In the United States Court of Federal Claims

No. 04-635C

(Filed: May 21, 2008)

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METRIC CONSTRUCTION CO., INC.,	)	Post-trial decision in suit for equitable adjustments and damages respecting military construction contracts; changed conditions; waiver and release; defective specifications; constructive changes to contract
Plaintiff,	)	
v.	)	
UNITED STATES,	)	
Defendant.	)	

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Steven D. Meacham, Peel Brimley LLP, Seattle, WA, for plaintiff.

Robert C. Bigler, Trial Attorney, Commercial Litigation Branch, Civil Division, United States Department of Justice, Washington, D.C., for defendant in post-trial briefing. With him on the briefs were Jeffrey S. Bucholtz, Acting Assistant Attorney General, Jeanne E. Davidson, Director, and Deborah A. Bynum, Assistant Director, Commercial Litigation Branch, Civil Division, United States Department of Justice, Washington, D.C. For defendant at trial was Brian S. Smith, Trial Attorney, Commercial Litigation Branch, Civil Division, United States Department of Justice, Washington D.C.

OPINION AND ORDER

LETTOW, Judge.

In this contract case, plaintiff Metric Construction Co., Inc. ("Metric") seeks equitable adjustments and damages respecting two related construction contracts awarded to Metric by the U.S. Department of the Navy ("government" or "Navy") for work on San Nicolas Island, California, one of the Channel Islands located approximately 70 miles off the coast of California. The contracts concerned roadways and a Navy airfield on the island. Metric's claims primarily

turn on the Navy's post-contractual installation of facilities on the island that allegedly hindered Metric's landing of construction materials, but they also involve alleged defective specifications for asphalt at two particular locations on the airfield runway, failure by the Navy to provide contractually promised special components for the runway, and a requirement that Metric clean-up and remove soils contaminated through no fault of Metric. Metric initially sought a total of $7,906,092.74 in damages, although that amount was later reduced by certain concessions made thereafter.

The court conducted a nine-day trial, first in Seattle, Washington, and then Washington, D.C., with an intervening site visit to the naval installations at Point Mugu, California and on San Nicolas Island.

FACTS[1]

A. San Nicolas Island

Relatively small and isolated, San Nicolas Island is notable for its restrictive geography, topography, and usage.[2] The island is home to a Naval Air Weapons Station associated with the Navy Air Stations at Point Mugu and China Lake and is also used as a site to train naval aviators for landings on aircraft carriers. The Navy controls access to the island. Roughly seven miles long and three miles wide (over twenty square miles in area), the interior of the island is gently rolling, with steep cliffs and gullies descending to the ocean. *See generally* National Park Service Pamphlet, www.nps.gov/chis/forkids/upload/sannicolas2006website.pdf (last visited May 20, 2008). Significant populations of seabirds nest in the cliffs; northern elephant seals, harbor seals, and California sea lions populate the beaches. *Id*. (A contour map of the island is appended to this opinion.) The most prominent man-made feature is a runway over 10,000 feet in length with an arresting gear at each end to simulate landing conditions on a Navy carrier. Rainfall is sparse, and the island is covered with desert vegetation. Archeological sites derived from its preexisting native population dot the island. San Nicolas Island often faces high winds, and the surrounding ocean has strong currents and can have large ocean swells. No sheltered harbor or dock is present. All deliveries to the island must be made by either plane or ocean-going barge suited to land on one of two exposed beaches. After completion of the contracts at issue in this case, the government constructed a barge-landing pier on one of the beaches to improve access to the island for delivery of materials and supplies.

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[1]This recitation of facts constitutes the court's principal findings of fact in accord with RCFC 52(a). Other findings of fact and rulings on questions of mixed fact and law are set out in the analysis.

[2]Historically, the island was home to the "Lone Woman of San Nicolas Island," who was left behind when the rest of the native islanders moved to the mainland relatively late in the Spanish Colonial era. This tale was the basis for the award-winning children's book, *Island of the Blue Dolphins*, by Scott O'Dell.

B. The Contracts

Metric's work as a contractor on the island first began in 1992. Tr. 880:4-6 (Test. of Thomas P. Miller, President, Metric Construction).[3] In August 1994, Metric was awarded Contract No. N62474-94-C-6807 (the "airfield contract"), entitled Repair Airfield Pavement at the Naval Air Weapons Station on San Nicolas Island, California. PX 2 (Airfield Solicitation, Offer, and Award). This contract called for Metric to make improvements and repairs to the Navy's airfield runway on the island. In September 1998, Contract No. N68711-98-C-5553 (the "roadway contract") was awarded to Metric, entitled Roadway and Storm Drainage Repair Effort at San Nicolas Island, California. DX 1008 (Roadway and Airfield Contract Provisions) at 353-60. The plans and specifications for both projects were prepared by the Navy, which administered the projects. PX 1 (Airfield Repair Plans); PX 2 (Airfield Solicitation, Offer, and Award); DX 1001 (Expert Report of Patti Jones, an expert retained by the government (Aug. 28, 2006)) ("Jones Report") at 142-43 (Modification P00001 of Roadway Contract); DX 1008 (Roadway and Airfield Contract Provisions) at 353-60.

Both contracts required Metric to ship materials, equipment, and machinery to the island by ocean-going barge. DX 1008 (Roadway and Airfield Contract Provisions) at 102. The roadway and airfield contracts adopted Section 01600, Special Clauses Applying Only to Work on San Nicolas Island ("Special Clauses"), to govern procedures for landing materials and operations, including special provisions for use of the beaches and for environmental protection. *See* DX 1008 (Roadway and Airfield Contract Provisions) at 356. The contract explicitly provided that "the delivery of materials to San Nicolas Island is often the critical activity (longest duration)" affecting performance. *Id*. § 1011.1.5.1.2, at 43. The materials required for the airfield and roadway contracts included considerable amounts of aggregate, cement, asphalt, sand, gravel, and other construction materials that had to be moved to the island. Metric also had to install construction facilities such as an asphalt plant on the island. DX 1008 (Roadway and Airfield Contract Provisions) at 151-52.

For deliveries of materials and equipment to the island, the contracts designated two barge landing sites: Sissy Cove and Daytona Beach. DX 1008 (Roadway and Airfield Contract Provisions) at 104-05. Because landings had to be made on one of these two exposed beaches, adverse weather conditions could prevent deliveries for periods of time. *See* DX 1008 (Roadway and Airfield Contract Provisions) at 104; Tr. 76:1 to 79:17 (Test. of George Kostelny, former Metric Superintendent of San Nicolas Island projects) (stating that Metric used a weather consultant to forecast surf and winds but that occasionally unexpected conditions made it difficult or impossible for the barge to land even when the weather was expected to be

[3]Citations to the trial transcript are to "Tr. __." Citations to the closing argument transcript are to "Cl. Tr. __." Plaintiff's exhibits are denoted as "PX __," and defendant's exhibits are identified as "DX __." Plaintiff's demonstrative exhibits are cited as "PDX __," and defendant's demonstrative exhibits are denoted as "DDX __."

favorable). Because of the challenges of landing barges at the beach-landing sites, the Special Clauses addressed aborted or impossible barge landings:

> If the Contractor's attempt to land his barge is not successful due to weather and/or high surf conditions – or – if data [are] available which proves that barge landing is impossible, then sufficient justification may exist for a *no cost time extension*.

DX 1008 (Roadway and Airfield Contract Provisions) at 104 (emphasis added). The number of successful landings varied from year to year based upon the conditions encountered. Tr. 912:6-21 (Miller). Because of the island's distance from the California coast, approximately a full day was required to complete a trip to the island from either Point Mugu, Point Hueneme (the Navy's chief Seabee base located near Point Mugu), or Terminal Island, where materials were loaded for delivery. Tr. 511:4 to 518:3, 761:8 to 763:1 (Test. of Elon Holmes, a project manager for Metric). The contracts also provided that the Navy had priority over Metric in using the beach-landing sites. DX 1008 (Roadway and Airfield Contract Provisions) at 104; Tr. 79:25 to 80:8 (Kostelny).

C. Beach Landings

When Metric submitted its bids for the projects, it based its costs on use of an ocean-going barge that it purchased in 1994 which was too large to land at Sissy Cove but had landed successfully at Daytona Beach during prior projects by Metric at San Nicolas Island. Tr. 456:3-16 (Holmes), 879:19 to 880:6, 902:10 to 904:5 (Miller); Pl.'s Post-Trial Br. at 1; *see also* Cl. Tr. 85:16-17. Only Daytona Beach was used by both the Navy and Metric for landings. Sissy Cove was not a viable option because it was small and narrow and its approaches were constricted by rocky outcrops and shallow depths. Tr. 70:3-20 (Kostelny), 480:5 to 483:13 (Holmes), 902:13 to 903:11 (Miller).

Both the Navy and Metric used the same area of Daytona Beach for landings. To secure the barges at the particular landing site on the beach, the Navy had installed "deadmen," essentially anchored cables that were warped to the barges to prevent movement of the barges during landing operations. Tr. 73:2 to 75:4 (Kostelny). In addition, to assist egress from the barges at the site, the Navy or Metric would "build a ramp of sand and place temporary matting over the sand to allow vehicles to [travel] without getting stuck." DX 1008 (Roadway and Airfield Contract Provisions) at 104. For the Navy's own deliveries to the island, it used an ocean-going barge leased from Foss Marine that was constructed to transport rolling stock, *i.e.*, vehicles which carried the materials being delivered, such as tankwagons of fuel. Tr. 87:6-7, 381:6-8 (Kostelny). In contrast, Metric's barge was constructed to carry loose bulk materials such as aggregate or sand that bucket loaders had to offload onto trucks upon arrival. Tr. 87:6-24 (Kostelny). Metric's barge was two to three times the size of the Navy's barge and had a significantly deeper draft when loaded. *See* Tr. 99:18 to 100:20, 305:2-13 (Kostelny); Cl. Tr. 10:17-19.

Initially, Metric was able to make successful barge landings at Daytona Beach for both the airfield and roadway projects, delivering materials needed for the two projects. Tr. 483:6-13 (Holmes); Tr. 902:10 to 904:5 (Miller). On December 18, 1998, however, Metric's asphalt plant on the island caught on fire. Tr. 132:20 to 133:3 (Kostelny). At the time, the scheduled completion dates were May 14, 1999 for the airfield project and June 28, 1999 for the roadway project. Tr. 1304:21 to 1305:10 (Test. of Stuart Burnell, a construction expert for Metric, employed by Hainline & Associates); PX 5 (Schedule Analysis and DCAA Audit Review by Hainline & Associates (Oct. 5, 2005) ("Hainline Analysis")) at 3. Notwithstanding the fire, Metric continued to deliver materials to the island, making a delivery on December 22, 1998, and planning for a return trip after the Christmas and New Year's holidays, Tr. 503:25 to 504:17, 525:13 to 527:9 (Holmes), to stockpile materials on the island for completion of the projects. Tr. 313:7 to 328:9, 330:14 to 332:24 (Kostelny); 499:9-16 (Holmes).

D. The Navy's Installation of the Pontoon

Between December 23, 1998 and January 3, 1999, the government installed a barge-landing pontoon on Daytona Beach. Tr. 90:14-20 (Kostelny).[4] The government informed Metric that the Navy no longer had a permit from the Corps of Engineers for landings on the beach and Metric had to use the pontoon to land its barge at Daytona Beach. Tr. 72:4-16, 92:19-22 (Kostelny), Tr. 471:13-25, 478:17 to 488:11 (Holmes). Immediately after the pontoon was installed, Metric canceled a barge landing that was scheduled for January 4, 1999, *see* DX 1001 (Expert Report of Patti Jones, an expert retained by the government (Aug. 28, 2006)) ("Jones Report") at 9. Metric notified the government by letter on January 5, 1999 that it had canceled this barge landing because Metric had been informed by the Navy's public works superintendent "that the design of the ramp on the Metric barge was incompatible with the new pontoon . . . which w[as] designed and placed to facilitate easier landings of the [smaller] Navy barge." PX 20 (Letter from Holmes to Resident Officer in Charge of Construction ("ROICC") (Jan. 5, 1999)); Tr. 461:16 to 463:14 (Holmes). Metric was warned "that if Metric elected to land their barge, and use the new pontoons, that they (Metric) would be responsible for any damage caused by that landing." PX 20 (Letter from Holmes to ROICC (Jan. 5, 1999)). One day later, on January 6, 1999, Metric notified the government that it was "ceas[ing] all operations . . . until . . . a suitable landing site is provided" and that Metric considered the installation of the pontoon to be a "compensable change of conditions as set forth in FAR [§] 52.236-2." PX 21 (Letter from

[4]The government changed the landing method "as part of a continuing and evolving . . . effort to improve the facilities at [San Nicolas Island] and to reduce the environmental impact of barge landings at Daytona Beach" because the beach landing method "virtually always required the construction of large sand ramps and often involved disturbing protected sea mammals." Def.'s Post-Trial Br. at 6. The method of building ramps out of sand required permits from the Army Corps of Engineers under Section 404 of the Clean Water Act, 33 U.S.C. § 1344, and Section 10 of the Rivers and Harbors Act of 1899, 33 U.S.C. § 403. *See* PX 18 (E-mail from Steve Schwartz to Michael Sasscer (Mar. 20, 2000)).

