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ARMED SERVICES BOARD OF CONTRACT APPEALS

Appeal of - )  
)  
C. J. Mahan Construction Company ) ASBCA No. 63031  
)  
Under Contract No. W912QR-18-C-0033 )

APPEARANCES FOR THE APPELLANT: Lawrence M. Prosen, Esq.  
Josephine M. Bahn, Esq.  
Cozen O'Connor  
Washington, DC

Michael W. Currie, Esq.  
Currie & Associates LLC  
Grove City, OH

APPEARANCES FOR THE GOVERNMENT: Michael P. Goodman, Esq.  
Engineer Chief Trial Attorney  
James M. Inman, Esq.  
R. Lauren Horner, Esq.  
Zachary J. Grader, Esq.  
Engineer Trial Attorneys  
U.S. Army Engineer District, Louisville

OPINION BY ADMINISTRATIVE JUDGE D’ALESSANDRIS

Appellant, C.J. Mahan Construction Company (Mahan) entered into a contract with respondent, the United States Army Corps of Engineers (government or USACE) to remove a lock and dam on the Ohio River, near Brookport, Illinois. Mahan employed divers to remove underwater metal portions of the lock and dam structure. Unlike recreational SCUBA diving in the crystal-clear waters of a Caribbean island, this underwater demolition work was performed by surface supplied air in water with minimal visibility, a swift current, and the additional hazard of floating debris. Because of these dangers, the contract required compliance with the diving operations section of the USACE Safety and Health Requirements Manual (EM 385). An appendix to the dive section of the manual provides “Manning Levels for Dive Teams” specifying a four-person minimum team size (diving supervisor, diver, standby diver, and tender) for one diver performing the type of demolition work involved in the project. The appendix further provides that the standby diver can act as a second working diver if certain conditions are met, including the addition of a second tender, creating a minimum dive team size of five.

Mahan bid the contract based on a proposed five-person dive team, with two working divers. Mahan submitted dive safety plans based on five-person crews with two working divers, and the government approved Mahan's dive safety plans. Around this time, two events relevant to the dispute occurred: first, the USACE appointed a new District Dive Coordinator (DDC); and second, a diver died on a nearby but separate USACE project. When Mahan attempted to use a second working diver on this project, the USACE informed Mahan that it would be required to employ a sixth crew member.

Mahan submitted a request for equitable adjustment seeking compensation for the additional costs it claims to have incurred due to lower productivity during the period it had to work with a single diver, and the added costs of a sixth crew member when it worked with two divers. The government denied Mahan's REA despite issuing a contract modification to Mahan on another nearby dive contract for the same requirement of employing a sixth crew member. On another similar nearby dive project the government included a note to bidders that additional staffing beyond that required by EM385 would be required.

The parties agreed to submit these appeals on the record without a hearing pursuant to Board Rule 11 and have requested that the Board decide entitlement and quantum. For the reasons stated below we find that the government constructively changed the contract by requiring Mahan to employ a sixth dive team member, after initially approving Mahan's dive safety plan to use five-member dive teams. We grant Mahan damages in the amount of \$1,076,686.85.

## **FINDINGS OF FACT**

### **A. The Solicitation and Contract**

The government issued a sealed bid solicitation on July 30, 2018 (R4, tab 7 at 446). The solicitation indicated that the contract would be firm-fixed-price (*id.* at 468-69). The bid schedule called for a single price for all work on the project, except the estimated quantity for stone protection, which was unit priced (*id.* at 450-51). The summary of work stated that the project was for the demolition of Lock and Dam 52, including "demolition of a 600 foot and a 1200 foot lock, demolition of the separating piers, and removal of the 540 foot Chanoine weir, 160 foot Bebout weir, three bear traps,<sup>1</sup> 725 foot fixed weir, 1248 feet of navigable pass wickets, and fixed weir abutment" (*id.* at 545). The project also required demolition of cells, which are generally cylindrical sheet pile columns filled with rock, gravel, and concrete (R4,

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<sup>1</sup> "Bear traps are a type of gate used to increase the level of the upper pool of the dam and to direct the flow of water over the gates to allow floating debris such as trees to continue flowing downstream" (R4, tab 2 at 3).

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tab 2 at 4). Demolition of the cells generally required removing the fill and then cutting the sheet pile (R4, tab 7 at 657-58). Lock and Dam 52 was located on the Ohio River near the confluence with the Mississippi River (R4, tab 8 at 756).

The solicitation and resulting contract included the Disputes Clause, Federal Acquisition Regulation (FAR) 52.233-1 (R4, tab 7 at 468). The solicitation and resulting contract included the Permits and Responsibilities clause, FAR 52.236-7 (*id.*), the Accident Prevention clause, Alternate I, FAR 52.236-13 Alt. I, (*id.*), and the Changes clause, FAR 52.243-4 (*id.* at 469).

The solicitation included Specification 01 35 26.00 06 Government Safety Requirements (R4, tab 7 at 583-602), including the requirement of an “ACTIVITY HAZARD ANALYSIS (AHA)” in accordance with USACE EM 385-1-1 “for every operation involving a type of work presenting hazards not experienced in previous project operations” (*id.* at 592). The contract incorporates USACE EM 385-1-1 in various places. Relevant to this appeal, Specification 02 41 00 Demolition, required submission of a demolition plan in accordance with EM 385-1-1 (*id.* at 650-64). The solicitation provided no direction with respect to diving operations or dive crew manning level requirements beyond those provided in the EM 385 Safety and Health Requirements Manual (R4, tab 7).

Paragraph 30(A)(13) of EM 385 requires that certain documents be reviewed and found acceptable in order to engage in diving activities (R4, tab 5 at 419). Paragraph 30(A)(14) requires that a dive operations plan be completed for each separate diving operation and be submitted through the contracting officer (*id.*). Relevant to this appeal, Appendix G to EM 385, Manning Levels for Dive Teams, states:

General. Manning level tables shown are a minimum. Actual manning levels may increase, as determined by the DDC, after considering the diving support systems, the task at hand, weather conditions, dive platform and location, and other factors. Team members may rotate through the dive team positions as long as the minimum manning levels are maintained and team members are qualified and accepted for the position.

(R4, tab 6 at 441) Appendix G also specifies minimum dive crew sizes for different types of diving operations. For dives using surface supplied air, between 0 to 100 ft depth the appendix provides:

TABLE G-3

Dive Team Composition,  
Surface Supplied Air (SSA), 0 to 100 ft (0 to 30.5 m)  
Within No Decompression Limits

Personnel	Number	Penetration Dive
Diving Supervisor ***	1	1
Diver	1	2
Standby Diver*	1	1
Tender	1	2
<b>TOTAL TEAM</b>	<b>4</b>	<b>6</b>

b. Deploying the Standby Diver as a Worker Diver. The Standby diver may be deployed as a working diver provided all of the following conditions are met:

- (1) Surface-supplied no-decompression dive of 60 fsw or less;
- (2) Divers are in close proximity, (based on site specific requirements), with unimpeded access to each other;
- (3) Divers have communications with each other at all times;
- (4) No entanglement hazards exist;
- (5) Prior to deploying the standby diver, the work area shall be determined to be free of hazards (i.e., suction, discharges) by the first diver on the job site;
- (6) The dive is NOT a penetration or confined space dive;
- (7) Each diver has a full-time tender (which brings the minimum number of team members to 5).

[...]

Notes:

\* The standby diver will be rested and capable of performing emergency rescue assistance. ...

\*\*\* The supervisor may be the standby tender for dives under 100 ft (30.5 m).

(R4, tab 6 at 442-44)

Mr. Taylor Canfield, a former USACE project estimator, prepared an independent government estimate (IGE) (app. supp. R4, tab 92 at 1). The IGE included estimated costs for three divers and a dive supervisor and did not contemplate deploying a standby diver as a working diver (*id.* at 10-11, 14, 16-17). Mr. Canfield testified that his crew of a dive captain and three divers as opposed to two divers and a tender was to allow all members to rotate assignments (Canfield tr. at 45-46). Mr. Canfield also testified that the dive crew manning level used in his IGE was based on the minimum dive crew size as specified in the EM 385 assuming only a single working diver, and that he felt it was appropriate to use the minimum crew size in his estimate (*id.* at 46-47).

In August of 2018, Mahan received proposals from six companies for the subcontracted underwater demolition work (R4, tabs 6B-L; app. supp. R4, tab 136). The bidders were: Ballard Marine Construction (Ballard) (app. supp. R4, tab 136); Global Diving and Salvage, Inc. (Global) (R4, tab 6L); Mainstream Divers (Mainstream) (R4, tabs 6B-C); Marine Solutions Inc. (MSI) (R4, tabs 6F-G); Specialty Underwater Services (SUS) (R4, tab 6H); and Underwater Construction Company (UCC) (R4, tabs 6I-K).

Mainstream bid a daily rate of \$6,750 for a four-person crew, with a bid of \$1,650 for an additional crew member (R4, tab 6B at 0444-0368-69). Mainstream asked Mahan what crew sizes it should use for its bid, noting that “some districts require a five-man minimum instead of a four-man. I’m trying to figure out if Louisville District is such” (R4, tab 6C at 0444-0376). Mainstream indicated that their bid would “assume a 4-man crew equals one man in water and a 6-man crew allows two divers in the water” (R4, tab 6B at 0444-0357). UCC bid two differently sized dive crews, a five-person crew and a seven-person crew (R4, tab 6I at 0444-0412). MSI submitted a proposal that included four- and five-person dive teams for the project (R4, tab 6F at 0444-0385). Ballard’s proposed staffing included a four-person dive team, plus an option to add divers as needed (app. supp. R4, tab 136 at 50738-39). Ballard’s quote included an add-on rate of \$1,165 per 8-hour day to add an “Additional Diver” to the crew, which would equate to a five-person crew with two working divers (*id.* at 50739). SUS submitted proposals for four-, five-, and six-person diving crew sizes (R4, tab 6H at 0444-0405). The SUS proposal did not identify or discuss the number of simultaneous divers each quoted team size could support (*id.*). UCC subsequently submitted a revised bid “reducing crew size” to reflect four- and five-person diving crews to be consistent with EM 385 Appendix G (R4, tab 6K at 0444-0426-27).

Mahan submitted its bid on August 30, 2018 (R4, tab 7 at 447). Mahan’s bid was prepared consistent with the requirements of EM 385 (app. br. ex C Isaacs Decl. ¶ 11; ex. D Kennedy decl. ¶ 9). Mahan’s bid for Demolition of Lock and Dam 52 was \$31,377,500, plus \$4,118,000 for stone protection, bringing its total bid to

\$35,495,500 (*id.* at 450). The bid opening occurred on August 30, 2018, and Mahan was the low bidder (*id.* at 445-46). After bid opening, Global contacted Mahan with a proposal for dive work (R4, tab 6L 0444-0437). Global proposed four- and six-person diving teams for the project (*id.* at 0444-0438). As Global's proposal was submitted to Mahan after the bid opening, it was considered non-responsive (late), and was not considered in Mahan's bid, and there is no explanation in Global's proposal as to why it quoted a six-person dive crew (*id.* 0444-0437-39).

Mr. Aaron Sanford was the contracting officer assigned to the project (R4, tab 7 at 447). On September 20, 2018, he appointed Mr. William Gilmour as the Administrative Contracting Officer (ACO) for the project (R4, tab 6M at 0444-0463). On September 28, 2018,<sup>2</sup> the USACE, Louisville District, entered into Contract No. W912QR-18-C-0033 with Mahan (R4, tab 7 at 446-47). The USACE issued a Notice to Proceed for the contract on October 15, 2018 (R4, tab 12 at 806). On March 26, 2019, Mahan entered into a subcontract with MSI for diving services on the project (R4, tab 13A at 0822-0001). The subcontract was priced according to lump sum or daily rates for estimated quantities, having a total estimated value of \$3,767,715.00 (*id.* at 0822-0003). The subcontract specified that work would be completed by four- and five-person dive crews, including "burning sheet pile" (*id.*). The subcontract estimated a production rate of 30-40 linear feet of sheet pile "burned" per day for a four-person dive crew and 40-60 linear feet of sheet pile burned per day for a five-person dive crew (*id.*).

