableness" of the 24 April 1994 contract completion date established by NASA's CO even if BV has not argued that the date is unreasonable. *See, e.g., Overhead Elec. Co*., ASBCA No. 25656, 85-2 BCA ¶ 18,026 at 90,463-64.

In this appeal, NASA has not made a *prima facie* showing justifying its default termination. BV therefore need not show that it was without fault or negligence in its failure to perform and that such failure was beyond its control and that of its subcontractors. However, because we must consider BV's assertion it was entitled to a time extension based upon NASA interference with its subcontractor, SFI, in order to resolve BV's affirmative claim for unabsorbed overhead below, we address its argument that it was without fault in failing to commence erection of the space frame during April 1994 and that such failure was beyond its control, *i.e*., excusable (app. reply at 11-14).

BV argues that its failure to commence erection of the space frame during April 1994 was excusable because "NASA disregarded its duties not to hinder the efforts of [BV] by ordering services directly from BV's subcontractor and thereafter ignoring requests for payment directly from the subcontractor until [NASA's] excessive delays in payment resulted in noncooperation from the subcontractor." BV asserts "NASA at first actively interfered and then later failed to act reasonably to investigate or mitigate the effects of this interference." (App. reply at 12)

As found above, shortly after commencing work on the contract, BV encountered a site condition differing from that represented in its contract. The contract provided BV was to assume the soil bearing capacity to be 1,000 psf. BV, however, found saturated soil that did not appear to have a soil-bearing capacity of 1,000 psf on 24 July 1991. Two days later, on 26 July 1991, NASA's project manager and COTR, Mr. Tryon, advised BV "[t]he contract will be modified to correct this unforeseen site condition." While BV could continue to submit data to NASA's COTR for required approvals and did so, it could not reasonably continue excavation of the column foundations after being notified by NASA's COTR that NASA was issuing a change to the contract with respect to those foundations. *E.g*., *George A. Fuller Co*., ASBCA No. 8524, 61-2 BCA ¶ 3619 at 18,208 (where contractor advised revision would be made, "it would have been irresponsible in the extreme to proceed with the work as originally designed"). Until NASA issued its change regarding the column foundations, BV could not proceed with performance of other work at the site because the initial step in erecting the space frame was preparation of foundations for the 12 columns supporting the space frame.

After reviewing the computer design analysis for the space frame submitted by BV, which analyzed stresses placed upon various component parts of the space frame, including the stress of wind uplift, NASA's COTR decided to revise the foundations or footings and support columns to provide sufficient mass underground to withstand uplift forces on the space frame and resolve the soil issue. The COTR decided to eliminate the contract's 12, 4-foot-high, masonry columns, extend the length of the steel pipe column supports by 4 feet, and replace the specified spread footings with "pier-type footings." NASA's CO asked BV to submit a cost impact assessment no later than 28 August 1991 to "[p]rovide all *engineering*, materials, equipment and labor" necessary for the change (emphasis added). After BV requested that NASA issue a written change order which authorized "verbal changes" so "engineering can start immediately," NASA's contract specialist issued a letter to BV dated 30 August 1991 stating "[y]ou are hereby authorized to proceed with redesign of the pipe column as part of the proposed change order." The record indicates that NASA's contract specialist did not possess authority to contract with BV for the performance of engineering services.

BV asked its space frame subcontractor, SFI, to procure the necessary engineering services. SFI entered into a "time and materials" agreement with TWG to perform this work. While TWG's first engineering submittal was not deemed satisfactory by NASA's COTR because it would result in destruction of much of the existing patio slab, increase construction costs, and provide spread footings, TWG explained that 18,000 psf was necessary for each footing to offset the 12,000 psf of uplift per column. NASA's COTR then directed for the first time that BV was to "[k]ey into granitic bedrock at bottom of caisson as required for moment restraint." During the next several weeks, TWG prepared additional engineering submittals and developed a caisson foundation design with steel reinforcement extending over six feet into underlying bedrock that NASA's COTR was

"looking for" and approved. SFI incurred a cost of $5,400.00 for TWG's engineering work in designing the foundation.

By letter dated 3 February 1992, SFI advised BV it would "like to get paid for the [foundation] redesigns." On 14 April 1992, approximately five months after completion of the engineering work, SFI sent Ms. Neyman, NASA's contract specialist, a letter which confirmed a telephone conversation requesting NASA pay SFI $5,400.00 for engineering services performed during the fall of 1991. Over five months later, in September 1992, SFI advised BV by letter that, if BV desired performance of additional engineering work, SFI would perform such work after receiving payment for its 1991 engineering services. BV forwarded a copy of SFI's letter to NASA. During October and November of 1992, NASA's CO directed BV to submit engineering calculations to NASA "regardless of the payment issue/problems raised by [its] subcontractor." BV subsequently submitted the engineering calculations directed by the CO, which were prepared by TWG for SFI and BV.

During February 1993, approximately 15 months after TWG completed and NASA approved the engineering for the redesigned foundations and columns, NASA's CO sent BV an SOW incorporating TWG's foundation and column design for preparation of a cost impact assessment. Nearly four months later, on 27 May 1993, NASA's CO sent BV a draft contract modification, which directed performance of contract work in accordance with the SOW incorporating TWG's foundation and column design. On 27 September 1993, almost two years after completion and approval of engineering for the foundation and column redesign, NASA's CO issued an unpriced contract modification altering the foundation/column design and directing BV to proceed with construction. The design incorporated in BV's contract by this modification was essentially the same as that furnished by TWG in October 1991.