Holmes to ROICC (Jan. 6, 1999)). The government did not respond to either letter. Tr. 463:25 to 465:14 (Holmes).

Thereafter, Metric attempted to land its barge using the pontoon with limited success. Metric was able to land its barge on the pontoon only under restrictive conditions because its barge's draft was deeper than that of the Navy's barge, requiring a 4.5 foot or higher tide which did not occur daily. Tr. 99:18 to 100:20 (Kostelny), 840:8 to 841:20 (Holmes).[5] Even with a sufficiently high tide, there were occasions when Metric could not land because sand bars would build up in front of the pontoon, blocking the barge from landing. Tr. 93:5-24 (Kostelny), 466:23 to 468:22 (Holmes); PX 22 (Letter from Metric to ROICC (Feb. 11, 1999)).[6] On February 11, 1999, Metric requested that the Navy "remove th[e] pontoon and return the beach to its original (pre-bid and post-award) configuration." PX 22 (Letter from Metric to ROICC (Feb. 11, 1999)). The Navy responded on February 12, 1999 that it was "in the process of discussing the issues" raised by Metric. PX 23 (Letter from Patricia Martonick, Director, Contracts, to Metric (Feb. 12, 1999)).

Among other things, installation of the pontoon delayed the delivery of replacement parts for the asphalt batch plant to San Nicolas Island. Metric endeavored to deliver a load of construction material on February 4, 1999, but that landing was aborted because sand in front of the pontoon prevented Metric's barge from reaching the pontoon with the barge's ramp. PX 22 (Letter from Metric to ROICC); Tr. 532:10-25 (Holmes). Metric attempted to deliver a replacement asphalt plant tank and boiler on February 25, 1999, but the landing was aborted because the barge did not arrive in time for the high tide. Tr. 530:21 to 532:20 (Holmes); PX 7 (certified claims) at 71. An additional landing attempt was made on February 26, 1999, but this effort was also aborted due to a sand bar in front of the pontoon. Tr. 111:15-25, 114:13 to 115:2 (Kostelny), 530:21 to 531:6 (Holmes); PX 47 (Daily Reports to Inspector) at 3-4, 32; PX 97 (handwritten notes).[7] The government thereafter agreed to deliver the tank on its barge, landing

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[5]As Mr. Holmes testified,

> The major differences between the Navy's barge and our barge was our barge traveled loaded, 800, seven, eight, nine hundred tons. The Navy's barge typically might have had two or three hundred tons. So . . . when we're drafting 8 to 10 feet they're drafting 2 feet. So that they can get . . . up to the pontoon sometimes easier than we could because we had more weight on board.

Tr. 770:24 to 771:7 (Holmes).

[6]On some occasions when Metric could land its barge on the pontoon, the barge would "be 'hung up' after unloading – stuck on the beach until the next high tide float[ed] it off." PX 22 (Letter from Metric to ROICC).

[7]Metric attempted another barge landing on March 30, 1999, and then again on March 31 1999, but was unsuccessful in each instance. DX 1001 (Jones Report) at 12.

with the tank on March 31, 1999, and Metric delivered the boiler plus a cargo of 775 tons of rock dust on April 14, 1999. Tr. 143:7 to 145:7 (Kostelny); PX 7 (certified claims) at 72-73; PX 47 (Daily Reports to Inspector) at 38.[8]

Around May 3, 1999, the Navy installed deadmen further up the beach, making it possible for Metric to resume landing on the beach once authorized to do so. Tr. 120:11 to 121:19 (Kostelny); PX 107 (Handwritten notes regarding quality control meeting (May 4, 1999)) ("[D]eadm[e]n ha[ve] been installed by Public Works over the weekend.").[9] Metric then received oral authorization to resume beach landings, Tr. 479:3-22, 844:16-19 (Holmes), but it was told that it could not build sand ramps to off-load materials. Tr. 82:5-8 (Kostelny). Additionally, the Navy asked Metric to attempt to use the pontoon for hot oil deliveries. PX 18 (E-mail from Schwartz to Sasscer (Mar. 20, 2000)). For the remainder of its contract performance, Metric conducted landings on Daytona Beach using the beach itself and not the pontoon. *See* Tr. 73:25 to 74:2, 312:7 to 313:6 (Kostelny). Metric would land its barge on the beach, offload the raw materials such as gravel and sand onto trucks, and then use loaders to pull the trucks through the beach sand onto the roadway where the trucks could move the loads to Metric's staging areas. Tr. 82:5-19 (Kostelny); DX 1001 (Jones Report) at 11.[10]

E. Completion of the Roadway and Runway Work

Soon after Metric resumed its beach landings, piping and the other remaining components necessary for repairing the asphalt plant were delivered and the plant started up again on June 24,

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[8]In March 1999, Metric retained American Divers, Inc. to do a bathymetric study and determine whether an area near the pontoon was appropriate for beach landings by the barge. PX 24 (Letter from Ralph Tuckfield, American Divers to Metric (March 22, 1999)). American Divers concluded that the area was suitable: "the bottom conditions and topography indicate a consistent sloping sand bottom . . . . The inspected area appears clear of any obstruction or anomalies that might interfere with the barge landing operation." *Id*. at 12-2.

[9]Between January and April 1999, Metric succeeded in landing its barge six times. DX 1003 (Daily Reports) at 3991 (Feb. 2, 1999), 4020-21 (Jan. 14, 1999), 5823-24 (Apr. 14, 1999), 5883-84 (Feb. 16, 1999), 5887-88 (Feb. 12, 1999); PX 7 (certified claims) at 73 (Apr. 19, 1999); DX 1001 (Jones Report) at 10, 16; *see also* Tr. 313:7 to 328:9, 330:14 to 332:24, 336:7 to 338:22, 339:13 to 340:1 (Kostelny), 543:22 to 544:16, 823:23 to 824, 909:16 to 910:10, 1112:9 to 1113:2 (Miller).

For safety purposes, Metric's barge ordinarily landed with the deadmen in place to tie off the barge to prevent it from drifting or from slewing from side to side. Tr. 73:2 to 74:2 (Kostelny).

[10]Metric made no barge landings in May. Its barge was being repaired on May 14 through 23, 1999 and on June 3, 1999. DX 1001 (Jones Report) at 14. It made its next landing on the island on June 17, 1999. *Id*.

1999. PX 7 (certified claims) at 75; Tr. 550:12 to 551:13, 773:17-20 (Holmes); DX 1001 (Jones Report) at 15. However, shortly after the asphalt batch plant resumed operations, its motor burned out and needed replacing, possibly as a result of the island's fluctuating power supply. Tr. 147:19 to 149:3 (Kostelny). Metric replaced the motor and the asphalt plant returned to service on July 9, 1999. Tr. 132:20 to 133:11 (Kostelny); DX 1001 (Jones Report) at 17.

During the period when the asphalt batch plant was not functioning, Metric did concrete work on the roadway project, emplacing V-ditches, and doing other concrete work on the runway that could be accomplished with the construction materials on hand. Tr. 332:25 to 333:12, 375:12 to 376:18, 377:9-18, 383:4-15 (Kostelny). Once the asphalt plant came back on-line, Metric proceeded to complete the paving of the airfield and then turned to paving the roadway. Cl. Tr. 109:16-21. On June 13, 2000, Metric and the Navy executed Modification No. P00001 to the roadway contract. DX 1001 (Jones Report) at 142-43 (Modification P00001 of Roadway Contract). This modification made various changes to contract requirements, including deleting all waterline work, deleting some V-ditch concrete work, and adding 1.4 miles of road resurfacing work. *Id.* at 143. The modification extended the period of performance for 384 calendar days from June 12, 1999 to June 30, 2000 "due to batch plant fire, weather, etc." *Id*. The modification contained a paragraph titled "Contractor's Statement of Release," which stated:

> Acceptance of this modification by the contractor constitutes an accord and satisfaction and represents payment in full for both time and money and for any and all costs, impact effect, and for delays and disruptions arising out of, or incidental to, the work as herein revised.

Id.

Although Metric had not yet made a claim for the pontoon delays at this time, both Metric and the contracting officer knew that such a claim would be filed. Mr. Miller testified that he was concerned about the uncertainty created by the use of the term "etc." in the recited reasons for the extension and about the fact that the release pertained to "the work as herein revised," and he called Ms. Martonick, the contracting officer, about the scope of the release. Tr. 964:8 to 969:10, 1152:3-18 (Miller). Ms. Martonick reportedly assured Mr. Miller that the modification would not affect Metric's right to damages caused by the installation of the pontoon and that Metric was not waiving or releasing the government from liability relating to a pontoon claim by signing Modification No. P00001. *Id*. Metric required 25 barge landings following the pontoon's installation to deliver all of the materials to complete the projects, Tr. 1114:15-18 (Miller); PX 5 (Hainline Analysis) at 6; DX 1001 (Jones Report) at 8, and it ultimately finished the airfield runway repair paving on December 23, 1999 and the roadway project paving on May 18, 2000. PX 7 (certified claims) at 67.[11]

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[11]Metric made a total of 21 barge landings in 1999. Tr. 825:14-25 (Holmes); DDX 1018 (Jones demonstrative) at 16. The remaining landings were in 2000. *Id*. The last barge load of material for the airfield and runway projects, apart from work on the arresting gear added by a

F. The Arresting-Gear Project

On June 23, 2000, the Navy issued a request for proposal relating to work on the arresting gears at each end of the runway to Metric. PX 120 (Letter from Joe Ann Carrignan, Contracting Officer, Navy, to Metric (June 23, 2000)).[12] The Navy proposed to issue a change to the airfield contract, calling for "[r]emov[al] and dispos[al] . . . off the island [of] the existing concrete and rails of the arresting gears (2 each)," and "[i]nstallation of] new concrete and rails for the arresting gear (2) in accordance with Drawing T04972 (Sheet C-1) with a Print Date of 06/21/00 and all the applicable provisions of the contract specification." *Id*.; Tr. 562:3-22 (Holmes). The letter also stated that "[i]f additional contract time will be required to accomplish the changed work, [Metric's] proposal should contain a substantiated time extension request." PX 120 (Letter from Carrignan to Metric). Metric submitted its proposal which included a projected cost of $637,924 for an additional 2.75 months for the additional work. PX 126 (Proposal for Contract Modification (July 14, 2000)) at 1-2; Tr. 565:13 to 566:14 (Holmes). The government lacked funding for the change and consequentially the parties engaged in "horse-trading" about funding. Tr. 1019:4-7 (Miller). The ultimate outcome of negotiations was the government's agreement to pay for materials requested by Metric in exchange for Metric's acceptance of $50,000 for the change order. Tr. 566:15 to 567:15 (Holmes), 1016:16 to 1019:7 (Miller), 1772:9 to 1773:25 (Test. of Carrignan, Contracting Officer).

Modification No. P00017 was executed on August 4, 2000. PX 6 (Arresting Gear Concrete Replacement Study by Hainline & Associates (undated) ("Hainline Arresting Gear Analysis")) at 9-10 ("Arresting Gear Modification").[13] Metric received a time extension under the modification, with work to be completed by November 2, 2000 in exchange for the additional payment of $50,000. *Id*. at 110 (Arresting Gear Modification). The modification also contained a "Contractor's Statement of Release," which was virtually identical to that contained in Modification No. P00001 for the roadway contract. *Id*.; *see supra*, at 8. Metric was directed to "demol[ish] . . . all existing concrete arresting gear material and replac[e] with new compacted base material, asphalt," pour new concrete pads with new steel beams embedded in the concrete, and install a three foot wide asphalt patch between the existing asphalt and the new concrete pads. PX 6 (Hainline Arresting Gear Analysis) at 11-13 (Arresting Gear Modification); PX 120 (Letter from Carrignan to Metric (June 23, 2000)).