## **B. Mahan's Dive Safety Plan**

On April 8, 2019, Mahan submitted its Diving Safe Practices Manual to the government in Transmittal No. 01 35 26.00 06-12 (R4, tab 14 at 823). The government approved the Diving Safe Practices Manual on April 30, 2019 (R4, tab 15 at 1027). At the time, the District Dive Coordinator was Wayne Wilkinson (*id.* at 1027-28). The approved Diving Safe Practices Manual defined the dive team roles of supervisor, diver, standby diver, and tender (R4, tab 14 at 837-41). The approved Diving Safe Practices Manual states that the Association of Diving Contractors International (ADCI), along with OSHA Standards, provides the minimum acceptable standards for diving operations on the project (*id.* at 828).

From the period of August to November 2019, Mahan submitted at least 11 dive plans to the government covering at least four separate diving operations for the

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<sup>2</sup> Mahan does not controvert the government's proposed finding of fact that the award date was September 28, 2018; however, the date appears to be September 26, 2018. The Bates number for the page partially obscures the date on the document in the Rule 4 file. Regardless, the exact date is not material to our decision.

project, which commenced in September 2019 (R4, tabs 16-17, 18, 20-21, 24-26, 30-31, 35, 37, 42). The first submitted dive plan on June 28, 2019, was for cutting sheet pile (R4, tab 16 at 1030). At that time, the dive plan did not explicitly set forth the planned staffing levels for the dive team, stating only that “[s]pecific dive team personnel will be continuously submitted and updated throughout the project” (*id.* at 1035). The June 28, 2019 dive plan specified Surface Supplied Air (SSA) as the Dive Mode (*id.*), and referenced and appended EM 385 Appendix G to identify the applicable minimum dive crew manning levels required for SSA diving (*id.* at 1069-1070). However, the dive plan noted, “[e]ach diver shall be continuously tended while in the water (one tender per diver), regardless of depth” (*id.* at 1035). Although the means and methods of cutting the sheet pile are not described in detail within the plan itself, they generally describe use of a “burning rig” to cut sheet piles (*id.* at 1034-35). On August 7, 2019, an AHA was also separately submitted to the government for review and approval relating to “Underwater Burning” (gov’t br., ex. A at 1).

To address comments received from USACE, the dive plan for cutting sheet pile was resubmitted on August 13, 2019 (R4, tab 17 at 1107). The revision updated the plan and provided more information about how the sheet piles would be cut by “burning,” and stabilized and removed with rigging (*id.* at 1111-12). The plan did not change with respect to the dive personnel section, again stating that “[s]pecific dive team personnel will be continuously submitted and updated throughout the project” (*id.* at 1112-13). As with the previous version, the August 13, 2019 dive plan specified surface supplied air as the dive mode (*id.*), and referenced and appended EM 385 Appendix G to identify the applicable minimum dive crew manning levels required for SSA diving (*id.* at 1147-48).

### C. Mahan’s Timesheets

On August 13, 2019, a government employee raised concerns with Mahan’s project manager about irregularities with the wage rates and benefits being paid to MSI’s laborers, based upon certified payroll submissions (R4, tab 17A at 1189-0001). The government informed Mahan that the lowest available wage rate for a laborer on the project was \$27.21 plus \$23.23 in fringes, pursuant to the Davis Bacon Act (*id.*; tab 7 at 511). The concerns raised involved a paperwork issue identified by USACE on the first Certified Payroll Report submitted by MSI, which was for the week ending July 27, 2019. Specifically, the certified payroll form needed to be revised to indicate that fringe benefits had been paid to non-union employees either as cash or a contribution to MSI’s 401k plan, or a combination of both. As instructed by the government on August 15, 2019, this revision required MSI to check boxes “4a” and “4b” on page 2 of the standard Certified Payroll Report form, and add the comment, “part of fringes are paid in cash and part in a 401K plan” under the “Remarks” section. (App. reply, ex. 3 (Slates decl.) ¶¶ 58-61) These revisions were made to the first two MSI certified payrolls, for the week ending July 27, 2019 and the week ending

August 3, 2019, and they were resubmitted to the government on August 15, 2019. The revised payrolls and all of MSI's subsequent certified payroll reports for the project, were accepted by the government with no further issues or action required. (*Id.* ¶¶ 62-64)

#### **D. Mahan's Revised Dive Safety Plan**

On August 30, 2019, the dive plan for cutting sheet pile was revised again (R4, tab 18 at 1190). The description of means and methods to cut sheet piles was expanded and revised significantly to describe the diving activities covered under the plan in greater detail (*id.* at 1193-96). The document included substantial revisions to the "Dive Personnel" section (*id.* at 1197). The dive plan provided in the "Dive Personnel" section:

Dive team assignments and responsibilities 5-person crew:

- Diving Supervisor (minimum one per crew) . . .
- Divers (minimum 2 per crew) . . .
- Standby Diver (minimum one per diver)- . . . .
- Radio Operator - . . . .
- Tenders (minimum one per diver in water)- . . . .

(*Id.* at 1199)

Following submission and acceptance of the Dive Safety Manual, Mr. Gary Birge began serving as DDC on May 26, 2019 (gov't br., ex. E, (Birge decl.) ¶ 3). From September 4 to 6, 2019, government employees reviewed and commented upon Revision 2 of the dive plan (R4, tab 19 at 1240, 1244); however, no comments were made regarding the staffing set forth in § 3, Dive Personnel (*id.* at 1250).

The government, Mahan, and MSI, participated in a telephone call on September 6, 2019, to discuss the government's comments and concerns for the dive plan (R4, tab 23 at 1363). A third resubmission was drafted on or around September 6, 2019 (R4, tab 20 at 1302). The third resubmission did not change the dive personnel section of the dive plan (*id.* at 1309). The third resubmission was transmitted to the government on September 9, 2019 (R4, tab 23 at 1363). On September 9, 2019, the government returned the "Underwater Burning" AHA originally submitted on August 7, 2019, with an E code<sup>3</sup> to the AHA submission,

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<sup>3</sup> The submission review codes are contained in Engineer Form 4025-R (Mar. 2012) at 2, available

which means “Disapproved. Refer to attached comments” (gov’t br., ex. A at 11). Mahan again resubmitted the AHA for “Underwater Burning” on September 10, 2019 (*id.* at 12).

### **E. Mahan Begins Underwater Demolition Work**

On or about September 11, 2019, MSI began work on the project (R4, tab 70 at 2746). The third dive plan submission was discussed at length on September 11, 2019, at a pre-dive conference (R4, tab 23 at 1363). Mr. Birge accepted the dive plan “[p]ursuant to all those discussions,” and the plan was formally approved with comments by the government with Code B on September 12, 2019 (*id.*). The government also assigned a “B” code to the “Underwater Burning” AHA on September 12, 2019, which means, “Approved, except as noted on drawings. Resubmission not required” (gov’t br., ex. A at 12). The government’s comments state,

- The AHA was jointly reviewed in the Pre Dive Conference that was conducted on site on September 11, 2019 and several small changes were agreed to. Those included changing the RAC code to an “M” and adding some other equipment that was listed such as a welder and air compressor. Another change was related to “Leaving enough rod un burned to prevent damage to collet and br 22+” As a result of these changes, an updated AHA was submitted by email from Aaron Slates on September 12, 2019.

- The revised updated AHA was then reviewed and found acceptable. The signed version of this AHA is being returned with these comments for contractor use and files.

(*Id.* at 17) According to MSI’s dive logs, diving work commenced with inspections on September 17, 2019 (R4, tab 41 at 1565). As reflected in MSI’s Daily Field Records, the diving work on September 17, 2019, involved the inspection of bear trap #1 and inspection of the area outside of cell #3 and cell #4, using a five-man dive team deploying a single diver (app. supp. R4, tab 90 at 13).

On September 25, 2019, Mahan submitted the first version of its dive plan for demolishing crossover piping in the lock chambers, in which it stated that cutting the pipe supports would involve use of a “Broco Br-22 underwater cutting torch” (R4,

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at [https://www.publications.usace.army.mil/Portals/76/Publications/EngineerForms/Eng\\_Form\\_4025-R.pdf](https://www.publications.usace.army.mil/Portals/76/Publications/EngineerForms/Eng_Form_4025-R.pdf) (last accessed Jun. 24, 2025).

tab 24 at 1364, 1369). The plan included substantially the same language regarding the dive crew manning as set forth for its August 30, 2019, version of the sheet pile cutting dive plan (*id.* at 1370). MSI's invoices state that on September 28, 2019, it began "burning sheet piles" with a 5-person crew (R4, tab 70 at 2746; *see also* tab 41 at 1579 ("removal of H-piles Pier #1")). However, according to its invoices and dive logs, MSI performed other diving work from September 30 to October 7, 2019 (R4, tab 47 at 1626-31; tab 70 at 2699; *see also* tab 41 at 1579). The schedule of prices in MSI's subcontract only identified line items for four- and five-person dive teams equipped for underwater burning of sheet piles, and did not include separate pricing for underwater burning of incidental steel elements other than sheet pile, such as H-pile and crossover pipe supports (*see* R4, tab 13A at 0822-0003). The equipment required for underwater burning of these incidental steel items is the same as that required for underwater burning of steel sheet pile. Consequently, all underwater burning of steel components was invoiced under one or more of the "burning sheet pile" line items (Slates decl. ¶ 21). All of the diving work performed between September 30 and October 7, 2019 involved inspection dives with a 5-man crew with one working diver. MSI's invoice dated November 7, 2019, appropriately billed the diving work for those days as "5-Person Dive Crew (8-hr day)" (R4, tab 70 at 2698-99).

On September 30, 2019, in response to comments from the government, Mahan submitted its second version of the crossover piping removal dive plan, with the same cutting tools and manning levels as the prior version (R4, tab 25 at 1383-84). On October 7, 2019, the crossover piping dive plan was accepted, along with the general inspections dive plan (R4, tab 28 at 1403; tab 29 at 1405). Also on October 7, 2019, Mahan updated the sheet pile cutting dive plan to provide for diving without a "safety template" (R4, tab 30 at 1407-09). According to its invoices, MSI re-commenced "burning sheet pile" with five-person dive teams October 8 to November 2, 2019 (R4, tab 70 at 2699). According to its dive logs, however, the work during the period from October 8 to October 9, 2019, involved removing crossover piping, not "burning" sheet piles (R4, tab 47 at 1633-34). On October 15, 2019, Mahan submitted its first version of the dive plan for removal of the bear traps (R4, tab 31 at 1410). The plan contained an identical statement of the "5-person crew" to be used for that feature of work as was used in the August 30 dive plan for cutting pile at (*id.* at 1415).

#### **F. The USACE Prevents Mahan From Performing Consistent With Its Approved Dive Safety Plan**

On October 16, 2019, a dispute arose regarding the use of two working divers. The Government's Quality Assurance Daily Report states:

Steven Smith - The divers wanted to dive the standby diver as a working diver welding the sheet pile. I told Dan

Kuspit, MSI Dive Supervisor, that I wanted to review the Dive Plan and AHA before we dive two divers. There is currently only one welder and knife switch on the dive barge. The new welder is staged on the esplanade waiting to be brought out. As soon as I got to the office I received a call from TK [Slates], Mahan Project Manager, about why I stopped two divers diving at the same time. I told TK that I wanted to review the AHA and Dive Plan prior to two divers diving at the same time. After review and speaking with Doug Harman I was not comfortable allowing the two divers diving without the approval of the DDC. Doug Harman agreed with me. I called TK back and explained that the AHA and Dive Plan did not address two working divers in the water at the same time. I sen[t] Gary Birge an email explaining the situation and for him to contact Doug Harman in the morning. The night shift crew did not get the welder delivered to the dive barge during the shift.