On 23 March 1994, approximately two years and five months after completion and approval of the engineering for the foundation and column redesign, SFI advised BV that it was not willing to come to the project site to supervise erection of the space frame due to nonpayment of amounts for engineering. BV advised NASA of SFI's refusal to come to the project site due to nonpayment, and suggested NASA issue a contract modification authorizing payment for the "extra engineering ordered by [COTR] Roy Tryon" or delete from its contract the requirement the space frame manufacturer certify proper erection of the space frame.

On 29 March 1994, NASA's CO issued a contract modification incorporating "outside engineering costs" in the amount of $3,450.00, representing $3,000.00 in SFI engineering costs plus a 15 percent markup for BV. This modification did not address $2,400.00 of the $5,400.00 in engineering costs sought by SFI. The next day, BV again advised NASA that SFI may refuse to come to the work site due to the unresolved money issue regarding extra engineering and BV's current contract completion date may need to be extended.

On 15 April 1994, NASA's CO denied BV an extension of time to complete the contract because the completion date "has already been extended three (3) times beyond the original contract date" and rejected BV's suggestion that NASA delete the contract requirement SFI be present at the work site because "[a] manufacturer trained installer/erecter is required to ensure proper erection, structural integrity and warranty."

SFI informed BV on 19 April 1994 that it would supervise installation of the space frame after receipt of approximately $10,000.00 (which included payment of $5,400.00 for prior engineering services) and that BV's erection of the space frame could begin 2 May 1994. BV immediately paid SFI the $3,000.00 it had received from NASA for SFI's engineering services. NASA, however, terminated BV's contract for default on 26 April 1994.

In October of 1994, SFI also refused to supervise erection of the space frame by NASA's reprocurement contractor due to nonpayment of engineering services. During November 1994, four years after completion and approval of the engineers' redesign for the foundations and columns, NASA's CO paid SFI the additional $2,400.00 SFI sought for the engineering services performed in 1991. SFI then came to the NASA project site during 1995, supervised the reprocurement contractor's erection of the space frame, and provided NASA the contractually specified certifications.

NASA furnished BV the contract drawings and specifications, and there is an implied obligation that they will be workable. *E.g.*, *United States v. Spearin*, 248 U.S. 132 (1918); *Consolidated Diesel Elec. Corp*., ASBCA No. 10486, 67-2 BCA ¶ 6669 at 30,951-52. It was NASA's responsibility to furnish the design and to correct any mistakes discovered therein. *George A. Fuller Co*., ASBCA No. 8524, 61-2 BCA ¶ 3619 at 18,215.

No provision of the space frame contract required BV to design corrections for errors in NASA's plans and specifications. *See id*. Performance of engineering work to correct deficiencies in the contract plans and specifications thus constituted extra work. The performance of extra work, work above and beyond contract requirements, usually entitles a contractor to an equitable adjustment in the contract price. *E.g.*, *U.S. Federal Engineering & Manufacturing, Inc.*, ASBCA No. 19909, 75-2 BCA ¶ 11,578 at 55,298-99.

While neither NASA's contract specialist, who authorized BV to proceed with the engineering work by letter, nor NASA's COTR, who reviewed and ultimately approved the engineering work performed, appears to have possessed authority to contract with BV for the performance of the engineering work, NASA's CO ratified the authorization to perform this work. The engineering work was performed with the knowledge of NASA's contract specialist, who was charged with keeping NASA's CO apprised of necessary contract actions, and NASA's COTR, who was charged with resolving technical issues relating to the

contract. The CO's representatives were her "eyes and ears," and their knowledge is treated for all intents and purposes as hers. *Walter Straga*, ASBCA No. 26134, 83-2 BCA ¶ 16,611 at 82,617; *Davis Decorating Service*, ASBCA No. 17342, 73-2 BCA ¶ 10,107 at 47,475; *U.S. Federal Engineering & Manufacturing, Inc.*, 75-2 BCA at 55,298-99. More importantly, the CO subsequently incorporated the additional engineering work performed in both a SOW and a contract modification, thereby resolving the contract's design deficiencies and benefiting NASA. Where, "as here, with the knowledge of Government representatives, the contractor performs work to correct design deficiencies that should have been corrected by a change order, we must treat as done what should have been done." *U.S. Federal Engineering & Manufacturing, Inc.*, 75-2 BCA at 55,298-99; *W. Southard Jones, Inc.*, ASBCA No. 6321, 61-2 BCA ¶ 3182; *see Harbert/Lummus Agrifuels Projects v. United States*, 142 F.3d 1429, 1433 (Fed. Cir. 1998), *cert. denied*, 525 US 1177 (1999) (agreements made by government agents without authority to bind the government may later be ratified by those with authority); *Janowsky v. United States*, 133 F.3d 888, 891 (Fed. Cir. 1998) (institutional ratification may occur where the government accepts benefits). Thus, we treat the extra engineering services performed as having been authorized by NASA.

While we are sensitive to the need to protect the government from bearing the cost of contractors who perform extra work beyond the government's determined need, *i.e.*, contractors acting as a volunteer, the work performed here was to correct defects in plans and specifications, which NASA had a need and duty to correct. Further, because NASA had notice of the work before it was performed, NASA had the opportunity to choose a more suitable resolution for the problem if one existed. *See U.S. Federal Engineering & Manufacturing, Inc.*, 75-2 BCA at 55,298-99. Since NASA elected to have BV perform the engineering work necessary to correct NASA's design deficiencies, NASA changed constructively the space frame contract, entitling BV to an equitable adjustment for its performance of the engineering work. *Id*.