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later modification, was delivered on April 25, 2000. Tr. 1126:12-14 (Miller).

[12]An arresting gear is a system that allows a landing plane to drop a hook that catches a cable affixed to arrestor systems that apply strong braking force, slowing the plane rapidly in a short stopping distance. The land-based system at San Nicolas Island is used to train naval aviators prior to carrier deployment.

[13]Page two of the modification erroneously refers to P00016 rather than P00017. *See* PX 6 (Hainline Arresting Gear Analysis) at 9-10 (Arresting Gear Modification).

Work on the arresting gear began in early September 2000. PX 6 (Hainline Arresting Gear Analysis) at 15. The asphalt work proved challenging for Metric. The arresting gear at the "30-end" was to be replaced first and then the "12-end" was to be done, such that continued daily landings of aircraft could occur at one end of the runway during the repair work at the other end. Tr. 155:16 to 156:2 (Kostelny); PX 129 (Modification of Airfield Contract) at 3. Metric first completed the concrete work on the 30-end and then undertook the asphalt work.[14] The plans called for a "3'-0" wide AC Patch" between the existing asphalt runway and the newly placed arresting-gear concrete. PX 6 (Hainline Arresting Gear Analysis) at 13 (Arresting Gear Modification). The specifications included size requirements for the aggregate used in the asphalt mix. DX 1008 (Roadway and Airfield Contract Provisions) at 154-55. Metric notified the government during the change-order negotiations that because the plans called for a three foot wide "patch," the asphalt could not be laid with an asphalt paving machine and instead had to be hand placed as set forth in the specifications. Tr. 605:1 to 611:22 (Holmes); PX 126 (Proposal for Contract Modification (July 14, 2000)).[15]

Around November 27, 2000, Metric placed the three-foot asphalt patch for the 30-end using the hand-placement methods set forth under Specification Section 02511.3.2.3 and using the mix specified by the contract. Tr. 605:1 to 611:22 (Holmes), 1022:11 to 1023:2 (Miller). The government rejected the asphalt and directed Metric to remove and replace it, on the ground that excessive aggregate was exposed. Tr. 165:11-24, 167:4-19, 270:3-8 (Kostelny), 610:23 to 611:7 (Holmes). The government was concerned that loose rocks could dislodge from the asphalt and be caught up in an aircraft's jet engines. Tr. 2268:16 to 2669:17 (Test. of Mike Douglas, Navy field representative during Metric's San Nicolas Island projects). Metric disputed the claim that the exposed aggregate was "excessive" for hand-placed asphalt, Tr. 167:4 to 172:14 (Kostelny); *see also* DX 1008 (Roadway and Airfield Contract Provisions) at 148, but proposed to seal the exposed aggregate with TopGuard, a compound that had been used to seal exposed aggregate on other parts of the runway. Tr. 613:16 to 614:6 (Holmes); DX 1012

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[14]The concrete installation for the project gave rise to disputes about the propriety of the installation and the length of the embedded steel rails, but these issues were resolved in late November 2000 when Metric completed recommended repairs. PX 6 (Hainline Arresting Gear Analysis) at 15. Metric believes that the government contributed to a problem relating to the embedded steel beams because it provided a template for a nine foot eight inch beam but Change Order 17 specified that the new steel beams were to be ten feet long. When Metric followed the nine foot eight inch template, the government rejected the beams and required that they be extended to ten feet. Tr. 158:3 to 160:7 (Kostelny). However, "Metric is not seeking damages or delays for issues arising from the concrete or the embedded steel beams." Pl.'s Post-Trial Br. at 18. Rather, Metric's arresting gear claim relates to the asphalt installation and the rubber rails associated with the steel beams.

[15]Specification Section 02511.3.2.3 for Hand Spreading in Lieu of Machine Spreading states, "[i]n areas where the use of machine spreading is impractical, spread mixture by hand." DX 1008 (Roadway and Airfield Contract Provisions) at 160.

(Additional Arresting Gear Modification) at 79-80; Tr. 174:19 to 175:16 (Kostelny); DX 1009 (San Nicolas Island Project Photographs) at 177. After initially rejecting this proposal, the government eventually allowed Metric to use TopGuard on the exposed aggregate. Tr. 172:15 to 176:20, 200:18 to 201:6 (Kostelny). However, the result remained unacceptable to the Navy.

Metric and the Navy also had difficulty with the requirement of the modification that the surface between the asphalt and the concrete be "flush" to reduce the chance that tailhooks of landing airplanes would get caught on an uneven lip at the asphalt-concrete seam. PX 43 (Quality Control Meeting Notes) at 1. The Navy initially would not allow any deviation in elevation between the new asphalt and the concrete. Tr. 195:23 to 196:19 (Kostelny). Ultimately, after months of discussion, the government specified that the concrete had to be lower than the asphalt and that an acceptable tolerance would be 1/4 of an inch. Tr. 433:22 to 436:3 (Kostelny); PX 43 (Quality Control Meeting Notes) at 1.

From late November 2000 to early August 2001, Metric removed and replaced the three-foot asphalt patch for the 30-end on three occasions. Tr. 177:18 to 181:25 (Kostelny); *see also* PX 6 (Hainline Arresting Gear Analysis) at 4; DX 1001 (Jones Report) at 34-38. Metric ultimately abandoned hand-placement methods and brought in a cold planer and removed the rejected asphalt and an adjacent portion of the runway to a width sufficient to allow use of a paving machine. Tr. 1027:2-12 (Miller); DX 1001 (Jones Report) at 39. Metric then placed the arresting gear "patch" using the paving machine, Tr. 181:10 to 183:4 (Kostelny), and the Navy accepted that reworked result for the 30-end arresting gear asphalt. Tr. 182:1 to 183:3 (Kostelny), 624:21 to 625:18 (Holmes); DX 1001 (Jones Report) at 40. Having learned from its experience on the 30-end, Metric had much less trouble completing the work on the 12-end. Rather than placing the concrete first, Metric initially placed the asphalt, sawcut a straight edge along the asphalt, installed an expansion joint against the sawcut asphalt edge, and then poured the concrete against the expansion joint material, all of which allowed Metric to place the asphalt by paving machine and thereafter pour the concrete at the same height as the asphalt. Tr. 188:10 to 198:6 (Kostelny), 626:24 to 630:21 (Holmes); PX 202 (Letter from Metric to Navy (Nov. 14, 2001)); PX 203 (Letter from Navy to Metric (Nov. 15, 2001)); DX 1009 (San Nicolas Island Project Photographs) at 79-80.

The completion of the 30-end was also delayed due to installation of the "rubber rails."[16] The government's request for proposal required Metric to remove and dispose of the existing concrete, beams, and rails, and install new concrete, beams, and rails. PX 120 (Letter from

[16]"Rubber rails" provide pendant support for the arresting gear cable. Tr. 563:2-5 (Holmes), 1369:13-16 (Burnell). In reconstructing the arresting gear, Metric was not responsible for installing the cable and the arrestor systems that apply braking force.

The arresting gear concrete was perpendicular to the length of the runway, or, in other words, ran across the width of the runway. The I-beams were perpendicular to the concrete, and thus ran parallel to the runway. The rubber rails sat atop the I-beams and therefore also parallel to the runway. Tr. 594:2-15 (Holmes).

Carrignan to Metric (June 23, 2000)) (contractor to "remove and dispose" of the "existing concrete and rails of the arresting gears"). Metric was told that the government would provide Metric with the new rails to install. PX 120 (Letter from Carrignan to Metric) (contractor to "[i]nstall new concrete and rails"). The change order repeated these requirements, stating that Metric was to demolish "all existing concrete arresting gear material and replac[e] with new compacted base material, concrete, and to patch the asphalt as shown [in Drawing No. T04972]." PX 129 (Modification of Airfield Contract) at 3; PX 120 (Letter from Carrignan to Metric); PX 6 (Hainline Arresting Gear Analysis) at 13 (Arresting Gear Modification). Drawing No. T04972 noted that "New I beam to be drilled and tapped prior to installation. Government will furnish template for location of holes." PX 6 (Hainline Arresting Gear Analysis) at 13 (Arresting Gear Modification) (capitals omitted).

During the course of its work, Metric removed the rubber rails as part of its demolition of the preexisting arresting gear, and as part of its new installation Metric embedded new steel beams that were longer than the original rubber rails. At that point, the government directed Metric to reinstall the rubber rails that had been removed during the demolition process, and Metric had to retap the new I beams so that the old rubber rails could be used on the new beams. Tr. 160:12 to 162:16 (Kostelny), 569:8 to 570:11 (Holmes). Metric was able to locate only seven of the ten original rubber rails. Tr. 161:9 to 162:16 (Kostelny), 569:16 to 571:11 (Holmes). Although the government now argues that its original and continuing intent was for the rubber rails to be saved and reinstalled, that claim is unavailing in light of the contractual provisions of the agreed modification. Moreover, during the course of the project, a Navy inspector informed Metric that the existing rubber rails were to be installed "if the other ones don't arrive." Tr. 163:1-22 (Kostelny); PX 47 (Daily Reports to Inspector) at 18. Work on the 30-end arresting gear except for the rubber rails was complete by August 14, 2001, except for minor corrective steps. Tr. 582:7-19 (Holmes); PX 337 (Letter from L. W. Serrano, Navy Project Engineer, to Metric (Sept. 5, 2001)). All work on the 30-end arresting gear was complete by August 27, 2001, except for installation of the rubber rails. PX 337 (Letter from Serrano to Metric) ("As of August 28, 2001, the cable support rails for this arresting gear are not installed yet."); DX 1001 (Jones Report) at 40 ("27-Aug-01 Arresting gear #3[0] ready for final"). However, it was not until November 8, 2001 that the government accepted the work at the 30-end, after Metric had obtained the three new rubber rails from the Navy and installed them at the 30-end. PX 339 (Letter from E. W. Ruckle, Resident Engineer in Charge of Construction to Metric (Nov. 13, 2001)). Metric was unable to move to work on the 12-end until the 30-end was finished. Metric completed work on the arresting gear at the 12-end on June 20, 2002.

In sum, all of Metric's constructive-change claims respecting the arresting gears relates to the 30-end; none concerns the work at the 12-end.

G. Demobilization

San Nicolas Island is an environmentally sensitive area where, among other things, the breeding, birth, and nursing of several species of marine mammals are protected. DX 1008

(Roadway and Airfield Contract Provisions) at 112. Shortly after entering into the airfield contract, Metric submitted an Environmental Protection Plan ("the Plan") to the Navy as part of its contractual obligations, and that Plan was approved after one set of revisions. Tr. 974:9 to 977:6 (Miller); PX 60 (Metric's Environmental Protection Plan); PX 61 (Metric's Revised Environmental Protection Plan). The Plan included a provision for clean-up of spills:

> Removal of hazardous waste from [g]overnment property will be by a hazardous waste transporter registered with the State of California. This includes transportation by barge. Used lubricants, excess fuels or construction materials, hazardous waste and contaminated soils will be carefully transported off the island per applicable CCR and CFR regulations. In the event of an accidental oil or hazardous material spill, the Contracting Officer will be notified and appropriate clean-up procedures implemented immediately.

PX 61 (Metric's Revised Environmental Protection Plan) at 5. Neither the contract nor the approved Plan required Metric to prepare and submit for approval a separate, further plan to clean-up a particular spill or discharge.