(R4, tab 81 at 3962)

On October 17, 2019, Mahan's Quality Control Daily Report stated, "Safety Observations: [...] It was intended to start 2 divers but USACE had concerns with lack of verbiage in dive plan and AHA regarding multiple divers" (R4, tab 82 at 5932). On October 17, 2019, Mahan project managers Aaron Slates and Tim Ward met with ACO Bill Gilmour. Although the meeting was intended as a review of a pending pay application, the impacts of the government's refusal to allow two working divers on a five-person crew was discussed. Mr. Gilmour summarized this discussion in an email to other government personnel following that meeting:

Gentlemen:

I got out of a progress meeting yesterday with Mahan where we discussed the upcoming pay request and during that meeting I got an earful of complaints. They feel they are being unnecessarily stopped / delayed on the most critical path activity on this entire demolition project. They estimate that they will have upwards of 800 dives in the next 16 months to cut off 64 sheet piles cells plus any other diving work on the project. I can't over state [sic] how critical this is.

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I would like to point out that all of the plans submitted to date clearly stated they plan to have 2 divers in the water because they included the following statement in paragraph 3. I interpret that statement as both divers will be working because why would anybody pay to have 2 divers in the water if they weren't working divers.

“If two divers are in the water at a time, each diver will serve as the other divers [sic] standby as long as they have direct access to each other.”

Yesterday, we are [sic] told them they can't work with 2 divers in the water because they don't have the contents of EM385-1-1 Appendix G Paragraph 4.b (as shown in Doug's email below) in [their] plan verbatim. It is my opinion that their statement is trying to cover item b2.

I don't think what is happening above is partnering and will likely result in a claim for inefficiencies. The way I interpret this is that these petty differences are making the diving on this job far more unsafe because we are wasting the best water conditions we will get and pushing more dives into worse water conditions.

Mahan also clearly told me that they feel that they have communication between the divers through the dive supervisor. It hasn't come up yet but I sure [sic] it will, but I have also learned that this what is and has been done down at Olmsted for a long time. We can't have 2 different standards between here and there and with a lot of MSI's divers coming from the Olmsted crews they know what was done there.

I would like to think we can approve them to start working with 2 divers in the water today. Do we need to have a meeting to discuss this because we can't keep up what is going on. Please don't consider any of this as a statement that I agree with everything they are doing because I had a meeting last night with Mahan and Garrett of MSI and told them the plan they submitted for the bear traps was garbage and didn't come close

The bottom line is we got to work together, because last week we had an inspection from the DDC and the results of that appeared to be very good and now a week later we are trying to stop/slow work. Conflicting messages isn't good.

(App. supp. R4, tab 72 at 1)

The same day, government personnel e-mailed Mahan with the requirements in EM 385 Appx. G for the simultaneous use of two working divers (R4, tab 32 at 1436). The e-mail noted, "I got ahold of Gary [Birge] and he said if you address the following that is out of EM 3851-1 in the dive plan and the AHA the standby diver could be a working diver. Two of his main concerns is diver communications and entanglement" (*id.*). On October 17, 2019, Mahan responded with a revised dive plan (app. supp. R4, tab 101). Mahan noted, "[a]ttached are the revised dive plan and AHA with the requested information added. In the AHA, see the last paragraph on page 2. In the Dive plan, see Section 3. Dive Personnel on pages 6 & 7. All other information in the documents is unchanged from what was previously approved" (R4, tab 32 at 1436 (no attachments); app. supp. R4, tab 101 at 1 (including dive plan at 3-54, but not the AHA)).

On October 18, 2019, Mr. Gilmour met with representatives of Mahan and MSI to discuss the October 15, 2019, bear trap removal dive plan; however, staffing levels were not specifically discussed according to notes of the meeting (R4, tab 34 at 1443). On October 18, 2019, the government's Quality Assurance Daily Reports noted that "Kenneth Parsons - Marine Solutions had a second knife switch installed and that the welder for the second knife switch was stored on the 4100 crane barge" (R4, tab 81 at 3966).

On October 22, 2019, Mr. Birge raised several concerns via e-mail for the revised sheet pile cutting dive plan. He questioned whether Mahan intended to have two divers working at the same time, and if so: "[u]sing a five man crew, how do they plan to manage incidental issues that come up during the dive, i.e. material handling (rods), bathroom, etc.?" (R4, tab 32 at 1434-35) Mr. Birge also had concerns regarding the use of two-way communications instead of four-way communications: "[i]f you look at bottom of page 6 of the dive plan where it states 6 conditions of deploying the standby diver. It doesn't mention #3, communication" (*id.*) (referring to EM 385-1-1 Appx. G(4)(b)(3) ("Divers have communications with each other at all times")). Mr. Birge concluded that there were unaddressed communication and

entanglement hazards associated with the proposed dive plan, which elevated the risk compared to Mahan's assessment (*id.*):

My initial thoughts are that diving 2 wire comms with primary diver and standby deployed for burning operations would create a hazard from lack of direct communication between divers and potential hazards from underwater cutting and entanglement issues with additional hoses and debris. I would think that given the additional hazards associated with a minimum 5 man team, deploying 2 divers to perform underwater cutting operations, utilizing 2 wire communication between the divers and dive supervisor and possible entanglement hazards, would elevate the risk assessment code on the AHA.

(*Id.*) The same day, Mr. Gilmour confirmed that two working divers would indeed be used simultaneously on cutting and welding tasks underwater (*id.* at 1434).

In an email in response to DDC Birge's concerns regarding communications, Mr. Gilmour also pointed out that Mahan planned to use a two-wire communication system (that is, "diver to supervisor to diver" method) that was approved and was in use at the Washington Group/Alberici JV project at the Olmsted Locks and Dam Project (W912QR-04-C-0004) located approximately 25 miles downstream from the project site (Slates decl. ¶ 40). On October 23, 2019, Mr. Mark Ostbloom, a government dive plan reviewer, raised similar concerns to Mr. Birge's for the bear trap removal dive plan submitted on October 15, 2019, asking who would "get additional tools, replace Broco cylinders or basically be a go-fer?" for the dive personnel, concluding, "[s]eems to me you need an additional body" (R4, tab 33 at 1437-38). Mr. Birge responded with concurrence later that day, "[o]ne line mentioning two divers in the water at the same time is not sufficient, if that is there [sic] plan" (*id.* at 1437). That same day, the government's Quality Assurance Daily Report noted:

Steven Smith - The second welder has not been installed on the dive barge. They can not currently dive two diver [sic] at the same time with out the second welder.

(R4, tab 81 at 3974) On October 24, 2019, government personnel provided comments to Mahan, stating:

One line mentioning two divers in the water at the same time is not sufficient, if the plan is to utilize two divers working in the water at the same time then the plan needs to be expanded to address this and the requirements of

EM385 Appendix G for deploying a standby diver as a working diver.

(R4, tab 34 at 1443-44)

On October 29, 2019, Mahan submitted a fifth version of the cutting sheet pile dive plan (R4, tab 35 at 1445). The cover sheet noted that it was an update submitted to provide “requested additional information regarding having two working divers in the water” (*id.*). The plan provided for a five-person dive team, with two working divers, using and referencing the relevant provisions of EM 385 (*id.* at 1453-54). The plan also specified that the second diver was required to leave the water when a crane was hoisting out a steel panel (*id.* at 1454).

On October 31, 2019, the ACO responded with government comments to this revised plan, citing input from the DDC:

Appendix G paragraph 1 [of EM 385] states that the manning levels shown in the appendix are minimums and the DDC may require increased manning levels. The DDC looked at all of the equipment being used by the divers as discussed in paragraph 5 of the plan and determined that a 5 man dive crew is not sufficient to deal all of that equipment. In addition, as stated in paragraph 2, the majority of the activities being accomplished by this plan are cutting and welding which utilize consumables and the plan doesn’t address how those consumables will be furnished to the divers. Although not discussed in the plan, the DDC also recognized that hot water suits will likely be used in the near future and someone will needed [sic] to support that equipment.

(R4, tab 36 at 1500) The government’s comments also provided that there should be a third dive helmet and umbilical set-up for four-way communication in case it was necessary to deploy a third diver (*id.*).

On or around November 5, 2019, a conference call took place regarding “revisions for 2 divers” according to weekly progress meeting minutes with Mr. Bill Gilmour and another government employee named Dewey Rissler (app. supp. R4, tab 82 at 1-2). No minutes of that conference call were kept, but ACO Gilmour

summarized the discussions held during the call as part a subsequent email February 13, 2020, to Lauren Horner of the Louisville District Office:

On Nov 5, 2019 a telephone conference call was held between Mahan, MSI, and Corps reps including the DDC. The biggest thing to come out of that call was that the contractor learned that the DDC wasn't ever going to approve 2 working divers with a five man crew because he wanted another body on the barge deck to assist if problems developed. It was discussed that this could even be a CJ Mahan employee who would be working nearby on the crane barge.

(App. supp. R4, tab 124 at 2)<sup>4</sup>

On November 6, 2019, MSI provided "6 person crew updated costs" to Mahan via e-mail (R4, tab 36A at 1500-0001-02). The revised pricing again reflected a production rate of 40-60 feet per day for cutting sheet pile (*id.* at 1500-0002). The weekly progress meeting minutes for that day, November 6, 2019, lists "6-man dive team" under "Changes" (app. supp. R4, tab 82 at 2-3). After the November 6, 2019 Progress Meeting, the "6-man dive team" was regularly included as an open issue under the "Changes" section of Weekly Progress Meeting Minutes (app. supp. R4, tab 113 at 27312-13; tab 114 at 49317; tab 118 at 49313; tab 121 at 44070).

On November 7, 2019, Mahan submitted its sixth revision of the dive plan for cutting sheet pile (R4, tab 37 at 1501). This submittal proposed a 6-person dive crew, but also preserved the option to use a 5-person crew for any required inspection dives (*id.* at 1509-11). The plan noted under "Dive team assignments and responsibilities 6-person crew," that when two divers are working simultaneously, in addition to the two tenders required to tend the two divers in the water, an "additional tender" would be used (*id.* at 1510). Later the same day, government personnel reviewed the sixth version of the cutting sheet pile dive plan and stated that failure to track changes hampered review (R4, tab 38 at 1557). The government proposed a conference call with Mahan to ensure mutual understanding of the plan and dive safety requirements rather than "beat a dead horse" (R4, tab 39 at 1560). The call was held on November 12, 2019, and the sheet pile cutting dive plan was approved sometime shortly thereafter or was verbally approved on the call (R4, tab 40 at 1563). Later the same day, the government approved with comments the sixth version of the dive plan with Code B (R4, tab 40A at 1563-0001). The daily quality control reports establish that

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<sup>4</sup> The government released this ostensibly privileged communication in response to a Freedom of Information Act (FOIA) request.

Mahan worked, at most, 2 hours of overtime per day during this period (R4, tab 82 at 5950-6215).

Due to the gaps in the contemporaneous record regarding Mr. Birge's decision to reject Mahan's previously approved dive plan, the government submits Mr. Birge's declaration to provide additional justification for his actions. Conversely, Mahan submits excerpts from Mr. Birge's deposition testimony that Mahan contends conflict with his declaration.<sup>5</sup> The Board finds his deposition testimony to be more credible.

Mr. Birge states in his affidavit that it "seemed" to him that "the staffing level of only five people per team with two working divers was unsafe" (Birge decl. ¶ 18). Mr. Birge based his determination on the dangers of diving in the Ohio River, where a diver drowned on a nearby project in the summer of 2019 when floating drift knocked off his helmet and caused him to become entangled (*id.* ¶¶ 7-8). Mr. Birge states that the work being performed at the time of the accident "was substantially the same as the cutting and welding work as was going to be performed by MSI and CJ Mahan on this project" (*id.* ¶ 9). Mr. Birge also cited additional concerns with a five-person crew, including "the potential for drift such as trees, root wads, tree limbs or other debris" and that drift be kept clear of the dive platform, and the divers (*id.* ¶¶ 11, 14). In addition, Mr. Birge wanted the divers to have the full attention of the tenders, and did not want the tenders to be distracted by watching for drift, resupplying divers with cutting rods, or maintaining the divers' hot water suits (*id.* ¶¶ 14-16). According to Mr. Birge, the "tenders could not safely do this work, because they are required to continuously tend the divers by monitoring their location and breathing" (*id.* ¶ 17).