NASA asserts in its post-trial briefs that its actions, or more appropriately lack of action, with respect to paying the cost of engineering services performed in 1991 by SFI's subcontractor, TWG, did not constitute a breach of its implied duty not to hinder or interfere with performance of BV's contract. According to NASA, BV never billed it for those engineering services and, thus, the dispute over payment that arose was the responsibility of BV, *i.e.*, between BV and its subcontractor, SFI. (Gov't br. at 28-30; gov't reply at 8-10)

NASA's assertions ignore an important fact: that, for a period of nearly two years and seven months — from 30 August 1991 when NASA's contract specialist authorized BV to proceed with the engineering work to 23 March 1994 when BV advised NASA SFI was refusing to come to the project site until SFI was paid for the engineering work — NASA never issued a modification to BV's contract providing for performance of the engineering work. Absent such a modification, BV could not bill for, and obtain payment for, such work under its NASA contract. *E.g.*, *Ricway, Inc.*, ASBCA No. 30204, 86-3 BCA ¶ 19,234; *H.Z.*

*& Co., Ltd*., ASBCA No. 31055, 86-2 BCA ¶ 18,976 at 95,8450 (until change order work has been adopted by the issuance of a contract modification, it does not become part of the total contract price and cannot be part of basis for a progress payment). Moreover, when NASA finally issued a contract modification providing for the 1991 engineering work on 29 March 1994, it authorized payment only for part of that work ($3,000.00), despite having been advised on several occasions during the previous two years that the total cost of the engineering work performed was $5,400.00. Thus, prior to the default termination of its contract, BV was not able to bill for and obtain payment for the sum of $5,400.00 due SFI.

Based on the circumstances discussed above, we conclude that SFI's dispute over payment for the engineering services arose from the actions of NASA, not BV. NASA knew that BV had a subcontractor perform the engineering work and that subcontractors will not continue to perform work when they have not been paid for their prior work for a prolonged period of time. Despite this very basic knowledge, NASA failed to timely acknowledge both its direction to perform the engineering work and obligation to pay for that work. The record indicates that, if NASA had timely acknowledged and paid for the extra engineering work, SFI would have come to the project site when requested by BV, supervised erection of the space frame, and issued the necessary contract certifications. By failing to perform its legal obligations with respect to the extra engineering work for over two years and seven months, *i.e*., issue the necessary contract modification, NASA breached its implied duty not to hinder or interfere with performance of BV's contract.

NASA's breach of its implied duty to cooperate and not hinder or interfere with BV's contract performance, which caused SFI to refuse to continue to perform work due to nonpayment, was a cause beyond the control and without the fault or negligence of BV. The CO's denial of an extension of the contract completion date based upon the fact that there had been prior extensions of the completion date without any investigation of the nonpayment issue presented by BV was arbitrary and improper. FAR 52.249-10; *Tri-State Tool* Co., 73-1 BCA at 46,217. The CO knew that the contract required the space frame manufacturer, SFI, to supervise and certify erection of the space frame. When the CO declined to waive these requirements after being advised that SFI refused to come to the project site due to lack of payment for the engineering work, she knew or should have known BV had no ability to begin erection of the space frame in accordance with the contract, except possibly to pay SFI from "BV's own funds" for the engineering work SFI performed for NASA, which BV was not legally obligated to do. The actions of NASA in its contractual capacity delaying BV's performance of the space frame contract from no later than 23 March 1994 to 22 April 1994 warranted the CO granting BV an extension of the contract completion date of at least one month.

Where a contractor is entitled to an extension of time, as here, issuance of a notice of default termination is premature. *E.g*., *Corway, Inc.*, 77-1 BCA at 59,804-05; *Tri-State Tool Co*., 73-1 BCA at 46,217. Accordingly, even if we had concluded that the 24 April 1994 completion date set unilaterally by NASA's CO was reasonable and that NASA had

made a *prima facie* case justifying default termination, we would hold NASA's default termination improper because BV was without fault or negligence in its failure to perform and such failure was beyond its control.

**ASBCA No. 49337 — Reprocurement Costs**

BV contends the CO's final decision assessing excess reprocurement costs of $33,266.32 should be vacated because NASA incorrectly terminated its contract for default (app. reply at 15). NASA contends the opposite — that we should affirm its CO's decision assessing excess reprocurement costs because it properly terminated BV's contract for default (gov't br. at 40).

We held above that NASA's termination of BV's contract for default was improper. Where a contract is terminated for default improperly, as here, the termination is treated as one for the convenience of the government. *E.g*., *ITT Corp. v. United Sta*tes, 509 F.2d at 554. The Default clause set forth in BV's contract expressly provides "[i]f, after termination of the Contractor's right to proceed, it is determined that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if the termination had been issued for the convenience of the Government." FAR 52.249-10(c). Accordingly, we sustain the appeal and overturn NASA's CO's assessment of excess reprocurement costs against BV. *Compar*e FAR 52.249-10(a) *with* FAR 52.249-2; *Bailey Specialized Buildings, Inc. v. United States*, 404 F.2d 355, 363 (Ct. Cl. 1968).[3]

**ASBCA No. 50553 — Appellant's Claims**

In this appeal, BV seeks "additional direct and indirect costs" resulting from differing site conditions, defective plans and specifications, NASA interference with its space-frame subcontractor, and the termination of its contract for default. NASA's CO repeatedly refused to issue a final decision on BV's submission raising the issues. The CO declared that BV's submission did not constitute a valid "claim" because it failed to adequately describe and document the basis for recovery. NASA did not make the same assertion in its post-trial briefs and is deemed to have abandoned that contention. We briefly address the contention, however, since a proper "claim" is necessary for this Board to exercise jurisdiction over an appeal. *See* 41 U.S.C. §§ 605-07.