Metric spilled hazardous materials on occasion throughout the course of the project, performing clean-up with the government's knowledge and oversight. Tr. 216:6 to 218:10 (Kostelny). As Metric neared completion of the project, the government observed contaminated soils at various locations and requested Metric's response regarding its intended clean-up procedures. In May 2002, Metric informed the Navy that it intended to use the procedures set out in its Environmental Protection Plan that had been used previously when spills occurred. Tr. 970:20 to 971:18 (Miller); PX 61 (Metric's Revised Environmental Protection Plan); PX 225 (Facsimile from Miller to Martonick (May 17, 2002)). The government rejected Metric's approach, informing Metric that it must either receive approval for a newly submitted clean-up plan or hire an approved clean-up contractor to prepare a plan before it could proceed. Pl.'s Post-Trial Br. at 25; Tr. 984:9 to 985:23 (Miller); PX 235 (Letter from Serrano to Holmes (June 12, 2002)) (listing environmental clean-up contractors recommended by the China Lake naval facility). Although Metric believed that it was under "no contractual requirement to hire an outside contractor to prepare a clean-up plan or to get government approval of the clean-up plan," Pl.'s Post-Trial Br. at 25, it submitted a number of proposals each of which the government rejected. Tr. 987:8 to 990:19 (Miller); PX 263 (Letter from Danny Morse, Contracting Officer to Metric (Nov. 7. 2002)). Metric then hired an outside contractor, IWS Environmental, to prepare a spill clean-up plan and remove contaminated material. Tr. 987:24 to 988:21 (Miller); PX 264 (Letter from Metric to Martonick (Nov. 7, 2002)). The government approved a plan prepared by IWS Environmental. PX 298 (Letter from Martonick to Metric (April 11, 2003)); Tr. 991:5 to 992:3 (Miller).

After this planning hurdle had been cleared, a controversy arose when the Navy directed Metric to clean-up contaminated soil in the Sand Spit area, an area to which Metric was not originally assigned but had begun using in late 1998 after being awarded the roadway contract.

Prior to Metric's access to the Sand Spit, the Navy and other contractors had used the area for many years. Prior to Metric's use, no inspection of the Sand Spit area was done, although other areas had been inspected for contamination prior to Metric gaining access. Tr. 980:8 to 983:23 (Miller). Metric used the Sand Spit as a storage area for construction materials and equipment, coincident with other contractors, and did not undertake any production operations there. Tr. 224:14 to 225:6 (Kostelny), 994:6 to 995:14, 972:4 to 973:23 (Miller).

Among other things, Metric eventually used the Sand Spit area as a staging ground for storage of concrete and asphaltic material it had removed in completing the roadway and airfield projects. After some discussion, the Navy agreed that Metric could leave this material on San Nicolas Island if Metric milled the material such that it could be recycled by the Navy as road base in future construction projects. Tr. 240:9 to 241:18 (Kostelny), 1266:8-17 (Miller). Metric brought in a crusher and processed the material. *Id*. However, it was later determined that some of the resulting crushed aggregate piles were contaminated. Tr. 997:5 to 998:11 (Miller). Metric claims that apart from one identifiable area of contamination that Metric agreed to remove, Metric did not contaminate the crushed aggregate piles.[17] The government required Metric to remove roughly half or two-thirds of the crushed aggregate piles as contaminated material. Tr. 1000:10 to 1002:16, 1266:19 to 1270:22 (Miller); DX 1001 (Jones Report) at 323.[18]

Mr. Steven Schwartz, the environmental protection specialist at San Nicolas Island, testified that the Sand Spit was an area used by a number of different people and groups. Tr. 1762:1-12 (Schwartz). The contamination found at the Sand Spit was in piles of asphalt and concrete grindings taken from various areas. Tr. 1763:17 to 1764:18 (Schwartz). Mr. Schwartz was unable to draw any conclusions as to how the ground-up asphalt and concrete became contaminated. Tr. 1764:19-22 (Schwartz). He surmised that the grindings were material transported by Metric to the Sand Spit and that it did not appear that the contamination occurred at that site but rather may have occurred elsewhere. Tr. 1765:4 to 1766:17 (Schwartz). The Navy based Metric's responsibility for the contamination on the fact that it had transported the material to the Sand Spit. Tr. 1768:2-8 (Schwartz). Metric cleaned up contamination found in the Sand Spit, notwithstanding its protestations that it was not at fault. Pl.'s Post-Trial Br. at 27.

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[17]The contamination which Metric acknowledges causing came from a loader that had a leak of hydraulic fluid. The spilled fluid was cleaned up and placed on a pile by an operator rather than placed in a bin for transport off-island. Metric agreed to clean up this material. Tr. 225:7 to 229:24 (Kostelny).

[18]At one point during the trial, the government appeared to be contending that crushed asphalt was a hazardous material – as an oily waste. Tr. 1269:9-20 (Miller) (cross-examination), 1278:21 to 1279:16 (counsel's explanation). That contention was not pursued in post-trial briefing. *See* Def.'s Post-Trial Br. at 11-12, 21-22.

H. Procedural History

Metric submitted claims to the Navy's Contracting Officer respecting the pontoon, PX 7 (four separate certified claims (Jan. 9, 2003)), PX 293 (Claim Letter from Metric to Navy (Apr. 4, 2003)), PX 294 (Claim Letter from Metric to Navy (Apr. 4, 2003)), PX 295 (Claim Letter from Metric to Navy (Apr. 4, 2003)), PX 296 (Claim Letter from Metric to Navy (Apr. 4, 2003)), arresting gear, PX 343 (Arresting Gear Certified Claim (June 17, 2003)), and contaminated soil. PX 330 (Letter from Metric to Navy regarding certified claim (Jan. 26, 2004)). Each was certified in accordance with the Contract Disputes Act, 41 U.S.C. §§ 601-613. Besides its direct expenses allegedly caused by changed conditions and added requirements, Metric sought to recover the "ownership costs" for its equipment during claimed periods of delay. These costs were calculated using the rates listed in the *Dataquest Rental Rate Blue Book* (the "*Blue Book*"), a publication used in the construction industry to determine equipment operating and standby rates.

Audits of several of Metric's claims were performed by the Defense Contract Audit Agency ("DCAA"). However, no decision on any of Metric's claims was issued by the Contracting Officer within the time required by the Contract Disputes Act. *See* 41 U.S.C. § 605(c)(2) ("A contracting officer shall, within sixty days of receipt of a submitted certified claim over $100,000," either issue a final decision or notify the contractor of the date by which a decision will be issued.) Metric filed its complaint with this court on April 9, 2004. Extensive discovery in this action was accompanied by a further audit by DCAA. Trial was conducted from July 16 through 24, 2007 in Seattle, Washington, a site visit to San Nicolas Island was conducted on July 26, 2007, and trial concluded with testimony on July 31 and August 1, 2007 in Washington, D.C. Following post-trial briefs and a closing argument, the case has become ready for disposition.

Jurisdiction

Under the Tucker Act and the Contract Disputes Act, this court has subject matter jurisdiction over a claim that has been presented to a contracting officer if either (i) the contracting officer has entered a final decision denying the claim, or (ii) the contracting officer has failed to render a final decision on the claim in a timely manner. *See* 41 U.S.C. § 609(a)(1) ("[After a] decision of the contracting officer under section 605 of this title . . . , a contractor may bring an action on the claim directly to the United States Court of Federal Claims."); *see also* 28 U.S.C. § 1491(a)(2) ("The Court of Federal Claims shall have jurisdiction to render judgment upon any claim by or against, or dispute with, a contractor arising under section 10(a)(1) of the Contract Disputes Act [, 41 U.S.C. § 609(a)(1)]."); *James M. Ellett Constr. Co. v. United States*, 93 F.3d 1537, 1541-42 (Fed. Cir. 1996); *Case, Inc. v. United States*, 88 F.3d 1004, 1008-09 (Fed. Cir. 1996). In this instance, the contracting officer did not issue a final decision on Metric's claim within the time required by the CDA, and thus the claim is deemed denied. *See* 41 U.S.C. § 605(c)(5); *United Partition Sys., Inc. v. United States*, 59 Fed. Cl. 627, 634-35 (2004). Consequently, the court has jurisdiction over Metric's claims.

Standards for Decision

In all contracts, American common law "imposes upon each party a duty of good faith and fair dealing in its performance and in its enforcement." *Restatement (Second) of Contracts* § 205 (1981); *see also Centex Corp. v. United States*, 395 F.3d 1283, 1304 (Fed. Cir. 2005). This duty among other things encompasses the "obligation 'that neither party will do anything that will hinder or delay the other party in performance of the contract.'" *Essex Electro Eng'rs v. Danzig*, 224 F.3d 1283, 1291 (Fed. Cir. 2000) (quoting *Luria Bros. v. United States*, 369 F.2d 701, 708 (Ct. Cl. 1966)); *see also Restatement (Second) of Contracts* § 205 cmt. d. Breach of these common law duties can be the basis for claims of compensable delay and disruption, entitling the affected party to an equitable adjustment. *See Aydin Corp. v. Widnall*, 61 F.3d 1571, 1577 (Fed. Cir. 1995) ("Where it requires a constructive change in a contract, the [g]overnment must fairly compensate the contractor for the costs of the change.") (citing *J. B. Williams Co. v. United States*, 450 F.2d 1379, 1394 (Ct. Cl. 1971)); *Ets-Hokin Corp. v. United States*, 420 F.2d 716, 720 (Ct. Cl. 1970) ("[W]here . . . the contracting officer, without issuing a formal change order, requires the contractor to perform work or to utilize materials which the contractor regards as being beyond the requirements of the pertinent specifications and drawings, the contractor may elect to treat the contracting officer's directive as a constructive change order and prosecute a claim for an equitable adjustment."); *Luria Bros.*, 369 F.2d at 708 (government's breach of implied obligation not to hinder or delay the contractor in performance gave rise to entitlement to recover damages).[19]

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[19]The theory of constructive change developed by judicial evolution. In cases where the contract work was actually changed but the procedures of a changes clause in the contract were not followed, early appeals boards found that a change had been "constructively" ordered. *See* John Cibinic, Jr., Ralph C. Nash, Jr. & James F. Nagle, *Administration of Government Contracts*, 427 (4th ed. 2006). As those analysts observed:

> Under common law contractual analysis, such fact patterns would more likely be placed under theories of implied contract or breach of contract, but the administrative procedures developed for the resolution of disputes in federal contracts prior to the Contracts Disputes Act of 1978 prevented the boards of contract appeals from using these theories. Hence, boards developed the alternate theory of constructive changes.

Id.

The doctrine of constructive change serves to

> (1) remediate contractor claims for extra work, and (2) permit contractors to perform disputed work without having to risk abandonment of their contracts to preserve their claims. The theory underlying the constructive change concept is that where the government "should have" issued a change order authorizing the extra work in the first place, the court or board [of contract appeals] may direct the government to do what "should have been done" by directing the government to issue a formal change order. The

"An equitable adjustment encompasses the quantative difference between the reasonable cost of performance without the added, deleted, or substituted work and the reasonable costs of performance with the addition, deletion, or substitution." *Miller Elev. Co. v. United States*, 30 Fed. Cl. 662, 701 (1994) (citing *J. L. Simmons Co. v. United States*, 412 F.2d 1360, 1370 (Ct. Cl. 1969); *Bruce Constr. Corp. v. United States*, 324 F.2d 516, 519 (Ct. Cl. 1963)). The burden of proving the amount of an equitable adjustment rests with the party making the claim. *See Mingus Constructors, Inc. v. United States*, 812 F.2d 1387, 1392 (Fed. Cir. 1987). The proofs as to quantum need not be mathematically exact, but they should be sufficient to provide "a fair and reasonable approximation" of the damages. *Electronic and Missile Facilities, Inc. v. United States*, 416 F.2d 1345, 1358 (Ct. Cl. 1969); *see also Seaboard Lumber Co. v. United States*, 308 F.3d 1283, 1302 (Fed. Cir. 2002).

ANALYSIS

A. Pontoon Claim

1. *Changed condition.*

Metric contends that the Navy's installation of the pontoon at Daytona Beach constitutes a constructive change. Pl.'s Post-Trial Br. at 28. Five categories of constructive changes have been identified by commentators: "(I) disputes over contract interpretation during performance; (II) [g]overnment[al] interference or failure to cooperate; (III) defective specifications; (IV) misrepresentation and nondisclosure of superior knowledge; and (V) acceleration." *Miller Elevator*, 30 Fed. Cl. at 678 (citing Ralph C. Nash, Jr., *Government Contract Changes* 10-9 through 10-11 (2d ed. 1989)); Nash, *Changes and Claims*, in *Construction Contracting*, at 501, 534 (1991)). Metric's pontoon claims fall under the second type of constructive change listed above, *i.e.*, one that rests on governmental interference.[20] When applying the doctrine of constructive change in this context, courts "look to whether the government's fault has compelled the contractor to perform extra work." John Cibinic, Jr., Ralph C. Nash, Jr. & James F. Nagle, *Administration of Government Contracts* 460 (4th ed. 2006). "Whether the

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> doctrine in its modern guise is the embodiment of the ancient principle that "what should have been done will be done."