Mr. Birge states in his declaration that he "would have entertained alternatives to adding a person to the dive team; however, it did seem unlikely to me that anything short of staffing one more person would be sufficient to ensure complete attention of the tenders on the divers as required to ensure a safe working environment" (*id.* ¶ 19). Further, Mr. Birge states that "CJ Mahan never offered any alternatives to my suggestion of adding another person to assist the dive teams, however, and when they resubmitted the dive plans with the additional person present it addressed my staffing concerns" (*id.* ¶ 20).

Contrary to his declaration, in his deposition Mr. Birge attributed the primary cause of the diver fatality on the nearby project to a faulty helmet design that allowed it to become dislodged during a dive. According to that testimony, Mr. Birge personally believed the helmet was dislodged by "drift or unknown," and there was no

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<sup>5</sup> "Conflict" is perhaps an overly charitable characterization of Mahan's position.

Mahan characterizes the declaration as "inaccurate or perjurious" and contends that it is "doubtful that Mr. Birge was the author of his affidavit" (app. reply at 12 & n.6).

mention of entanglement related to that accident. (Birge tr. at 26-27) Mr. Birge also testified in his deposition that “drift” was not a significant concern in his determination to require an additional person on the dive team ((Birge tr. at 130) (“I’m not going to say it’s significant. It might have been a point, but knowing the—all the other issues . . . you’ve got to move something and you’ve got two divers down, are you going to have them come up so you can take care of that, or are you going to have an extra body to be able to move something along to make it safe?”)). In his email dated October 30, 2019, Mr. Birge identified four conditions that Mahan and MSI would have to comply with in order to obtain approval of the dive plan for underwater cutting of sheet pile. With regard to the first requirement, “Staff up one additional body” the email provided that “[t]here will be broco rigs that need rods, hot water suits that will need the heater tended and tenders that need relief, etc.” (app. supp. R4, tab 105 at 1). With regard to the fourth condition, underwater cutting of sheet pile, the email states that “[t]he dive supervisor shall document the area is clear of entanglement hazards prior to the second diver entering the water” (*id.*). This provision is an existing condition from EM385-1-1, Appendix G, paragraph 4(b)(4), for deploying the stand-by diver as a working diver, which requires that “[n]o entanglement hazards exist” (R4, tab 6 at 443). In his deposition testimony, Mr. Birge confirmed that his fourth condition regarding the entanglement concern was completely addressed by documenting it on the Dive Log (Birge tr. at 126-27).

Mr. Birge’s statement in his declaration that he would have entertained other methods instead of adding a sixth crew member conflicts with contemporaneous emails. In October and early November of 2019, Mr. Birge indicated that the only way he would approve Mahan’s dive plans to include two working divers was if a sixth member was added to the dive team, consistent with condition 1 of his October 30, 2019 email to Mr. Bill Gilmour and others at the USACE (app. supp. R4, tab 105 at 1). In his email to Ms. Lauren Horner in the USACE Louisville District Office of Counsel dated February 13, 2020, ACO Gilmour advised Ms. Horner that, at the November 5, 2019 conference call, DDC Birge made it clear to Mahan and MSI that the only way he would approve a plan for two working divers was if an additional person was added to the crew. Mr. Gilmour gave no indication in that email that other alternatives would be considered for approval by DDC Birge. (App. supp. R4, tab 124 at 2) Mr. Birge himself confirmed that he had required the addition of a sixth team member at LD 52 in his email to William Ford dated April 23, 2020 (app. supp. R4, tab 127 at 1) (“Bill, Do you recall last year, I required an additional crew member on the dive barge at LD52 for a contractor that want [sic] two divers in the water at a time?”). In his deposition, Mr. Birge did not testify that he would entertain alternatives to his requirement to add a sixth person if working two divers (Birge tr. at 137-38). Further, Mr. Birge was accustomed to adding personnel to dive teams in his experience overseeing “in-house” USACE diving operations, where cost was not an issue (*id.* at 145-46).

Mr. Birge's declaration also addressed the requirement for four-way communications, in addition to the sixth crew member. According to Mr. Birge, Mahan's dive with two-way communications did not meet the requirement and

would be extremely dangerous considering the lack of visibility in the river (a few feet in front of the divers' faces even in optimal conditions), the cutting and welding equipment the divers involved in the scope of work at issue, and the obvious entanglement issues considering that each diver would be connected to numerous cables running from the barge deck.

(Birge decl. ¶ 24) Mr. Birge's declaration further provides that "[t]wo-way communications did not meet the express minimum requirements of the exception in EM 385-1-1 allowing the use of two working divers, because the divers must be able to communicate with each other at all times" and that he "refused to accept the dive plan unless 'four-wire' or 'round robin' communication equipment were used" (*id.* ¶¶ 25-26). Mr. Birge's declaration further states that "[t]his was a concurrent and co-equal reason for refusing to accept CJ Mahan's dive plans utilizing two working divers, but CJ Mahan has never complained about the comms requirement" and because Mahan did not install four way communications equipment until after he had approved the dive plan, "the lack of four-wire communications equipment was a concurrent delay" (*id.* ¶¶ 27-28).

Contrary to Mr. Birge's recent affidavit, the EM 385 Appx. G ¶ 4(b) dealing with the conditions required to deploy the standby diver as a working diver does not specify the communications equipment required to comply with item (3) "Divers have communications with each other at all times" (R4, tab 6 at 3). EM 385 Section 30 30.F.09 states that, "SSA and mixed-gas helmets and masks must be capable of supporting a two-way or four-way diver-surface communication system" (R4, tab 5 at 437). In his deposition, Mr. Birge testified that his requirement for a "4-wire" comms system at LD 52 was based on his interpretation that EM 385 Appx. G ¶ 4(b)(3) required direct communication between the divers (Birge tr. at 48-51). In an email dated October 22, 2019, Mr. Mark Osbloom of the USACE Louisville District Safety Office, who was heavily involved in all of the reviews of the safety plans, sent Mr. Birge the following comment:

EM 385-1-1 states: (3) Divers have communications with each other at all times.

Per our conversation: After looking through the EM 385-1-1 and other guidance, I would support splashing the standby as a working diver using two way communications

with the dive supervisor and one way communications (listening only) between the two divers provided the [High-Hazard Working Groups (HHWG)] interprets (in writing) Appendix G.4.b(3) as such.

(Slates decl., attach 2 at 1)

Mr. Birge was involved in the preparation of the solicitation documents for the nearby LD 53 Demolition phase 2 contract as well, in particular, the development of Specification Section 1.63 entitled “Demolition Dive Team Requirements. On April 23, 2020, Mr. Birge sent an email to Mr. Bill Gilmour and others at the USACE that provided his comments on the proposed specification language, including the following note to specify that the communications system for two working divers must be a four-wire system, consistent with his standing interpretation of EM 385 ¶ 4(b)(3) (app. supp. R4, tab 128 at 5-6). With regard to the inclusion of paragraph (d) in the new Demolition Dive Crew Specification 1.63 for the LD 53 project, DDC Birge testified that EM 385 does not specify the communications equipment required for deploying the standby diver as a working diver under paragraph 4(b), and it was solely his interpretation that a four-wire communication system was required (Birge tr. at 190-92).

On November 13, 2019, the government’s quality assurance daily report noted:

Steven Smith - The second welder had not been put on the deck of the dive barge yet. They are not ready for two working divers in the water yet.

(R4, tab 81 at 4011) That same day, the “Underwater Burning” AHA was resubmitted in accordance with the approval comments to the November 7, 2019 sheet pile cutting dive plan that had been issued by the government on November 12, 2019 (gov’t br., ex. A at 18). The Underwater Burning AHA had been previously approved on September 12, 2019 (*id.* at 12-17), and the previously approved submittal clearly contemplated the simultaneous deployment of multiple divers for burning sheet piles:

If multiple divers are burning each diver will utilize a separate welding machine, ground, and knife switch. If an issue occurs all welding and burning will be stopped until the issue has been resolved.

(*Id.* at 14) The resubmittal made on November 13, 2019, was required by the government in its approval comments to the Cutting Sheet Pile Dive Plan (R4, tab 40A at 1563-0001). On November 14, 2019, the government issued an E code to the AHA

submission, which means “Disapproved. Refer to attached comments” (gov’t br., ex. A at 24). The government’s comments state:

- Instead of modifying the existing AHA which is for a 5 man crew with one working diver, it will be necessary that you resubmit this AHA as a new AHA for use when there are 2 working divers. This will allow both AHA’s to remain active if and when the dive crew works as a five man or a six man crew.
- Revise the paragraph on the entanglement hazard to clarify that the “Continuous 3 - way communication” will allow the “Divers have communications with each other at all times”

(*Id.*) The November 14, 2019, comments provided the first notification that USACE would require an entirely new AHA for underwater burning to be prepared and submitted and approved for underwater burning (*id.*).

On November 14, 2019, Mr. Mark Cervantes noted during the first shift on the government’s quality assurance daily report, “I talked with Chad the dive super of MSI. He explained to me that they have the materials to set up the 4 way communication but they have not had the time to install the need [sic] equipment into the hoses and dive shack” (R4, tab 81 at 4014). On November 19, Mahan submitted another revision of the “Underwater Burning” AHA (gov’t br., ex. A at 25). On November 20, 2019, Mahan’s Project Manager, Mr. Aaron Slates met with ACO Mr. Bill Gilmour and another USACE representative, Mr. Doug Harman, to review the revised Underwater Burning AHA. At that meeting, and for the first time, Mr. Harman requested that Mahan add commentary to the AHA to address “lessons learned” resulting from an incident that had occurred on the separate LD 53 project. (Slates decl. at ¶ 53) On November 21, 2019, Mahan made another submittal of the Underwater Burning AHA, incorporating the “lessons learned” hazard analysis arising from the LD 53 project, as well as other minor comments discussed at the meeting held on November 20 (*id.* ¶ 54). Although “[t]his AHA as submitted did not satisfactorily address the following comments that were sent back on the previous transmittal,” on November 21, the AHA was approved with a B code, which means, “Approved, except as noted on drawings. Resubmission not required” (gov’t br., ex. A at 31). The comments repeated the November 14, 2019 comments quoted above and also provided:

As a result of this, several discussions took place between representatives of the Corps, CJ Mahan and MSI on November 20, 2019. These discussions centered on changing the AHA to address the above comments

satisfactorily to all parties. In addition, a lesson learned document was forwarded to the above parties relating to a recent accident at the L&D53 demolition project for inclusion into the latest AHA.

All of these discussions resulted in a revised AHA being submitted by email from Aaron Slates on November 21, 2019. This revised AHA is accepted, signed and being returned with the attachments to this transmittal.

Finally, it is noted that this AHA is acceptable for the cutting and burning of the sheet pile in cells and sheet pile [sic] in the cutoff walls. It can not be used for the cutting of sheet pile on cells that were severely damaged by blasting (such as R1, R59 and possibly others as determined in the field) without an additional plan and AHA. It is also not applicable to work associated with removing the bear traps.

(*Id.*)

### **G. Mahan Begins Performance Using Two Divers**

The parties agree that the two-diver teams were approved for use by no later than the evening of November 21, 2019 (app. br. at 40; app. reply, ex. 5). Starting November 22, 2019, Mahan began using two divers at the same time (R4, tab 81 at 4029). MSI's last day of cutting activities on the project in 2019 was December 17, 2019 (app. supp. R4, tab 90 at 327-339). On December 18, 2019, MSI demobilized from the project site for the year (*id.* at 340-343). After the low water season, dive operations started again on June 17, 2020 (*id.* at 344-57), and except in instances where a crew member reported in sick or became otherwise unavailable, MSI consistently maintained six-person dive crews (Slates decl. ¶ 33).