[3] Where a contract is terminated for convenience, as here, the contractor has one year from date of receipt of our decision to submit a termination settlement proposal to the CO or request an extension of time to do so. If the contractor fails to submit a termination settlement proposal within this period, the CO may determine, on the basis of information available, the amount due the contractor for the termination. FAR 52.249-2(d), (e); *England v. The Swanson Group, Inc.*, 353 F.3d 1375, 1377 (Fed. Cir. 2004).

There are three requirements for a valid contractor monetary claim — "(1) the contractor must submit the demand in writing to the contracting officer, (2) the contractor must submit the demand as a matter of right, and (3) the demand must include a sum certain." *H.L. Smith, Inc. v. Dalton*, 49 F.3d 1563, 1565 (Fed. Cir. 1995); FAR 33.201. While a contractor must furnish "a clear and unequivocal statement" that gives the CO "adequate notice of the basis and amount of the claim," *H.L. Smith*, 49 F.3d at 1565, *quoting Contract Cleaning Maintenance, Inc. v. United States*, 811 F.2d 586, 592 (Fed. Cir. 1987), it need not submit a detailed justification for its claim. "Invoices, detailed cost breakdowns, and other supporting financial documentation need not accompany a . . . [valid] claim." *H.L. Smith*, 49 F.3d at 1566. BV submitted to the CO a written demand seeking as a matter of right the payment of money in a sum certain. Its submission thus satisfied the criteria for a valid claim. The submission described the overall basis for BV's allegations, and was sufficiently detailed for the CO to have responded in general terms to BV's list of grievances. The CO, therefore, erred in returning the submission on the grounds it did not constitute a "claim." Because BV submitted a valid claim to the CO and the CO did not issue a final decision upon that claim or notify BV of the time within which a decision will be issued within 60 days, we possess jurisdiction to entertain BV's appeal asserting affirmative claims. 41 U.S.C. § 605(c)(2).

**1. <u>Differing Site Condition</u>**

BV contends that, while section 05120 of its contract represented the soil bearing capacity to be 1,000 psf, it encountered an unforeseen site condition "in the form of poorly compacted subsoil and saturated silty sand in the vicinity of the masonry piers." BV argues it is entitled to receive an equitable adjustment in the contract price for "the direct costs" of performing "additional work" relating to this unforeseen site condition. (App. br. at 3, 4, 26-27)

In its post-trial brief, NASA expressly acknowledges that a contractor is entitled to recover costs associated with a differing site condition and that BV encountered a "differing site condition" when it began excavating the pier foundations (gov't br. at 35). NASA, however, contends that, "because the differing site condition was found on the first day [of site work], BV never really experienced difficulty associated with the plans and specifications" (gov't br. at 35; gov't reply at 2). NASA, therefore, appears to contend that BV is not entitled to an equitable adjustment for a differing site condition because BV incurred no "damages" or costs with respect to the differing condition encountered.

To receive an equitable adjustment for a differing site condition, a contractor must show that it was "damaged" as a result of the material variation between the expected and encountered conditions. *Stuyvesant Dredging Co. v. United States*, 834 F.2d 1576, 1581 (Fed. Cir. 1987); *Sanders Constr. Co. v. United States*, 220 Ct. Cl. 639, 641 (1979). Here, BV has shown it incurred extra cost or "damage" as a result of the differing soil

condition encountered. BV performed excavation for 2 of the 12, 2-foot-deep pier foundations specified and halted work on the foundations, the initial critical step in space frame construction, when it encountered the differing soil condition. Until it received direction from NASA's CO regarding the condition, BV was not able to proceed with its space frame contract work. Due to the differing soil condition, BV's subcontractor, SFI, subsequently performed extra engineering work redesigning the column foundations to penetrate bedrock more than five feet beneath the patio slab, at the express direction of NASA's COTR. NASA added part of the $5,400.00 cost of this extra engineering work to BV's contract price. BV, thus, incurred additional "direct" costs due to the differing site condition, as NASA clearly recognized by partially paying the foundation redesign engineering costs. While NASA later paid BV's subcontractor directly for the remainder of the additional engineering performed, BV never received the 15 percent markup for overhead and profit on that work to which it was entitled. Accordingly, we hold that BV has demonstrated it incurred some "damage" as a result of the material variation between expected and encountered soil conditions, and that BV is entitled to receive an equitable adjustment in contract price with respect to the differing soil condition it encountered.

**2. <u>Defective Specifications/Changes</u>**

BV contends that, while redesigning the pier/column foundations to accommodate the differing site condition, NASA decided to redesign the piers/columns specified for the space frame and later issued a unilateral modification directing BV to perform this changed work (app. br. at 7, 13). BV asserts that it is entitled to receive an equitable adjustment in the contract price for its "direct costs" of performing "additional work" relating to this "change" (app. br. at 25-26).

BV additionally contends that, after it notified NASA that the weld specified for the eight-inch steel columns was defective, NASA "changed" the contract in February of 1994 by modifying the welding procedure that attached the space frame connector to the eight-inch steel pipe columns (app. br. at 15). BV argues it is also entitled to receive an equitable adjustment in contract price for its "direct costs" of performing extra work with respect to NASA's weld "change" (app. br. at 25-26).