Philip L. Bruner & Patrick J. O'Connor, Jr., *Bruner and O'Connor on Construction Law* § 4.25 (2002) (footnote omitted).

[20]The numerical designation of the categories of constructive changes recited in *Miller Elevator* is not reflected in the case law. For example, a differing site condition as stated in Federal Acquisition Regulation ("FAR") [48 C.F.R.] § 52.236-2, *i.e.*, a "latent physical condition[] at the site which differ[s] materially from those indicated in this contract" is typically known as a Type I differing site condition, *see H.B. Mac, Inc. v. United States*, 153 F.3d 1338, 1343 (Fed. Cir. 1998), although it would fall within the general category of defective specifications (category III in *Miller Elevator*).

government has breached an implied duty to cooperate is determined by the reasonableness of its actions under the circumstances." *Id.* at 459. Before it can recover, the contractor must show that the government ordered and actually compelled it to perform the additional work, *Len Co. & Assocs. v. United States*, 385 F.2d 438, 443 (Ct. Cl. 1967), although the government's order need not be formal or in writing. *Wm. A Smith Contracting Co. v. United States*, 412 F.2d 1325, 1340 (Ct. Cl. 1969). The order or compulsion must have been given by or derived from a governmental official with requisite authority. *Calfon Constr. Inc. v. United States*, 18 Cl. Ct. 426, 434, (1989), *aff'd*, 923 F.2d 872 (Fed. Cir. 1990) (table).

The government argues that this is purely a delay claim, not a constructive change, with the attendant consequence that Metric would not be allowed a profit on the costs of delay as it would be for a changed-condition claim. Def.'s Post-Trial Br. at 16 (citing *S.S. Silberblatt, Inc. v. United States*, 228 Ct. Cl. 729 (1981)); *see also North Am. Constr. Corp. v. United States*, 56 Fed. Cl. 73, 76 (2003) ("With respect to profit, there is typically no question that it is a normal part of an equitable adjustment."). Although witnesses at trial and plaintiff's briefs used the word "delay" when discussing the pontoon claim and the results of the pontoon installation, *see* Tr. 637:23-25 (Holmes), 1598:20-25 (Burnell); Pl.'s Post-Trial Reply at 14-17, these references do not make Metric's pontoon claim a delay claim. Rather, the scenario presented by Metric fits squarely within a governmental-interference type of constructive change. *See Ets-Hokin Corp.*, 420 F.2d at 720.

Metric bid for the work on San Nicolas Island and began its performance based upon the existing barge landing system at Daytona Beach. Tr. 456:3-16 (Holmes), 879:19 to 880:6, 902:10 to 904:5 (Miller).[21] However, when the government later installed the pontoon landing system, Metric was directed by the government to land only on the pontoon. Tr. 72:4-16, 92:19-22 (Kostelny), 471:13-25, 478:17 to 488:11 (Holmes). Because Metric's barge was different from the government's barge, landings by Metric on the pontoon proved to be difficult and at times impossible when the water depth at the end of the pontoon was not sufficient, whether due to lower tide or sand bars, to accommodate the deeper draft drawn by Metric's loaded barge. *See supra*, at 6. In short, Metric has proven that the Navy's installation of the pontoon on Daytona Beach, and its attendant requirement that Metric land its barge only on the pontoon and not on the beach constituted a constructive change to the roadway and airfield contracts that hindered Metric's performance.[22]

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[21]The contracts awarded to Metric incorporate by reference the standard Changes clause set forth at FAR § 52.243-4. *See* PX 2 (Airfield Solicitation, Offer, and Award); DX 1008 (Roadway and Airfield Contract Provisions). The Navy did not invoke that clause in connection with the installation of the pontoon.

[22]This is not to say that the Navy did not have good reasons for installing the pontoon. That installation eliminated any need to build temporary sand ramps on the beach and elided the necessity to maintain a permit from the Corps of Engineers to make barge landings on the beach. The pontoon also would reduce the amount of activity on the beach that might affect the

The government counters that the contractual provisions regarding beach landings were "quite restrictive and Metric simply had no right to unfettered access to beach landings on Daytona Beach." Def.'s Post-Trial Br. at 16 (citing DX 1008 (Roadway and Airfield Contract Provisions) at 104-05). However, Metric is not relying on any right to "unfettered" access; rather, its pontoon claim rests on the method of access as recited in the contractual terms. The contractual restrictions related to the Navy's priority of use, the nature of the beach, and environmental conditions; nothing in the contract addressed a pontoon. Landing of bulk aggregate and other similar types of construction materials at Daytona Beach was essential to contract performance. Landing at Sissy Cove was a non-existent alternative, as access to that cove is quite restricted due to its small size, shallow waters, and rocky outcrops, as shown by the government's own non-use of the cove.

The government further argues that "Metric's use of a specific barge, and Metric's previous experience conducting beach landings, were not contractually guaranteed to continue indefinitely in the manner that Metric preferred." Def.'s Post-Trial Reply at 9. That is true; there was no such guarantee. However, after the installation of the pontoon, the government directed Metric to use the pontoon for all landings at Daytona Beach. At the time that Metric was awarded the contract, beach landings at Daytona Beach were not just Metric's "preferred" landing method, rather they were the only type of landing by sea feasible on the island. The installation of the pontoon together with the government's insistence that Metric use the pontoon system rather than beach landings substantially hindered and restricted Metric's ability to land at San Nicolas Island and thus constituted a constructive change entitling Metric to an equitable adjustment.

2. *Length of delay.*

The changed conditions caused by the government's installation of the pontoon at Daytona Beach caused Metric delays on both the roadway and airfield contracts. The extent of the delay was strongly contested at trial.

The government first raises a mitigation defense, contending that Metric "had an obligation to mitigate its damages by renting a barge that was compatible with the pontoon" such as the barge rented from Foss Marine by the government, which could have been done "for a tenth of the costs it is now seeking." Def.'s Post-Trial Br. at 18-19 (citing *Indiana Michigan Power Co. v. United States*, 422 F.3d 1369 (Fed. Cir. 2005)). Conceptually, the government raises a valid point. Mitigation of damages should apply to an equitable adjustment just as it does to damages sought for a quotidian breach of contract. Equitable adjustment in the context of a governmental-hindrance constructive change constitutes a specialized remedy for what would otherwise be a breach of the implied covenant duty of good faith and fair dealing. *See supra*, at 16 & n.19. In this instance, once the pontoon was installed and Metric was directed to use it, Metric was under an obligation to mitigate its losses or damages. *See Indiana Michigan*,

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populations of elephant seals and California sea lions that frequented the beach.

422 F.3d at 1375 ("[O]nce a party has reason to know that performance by the other party will not be forthcoming [or, here, that performance will be hindered by actions of the other party], . . . he is expected to take such affirmative steps as are appropriate in the circumstances to avoid loss by making substitute arrangements or otherwise.") (quoting *Restatement (Second) of Contracts* § 350 cmt. b). In this respect, the government bears the burden of proof, *i.e.*, to eliminate or reduce the claimant's damages, the government must show that the claimant's actions were unreasonable. *See id*. (A non-breaching party is "'not precluded from recovery to the extent that [it] has made reasonable but unsuccessful efforts to avoid loss'" (quoting *Restatement (Second) of Contracts* § 350(2))); *see also T.C. Bateson Constr. Co. v. United States*, 319 F.2d 135, 160 (Ct. Cl. 1963); *Spodek v. United States*, 73 Fed. Cl. 1, 19 (2006) ("[I]t is the breaching party's burden to prove that the actions taken in mitigation were not reasonable.").

Metric resists the government's mitigation defense on several grounds. First, immediately after the Navy's installation of the pontoon, it sought permission to continue landing on the beach. PX 21 (Letter from Holmes to ROICC (Jan. 6, 1999)); *see also* PX 22 (Letter from Metric to ROICC (Feb. 11, 1999)). Five months later, that permission was granted, although Metric was no longer permitted to build sand ramps on the beach in connection with its beach landings. Tr. 82:5-8 (Kostelny). Moreover, Metric did use the pontoon for six landings, between January and April 1999, when the weather conditions, tides, and absence of sand build-up in front of the pontoon made such landings possible. *See supra*, at 7 n.9.

In support of its position, the government points out that Mr. Miller testified at trial that "We could have hired Foss Marine," Def.'s Post-Trial Sur-Reply Br. at 1 (quoting Tr. 1173:4-8 (Miller)); however this statement was only in response to the ability to hire the Foss barge to move rolling stock, not bulk aggregate, to San Nicolas Island. Tr. 1173:4-8 (Miller). The facts presented at trial showed that Metric could not have effectively hired and used the barge that Navy leased from Foss Marine for two reasons. First, Metric's barge transported bulk material while the Navy's barge was built and operated only to move rolling stock. Tr. 87:6-7 (Kostelny). Metric required the ability to move bulk material in order to perform its work on the island. Second, the Foss Marine barge was under contract to the Navy and was used consistently by the Navy, Tr. 306:19 to 308:14 (Kostelny), and thus was largely unavailable for rent by Metric. Consequently, the facts indicate that the actions Metric took by way of mitigation were not unreasonable, and in this regard the government has failed to meet its burden of showing that an equitable adjustment for Metric should be eliminated or reduced on unreasonable-mitigation grounds.

In its submissions to the Navy's contracting officer, Metric claimed that the installation of the pontoon caused a total of 368 days of delay: 25 days on the airfield runway project, 146 days on the roadway repair project, and 197 days concurrent for both projects. PX 7 (certified claims) at 67. Metric derived the delay periods by analyzing the number of barge-landable days between January 1, 1999 that were not used for that purpose, also taking into account the number of barge landings that were actually made during that period, and comparing the number of barge landings that were necessary to deliver the requisite materials. PX 7 (certified claims) at 70-75; Tr. 495:3

to 499:16, 503:16 to 551:13 (Holmes). As noted previously, the Navy's contracting officer did not respond to Metric's claims.[23]

To prepare for trial, Metric retained Mr. Stuart Burnell of Hainline & Associates to do a schedule analysis, and Mr. Burnell prepared a report summarizing the results of his review of the project records. *See* Tr. 1283:24 to 1284:13 (Burnell); PX 5 (Hainline Analysis). Mr. Burnell started his evaluation by accepting the recitations in the contracts that the supply of construction materials to the island was the critical step in completion of the projects, *see* PX 5 (Hainline Analysis) at 3, and then prepared a "collapsed as-built analysis" to quantify the delay due to the installation of the pontoon. *Id*. at 5. That method of analysis compared the actual project completion with a completion date calculated on a collapsed as-built schedule. *Id*. He took into account losses in production due to "the repeated start[ing] and stopping of the work which is directly related to delayed material deliveries." *Id*.; *see also* Tr. 1314:8 to1360:13 (Burnell). He concluded that a delay of 310 days was attributable to the Navy's actions. PX 5 (Hainline Analysis) at 6-7 & Ex. 5B; Tr. 1360:4-13 (Burnell).

Hainline's analysis was criticized by the government's construction scheduling expert, Ms. Patti Jones. *See* DX 1001 (Jones Report) at 20-28; Tr. 2027:24 to 2032:18 (Jones). Ms. Jones focused on Hainline's failure to account for time lost due to equipment break-downs and mechanical problems, DX 1001 (Jones Report) at 21-25; Tr. 2070:22 to 2074:19 (Jones), and Metric's failure to achieve planned production rates for asphalt. DX 1001 (Jones Report) at 25-26; *see also* Tr. 2074:20 to 2078:5 (Jones). Ms. Jones attributed the production losses to "Metric's failure to adequately staff the projects which caused crews to be shifted between projects C-6807 [the airfield contract] and C-5553 [the roadway repair contract] rather than working the projects concurrently as two distinct contracts." DX 1001 (Jones Report) at 28.