### **H. MSI Dive Logs**

Mahan's damages claim relies upon the project's daily activity and dive records. Because of factual disputes regarding the activities, we address these records in detail. MSI kept handwritten dive logs that Mahan submitted to the government for each day of diving from September 2019 to October 2020 (R4, tabs 41, 47, 48-49, 56-61). Starting in October 2021, MSI changed to a digital dive log format and Mahan submitted the digital records to the government for each day of diving from October 2021 to October 2022 (R4, tabs 66-67, 73-78). The logs indicate that beginning on October 14, 2019, two dive teams were used at the same time on most

days in which diving occurred (R4, tab 47 at 1640-42, 1644-74 (Oct. 16-30); tab 48 (Nov. 2019); tab 57 (June 17-30, 2020)).

As of November 26, 2019, MSI had only been able to source a qualified person to fill the sixth crew position on one of the crews (*see* Slates decl. ¶ 33). Additionally, on certain days in June 2020 when burning, cutting or welding occurred, some dive teams only used one diver working at a time, while the other team used two simultaneously working divers: June 18, 24-27, 29 (R4, tab 57 at 1826-29, 1837-46). In 2022, the dive logs show that for 12 days, only one diver at a time was used for cutting activities: June 30 and July 1, 7-9, 11, 14-15, 18, 20, 23, and 28 (R4, tab 76 at 3315; tab 77 at 3326-89).

The government contends that the dive logs do not clearly indicate the use of a sixth dive team member as described in Mahan's dive plans and subsequent claim. However, Dive Logs are required to identify only the individuals performing the roles of supervisor, diver, or tender, and to track the amount of time each diver was in the water. Consequently, the additional dive team member required by the government to assist with equipment and act as a "go-fer" is not captured on the dive logs. (Slates decl. ¶ 7) In addition to the dive logs, MSI kept other daily field records that, taken together, establish the dive team size, crew assignments, safety checklists and time-keeping (app. supp. R4, tab 90; Slates decl. ¶¶ 8-10). MSI's daily field records also include a "Daily Summary" report for each dive team, showing the crew size, dive-related equipment, and subcontract work items performed for billing purposes. This report includes a general description of the dive work performed, which was verified and signed daily by a Mahan representative (app. supp. R4, tab 90; Slates decl. ¶¶ 8-10). MSI's daily field records also identify every dive crew member by name and position on the team, hours worked, and hours worked as a diver if any. This report also includes equipment and consumables used, and a description of the work performed (app. supp. R4, tab 90).

The project record and affidavit testimony indicate that, once MSI was able to consistently staff the dive teams with a sixth person starting on December 13, 2019, Mahan and MSI exclusively utilized six-person dive teams at LD 52 (Slates decl. ¶ 14). Mahan contends that the daily variability in the specific tasks required of the dive teams, as well as the need to maintain a stable workforce of qualified divers under the prevailing labor market conditions as exacerbated by COVID 19 throughout 2020, it was not practicable to fluctuate team sizes by the task, or by the hour. Consequently, six-person dive teams were used on tasks that may have only required a single diver, or at times when access or other site conditions prevented deployment of a second working diver (*id.* ¶¶ 29-34). Mahan asserts that it would have performed all dive operations at LD 52 using 5-person dive teams, but for the requirement to add a sixth team member imposed by the government as a condition of approval of its dive plans (*id.* ¶ 35).

Although MSI's dive logs indicate that diving on some days occurred with only four or five individuals on a dive team and often used only one working diver at a time for burning and cutting activities, the dive logs identify only certain required positions. Similarly, MSI's invoices show that beginning in December 2019, MSI charged Mahan for "6-Person Dive Crew" for every dive shift regardless of the work being performed (R4, tab 70 at 2386-2694). MSI's daily field records provide the full accounting of actual dive crew sizes. Mahan's project manager checked and verified the charges on each of MSI's invoices against the daily field records prior to approving payment by Mahan. He also used these records to prepare the analysis of additional costs included with Mahan's REA and subsequent claim. (Slates decl. ¶ 9) The project required divers to perform a variety of underwater tasks, including inspection, survey, welding, burning/cutting, rigging for lifting, and wire-cutting. Due to the nature of the demolition work, it was not uncommon that dive crews were engaged on several of these tasks over the course of a single dive crew shift. (*Id.* ¶ 19)

### **I. Mahan's August 5, 2020 Request for Equitable Adjustment**

On August 5, 2020, Mahan issued a letter to ACO Mr. Jay Fowler, alleging entitlement to an equitable adjustment for the increase from five to six people on the dive teams (R4, tab 53 at 1791-95). In its letter, Mahan stated that it relied on EM 385 Appx. G and discussed those requirements in detail with MSI in bidding a two-diver, five-person team (*id.* at 1792). The letter included a "6-Man Dive Team Timeline" that indicated that MSI was not authorized to dive utilizing two working divers, until November 21, 2019 (*id.* at 1793). Mahan asserted that the government ultimately would not allow the use of two working divers on a five-person team, even though that manning level had previously been approved by the government in Transmittal No. 01 35 26.00 06-29.2 on September 12, 2019 (*id.* at 1792-1793). The letter sought a 25-day time extension, reasoning that it was only half as efficient for 50 dive days in 2019 during which only one diver worked at a time (*id.* at 1794). According to the attachments, the total amount sought, excluding delay, was \$2,377,831.70 (*id.* at 1801). Mahan calculated the cost of the extra crew member at the burning and cutting rate, rather than a general dive crew rate (*id.* at 1798).

The government responded to Mahan on October 22, 2020, requesting that Mahan provide 1) certified cost or pricing data, 2) a certification, and 3) a time impact analysis (R4, tab 55 at 1822). On November 9, 2020, Mahan resubmitted its REA, but did not submit a certification; however, Mahan did provide certified cost or pricing data, reducing the requested relief to \$2,177,020.44, and it dropped its request for the 25-day time extension (R4, tab 62 at 2193-95). Mr. Sanford rejected the revised REA on January 4, 2021, noting that Mahan had failed to certify its November 9, 2020, REA as the government had requested in October, and that certification would be

required before the government could “proceed with the evaluation of your request” (R4, tab 47A).

On January 14, 2021, Mahan certified the REA to Mr. Sanford (R4, tab 64 at 2242). The January 14, 2021 submission attached some but not all of the materials submitted previously, and repeated the demand for \$2,177,020.44 (*id.* at 2243-87). On February 17, 2021, Mr. Sanford denied the REA, stating that Mahan had not demonstrated that the government had directed increased staffing but merely that its dive safety personnel had enforced the safe staffing requirements for the dive crew in EM 385-1-1 Appendix G; because developing a plan to meet the requirements of EM 385 was part of Mahan’s means and methods, the government was not liable (R4, tab 65 at 2288-89). Mr. Sanford additionally noted that the REA was untimely because the events at issue occurred in September to November of 2019, but the government did not receive a Request for Equitable Adjustment until August 5, 2020 (*id.* at 2289).

### **J. Mahan’s Claim**

Mahan submitted an uncertified document that it referred to as a claim on April 7, 2021 (R4, tab 3 at 28-156). The stated purpose of the letter was to, “respond to your letter with the relevant facts surrounding this matter and provide further evidence that the Government’s change of the dive team manning requirements in the Contract, specifically EM385-1-1 - Appendix G . . . warrants an equitable adjustment” (*id.* at 28).

The letter closed with a statement that:

The intent of this correspondence is to provide clarification as to the basis of the REA, and to request reconsideration of the Government’s position on this matter. We are prepared to meet at your convenience to further discuss the information provided herein and in the REA, and to negotiate this matter to a mutually agreeable solution. To the extent that the Government is unwilling to pursue that option, please consider this correspondence as our Request for Contracting Officer’s Decision.

(*Id.* at 30)

The claim asserted that it reasonably relied on the minimum staffing level provided in EM 385 at Appendix G ¶ 4(b) for using two working divers simultaneously (*id.* at 28-29). The claim also cited to two other contracts awarded to Mahan after the instant contract, to demonstrate that it relied on EM 385 Appendix G

in developing its price proposal, and asserted that the requirement to add staffing to the dive crew represented a constructive, compensable change to the contract (*id.* at 29-30). Specifically, the claim pointed out that in the solicitation for the Lock and Dam 53 Demolition Phase 2, Contract No. W912QR20C0031, the government included Specification Section 1.63 that, “very clearly alerted bidders that the minimum dive crews identified within EM-385-1-1 Appendix G would not be approved for that project, and specifically identified the need for a six-man crew when working two (2) divers” (*id.* at 29; app. supp. R4, tab 131 at 4). The claim further cited Contract No. W912QR19C0034, Olmsted Maintenance Support, at which two modifications were issued to pay for an additional dive crew member added as required by DDC Birge at that project (R4, tab 3 at 29-30; app. supp. R4, tabs 79, 80).

The first of these two modifications, Modification No. P00007, was sent to Mahan in mid-July 2020, for the costs as submitted by Mahan on May 20, 2020. Mahan’s Project Manager for the Olmsted Maintenance Support project, Mark Hutchins, signed the modification on July 23, 2020. CO Sanford executed the modification on August 14, 2020 (App. supp. R4, tab 79).<sup>6</sup> In the Olmsted project MSI proposed a revised rate of \$11,365 per weekday in their change order request. For weekend crew rates, MSI submitted at \$13,025 per weekend day. (*Id.* at 9) The net subcontractor price increases of \$2,265 per day for weekdays, and \$2,700 per day on weekends, were included in Modification No. P0007, approved by Contracting Office Mr. Aaron Sanford on August 14, 2020 (*id.* at 4). Mr. Sanford stated in his deposition that the rates were reasonable (Sanford tr. at 205). Relevant to Mahan’s claim, the modification included payment for overhead costs and a bond premium (*id.* at 5). The modification, and a second modification on the same project, did not provide for small tools or safety allowances (app. supp. R4, tabs 79-80).

Mahan’s claim did not assert delay or inefficiency (R4, tab 3 at 28-156). Mahan also denied that its REA was untimely, asserting that it indicated it would seek additional compensation relating to the alleged change during “meetings and discussions,” which were noted in progress meeting minutes (*id.* at 30).

The government e-mailed Mahan on May 5, 2021, noting that Mahan’s April 7, 2021 claim lacked certification, and that no time impact analysis had been submitted

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<sup>6</sup> By motion dated February 2, 2022, the government objected to Mahan’s inclusion of this document, and several related documents, in the Rule 4 file for this appeal, asserting that the documents were irrelevant because they related to a different contract (dkt #21 at 2). By Order dated February 8, 2022, the documents objected to were constructively removed from the Rule 4 file, pursuant to Board Rule 4(d) (dkt #22). Mahan requests that the Board consider the documents that were constructively removed (app. br. 88). We find the documents to be relevant and include documents app. supp. tab 79 and 80 in the record.

(R4, tab 4 at 157). Mahan certified its claim on May 7, 2021, noting that because delay was not asserted, no time impact analysis was required to be submitted (*id.*). The certified claim again attached several prior correspondences but did not itself reassert delay or inefficiency (*id.* at 157-413).

On June 28, 2021, the contracting officer denied Mahan's claim (R4, tab 2 at 24). The final decision made several findings in denying the claim, noting that Mahan had failed to support its bid assumptions, its alleged delay, its analysis of which days it used five- and six-person dive teams or single/double diver configurations (*id.* at 22). The final decision concluded that there was no evidence any person with authority to change the contract had directed Mahan to add personnel to its dive team; rather, the contracting officer decided that Mahan had volunteered the additional team member after the dive safety staff suggested adding another person (*id.* at 22-23). Additionally, the contracting officer decided that there was no evidence that Mahan actually relied on its interpretation of EM 385, and further found that its interpretation was unreasonable (*id.* at 23). The contracting officer found that there was insufficient notice to the government, because it failed to raise the issue to a contracting officer with sufficient warrant to decide the issue until long after the events in dispute had occurred (*id.* at 23-24). Finally, the contracting officer decided that even if Mahan's claim were meritorious, the damages were grossly inflated and unsupported, based on the actual compensation paid to the person added to the dive team and the lack of proof for delay and failure to account for concurrent delay; the contracting officer believed the damages were more in the range of \$26,000 than the \$2,177,020.44 sought (*id.* at 24).