In its post-trial brief, NASA expressly acknowledges that it changed the space frame columns and the weld for the eight-inch columns specified in BV's contract (gov't br. at 5, 17, 21). NASA also expressly acknowledges that a contractor, such as BV, is entitled to receive an equitable adjustment in contract price to recover additional costs associated with changed work. NASA contends, however, that because the changes in plans and specifications here occurred before BV performed the work at issue, "BV never really experienced difficulty associated with the plans and specifications that came in the contract, that were later determined to be defective." NASA, therefore, appears to argue once again that BV is not entitled to an equitable adjustment because BV incurred no "damages" or costs. (Gov't br. at 35)

To receive an equitable adjustment for changed work, a contractor must show that it was "damaged" as a result of the change. Unless there is an increase in the contractor's cost of performing the contract work, the contractor is not entitled to receive an equitable adjustment. *E.g., Lectro Magnetics, Inc.*, ASBCA No. 15971, 73-2 BCA ¶ 10,112 at 47,512. Here, BV has shown it incurred extra cost or "damage" as a result of the changed work. When BV notified NASA the eight-inch-column weld specification was defective and proposed an alternative weld, NASA's own COTR advised BV he could not approve the alternative weld without the CO issuing a change order because the new procedure would affect the cost of the contract. Moreover, with respect to NASA's change in the columns/piers, BV retained engineering and legal consultants to assist it in preparing proposals to perform the changed work and, at a minimum, incurred the cost of paying those consultants.[4] Accordingly, we hold BV has shown that it incurred some "damage" as a result of the changed work, and that BV is entitled to receive an equitable adjustment in contract price with respect to NASA's change in the eight-inch column weld and the design of the columns/piers.

### 3. Unabsorbed Overhead

BV contends that NASA delayed the critical path of its construction schedule by 889 days. According to BV, NASA delayed it during four different periods of time: 25 July 1991 to 15 October 1993 (813 days); 15 October to 2 November 1993 (18 days); 26 January to 11 February 1994 (16 days); and 15 March to 26 April 1994 (42 days).[5]

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[4] NASA suggests BV is not entitled to receive professional and consulting fees for James Price, an engineer it hired to review various redesigns of the changed columns/piers and for Patrick Martell, a Government contracts attorney it retained to advise BV regarding liability with respect to NASA's design changes, because BV has not shown that such fees were "allowable" (app. br. at 12, 14, 15, 17, 18, 20; app. reply at 4-5). It is well-established, however, that legal and consulting fees incurred in connection with contract performance or administration generally are recoverable because such costs usually benefit the contract's purpose. *Bill Strong Enterprises, Inc. v. Shannon*, 49 F.3d 1541, 1549 (Fed. Cir. 1995), *overruled in part on other grounds, Reflectone, Inc. v. Dalton*, 60 F.3d 1572, 1579 n.10 (Fed. Cir. 1995) (*en banc*); *Singer Co. v. United States*, 568 F.2d 695, 721 (Ct. Cl. 1977). BV incurred at least part of its legal and consulting fees to facilitate its negotiation of equitable adjustments for NASA's changed work. Thus, at least some of the legal and consulting costs BV incurred clearly are allowable under FAR 31.205-33. *Bill Strong*, 49 F.3d at 1550.

[5] The period from 15 October to 2 November 1993 is 18 days not 17 days as appellant calculated. This discrepancy is immaterial to our analysis and has been corrected, as appropriate.

(App. br. at 27-28) BV asserts that the initial, 813-day delay was due to the "failure of the [CO] to issue written direction concerning the scope of work." It attributes the second, 17-day delay to "the fact that its forces were either released or . . . deployed elsewhere." (*Id*. at 27) It asserts that the third, 16-day delay was due to NASA's defective specification for the column weld. It states that the fourth, 42-day delay was due to "NASA's failure to timely pay a claim of SFI, BV's installation subcontractor," for additional engineering work. (*Id*. at 28) BV seeks an award of its unabsorbed overhead costs for each period of time under the "Eichleay formula."

NASA contends BV is not entitled to an award of unabsorbed overhead costs under the Eichleay formula because it was not in "standby status" at any time. According to NASA, there was always contract work BV could perform and "the Government did nothing to stop BV from performing that work." In sum, NASA asserts BV "chose not to work" on the contract during the periods of the alleged delays, *i.e*., any delay in its performance of the contract was "entirely self-inflicted." (Gov't br. at 36-39)

A government contractor, such as BV, incurs indirect costs that are not attributable to any one contract in particular, but arise because of its general operations. These costs, such as accounting-payroll services, general insurance, senior management salaries, heat, electricity, taxes, and depreciation, generally are incurred even if there is inactivity on a construction project. *West v. All State Boiler, Inc.*, 146 F.3d 1368, 1372 (Fed. Cir. 1998); *Interstate Gen. Gov't Contractors, Inc. v. West*, 12 F.3d 1053, 1058 (Fed. Cir. 1993). A contractor recovers these costs by allocating the expenses on a proportionate basis among all of its contracts. If the government suspends work on a contract, a contractor's indirect costs often accrue beyond the amount originally allocated to that particular contract. The additional indirect costs thus may be "unabsorbed." *All State Boiler*, 146 F.3d at 1372; *Mech-Con Corp. v. West*, 61 F.3d 883, 886 (Fed. Cir. 1995). In *Eichleay Corp*., 60-2 BCA ¶ 2688 at 13,574, we adopted a formula for estimating proportionate home office overhead that may be unabsorbed due to suspension, which commonly is referred to as the "Eichleay formula." It is now well-established that, if the government suspends or delays work on a contract for an indefinite period, the Eichleay formula will be used to calculate the amount of unabsorbed home office overhead the contractor can recover. *E.g*., *P.J. Dick, Inc. v. Principi*, 324 F.3d 1364, 1370 (Fed. Cir. 2003); *Melka Marine, Inc. v. United States*, 187 F.3d 1370, 1375 (Fed. Cir. 1999).