Ms. Jones's critique has merit, particularly insofar as it relates to Hainline's methodology. Hainline's "collapsed as-built analysis" did not adequately take into account the effect the asphalt batch-plant fire had on Metric's operations, nor did Hainline appropriately reflect equipment outages for necessary repairs, barge inspections, and the like. Moreover, Hainline's attribution of losses in production to "repeated start[ing] and stopping of the work," PX 5 (Hainline Analysis) at 5, was not necessarily an aspect of the projects that could be attributed to the Navy's

[23]A supplemental audit of the claim was performed by the Defense Contract Audit Agency ("DCAA") on June 8, 2004. *See* PX 5 (Hainline Analysis) at 48-79. That audit focused on allowable costs for equipment idled during delay periods and accordingly was "qualified because [DCAA] did not receive a technical evaluation to determine whether or not the claimed costs were due to government caused delays arising from the installation of a pontoon barge at Daytona Beach (San Nic[]olas Island)." PX 5 (Hainline Analysis) at 49.

installation of the pontoon, even indirectly. Accordingly, the court will not accept Hainline's analysis of the delay in the projects attributable to the pontoon.[24]

Metric has, however, proven that installation of the pontoon caused it to abort attempted landings on particular occasions, specifically on January 4, 1999, February 4, 1999, February 25 and 26, 1999, and March 30, 1999. *See supra*, at 5-7. The circumstances in which those attempted landings on the pontoon were aborted indicate that landings more likely than not could have been made successfully on the beach on those occasions. In essence, Metric was not able to make any landings on the pontoon during the first ten working days in January 1999, nor was it able to land its barge from February 17, 1999 until April 14, 1999, a period of 55 days. *See* DX 1001 (Jones Report) at 10; DDX 1018 (Jones demonstratives) at 16. The four aborted barge deliveries during that period prevented construction materials from being landed on the island in a timely way and caused a corresponding delay in completion of two projects. As a result, the court finds that Metric should receive an equitable adjustment for a 65-day period of delay directly caused by the Navy's installation of the pontoon.[25]

The court recognizes that Metric's landings on the beach after May 3, 1999, once the Navy installed new deadmen and gave permission to again use the beach for barge landings, were made more time-consuming and difficult because Metric was precluded from building sand ramps and using mats on the ramps. However, the court has no evidence before it to make findings respecting any added cost attributable to those hindrances, and, accordingly, it may not make any award in that regard.

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[24]Metric was restricted to landing its barge on the pontoon rather than the beach only from January 1, 1999 through May 3, 1999, a period of 123 days. Concededly, landing conditions were favorable during that time, and Metric succeeded in landing its barge on the pontoon six times during that interval, even though landings on the pontoon were considerably more difficult than on the beach. Nonetheless, Metric has not established that a delay over 300 days could be attributed to a hindrance (the pontoon) that was in effect only 123 days.

[25]Notably, this delay occurred *before* the no-cost time extension attributed to "batch plant fire, weather, etc." came into effect, *see* DX 1001 (Jones Report) at 143 (Modification P00001 of Roadway Contract), and that extension could thus have affected this period of delay only if Metric had released its pontoon claim, which it did not. *See infra*, at 23-26.

The Navy did partially mitigate its damages by transporting Metric's replacement tank on its barge, *see supra* at 6-7, and by installing new deadmen on the beach on or about May 3, 1999, and allowing Metric to land on the beach thereafter, albeit without using sand ramps and mats to ease transport of truck loads of aggregate, cement, etc. off the barge over the sand beach onto roadways. *Id*.

3. *Scope of waiver and release.*

Finally, the government argues that Metric waived and released its claims by executing Modification No. P00001 to the roadway project. Def.'s Post-Trial Br. at 35.[26] This modification provided a no-cost extension of 384 days, from June 12, 1999 to June 30, 2000, "due to batch plant fire, weather, etc." DX 1001 (Jones Report) at 143 (Modification P00001 of Roadway Contract). The modification also included a "Contractor's Statement of Release," applicable to "the work as herein revised." *Id*. (quoted more fully *supra*, at 8). The government interprets this no-cost extension as a waiver of Metric's pontoon claims for the roadway project. Def.'s Post-Trial Br. at 35-36.

Metric argues that the waiver in Modification No. P00001 does not apply to its pontoon claims for the roadway contract because the modification was signed only "under the contracting officer's assurance that the change order would not act as a full release of Metric's pontoon claim." Pl.'s Post-Trial Br. at 37. There is evidentiary support for Metric's position. Prior to signing the modification, Metric's president, Mr. Miller, contacted Ms. Martonick, the contracting officer who executed the modification on behalf of the government, and obtained her representation that the modification would not release Metric's rights regarding the pontoon claim. Tr. 964:8 to 969:10, 1152:3-18 (Miller). Metric asserts that this action was taken because of the patent ambiguity in the language of the then-proposed modification caused by the use of the words "etc." and "work as herein revised." Pl.'s Post-Trial Reply at 19.

The government responds that "plaintiff's reliance upon these alleged oral assurances is precluded by the parol[] evidence rule." Def.'s Post-Trial Br. at 36. Generally, under the parol evidence rule extrinsic evidence predating a written agreement may not be used "to add to or otherwise modify the terms of a written agreement in instances where the written agreement has been adopted by the parties as an expression of their final understanding." *Barron Bancshares, Inc. v. United States*, 366 F.3d 1360, 1375 (Fed. Cir. 2004). This rule is not apt here, however, because Mr. Miller's conversation with the Navy's Contracting Officer addressed a patent ambiguity in the proffered text. *See E.L. Hamm & Assocs., Inc. v. England*, 379 F.3d 1334, 1339 (Fed. Cir. 2004) ("[W]hen a contractor is faced with an obvious omission, inconsistency or discrepancy of significance, he is obligated to bring the situation to the government's attention if

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[26]The government contended at trial that Metric also waived its pontoon claims for the airfield project by entering into Modification No. P00017 for that project, but this contention was abandoned at closing argument. *See* Cl. Tr. 103:17 to 104:2:

> Q. . . . Do you say that . . . Modification 17 to the airfield or runway claim also constitutes a waiver?
>
> A. . . . [T]hat's the one that relates to the arresting gear. . . . [T]he three months they were given was so they would have time to do the arresting gear change work, so I don't believe that would apply.

he intends subsequently to resolve the issue in his own favor.") (citing *Space Corp. v. United States*, 470 F.2d 536, 538 (Ct. Cl. 1972)).

Ambiguities are typically resolved against the drafter under the doctrine of *contra proferentum*, but an exception to that general rule arises where the ambiguities are "so 'patent and glaring' that it is unreasonable for a contractor not to discover and inquire about them." *HPI/GSA-3C, LLC v. Perry*, 364 F.3d 1327, 1334 (Fed. Cir. 2004) (quoting *Triax Pac., Inc v. West*, 130 F.3d 1469, 1474-75 (Fed. Cir. 1997)). "The existence of a patent ambiguity in a government contract 'raises the duty of inquiry.' . . . That duty requires the contractor to inquire of the contracting officer as to the true meaning of the contract before submitting a bid. . . . Absent such inquiry, a patent ambiguity in the contract will be resolved against the contractor." *Triax Pac.*, 130 F.3d at 1474-75 (citations omitted). A patent ambiguity exists when the ambiguity in the contract is "obvious, gross, [or] glaring," *NVT Tech., Inc. v. United States*, 370 F.3d 1153, 1162 (Fed. Cir. 2004), such that "[a] reasonable contractor studying the specifications prior to submitting a bid would have recognized the ambiguity." *Triax Pac.*, 130 F.3d at 1475. The doctrine is "designed to ensure, to the greatest extent possible, that all parties bidding on a contract share a common understanding of the scope of the project," but the rule is not given broad application because it "has the effect of relieving the government from the consequences of its own poorly drafted contracts." *Triax Pac.*, 130 F.3d at 1475.

Metric is correct in its assertion that a key aspect of the text of the extension and of the release was patently ambiguous. By using the words "etc." after "plant fire, weather," the no-cost extension was markedly ambiguous in reciting the causes for the extension. "Etc." by its very nature is indefinite. Literally translated from the Latin, it means "[a]nd other things" and the term "usu[ally] indicates additional, unspecified items in a series." *Black's Law Dictionary* at 592 (8th ed. 2004). Moreover, "work as herein revised" as used in the accompanying release was also patently ambiguous because the contract modification covered a substantial number of additions and deletions to the project as well as the no-cost time extension. In short, Metric had a duty of inquiry respecting patently ambiguous proposed terms, and it fulfilled that duty by inquiring of the contracting officer whether the modification and release would embrace the pontoon claim. Accordingly, the patent ambiguity is not resolved against Metric because it fulfilled its obligations to inquire about and to resolve the ambiguity prior to signing the modification.

Nothing in the factual record at trial supports the government's contention that the no-cost extension and release encompassed and elided Metric's pontoon claim for the roadway project. The pertinent contracting officer, Ms. Martonick, did not testify at trial, and no contemporaneous writing that related to the cause of the no-cost extension or the scope of the release was put into evidence. The only documentary evidence on the issue indirectly supports Metric's position. That evidence, an e-mail exchange seven months after Modification No. P00001 was executed, shows that a succeeding contracting officer, Ms. Carrignan, anticipated that Metric would pursue a claim for equitable adjustment. Ms. Carrignan wrote: "As we both know, these are not the last of the claims [Metric] will be filing – I imagine the one for the

pontoon issue will be a doozie!!" PX 5 (Hainline Analysis) at 182. The evidentiary record thus contains only the patently ambiguous language drafted by the Navy, Mr. Miller's testimony about his conversation with the contracting officer, Ms. Martonick, and the subsequent commentary by a different contracting officer, Ms. Carrignan. The evidence proffered by Metric is sufficient to satisfy its burden on this matter.

One further issue arises respecting the no-cost extension and accompanying release. The government falls back on an argument that Metric had an obligation to except from the release a known claim, even one that had not yet been submitted. *See* Def.'s Post-Trial Br. at 36-38; Def.'s Post-Trial Sur-Reply at 20-21 (citing *Mingus Constructors*, 812 F.2d at 1394). This position would have merit if the release itself was explicit. *Compare Vann v. United States*, 420 F.2d 968, 972 (Ct. Cl. 1970) (a claim not specifically delineated in an exception to a release is thereafter barred), *with H.L.C. & Assocs. Constr. Co. v. United States*, 367 F.2d 586, 593 (Ct. Cl. 1966) (a discretionary release tendered by the contractor "was so broad" as to be virtually meaningless and was rendered ineffective).[27]

The release, however, was tied to the terms of the modification, applying to "the work as herein revised," including the no-cost time extension, and did not have the effect the government ascribes to it. Other precedents are more similar to the facts in the case at hand. In *C & H Commercial Contractors, Inc. v. United States*, 35 Fed Cl. 246 (1996), a contractor which signed a modification with a release analogous to that signed by Metric established that the government had assured it that the release language would not bar subsequent claims for delay and impact costs. The government later asserted that the contractor's claims were barred by the parol evidence rule. The court rejected the government's position, deeming it to be "outrageous," and allowed plaintiff to prove its entitlement to compensation. *Id.* at 257. The government argues that *C & H Commercial* differs from Metric's circumstances because in *C & H* there was more evidence of misrepresentation than in Metric's situation. Def.'s Post-Trial Br. at 38. The government's proffered distinction is not persuasive.

In another similar case, *Laka Tool & Stamping Co. v. United States*, 639 F.2d 738 (Ct. Cl. 1980), the court held that an accord and satisfaction did not bar a contractor's equitable claim for pre-modification costs incurred in attempting to comply with impossible government-drafted design specifications. Although the contract did not specifically reserve the right to pursue equitable-adjustment claims, the court held that the contractor did not waive these rights because there was no evidence that the parties meant it to bar the initial claim. *Id*. at 743. The principle in *Laka* pertains equally to this case: given the Contracting Officer's response to Mr. Miller's inquiry, there was no need for Metric to specifically reserve the right to bring its equitable adjustment claims for the government's installation of the pontoon. Accordingly, the court holds

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[27]Here, but for the circumstances that the ambiguity is patent, the doctrine of *contra proferentum* would have pointed toward a resolution of the issue against the Navy. *See HPI/GSA-3C, LLC*, 364 F.3d at 1334.

that Metric did not waive or release its pontoon claims by entering into Modification No. P00001.