Mahan timely appealed the contracting officer's final decision on September 21, 2021 (R4, tab 1 at 1). By letter dated March 1, 2024, Mahan submitted a "revised final" certified claim (app. br., ex. F). The revised final claim reduced the amount sought to \$1,613,354.54 (*id.* at 2). Relevant to this appeal, Mahan first seeks support costs for the dive crew, in the amount of \$479,693.12; second 32 additional dive days where Mahan was limited to working with one diver, instead of two divers, in the amount of \$479,490.43; and third, the cost of an additional crew member in the amount \$654,170.99 (*id.* at 2). For the support costs, Mahan seeks \$2,732.14 per day for labor, \$13,250.79 per day for owned equipment and \$245.79 per day for rented equipment, all before markups (*id.* at 3). Mahan's claim also includes markups including 11.34 percent field office overhead, 11.87 percent home office overhead, 6.8 percent profit, and 0.438 percent bond premium (*id.* at 3-5). Mahan placed its bond premium invoice on the record in support of its bonding charge (app. reply, ex. 8).

Mahan's revised claim includes charges for both "Crane Barge 52'X155'x13' #5950" and the barge "Manitowoc" (app. br., ex. F at 8). Mahan's quality control reports identify the Manitowoc as "4100 Manitowoc/Barge 5950" (R4, tab 82 at 5951).

Mahan's revised claim assumes that equipment was used 21 hours per day (app. br., ex. F at 3). This assumption is contrary to the information in Mahan's daily reports (e.g., R4, tab 82 at 6121). In addition, Mahan's claim charges operating rates rather than standby rates for the equipment, including charging for a light tower during the daytime shift (app. br., ex. F at 3). Mahan's quality control report reports establish that the equipment was idle for various periods each day (e.g., R4, tab 82 at 6121). During briefing, Mahan further reduced its claim from 32 impacted dive days to 28 impacted dive days (Slates decl. ¶ 45).

## DECISION

By request of the parties, this appeal is being decided pursuant to Board Rule 11, "Submission Without a Hearing." Unlike a motion for summary judgment, which must be adjudicated on the basis of a set of undisputed facts, pursuant to Board Rule 11, the Board "may make findings of fact on disputed facts." *DG21, LLC*, ASBCA No. 57980, 15-1 BCA ¶ 36,016 at 175,909 n.1, *aff'd DG21, LLC v. Mabus*, 819 F.3d 1358 (Fed. Cir. 2016); *Grumman Aerospace Corp.*, ASBCA No. 35185, 92-3 BCA ¶ 25,059 at 124,886 n.13 (Kienlen, J. dissenting).

In their Rule 11 briefing, the parties disagree as to the basic issue to be resolved by the Board. Mahan's opening Rule 11 brief seeks to demonstrate legal and factual error in the contracting officer's final decision. Given that our review is *de novo*, proving that the contracting officer was wrong does not demonstrate that Mahan is entitled to recover on its claim. The government, instead, seeks to frame the issue as a review of the DDC's exercise of discretion. As the Board reviews such exercises of authority on an abuse of discretion of standard, the government would only need to satisfy the low bar of a rational basis for the DDC's action. Instead, we look to the terms of the contract to determine whether the government made an actual or constructive change to the terms of the contract.

### **I. The Government's Requirement That Mahan Employ A Sixth Crew Member Was A Constructive Change To The Contract.**

A contractor is entitled to a price adjustment when it establishes (1) that it performed work beyond the contract's requirements, and (2) that the additional work was ordered, expressly or impliedly, by the government. *BGT Holdings LLC v. United States*, 984 F.3d 1003, 1012 (Fed. Cir. 2020). Mahan asserts that it was required to perform work beyond the requirements of the contract when the DDC prevented it from using two divers at the same time without employing a sixth crew member. The government argues that there was not a constructive change because Mahan was on notice by a contractual provision that the DDC may require an additional diver; that the DDC was not arbitrary or capricious in requiring the additional crew member; and that Mahan volunteered the additional labor.

### **A. Mahan Performed Work In Excess Of Contractual Requirements**

As set forth in the facts above, Mahan bid the job based on the minimum requirements of the government's EM 385-1-1 safety manual. The manual provides that for two divers in the water at the same time, the minimum crew size is five, but also includes a provision that the manning tables are a minimum and that "[a]ctual manning levels may increase, as determined by the DDC, after considering the diving support systems, the task at hand, weather conditions, dive platform and location, and other factors" (R4, tab 6 at 441).

We hold that Mahan's use of sixth crew member resulted in Mahan performing work beyond the contracts requirements. The contract required Mahan to comply with EM 385-1-1 (R4, tab 7 at 652). As noted above, the safety manual provided that the minimum manning was a five-person crew (R4, tab 6 at 443-44). In fact the government approved Mahan's dive safety plan that specified that it would staff the project based on EM 385-1-1 (R4, tab 23 at 1363). Although the government has offered reasons why a sixth-crew member was necessary, there is no contemporaneous explanation in the record as to why the government did not allow Mahan to use two divers at the same time, as provided for in its dive plan that the government had previously approved. The reasonableness of relying on the minimum staffing of EM385 is underscored by the fact that the government developed its internal estimate based upon the minimum manning requirement of EM 385-1-1, albeit with one diver (app. supp. R4, tab 92 at 10-11).

The government does not allege that Mahan's dive safety plan, as originally approved, or as revised to address USACE's questions and concerns, failed to satisfy any provisions of the EM 385 safety and health manual. Mahan asserts that its bid was prepared in satisfaction of EM 385 (app. br. ex. C at ¶ 11, ex. D at ¶ 9). In fact, the administrative contracting officer was also of the opinion that Mahan's plan satisfied the requirements of EM 385 (App. supp. R4, tab 72 at 1).

### **B. Mahan Did Not Volunteer The Additional Work**

We additionally hold that Mahan did not volunteer the additional crew member. The government approved Mahan's dive safety plans calling for two divers with a crew of five (R4, tab 23 at 1363) but then stopped Mahan from performing the contract in accordance with its previously approved dive safety plan (R4, tab 81 at 3962). Instead, the government prevented Mahan from using a second diver unless it added a sixth crew member (app. supp. R4, tab 105 at 1).

That the government required the sixth crew member is amply demonstrated in the contemporaneous documents, including the email from ACO Gilmour, dated October 18, 2019, stating that the government had stopped Mahan from using two divers, consistent with its approved dive safety plan (app. supp. R4, tab 72 at 1); DDC

Birge's email dated October 30, 2019, stating that Mahan needed to staff up one additional body to be approved to use two divers (app. supp. R4, tab 105 at 1); the government's comments on Mahan's revised dive safety plan stating that "a 5 man dive crew is not sufficient" (R4, tab 36 at 1500); and the email from ACO Gilmour, dated February 13, 2020, recounting a November 5, 2019 telephone call where Mahan "learned that the DDC wasn't ever going to approve 2 working divers with a five man crew" and stating that the DDC had "made up his mind that he wanted a 6 man crew whenever there was 2 divers in the water" (app. supp. R4, tab 124 at 2). In fact, even DDC Birge characterized the sixth crew member as a requirement, asking in an April 23, 2020 email "Do you recall last year, I required an additional crew member on the dive barge at LD52 for a contractor that want [sic] two divers in the water at a time?" (app. supp. R4, tab 127 at 1).

### **C. The Government's Arguments Fail To Demonstrate That There Was Not A Constructive Change**

The government presents a variety of arguments as to why the direction to add a sixth crew member is not a constructive change. We reject the government's arguments based on the record before us. The Board recognizes that the USACE may have legitimate safety concerns on construction projects, and the legitimate exercise of that authority will not constitute a constructive change; however, on the record before us, we find that the government has not established a basis for its requirement that Mahan add an additional staff member, after Mahan's dive plan had already been approved, and after the government compensated Mahan on a similar project for the requirement that it add a sixth dive crew member.

#### **i. The Contract Did Not Shift To Mahan The Risk Of The Government's Changing Interpretation of EM 385-1-1**

The government contends that Mahan was performing a fixed-price contract, and thus, Mahan assumed the risk of ensuring safe working conditions (gov't br. at 10). The government cites FAR 52.236-7, PERMITS AND RESPONSIBILITIES, for the proposition that Mahan was responsible for complying with any regulations applicable to performing the work at no additional cost to the government (gov't br. at 11).

The government cites to *C.E.M.E.S. S.p.A.*, ASBCA Nos. 56253, 57355, 11-1 BCA ¶ 34,640 and *Bell/Heery v. United States*, 739 F.3d 1324, 1335 (Fed. Cir. 2014) for the proposition that Mahan was required to comply with any regulations applicable to the performance of the work. In essence, the government contends that DDC Birge's interpretation of EM 385-1-1 is the same as a regulation or a safety law (*id.* at 11-15). In *Bell/Heery* the Federal Circuit upheld the dismissal by the Court of Federal Claims, of a constructive change claim because the plaintiff complained of a

permit required by the New Hampshire Department of Environmental Sciences in a contract requiring the contractor to obtain necessary permits at no cost to the government. *Bell/Heery*, 739 F.3d at 1326-27, 1335. *C.E.M.E.S.* involved a requirement that the contractor submit a safety plan to an independent safety coordinator pursuant to Italian law, due to a risk of encountering unexploded ordnance. *C.E.M.E.S.*, 11-1 BCA ¶ 34,640 at 170,711, 170,720-21. We find that these cases are not relevant because EM 385-1-1 is not a regulation, and even if it were a regulation, the plain language of the safety manual provides that Mahan could perform with two divers and a crew of five (R4, tab 6 at 443-44). The change to the required number of divers is not required by a third-party government entity as in *C.E.M.E.S.* and *Bell/Heery*. Instead, the action is a new interpretation of an existing safety manual by a USACE employee. As noted above, the government had previously approved Mahan's dive plan.

The government additionally cites to *Allen & Jackson, J.V. v. United States*, 25 Cl. Ct. 312 (1992) for the proposition that government employees "acting within the scope of their technical competency and within the limits of authority delegated under a contract do not change the contract when determining that a Contractor's proposed means or method of work is unsafe" (gov't br. at 13). We find that the government overstates the holding in that case. In *Allen and Jackson*, the contract was for drilling and grouting in a dam construction project. The contract had restrictions preventing drilling and grouting activities at the same time within the same section of the dam. *Allen & Jackson*, 25 Cl. Ct. at 322. The contract additionally gave the contracting officer extensive control over the drilling and grouting, including a right to "require drilling and grouting operations at any location within the limits of the work area" and that the "sequence in which the holes are drilled and grouted will be determined in the field and shall be as directed" and that the holes "shall be drilled at the locations, in the direction and to the depths shown on the drawings or as directed by the Contracting Officer." *Id.* at 323. In addition, the court found that neither the plaintiff, nor its subcontractor, had asserted their current interpretation of the contract, which would have allowed it to drill and grout in the same section at the same time, prior to submission of its administrative claim. *Id.* Thus, in *Allen & Jackson*, the contract expressly provided in multiple clauses that the government could direct the order of work, and the contractor didn't object to the direction until filing its claim. Here, the contract itself provides only that the contractor must comply with EM 385-1-1, which admittedly provides that the dive coordinator may require additional staffing. However, Mahan's dive safety plan was approved and then, once Mahan attempted to use a second diver, the government required Mahan to submit a new safety plan and add staffing. Mahan objected immediately to the direction, and the ACO noted contemporaneously that this was a change and would result in a claim.

**ii. Mahan Was Not A Volunteer**

The government additionally argues that Mahan volunteered the additional diver, and that the government did not require additional staffing (gov't br. at 25-26). The government contends that it only "suggested" the addition of a "go-fer" to the dive crew (*id.* at 25). However, the contemporaneous record demonstrates that the government prevented Mahan from using a second diver without increasing the crew size (app. supp. R4, tab 72 at 1), and required the increased crew size on other projects (app. supp. R4, tab 79; tab 131 at 4). The DDC subsequently referred to the additional staffing as something that he had required (app. supp. R4, tab 127 at 1), and the ACO referred to it as being required, and likely to result in a claim, at the time the government required a new dive safety plan (app. supp. R4, tab 72 at 1).