To be entitled to Eichleay damages, a contractor must first show that there was a government-caused delay to its planned contract performance "that was not concurrent with a delay caused by the contractor or some other reason." *P.J. Dick, Inc*., 324 F.3d at 1370; *Sauer, Inc. v. Danzig*, 224 F.3d 1340, 1347-48 (Fed. Cir. 2000). The contractor must also show its original contract performance time was thus extended or, alternately, that it completed its performance on time or early but incurred additional, unabsorbed overhead cost because it had planned to finish even earlier. *P.J. Dick, Inc*., 324 F.3d at 1370; *Interstate Gen*., 12 F.3d at 1058-59. Finally, after proving the above elements, the

contractor must show that it was required to remain on "standby" during the delay. *P.J. Dick, Inc.*, 324 F.3d at 1370. Where a contractor proves these elements, "it has made a prima facie case of entitlement" and the burden of production shifts to the government "to show that it was not impractical for the contractor to take on replacement work and thereby mitigate its damages." *Id*.; *Melka Marine*, 187 F.3d at 1376; *All State Boiler*, 146 F.3d at 1373-82. If the government satisfies this burden of production, the contractor then bears the burden of persuasion that it was impractical for the contractor to obtain sufficient replacement work. *P.J. Dick, Inc.*, 324 F.3d at 1370; *Melka Marine*, 187 F.3d at 1376. We, therefore, must examine each of the alleged delays here to see if the parties have made their required showings.

**A. <u>813 days (25 July 1991 to 15 October 1993)</u>**

We determined above that, because BV encountered a differing soil condition on 24 July 1991, it was not able to continue work on the foundations, the initial critical step in space frame construction, until it received further direction from NASA's CO. BV did not receive such direction from NASA, *i.e*., that the 12 pier/column foundations were to be excavated deeper than specified and penetrate bedrock beneath the patio slab, until 27 September 1993. That is when NASA's CO issued a unilateral contract modification changing the contract work and directing BV to resume work on 15 October 1993 (after NASA had completed performance of certain tasks). As found above, BV personnel were prepared to perform the space frame work and there was no delay precluding performance of that work, except for BV's receipt of direction from NASA's CO with respect to the differing soil condition encountered. Accordingly, BV has shown there was an 813-day government-caused delay to its planned contract performance "that was not concurrent with a delay caused by the contractor or some other reason."

BV also has shown that its original contract performance time was thus extended. As found above, NASA extended the period for completing contract performance from November 1991 until April 1994, when it improperly terminated the contract for default prior to BV's completion of contract work.

NASA's CO did not issue a written order suspending all work on the space frame contract for an uncertain duration pending issuance of direction regarding the differing soil condition, requiring BV to remain ready to resume work immediately or on short notice. BV therefore must show the third element necessary to recover Eichleay damages — that it was on "standby" — by indirect evidence. *P.J. Dick, Inc.*, 324 F.3d at 1371; s*ee Interstate Gen*., 12 F.3d at 1055, 1057 n.4. To prove the third element by "indirect evidence," a contractor must show that: (1) the delay caused by the government was substantial and of an "indefinite duration"; (2) it had to be ready to resume work on the contract immediately, and at full speed, during this delay; and (3) there was an "effective suspension of much, if not all, of the work on the contract." *E.g., P.J. Dick, Inc.*, 324 F.3d at 1371.

With respect to the first showing necessary for standby by indirect evidence, it is clear from our findings above that BV never knew when the CO was going to modify the contract to provide direction regarding the differing soil condition. NASA's CO did not definitively advise BV of NASA's resolution of the differing soil condition issue until 27 September 1993. NASA's CO also did not advise BV of the date BV would be able to resume contract work until 27 September 1993, when the CO stated contract work should resume 15 October 1993. Because the CO advised BV on 27 September 1993 that it was to resume work on 15 October 1993, BV was not on standby for the 17 days between 27 September and 15 October 1993. *See id*.; *Melka*, 187 F.3d at 1376. BV, therefore, has shown that 796 of the 813 days of the differing soil condition delay it claims (25 July 1991 through 27 September 1993) were substantial and of an "indefinite duration."

With respect to the second showing necessary for standby by indirect evidence, we found above that, from 25 July 1991 until 27 September 1993, NASA acted as if BV was to be ready to resume work on the contract immediately upon notification of NASA's resolution of the differing soil condition issue. During this period, NASA did not discuss with BV a gradual resumption of the contract work or any period for BV to remobilize to perform the contract work. BV, therefore, retained some workers on its payroll who could perform the space-frame work and left all components of the space frame to be erected by it at the NASA project site. Accordingly, BV also has shown that, from 25 July 1991 to 27 September 1993, a period of 796 days, rather than a period of 813 days, it was required to be ready to resume work immediately on the contract. *See P.J. Dick, Inc.*, 324 F.3d at 1371; *Melka*, 187 F.3d at 1375; *All State Boiler*, 146 F.3d at 1373; *Mech-Con Corp.*, 61 F.3d at 887.