B. Arresting-Gear Claim

1. *Asphalt.*

Metric claims that the government's multiple rejections of the asphalt placed at the 30-end arresting gear location constituted a constructive change to the contract, entitling Metric to an equitable adjustment for the resulting delays. Pl.'s Post-Trial Br. at 29. The manner and method of installing and placing the asphalt was set out in the contractual specifications for the airfield work, as modified by Change Order No. P00017. PX 129 (Modification of Airfield Contract) at 3. Part of the work to replace the arresting gear on the runway required Metric to install a three-foot wide patch of asphalt between the existing runway asphalt and newly placed concrete. PX 6 (Hainline Arresting Gear Analysis) at 13 (Arresting Gear Modification). Metric installed the asphalt using hand-placement, as set forth in the specifications, because a paving machine could not be used for such a narrow area. PX 126 (Proposal for Contract Modification (July 14, 2000)); Tr. 605:1 to 611:22 (Holmes), 1022:11 to 1023:2 (Miller). The government rejected this work three times, claiming each time that excessive aggregate was exposed, which could result in dislodged rock and cause damage to aircraft engines. Tr. 2268:16 to 2669:17 (Douglas). The Navy also disapproved of the work because the asphalt and concrete were not "flush," giving rise to the possibility that an airplane tailhook could catch at the differential elevation. PX 43 (Quality Control Meeting Notes) at 1. Ultimately, Metric was able to complete the work to the government's satisfaction by cutting out an eight-foot patch and using a paving machine on this area. *See supra*, at 11.

Metric believes that its disapproved attempts to install asphalt were contractually conforming and thus that the government's rejection was improper. In Metric's view, the repeated rejections constituted a constructive change to the contract because "the finish the government wanted exceeded what the specification required." Cl. Tr. 66:20-23. Because approved results could only be obtained by cutting out additional asphalt and using a paving machine on the enlarged width, Metric contends that it was required to do more than "patch" the asphalt that contractually had to be replaced. Cl. Tr. 64:12-16, 69:1.[28]

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[28]Metric also argues that the government is liable because "[t]he government impliedly warrants the accuracy of matters set forth in the contract documents," Pl.'s Post-Trial Br. at 31 (citing *United States v. Spearin*, 248 U.S. 132, 137 (1918)), and thus "the government warrants that satisfactory performance will result" if the contractor follows the specifications. *Id*. (citing *Conner Bros. Constr. Co. v. United States*, 65 Fed. Cl. 657, 685-86 (2005)). The government contends that the *Spearin* doctrine does not apply, but rather that the contract included a performance specification, not a design specification. Def.'s Post-Trial Br. at 31.

As the Federal Circuit has explained:

Performance specifications "set forth an objective or standard to be achieved, and the

The government responds that Metric's initial efforts to place asphalt for the arresting gear at the 30-end of the runway did not conform to the contract's quality-control requirements and did not comply with the requirement that the seam between asphalt and concrete be "flush." Def.'s Post-Trial Br. at 20. The government's view is "[t]o the extent that [Metric was] delayed by it[]s own failures," the government has no liability for that delay. *Id*. at 20.

The facts indicate that the "flush" and tolerance were not the cause of Metric's problems with the hand-placed asphalt for the 30-end of the runway. Rather, rock at the surface of the asphalt engendered the Navy's concerns. Tr. 270:3-8 (Kostelny) ("[The rejections were] basically for the rock pockets."). Metric was able to complete the assigned work by using a paving machine following contractual specifications for that type of asphalt placement. Metric's related contention that the type of mix specified in the contract was inappropriate for hand placement similarly fails because Metric had options about how to complete the work under the contract. The key fact on this issue is that Metric's problems with its asphalt installation at the 30-end of the runway were susceptible of resolution under the contract's terms, and they were not ineluctably caused by inappropriate or defective specifications.

2. *Rubber rails.*

Metric contends that the government's directive for Metric to salvage the rubber rails and reinstall them was a constructive change to the contract, entitling Metric to an equitable adjustment. The government takes a differing view of the contract specifications, viewing them as "unambiguously requir[ing] Metric to remove the original rubber rail[s] and to 'reinstall' or 'refasten' [them]." Def.'s Post-Trial Br. at 21 (citing DDX 1018 (Jones demonstratives) at 58).

> successful bidder is expected to exercise his ingenuity in achieving that objective or standard of performance, *selecting the means and assuming a corresponding responsibility* for that selection." . . . Design specifications on the other hand, describe in precise detail the materials to be employed and *the manner in which the work is to be performed*. The contractor has no discretion to deviate from the specifications, but is "required to follow them as a road map."

P.R. Burke Corp. v. United States, 277 F.3d 1346, 1357 (Fed. Cir. 2002) (quoting *Blake Constr. Co. v. United States*, 987 F.2d 743, 745 (Fed. Cir. 1993)); *accord Connor Bros.*, 65 Fed. Cl. at 685-86; *Utility Contractors, Inc. v. United States*, 8 Cl. Ct. 42, 50-51 (1985) ("[D]esign specifications are explicit, unquestionable specifications which tell the contractor exactly how the contract is to be performed."), *aff'd*, 790 F.2d 90 (Fed. Cir. 1986) (table). The government warrants the accuracy of design specifications, but no such warranty accompanies performance specifications. *See, e.g.*, *Stuyvesant Dredging Co. v. United States*, 834 F.2d 1576, 1582 (Fed. Cir. 1987); *Connor Bros.*, 65 Fed. Cl. at 685-86.

Here, the airfield contract provides that hand-placement was allowed but not that it was necessary or the only means of accomplishing the work on the arresting gear. These contract terms are not design specifications because they allowed Metric discretion to choose the means of performance. Thus, Metric's invocation of the *Spearin* doctrine is inapposite.

This controversy turns on the terms of the contractual modification that added the arresting-gear project to the airfield contract. The government points to Engineering Drawing Sheet C-25 as justification for a requirement that Metric save the existing rubber rails or provide new rubber rails. Def.'s Post-Trial Br. at 10. This drawing provided that Metric was to "remove cable support rail, weld new c-channel to exist[ing] I beam and reinstall cable support rail." DDX 1018 (Jones demonstratives) at 58. This document was part of the original contract, dated September 29, 1993, and was not included as part of Change Order No. P00017. Later documents contradict Drawing Sheet C-25. The government's request for proposal required Metric to "[r]emove and dispose" of the "existing concrete and rails of the arresting gears," and then "[i]nstall new concrete and rails." PX 120 (Letter from Carrignan to Metric (June 23, 2000)). The modification that was consequently issued made no reference to Drawing Sheet C-25, but instead required Metric to "[r]eplace concrete as per details shown on drawing number T04972 and per specifications in contract number N62474-94-C-6807." PX 6 (Hainline Arresting Gear Analysis) at 11 (Arresting Gear Modification) (capitals omitted). Drawing T04972 was included as part of the modification and requires the "[d]emolition of all existing concrete gear material." PX 6 (Hainline Arresting Gear Analysis) at 13 (Arresting Gear Modification).

Furthermore, Drawing T04972 notes that "New I beam to be drilled and tapped prior to installation. Government will furnish template for location of holes." PX 6 (Hainline Arresting Gear Analysis) at 13 (Arresting Gear Modification) (capitals omitted). The government would not have needed to provide a template for the holes if the plan was to use the existing rails, and the new template was for rubber rails of a length that did not match the existing rubber rails. Cl. Tr. 70:12-24.

Moreover, the Navy's contemporaneous actions showed an intent to provide new rubber rails. Mr. Douglas in his daily report for September 4, 2001, stated that he "[t]old Contractor that the rubber rails (existing) will be installed when they . . . complete the 30 end Arresting gear if the other ones don't arrive." PX 47 (Daily Reports to Inspector) at 18. The report from the following day states, "Have told contractor to install existing rubbers that were not waiting or being delayed by customer on trying to get 10' rubber from Air Ops Point Mugu." PX 47 (Daily Reports to Inspector) at 17. Had new rails not been expected by the parties, there would have been no need for the government to direct Metric to install the existing rails.

The drawings and contractual documents associated with the arresting-gear modification thus contemplated that the rubber rails with the arresting gear would be replaced along with the other components of the gear, and the Navy's contemporaneous actions supported that contemplation. The government's decision that Metric reuse the original rubber rails constituted a constructive change to the contract, and Metric is due an equitable adjustment for this change and the resulting delays.

3. *Synopsis.*

The government is liable for an equitable adjustment to Metric for a constructive change relating to the rubber rails, but not for the delays experienced by Metric while completing the asphalt work for the 30-end of the arresting-gear project. Because Metric's work on the 30-end arresting gear was complete on August 27, 2001, except for the rubber rails, and the rails were not obtained and installed to obtain final approval until November 8, 2001, *see supra*, at 12, the compensable delay on the arresting gear project is limited to 73 days.[29]

C. Contaminated Soil

Metric admits that it spilled hazardous materials on occasion throughout the course of the project. Tr. 216:6 to 218:10 (Kostelny). Metric further acknowledges that it placed a bucket-load of contaminated material at the edge of the Sand Spit stockpile and that it was obliged to identify and remove that material. Pl.'s Post-Trial Reply at 8. However, Metric believes that "[t]he specifications did not require Metric to . . . clean-up contaminated soil at the conclusion of the project that Metric had not caused." Pl.'s Post-Trial Br. at 30.[30] The requirement that Metric clean up all contaminated milled asphalt and concrete at the Sand Spit stockpiles is contested as a constructive change to the contracts. The government responds that Metric "was unable to prove that its soil contamination was limited to an area that is smaller than the 200 cubic yards that Metric was required to remove." Def.'s Post-Trial Br. at 22.

The government's clean-up requirement caused Metric to remove one-half to two-thirds of the milled stockpiles. *See supra*, at 14. Apart from the hydraulic leak that Metric conceded resulted in contamination, Mr. Schwartz, the environmental protection specialist at San Nicolas Island, surmised that the contamination in the milled stockpiles was caused by materials transported to the site, not an occurrence at the Sand Spit itself. Tr. 1762:15 to 1768:23 (Schwartz). The source of the grinds was asphalt and concrete removed by Metric during work

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[29]Metric took the position that it had completed its work on the 30-end except for the rubber rails by August 14, 2001. Pl.'s Post-Trial Br. at 20. However, Mr. Holmes conceded at trial that "some of the clean up and putting the Top Guard" on surfaces remained at that point. Tr. 583:4-5 (Holmes). Both Metric and the government would concur that the work apart from the rails was finished by August 27, 2007. *See* PX 337 (Letter from Serrano to Metric); DX 1001 (Jones Report) at 40.

[30]Metric also argues that the specifications did not require it to "retain an outside contractor to prepare a clean-up plan or to remove hazardous materials, [or] to submit a clean-up plan for government approval." Pl.'s Post-Trial Br. at 30. However, none of Metric's proofs of damages related to these allegations. Metric also states in its Post-Trial Reply that "[t]he issue in dispute is whether the contamination at the sand pit was caused by Metric." Pl.'s Post-Trial Reply at 8. Accordingly, the court will also not address subsidiary issues associated with a post-construction clean-up plan.

on the airfield and roadway projects. Tr. 2274:12 to 2275:23 (Douglas). The contaminants found included diesel fuel, jet fuel, and other petroleum products that are typically found on a roadway or airfield. DX 1001 (Jones Report) at 59-60. Accordingly, a preponderance of the evidence shows that the contamination came from work of other contractors or from leaks and spills on the roads and runway that were taken up with the concrete and asphalt that was milled for recycling and reuse as road base. The government's requirement for Metric to remove the contaminated materials without evidence that Metric caused the contamination of the grinds constitutes a constructive change to the contracts, and the government is liable for the portion of the clean-up attributable to contamination caused not by Metric but by other contractors and the Navy itself.