**iii. Mahan Did Not Ignore Staffing Recommendations From Its Subcontractors**

The government contends that Mahan did not reasonably rely upon EM 385-1-1 because the bids it received from its subcontractors indicated that for two divers, it would need a crew larger than five, failed to inquire about dive team staffing, and misinterpreted the staffing used on the internal government estimate (gov't br. at 18-21). As noted in the facts, Mahan received a bid from Mainstream and in an e-mail, a Mainstream employee noted that staffing for one versus two divers would depend on the task, proximity of the divers and the USACE's interpretation, and that he would assume "a 4-man crew equals one man in water and a 6-man crew allows two divers in the water" (R4, tab 6B at 0444-0357). Another bidder, Global, submitted a late bid that was not considered by Mahan, for four- and six-person crews (R4, tab 6L at 0444-0438). However, Mainstream's bid, as submitted, was ambiguous, providing for a crew of four with one diver and citing an additional diver cost, without stating if the price was for a diver or tender (app. supp. R4, tab 6B at 0444-0368-69). UCC, another potential subcontractor submitted a bid for five- and seven-person teams (R4, tab 6I at 0442-0412). MSI, the ultimate subcontractor, with experience working on USACE projects, proposed four- and five-person crews (R4, tab 6F at 0444-0385). Ballard provided a bid for a four-person crew with an option to add an additional diver as needed (app. supp. R4, tab 136 at 50738-39). Specialty Underwater Services submitted a proposal with four-, five-, and six-person teams, without identifying the number of divers for each team (R4, tab 6H at 0444-0405).

Given the variety of crew sizes proposed, and the fact that the bid from MSI, a contractor with USACE experience was consistent with EM 385, we reject the government's proposed finding that it was unreasonable for Mahan to rely on the minimum staffing table in EM 385-1-1, or to rely to MSI's subcontract bid, failed to inquire, and misinterpreted the internal government estimate.

**iv. The Government's Adverse Statements Are Evidence Of A Constructive Change, Not Parol Evidence Used To Interpret The Terms Of The Contract**

The government argues that the Board should not rely upon statements by the ACO, Mr. Gilmore, and the DDC Mr. Birge, and the USACE's actions on other projects because they are parol evidence (gov't br. at 21-25). Parol evidence, also referred to as extrinsic evidence, is generally excluded from consideration when interpreting an unambiguous contract provision. *See, e.g., Lebolo-Watts Constructors 01 JV LLC*, ASBCA Nos. 59740 *et al.*, 21-1 BCA ¶ 37,789 at 183,433 (citing *McAbee Constr., Inc. v. United States*, 97 F.3d 1431, 1435 (Fed. Cir. 1996)), *aff'd Lebolo-Watts Constructors 01 JV, LLC v. Army*, No. 2021-1749, 2022 WL 499850 (Fed. Cir. Feb. 18, 2022). However, the statements and actions are cited as evidence that the government constructively changed Mahan's performance, and not in interpreting the terms of the contract. Thus, the government's objections to the use of parol evidence are not relevant.

**II. Mahan's Claimed Damages Are Supported In Part**

Mahan's final amended claim seeks damages in three calculations: first, Mahan seeks support costs for the dive crew, in the amount of \$479,693.12; second, 32 additional dive days where Mahan was limited to working with one diver, instead of two divers, in the amount of \$479,490.43; and third, the cost of an additional crew member in the amount \$654,170.99 (app. br., ex. F at 2). Neither Mahan nor the government presented expert witness testimony regarding the damages calculation. In its response brief, the government questioned Mahan's damages calculations by citing to various record documents that it contends demonstrate that Mahan's damages calculations are unsupported and overstated. The government also cites to one webpage. (Gov't br.. at 32-49) In response, Mahan filed a motion to strike the government's damages analysis, asserting that the government had not designated an expert and had not produced an expert report (app. mot. strike at 2). According to Mahan, the government's analysis was unsupported by the record and was not previously raised in the appeal and should be excluded because Mahan was not permitted discovery on the damages analysis and would be prejudiced unless the Board strikes the analysis (*id.* at 2-3).

We disagree with Mahan's contentions. Mahan is correct that a proceeding pursuant to Board Rule 11 is limited to the record. However, with one exception, the government's analysis is based upon what it contends are errors in Mahan's damages calculation, and cites only to record documents.

The analysis is entirely legal argument that could have been presented through cross-examination of witnesses in a hearing. Expert witness testimony would be

required to present an opinion based upon the expert's knowledge and information from other projects. For example, Mahan's damages calculation assumes that 2 welders would have been twice as productive as one welder. The government challenges Mahan's 100 percent productivity gain for a second diver by quoting a bid document from Mahan's subcontractor, included in the record, estimating that a single diver could cut 30 to 40 lineal feet of steel per day and that two divers could cut 40 to 60 lineal feet of steel per day (gov't br. at 40 (citing PFOF ¶¶ 91, 93); R4 tab 13A at 0822-0003). Thus, the government presents only argument by counsel citing to other record documents, in arguing that Mahan's efficiency from a second diver was at most 33 percent (based on the low estimated production of 30 feet for one diver and 40 feet for two divers). Expert witness testimony would be required to present an opinion as to the added efficiency of a second diver based on the expert's experience on other dive projects.

The sole exception to the government's citation of record evidence is its citation to an article on the webpage of a construction consulting firm. We consider this to be analogous to a learned treatise. The government only cites the document for the formula to compute the loss of efficiency for a measured mile analysis. This calculation is simply a restatement of the Board's measured mile decisions. *See, e.g., Bay West, Inc.*, ASBCA No. 54166, 07-1 BCA ¶ 33,569 at 166,302-03. The government contends that Mahan's calculation of inefficiency is improper (gov't br. at 40-41), and Mahan objects to the introduction of the formula (app. mot. to strike at 4-5). However, it is clear that the difference in the calculated number of days of delay is due solely to the government's assumed efficiency rate for two divers, and not due to the use of the formula. Performing a calculation using the government's formula, and Mahan's assumed efficiency rate of 100 percent yields the same number of days of lost productivity as claimed by Mahan.<sup>7</sup> Accordingly we deny Mahan's motion to strike.

#### A. Direct Costs Of Sixth Crew-Member

Turning to Mahan's damages calculations, we first look at Mahan's claim for \$654,170.99 for the cost of an extra crew member on dive days after November 26, 2019 (app. br., ex. F at 5). Mahan's calculation is based on 244 dive days at \$1,300 per day for the additional crew member plus overtime, mobilization and standby costs plus overhead, profit, and bond premium (*id.*). The government challenges the number of dive days and the \$1,300 per day rate (gov't br. at 33-38).

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<sup>7</sup> The formula  $U-I/U$  where  $U$  is the unimpacted productivity and  $I$  is the impacted productivity. With a 100 percent change in efficiency and 32 one diver work days the calculation would result in 16 delay days  $((2-1)/2) * 32 = 16$ .

With regard to the \$1,300 per day crew member cost, the government contends that this amount is excessive and that Mahan should only recover \$21,259.50 to \$86,428 because Mahan's subcontractor, MSI, only paid the crew member \$27.21 per hour without fringe benefits (*id.* at 34-37). The government does not dispute that Mahan paid MSI the claimed \$1,300 per day for the additional diver (*id.* at 34), rather it challenges the reasonableness of the amount paid. Mahan asserts that the \$1,300 per day rate is reasonable, citing to the subcontractor bids discussed above in response to the government's argument that Mahan couldn't demonstrate reliance on the EM 385-1-1 manning tables. Mahan persuasively demonstrates that the additional diver cost averaged across six subcontractor bids was nearly \$1,500 per day (app. reply, ex. 7). Moreover, Mahan notes that the same contracting officer approved a modification of \$2,265 per day for the additional crew member on the Olmstead Maintenance Project as reasonable (Sanford tr. at 205; app. supp. R4, tab 79 at 4). We find that Mahan's claimed rates for a sixth crew member are reasonable.

The government additionally contends that MSI paid the divers only \$27.21 per hour without paying the required fringe benefits (gov't br. at 34). The government's contention appears to stem from a paperwork error in the first pay voucher where MSI failed to check boxes to indicate that some fringe benefits were paid in cash or retirement plan contributions (Slates decl. ¶¶ 58-60, attach. 6; R4, tab 17A at 1). The payroll was resubmitted and MSI paid the required fringe benefits on all payroll (Slates decl. ¶¶ 61-63, attach 6). On the record before us, we find that Mahan is entitled to the claimed labor amounts for the sixth crew member.

The government also contends that Mahan's claim overstates the number of days on which MSI employed a sixth crew member (gov't br. at 34-35). The government's argument relies upon its interpretation of Mahan's dive logs, contending that Mahan did not employ a sixth crew member on days where the crew member was not reflected on the dive logs; that Mahan was claiming the higher cost for the sixth crew member associated with cutting and burning activities on days that general dive work was performed; and that Mahan was charging for the sixth crew member on days when MSI was not performing burning and cutting work where a sixth crew member was required by the dive safety plan (gov't br. at 35-37; R4, tabs 41, 47, 48-49, 56-61). Mahan disputes the government's analysis of the dive logs, noting that crew members were not required to be listed on the dive logs, and noting that the MSI daily field records demonstrate the use of a sixth crew member on the days claimed (Slates decl. ¶¶ 6-18, attach. 1; app. supp. R4, tab 90). Mahan's interpretation is additionally supported by the declaration of its project manager, Mr. Slates, that Mahan exclusively used six-person dive teams on the project between December 13, 2019 and October 27, 2020 (Slates decl. ¶ 14).

The government's next argument is that Mahan improperly charged a burning and cutting rate for the extra diver, rather than a general dive crew rate (gov't br. at 35-

36; R4, tab 53 at 1798). Mahan explains that the extra crew member rate was the same regardless of activity, and that any difference in the rate was due to the different equipment charges (app. reply at 91-92). The government also contends that Mahan should have employed a less expensive “go-fer” rather than a diver to serve as the sixth crew member (gov’t br. at 33). However, this suggestion is inconsistent with the government’s requirement that Mahan have available a third dive helmet and umbilical in case it was necessary to deploy a third diver in an emergency (R4, tab 36 at 1500). As Mahan notes, a go-fer, rather than a qualified diver, would not be able to use the third dive helmet (app. reply at 71). Finally, the government contends that Mahan employed the sixth crew member when it was not performing burning and cutting work, and thus, the sixth crew member was volunteered on those days (gov’t br. at 37). Mahan responds that much of the work performed that was not burning or cutting was work such as rigging and inspections that was still covered by the same dive safety plan (app. reply at 92). Mahan additionally contends that it was not “reasonably practicable” to fluctuate the dive-team manning on a day-by-day and task-by-task basis because the cutting and burning activities were the “vast majority” of the dive team work and were on the critical path and that this inability to change staffing on a daily basis was especially true due to labor market disruptions due to COVID during 2020 (*id.* at 93; Slates decl. ¶¶ 33-35). We find that Mahan has established by preponderate evidence that it is entitled to compensation for a six-person dive team in the amount of \$489,608 in direct subcontractor costs. We address Mahan’s markups separately below.