With respect to the third showing necessary for "standby" by indirect evidence, we found above that, from 25 July to 12 November 1991, BV furnished NASA various submittals required by the contract for approval and, through its subcontractor (SFI), manufactured the necessary space frame components. The components manufactured during this period represented approximately one third of the original cost of the project. From 13 November 1991 until 27 September 1993, however, BV was precluded from performing most contract work. While BV continued to discuss with NASA the resolution of the differing soil condition and the related contract changes, BV was not able to proceed with the remaining contract work, *i.e.*, erection of the space frame, until NASA's CO determined how BV was to construct the space-frame-column foundations. The suspension of all contract work and idleness are not prerequisites to determination that a contractor was on standby. To establish that it was on "standby," however, a contractor must show it was precluded from performing much, if not all, contract work. *P.J. Dick, Inc.*, 324 F.3d at 1371; *Mitchell Constr. v. Danzig*, 175 F.3d 1369, 1373 (Fed. Cir. 1999) (subcontractor was entitled to Eichleay damages where it performed "some work" on contract, but could not perform most contract work until faults causing suspension were cured); *Altmayer v. Johnson*, 79 F.3d 1129, 1134 (Fed. Cir. 1996) (performance of "minor tasks" during suspension does not preclude recovery of Eichleay damages); *Interstate Gen.*, 12 F.3d at

1057 n.4 (if the test was whether contractor's work force assigned to contract was standing by, the contractor would be penalized for, and deterred from, mitigating damages for direct costs by reassigning its employees to other jobs or laying them off during delay period). BV has not shown here that, from 25 July to 12 November 1991, there was an effective suspension of much, if not all, of the work on the space frame contract. BV, however, has shown there was such a suspension from 13 November 1991 until 27 September 1994.

Since BV has made all three showings necessary to establish "standby" by "indirect evidence" with respect to the period of 13 November 1991 through 27 September 1994, it has made a *prima facie* case of entitlement and the burden of production shifts to NASA "to show that it was not impractical for . . . [BV] to take on replacement work and thereby mitigate its damages." *See P.J. Dick, Inc.*, 324 F.3d at 1370; *Melka Marine*, 187 F.3d at 1376; *All State Boiler*,146 F.3d at 1373-82. In its post-trial briefs, NASA simply contends that BV was "very busy with other work" and performing "other large and more important contracts" (app. br. at 36-37; app. reply at 4). The record here does reflect that BV was performing other contracts throughout the period that it was performing the space frame contract for NASA. However, as found above, it additionally reflects that this was BV's practice, *i.e*., that BV regularly had crews performing more than one contract at a time. It is well-established that NASA cannot rebut a *prima facie* showing of entitlement to Eichleay recovery by showing only that a contractor continued its normal operations, including the performance of "additional" contracts. The United States Court of Appeals for the Federal Circuit has stated:

> [I]t would be inconsistent with the purpose behind Eichleay recovery to require a contractor to cease all normal, ongoing operations during a government-caused suspension on one contract in order to guarantee its recovery of unabsorbed overhead costs. A healthy contractor may well be simultaneously engaged in multiple contracts, at different phases of performance. A government-imposed suspension during performance of one contract will not necessarily affect a contractor's ability to obtain and perform others.

*All State Boiler Inc.*, 146 F.3d at 1376. The critical factor which must be examined is the contractor's ability to obtain a "replacement contract" to absorb indirect costs that would otherwise be unabsorbed due to a government suspension on one contract. *Id*. Thus, to rebut a *prima fac*ie case, the government must show that either (1) it was not impractical for the contractor to obtain other work to which it could re-allocate its indirect costs, or (2) the contractor's inability to obtain other work was not caused by the government's suspension but by some other circumstance. *Id*. NASA has not made any such showings here. Accordingly, BV has demonstrated the elements necessary for an award to it of Eichleay damages for the period of 13 November 1991 through 27 September 1993.

## B. 18 days (15 October to 2 November 1993)

As found above, after NASA's CO unilaterally modified the space frame contract to resolve the differing soil issue, BV needed more than the 17 days provided by the CO in her unilateral modification to remobilize its forces to perform the contract. The CO acquiesced in BV's need for more time and allowed BV to resume contract performance on 2 November 1993. While BV seeks an award of Eichleay damages for the period that it was remobilizing, *i.e.*, 15 October to 2 November 1993, it cannot show, by direct or indirect evidence, the third element necessary for such an award – that during this time it was on standby. The second showing necessary to prove standby by indirect evidence where there is no formal CO suspension order, as here, is that the government required the contractor to be ready immediately to resume work on the contract at full speed. *P.J. Dick, Inc.*, 324 F.3d at 1371. As discussed above, if the government gives a contractor a reasonable time to remobilize its work force once a suspension is lifted, as occurred here, the contractor is not on "standby" during that remobilization period, *i.e.*, it is not being required by the CO to be ready to immediately resume contract work at full speed. *E.g.*, *Mech-Con Corp.*, 61 F.3d at 887. Accordingly, BV is not entitled to an award of Eichleay damages for the period of 15 October to 2 November 1993.

## C. 16 Days (26 January to 11 February 1994)

We found above that BV notified NASA on 26 January 1994 that the eight-inch-column weld specification was defective and proposed an alternative weld. We further found that, by unilateral change order dated 11 February 1994, NASA's CO modified the parties' contract to require a different weld for the eight-inch columns. While BV seeks an award of Eichleay damages for the period that it was awaiting direction regarding the weld, *i.e.*, 26 January to 11 February 1994, it has not shown, by direct or indirect evidence, the third element necessary for such an award – that during this time it was on standby. The third showing necessary to prove standby by indirect evidence where there is no formal CO suspension order, as here, is that there was an "effective suspension of much, if not all, of the work on the contract." *P.J. Dick, Inc.*, 324 F.3d at 1371. The record here shows only that BV was unable to proceed with fabrication and welding of "six" eight-inch columns. There is no reason apparent why BV could not proceed during this period with fabrication and welding of the other columns for the space frame, which accounted for at least 50 percent of the fabrication and welding work. Much of the space frame contract work, which was then on the critical path, was therefore available for BV to perform. BV thus has not shown it was on "standby" from 26 January to 11 February 1994. *See id.*; *Melka*, 187 F.3d at 1375-76 (contractor not on standby where government had not suspended all contract work and contractor was working on contract); *All State Boiler, Inc.*, 146 F.3d at 1370, 1373 (entitlement to Eichleay damages where government suspended all work on the contract); *Mech-Con*, 61 F.3d at 887 (entitlement to Eichleay damages where work on contract completely suspended).

With respect to the period of 26 January to 11 February 1994, BV also has not shown the initial element necessary to recover Eichleay damages — that there was a government-caused delay to planned contract performance that was "not concurrent with a delay caused by the contractor or some other reason," *P.J. Dick, Inc.*, 324 F.3d at 1370. As found above, on 4 February 1994, during the period at issue, BV notified NASA that it required two additional weeks to perform the space frame contract due to delays it was experiencing in completing another contract at a hospital as a result of an earthquake on 18 January 1994. The record here does not clearly reflect that the earthquake problems BV experienced on its hospital contract, which was occupying most of BV's work force, were not concurrent with part or all of the 16-day period required by NASA to modify the incorrect weld specified for the 8-inch columns. Accordingly, BV has not shown here with respect to the period of 26 January to 11 February 1994 all elements necessary for an award of Eichleay damages.

### D. 42 Days (15 March to 26 April 1994)

We found above that, on 16 March 1994, BV advised NASA's COTR that it was waiting for its space frame subcontractor, SFI, to advise when its personnel were coming to California to observe erection of the space frame, as required by the contract. We also found that, on 23 March 1994, about two years and five months after its completion and NASA's approval of extra engineering work for the foundation and column redesign, SFI advised BV it was not willing to come to the project site to supervise erection of the space frame due to nonpayment for the extra engineering work.

As discussed above, BV notified NASA of SFI's refusal to come to the project site due to nonpayment and suggested that NASA issue a contract modification authorizing payment for the "extra engineering ordered by [COTR] Roy Tryon" or delete from its contract the requirement that the space frame manufacturer certify proper erection of the space frame. NASA's CO issued a contract modification which incorporated "outside engineering costs" in the amount of $3,450.00, representing $3,000.00 in SFI engineering costs plus a 15 percent markup for BV, but this modification did not address $2,400.00 of the $5,400.00 in engineering costs sought by SFI. Further, NASA's CO denied BV any extension of time to complete the contract due to SFI's refusal to come to the project site because the contract completion date had "already been extended three (3) times beyond the original contract completion date" and rejected BV's suggestion NASA delete the contract requirement SFI be present at the work site because "[a] manufacturer trained installer/erecter is required to ensure proper erection, structural integrity and warranty."

We determined above that, by failing to perform its legal obligations with respect to the extra engineering work for over two years and seven months, *i.e.*, issue a contract modification authorizing reimbursement for SFI's additional work, NASA breached its implied duty not to hinder or interfere with performance of BV's contract. We explained that, when the CO refused to pay for all of the additional engineering work and declined to

waive the requirement the space frame manufacturer supervise and certify erection of the space frame, she knew or should have known BV had no ability to begin erection of the space frame in accordance with the contract, except possibly to pay SFI from "BV's own funds" for the extra engineering work SFI performed for NASA, which BV was not legally obligated to do.

NASA's breach of its implied duty to not interfere with BV's performance of the space frame contract — failure to issue a contract modification authorizing payment to BV and SFI for additional engineering work necessary to correct errors in NASA's plans and specifications which caused SFI to refuse to come to the project site due to nonpayment — constituted a government-caused delay to BV's planned contract performance that "was not concurrent with a delay caused by the contractor or some other reason." Moreover, the delay necessitated an extension of the period for contract performance and required BV to remain on "standby." *See, e.g., P.J. Dick, Inc.,* 324 F.3d at 1370.

BV has shown here by indirect evidence that it was on standby from 15 March to 26 April 1994. As discussed above, the delay that NASA caused was substantial and of an "indefinite duration," and BV was required to be ready to resume work immediately on the contract during the delay. Further, since the commencement of erection of the space frame under the supervision of the space frame manufacturer was the next critical step on the contract work path, the delay constituted an effective suspension of much, if not all, work on the contract. *See, e.g., P.J. Dick, Inc.,* 324 F.3d at 1371.

Since BV made the showings necessary to establish standby by indirect evidence, the burden of production shifted to NASA to show that it was not impractical for BV to take on replacement work during the delay period. NASA, however, has made no such showing here. *See id*. at 1370; *All State Boiler, Inc.*, 146 F.3d at 1376. BV, therefore, has demonstrated additionally the elements necessary for an award of Eichleay damages for the period of 15 March to 26 April 1994.

In sum, BV is not entitled to recover Eichleay damages for the periods of 25 July to 13 November 1991 (111 days), 28 September to 2 November 1993 (35 days), and 26 January to 11 February 1994 (16 days). BV is entitled, however, to Eichleay damages for the periods of 13 November 1991 to 28 September 1993 (685 days) and 15 March to 26 April 1994 (42 days), a total of 727 days.

## CONCLUSION

We sustain appeal Nos. 47766 and 49337. The CO's termination of the contract for default is converted to a termination for the convenience of the government and the

CO's assessment of excess reprocurement costs is overturned. We sustain appeal No. 50553 in part, as discussed above. We remand appeal No. 50553 to NASA for determination of the equitable adjustments due appellant.

Dated: 22 April 2004

TERRENCE S. HARTMAN
Administrative Judge
Armed Services Board
of Contract Appeals

I concur

I concur

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

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

I certify that the foregoing is a true copy of the Opinion and Decision of the Armed Services Board of Contract Appeals in ASBCA Nos. 47766, 49337, 50553, Appeals of B.V. Construction, Inc., rendered in conformance with the Board's Charter.

Dated:

DAVID V. HOUPE
Acting Recorder, Armed Services
Board of Contract Appeals