### **B. Additional Labor Costs Due To Inefficiency Of Using Only One Diver**

Mahan additionally seeks \$479,490.43 for additional dive days during the period of October 17, 2019 to November 26, 2019. During this period, the government prevented Mahan from working with two divers. Mahan contends that it suffered a 50 percent decline in efficiency, and, thus, the work took twice as long as it would have taken with two working divers (app. br. at 41). Mahan’s contention that two divers would be twice as productive as one diver appears to be supported only by the fact that two is twice as many as one.<sup>8</sup> The government notes that Mahan’s

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<sup>8</sup> We note that Mahan’s efficiency analysis considers the loss of efficiency when limited to one diver with a crew of five but ignores any gain in efficiency from having an additional crew member when there is a crew of six. Unless the sixth crew member did absolutely no work during the entire shift, Mahan’s divers should have been more efficient. For example, Mr. Birge noted that with a five-person crew, with two divers and two tenders, a diver would need to surface whenever a tender needed to step away from actively monitoring a diver, for example to move something, or get supplies (*see, e.g.*, Birge tr. at 130). With a sixth crew member, a diver would not need to surface when

subcontractor MSI, noted in its bid proposal that it expected that one diver would be able to cut 30 to 40 lineal feet of underwater steel per day, and that two working divers would be able to cut 40 to 60 lineal feet of steel per day (R4, tab 13A at 0822-0003). Thus, rather than a 100 percent increase in productivity, MSI's subcontract agreement suggests that the increase in productivity would be between 33 percent and 50 percent. This is logical, because the dive safety manual notes that two working divers need to be "in close proximity . . . with unimpeded access to each other" (R4, tab 6 at 443-44). Thus, the two divers are not working as two separate divers, but are a team (*see, e.g.*, R4, tab 35 at 1454 for dive safety plans requiring the second diver to leave the water when a crane is hoisting out a steel panel). Mahan concedes that its claim overstated the number of impacted days, and revised its claim from 32 impacted dive days to 28 impacted dive days (Slates decl. ¶ 45).

The government contends that we should assume, at most, a 33 percent increase in productivity for the second diver (gov't br. at 40). However, we will use the change in the midpoints of MSI's productivity ranges. MSI suggests that a single diver would cut 30 to 40 lineal feet per day, so we assume productivity of 35 lineal feet. MSI additionally suggests that two divers would be able to cut 40 to 60 lineal feet, so we assume that two divers will cut 50 lineal feet. Thus, we find that the change in productivity is 42.9 percent ( $50 \text{ feet} / 35 \text{ feet} = 42.9 \text{ percent increase}$ ). This results in 8.4 extra work days ( $28 \text{ impacted work days} \times ((50 \text{ lf assumed two diver production rate} - 35 \text{ lf assumed one diver production rate}) / 50 \text{ lf assumed two diver production rate}) = 8.4 \text{ additional two diver workdays}$ ).

The government contends that Mahan is not entitled to recover because of concurrent delays that were the fault of Mahan, specifically the failure to install the welding equipment for the second diver, failure to have available four-way communication, and failure to submit a revised activity hazard analysis (gov't br. at 41-42). As noted above, the change to four-way communications and the resulting change to the activity hazard analysis were government-caused changes. In addition, we note that Mahan's daily reports indicate that the welding equipment for the second diver was on site in a storage shed at the start of the delay period, and was available for use when the second diver was staffed (R4, tab 81 at 3962). Thus, we hold that the government has not established the existence of a concurrent delay.

The government notes that its review of Mahan's daily quality control reports demonstrates that the divers worked at most 2 hours of overtime per day during the claimed inefficiency period (gov't br. at 47). The government asserts that the overtime hours should be reduced to 2 hours, or better yet, be recalculated based on actual hours

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something needed to be moved or resupplied. The government did not make such an argument, and we do not see a basis in the record to make such an adjustment.

because overtime hours were not worked every day of the alleged inefficiency period (*id.*). Mahan asserts that the quality control reports were not intended to be used for tracking time and that “labor and equipment hour data [was] often copied over from one day to the next without making changes to the labor staffing or hours worked” and further concedes that the “the cost impact of this inefficiency cannot be calculated on an actual cost basis” (app. reply at 105-06).

Mahan bears the burden of establishing its damages. Given that Mahan was the party responsible for submitting what it contends to be inaccurate quality control reports reporting at most 2 hours of overtime, we find that Mahan has only established 2 hours of overtime per shift. Accordingly, we reduce Mahan’s claimed labor to \$10,480 per day (gov’t br. at 48). This results in direct subcontractor labor of \$180,694 (7.4 days of standard time and 2.0 hours overtime, one day of 10.0 hours overtime, and a day of mobilization, with two shifts per day). Again, we discuss Mahan’s markups separately below.

### **C. Support Costs During One-Diver Inefficiency Period**

The inefficiency costs discussed above consider only the additional dive crew time needed to perform the underwater demolition work. Mahan additionally seeks compensation for the inefficiency as applied to support costs. In addition to the dive crew, there was also a support crew that was responsible for the barge used by the divers. There was a crew of five including a pilot, crane operator, oiler, laborer, and deckhand. Mahan’s claim also includes the rental rates for the barge and owned and rented equipment, such as compressors, welders, and air hoses.

Mahan claims \$2,732.14 per day for labor, \$13,250.79 per day for owned equipment and \$245.79 per day for rented equipment, all before markups (app. br., ex. F at 3). The government challenges Mahan’s calculation of 2.5 hours per day of overtime for the workers, the inclusion of workers compensation and general liability costs, and the number of operating hours for the owned equipment (gov’t br. at 43-47).

The government notes that its review of Mahan’s daily quality control reports demonstrates that the equipment operators worked, at most 2 hours of overtime per day during the claimed inefficiency period (gov’t br. at 43 (citing R4, tab 82 at 5950-6215)). As discussed above, we hold that Mahan has only established entitlement to 2 hours of overtime per shift. Accordingly, we reduce Mahan’s claimed labor to \$6,273.69 per day (gov’t br. at 45).

The government next asserts that Mahan is not entitled to general liability and worker’s compensation insurance costs, citing *Melka Marine, Inc. v. United States*, 187 F.3d 1370, 1375 (Fed. Cir. 1999) for the proposition that such costs are not allowable absent delay or acceleration (gov’t br. at 43). Mahan asserts, without any

citation to record evidence, that these expenses vary on an annual basis, based upon Mahan's labor expenses (app. reply at 107-08). We hold that Mahan is entitled to its claimed general liability and worker's compensation costs. The government's citation to *Melka Marine* is inapplicable because that appeal involved unabsorbed home office overhead costs, that is, additional administrative overhead costs incurred due to a delay on a project. *Melka Marine*, 187 F.3d at 1374-75. Here, Mahan is seeking reimbursement of direct inefficiency costs.

The government also questions Mahan's claimed 6 percent for small tools and 6 percent for safety allowances as unsupported (gov't br. at 43). Mahan notes that it lowered its small tools and safety allowance to 4 percent each in its revised claim. Mahan asserts, again without any citation to the record, that 4 percent was the amount agreed to by the USACE in a "recent negotiation of an unrelated modification on this same LD 52 Project." (App. reply at 111) It is not the obligation of the Board to try to find support for appellant's claimed costs in the record. Nevertheless, our review of the record identified only two contract modification involving a monetary adjustment (app. supp. R4, tabs 79-80): the modifications for additional diver costs on the related Olmstead Lock and Dam project, and those modifications did not provide for additional small tool and safety allowances. We hold that Mahan has not demonstrated entitlement to its claimed small tools and safety allowances.

The government additionally notes that the equipment hours should be limited to 10 hours per shift, instead of 10.5 hours per shift (gov't br. at 47). We agree for the reasons stated above regarding labor hours, and limit the equipment hours to 10 hours per shift. The government contends that "Crane Barge 52'X155'x13' #5950" is the same piece of equipment as the barge "Manitowoc" and should be deleted as a duplicate expense (*id.* at 45). The government points to Mahan's quality control reports that identify the Manitowoc as "4100 Manitowoc/Barge 5950" (R4, tab 82 at 5951). Mahan did not respond to this argument. We hold that it is more likely than not that the charge for Barge 5950 is a duplicate expense and deny Mahan's claim with regard to the barge.

The government additionally contends that Mahan should not be charging an hourly rate for a light tower during the day shift, and should incorporate the standby rates rather than operating rates for certain of the equipment (gov't br. at 45-47; R4, tab 82 at 6121). Once again, Mahan has not responded to the government's argument. Mahan's quality control reports support the government's argument that the equipment should be billed at a lower standby rate for parts of day. The government does not explain how it calculated the number of idle hours for each piece of equipment. However, Mahan's claim assumes that the equipment was operating for 21 hours per day (app. br., ex. F at 3). This assumption is clearly contrary to the daily reports (*e.g.*, R4, tab 82 at 6121). Thus, because Mahan has the burden of proof, we adopt the government's proposed number of idle equipment hours. These revisions result in a

daily rate (labor and equipment) of \$16,136.90 per day, compared to Mahan's claimed \$22,769.98, and the government's proposed \$15,184.19. Multiplied by the 8.4 additional work days calculated above, we find that Mahan is entitled to \$135,549.92.

#### **D. Mahan's Markup On Costs**

Mahan's claim includes various markups added to the subcontractor labor and direct inefficiency costs discussed above. Mahan claims 11.34 percent field office overhead, 11.87 percent home office overhead, 6.8 percent profit, and 0.438 percent bond premium (app. br., ex. F at 3-5). The government does not question Mahan's 6.8 percent profit rate, but questions the remaining markups as unsupported. According to the government, Mahan is not entitled to overhead or bond premiums because Mahan admits that the inefficiency did not impact the critical path of the project and because the work is complete and was never bonded (gov't br. at 48). Mahan notes that the government's argument is inconsistent with its past practice, citing again the modification on the Olmsted project compensating Mahan for the added cost of the sixth worker (app. supp. R4, tab 79 at 5), and noting that field office overhead is an allowable cost pursuant to FAR 31.105(d)(3) (app. reply at 109-10). Mahan additionally notes that it paid a bond premium on the project and that the amount of the bond premium is subject to adjustment based on increases or decreases in contract value (app. reply at 111, ex. 8). Although the government does not cite to *Melka Marine*, the government's reference to critical path delays implies that the government is again conflating Mahan's claim for home and field office overhead for direct costs with a claim for unabsorbed home office overhead. We hold that Mahan is entitled to its claimed field office overhead, home office overhead, and bond premium markups.

Applying the markups to the direct costs calculated above results in an award in favor of Mahan of \$1,076,686.85.

As a final matter, Mahan asserts entitlement to attorney fees based upon the purported bad faith actions of the government (app. br. at 77-81). As noted by the government, Mahan did not allege bad faith in its claim submitted to the contracting officer, and thus the Board is without jurisdiction to entertain such a claim (gov't br. at 29-31 (citing *CCI, Inc.*, ASBCA No. 57316, 14-1 BCA ¶ 35,546 at 174,197)). Moreover, Mahan's request for fees is premature at this stage pursuant to the Equal Access to Justice Act, 5 U.S.C. § 504, as amended, which requires that the prevailing party submit an application to the Board within 30 days *after* the Board's disposition of the appeal has become final (*see* Board Rules, Addendum I: Equal Access to Justice Act Procedures). The disposition becomes final after the expiration of the Government's 120-day period to file an appeal of this decision with the Federal Circuit. (*See, Radar Devices, Inc.*, 01-1 BCA ¶ 31,322 at 154,712)

DOCUMENT FOR PUBLIC RELEASE

The decision issued on the date below is subject to an ASBCA Protective Order.  
This version has been approved for public release.

CONCLUSION

For the reasons stated above, the appeal is sustained in the amount of \$1,076,686.85, plus CDA interest.

Dated: September 30, 2025



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DAVID D'ALESSANDRIS  
Administrative Judge  
Armed Services Board  
of Contract Appeals

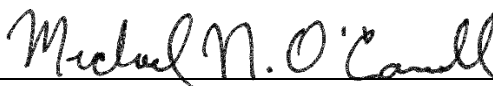
I concur



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OWEN C. WILSON  
Administrative Judge  
Acting Chairman  
Armed Services Board  
of Contract Appeals

I concur



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MICHAEL N. O'CONNELL  
Administrative Judge  
Vice Chairman  
Armed Services Board  
of Contract Appeals

I certify that the foregoing is a true copy of the Opinion and Decision of the Armed Services Board of Contract Appeals in ASBCA No. 63031, Appeal of C. J. Mahan Construction Company, rendered in conformance with the Board's Charter.

Dated:

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PAULLA K. GATES-LEWIS  
Recorder, Armed Services  
Board of Contract Appeals