D. Quantum

1. *Rate for equipment on standby.*

By far the most significant elements of the quantum of the equitable adjustments sought by Metric relate to standby equipment costs. Most of the equipment used by Metric on the airfield and roadway projects was owned by Metric or its co-venturer, Mr. Holmes. Thus, direct leasing costs are not available and the calculation of quantum focuses on appropriate deemed or allocated costs for owned equipment. In calculating the compensation due to Metric for its ownership costs during the periods of delay, Metric and its experts used rates from the *Dataquest Blue Book*. Metric supports this use by contending that the *Blue Book* is widely accepted in the construction industry to determine rental-equipment operating rates on both public and private projects. Metric also avers that "[e]ven the government's expert agreed that the FARs allow for the use of the *Blue Book* if that decision is made by the contracting agency." Pl.'s Post-Trial Reply at 9 (citing Tr. 1691-93 (Test. of Paul Pepin, plaintiff's expert cost accountant) and Tr. 1959 (Test. of David Cotton, government's expert accountant)). On the other hand, the government argues that the *Blue Book*'s rates are "inflationary" and "[t]here is no contractual provision that authorizes or mandates the use of [B]lue [B]ook rates for an equitable adjustment or certified claim." Def.'s Post-Trial Br. at 14 (citing Tr. 1056 (Miller)).

The contracts incorporate 48 C.F.R. § 252.243-7001, part of the Defense Federal Acquisition Regulation Supplement ("DFARS"), which specifies that "[w]hen costs are a factor in any price adjustment under th[e] contract, the contract cost principles and procedures in FAR [P]art 31 and DFARS [P]art 231, in effect on the date of th[e] contract, apply." In turn, FAR § 31.105(d)(2)(i) provides:

> (A) *Actual cost data shall be used when such data can be determined for both ownership and operating costs for each piece of equipment,* or groups of similar serial or series equipment, *from the contractor's accounting records. When such costs cannot be so determined, the contracting agency may specify the use of a particular schedule of predetermined rates* or any part thereof to determine ownership and operating costs of construction equipment . . . .

> (B) Predetermined schedules of construction equipment use rates (e.g., the Construction Equipment Ownership and Operating Expense Schedule published by the U.S. Army Corps of Engineers, industry sponsored construction equipment cost guides, or commercially published schedules of construction equipment use cost) provide average ownership and operating rates for construction equipment.

(Emphasis added).

Consequently, the DFARS and FAR Part 31 call for a hierarchy of means of deriving ownership and operating costs for construction equipment, starting with actual-cost data and progressing to "predetermined schedules" as agreed in particular instances. The *Blue Book* is such a predetermined schedule of construction use rates, as are Army Corps of Engineers manuals, the *Caterpillar Handbook*, and other similar publications.[31]

Both parties agree that the use of actual cost data is not possible here because Metric did not break its equipment costs down into identifiable costs for each piece of equipment. Metric averred that "[m]aintaining the records and allocating the costs for each dollar spent on each piece of equipment and recording the manhours spent on repairing and maintaining each piece of equipment would have been a nightmare." Pl.'s Post-Trial Reply at 10. Rather, Metric submits that costs such as maintenance in a corrosive environment, repairs, permitting and licensing, replacement costs in the case of the asphalt batch plant, and transportation, all contributed to the fact that Metric ended up being out of pocket $2,000,000 on the project, exclusive of Mr. Holmes' indirect equipment costs. Pl.'s Post-Trial Reply at 10 (citing Tr. 661-68 (Holmes), 1930-31 (Cotton); DX 1002 (Cotton Report) at 121)).

Metric contends that the government "agreed at the start of the project that Blue Book rates would be used to calculate the owned equipment costs." Pl.'s Post-Trial Br. at 34, 36; Tr. 454:16-22 (Holmes); Tr. 925:1-16 (Miller). No writing supported such an agreement. Instead, Metric seeks to find evidence of agreement in the Navy's use of *Blue Book* values in prior allowed claims on the runway project. Tr. 454:18-22, 553:4 to 557:22 (Holmes), 925:5-25 (Miller). The government presented no witnesses to contradict this claimed agreement. Prior implementation and practice under these contracts could indeed be probative of the parties' understanding of contractual terms. *See Brooklyn Life Ins. Co. of N.Y. v. Dutcher*, 95 U.S. 269, 273 (1877) ("The practical interpretation of an agreement by a party to it is always a consideration of great weight. The construction of a contract is as much a part of it as anything else. There is no surer way to find out what the parties meant, than to see what they have done."); *Chicago v. Sheldon*, 9 Wall. 50, 76 U.S. 50, 54 (1869) ("[I]n an executory contract, . . .

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[31]Different versions of the Corps Manual exist, but no particular Corps manual was identified at trial as an alternative. Prior cases have addressed rates based on specific Corps manuals. *See ACE Constructors, Inc. v. United States*, 70 Fed. Cl. 253, 277 (2006), *aff'd*, 499 F.2d 1357 (Fed. Cir. 2007) (referring to Corps of Engineers, *Construction Equipment Ownership and Operating Expense Schedule*, Region VI, EP 1110-1-8, Volume 6 (June 1999)).

where its execution necessarily involves a practical construction, if the minds of the parties concur, there can be no great danger in the adoption of it by the court as the true one."); *Blinderman Constr. Co. v. United States*, 695 F.2d 552, 558 (Fed. Cir. 1982) ("It is a familiar principle of contract law that the parties' contemporaneous construction of an agreement, before it has become the subject of a dispute, is entitled to great weight in its interpretation."). Here, a preponderance of the evidence indicates an agreement between the parties to use *Blue Book* rates for owned equipment.

A controversy also exists over the standby rates to be used for Metric's older equipment. Metric and its experts used *Blue Book* Volume 3 for the older equipment. That volume applies to equipment between 11 and 20 years old. Tr. 1945:17-25 (Cotton).[32] The government's expert accountant, Mr. Cotton, prepared an attachment to his expert report that showed what he considered to be inflationary rates for six pieces of equipment, generating $2,456,870 more than he believed necessary for an equitable adjustment. *See* DX 1002 (Cotton Report) at 123. In preparing his analysis, Mr. Cotton broke down the costs into *Blue Book* elements for depreciation, cost of facilities capital, and indirect costs. In calculating the depreciation, he did not use the *Blue Book* but rather did calculations based on an unspecified Army Corps of Engineers manual. Mr. Cotton then applied these modified rates to establish the cost of facilities capital. However, no Corps of Engineers manual was ever adopted by the parties as the appropriate schedule of standby rates, and invocation of an unspecified Corps Manual by Mr. Cotton was not appropriate. Furthermore, although the age of the equipment is certainly relevant to deriving an appropriate standby rate, the *Blue Book* takes that into account by devoting a separate volume, Volume 3, to rates for older equipment (*i.e.*, generally, equipment between 11 and 20 years old). Tr. 1945:17-25 (Cotton); *see also* Tr. 790:2-8 (Holmes). The fact that equipment might be sufficiently old that it has been fully depreciated is not a basis for disallowing a standby rate. *See In re Marshall Assoc. Contractors, Inc.*, 2002 WL 504788 (I.B.C.A. 2002) ("[F]ully depreciated equipment is clearly entitled to reasonable ownership rental rate reimbursement."). Such equipment has to be repaired and maintained in good operating condition to remain functional, and the repairs and maintenance have a cost.

Metric also takes issue with Mr. Cotton's analysis because he did not include indirect costs; he had opined at trial that such costs "would have either been claimed as a direct job cost, or possibly included in Metric's overhead." Pl.'s Post-Trial Reply at 9-10 (citing Tr. 1935:6 to 1936:2 (Cotton)). As a result, Mr. Cotton testified that the *Blue Book*'s inclusion of some indirect costs was inappropriate in the circumstances:

> A [Mr. Cotton] . . . The Blue Book allows you to calculate either a stand-by rate or an operating rate for equipment.

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[32]Some of the equipment Metric used on the project had been on the island since the early days of Metric's work on other contracts dating back to 1992. Tr. 661:17 to 662:16, 666:22 to 668:22 (Holmes).

Q The ownership costs include depreciation, is that right?

A Yes.

Q And the cost of facilities, which we talked about as basically interest.

A Yes.

Q It also includes some indirect costs, correct?

A Yes.

Q In your calculation, did you look at the indirect costs?

A In my analysis of the six items for which we had acquisition cost information, I took out the indirect cost factor. Because, as the Blue Book indicates, that factor represents indirect costs that some contractors account for elsewhere. And in this case, those costs would have either been claimed as a direct job cost, or possibly included in Metric's overhead.

Tr. 1935:6 to 1936:2 (Cotton). However, in this instance, Metric has not claimed the indirect costs as a separate category of compensable equitable adjustment, nor is there any evidence that it generally incorporated such costs in its overhead. Thus, Mr. Cotton's invitation to remove indirect costs of equipment on standby is not accepted, and the *Blue Book* inclusion of such costs in the standby rates will be honored.

The parties also disputed whether it would be appropriate to make an adjustment for the *Blue Book* rates for the location of the work. Metric claimed that "severity factor" of 25 percent, should be applied to the *Blue Book* standby rates to account for the fact that the equipment was being used on an island affected by wind-blown, corrosive salt spray. Pl.'s Post-Trial Reply at 17 (citing Tr. 1685:25 to 1687:2 (Pepin)); *see also* Tr. 1277:11-21 (Miller). The government counters with an argument related to "[r]egional adjustment factors," Def.'s Post-Trial Br. at 28-29 (quoting DX 1002 (Cotton Report) at 26 (quoting in turn *Dataquest Blue Book*)), which in *Blue Book* parlance refers to general climatic conditions in an area. DX 1002 (Cotton Report) at 26-27. The government notes that the "[r]egional adjustment factors [in the *Blue Book*] for Southern California vary from .93 to 1.0," Def.'s Post-Trial Br. at 29, which would reduce the *Blue Book* rates rather than increase them.

Factually, the working conditions on San Nicolas Island are such that it is appropriate to apply a severity factor and not an area adjustment factor to equipment used in that work. The island's relatively remote location in an area frequented by winds and surf, the island's small size, and the facts that the construction work largely took place on the periphery of the island and the staging and storage areas for equipment were also at or near the periphery of the island meant that Metric's construction equipment was constantly exposed to a corrosive environment. These conditions were not those applicable to a typical construction project in the Southern California area. Consequently, Metric has established that a severity factor should be applied to the *Blue Book* standby rates. *See In re Marshall Assoc. Contractors*, 2002 WL 504788 (finding appropriate an adjustment of 39 percent to the *Blue Book* rates, to account "for the exceptional deterioration of the equipment used on the project").

A residual question is what the appropriate severity factor should be in all the circumstances. Metric's claimed factor of 25 percent is not supported by any detailed analysis or reference to repair rates, maintenance costs, or rates that have been applied in comparable situations. The government similarly offered no detailed analysis or showing. There is evidence in the record that the Navy had previously applied a severity factor of 15 percent to prior, allowed claims by Metric for adjustments to work on the island. Tr. 1686:5 to 1687:2 (Pepin). Thus, the record supports the application of a severity factor but not one as high as the 25 percent that Metric has claimed. Given the sparse and fragmentary evidence available respecting this issue, the court concludes that a severity factor of ten percent should be applied to the standby *Blue Book* rates for Metric's equipment.

Accordingly, *Blue Book* standby rates will be applied to Metric's equipment rendered inactive for periods of time due to the Navy's constructive changes to the roadway and airfield contracts, and a ten percent severity factor will be added to those rates.

Wholly apart from the questions whether to apply *Blue Book* standby rates and whether a severity factor is appropriate, the parties also contested aspects of the overhead and profit to be applied to the standby equipment rates. Metric's claimed home-office overhead was 8.45 percent. *See* PX 7 (certified claims) at 8. The DCAA considered this percentage to be excessive as did the government's expert, Mr. Cotton. *See* PX 328 (DCAA Audit Report) at 23-24; PX 335 (Supp. DCAA Audit Report) at 23-24. In response to these criticisms, Mr. Miller adjusted Metric's overhead rate downward to 5.31 percent. *See* PDX 3 (Arresting Gear Summary) at 1. An overhead rate of 5.31 percent accords with the overhead rates allowed in other similar cases, *see ACE Constructors*, 70 Fed. Cl. at 279-80 (allowing a home-office overhead rate of 5.8 percent), and the court will apply that rate here.

Metric sought a relatively high profit margin of twelve percent. *See* PX 7 (certified claims) at 8. This rate was strongly contested by Mr. Cotton, who opined that no profit should be allowed because Metric had been steadily losing money on the airfield and roadway projects. He had examined Metric's financial statements over a four-year time period that included the time up to and through the pontoon claim and found that Metric's profitability was "a negative 5

percent." Tr. 1822:25 (Cotton). The court does not doubt the accuracy of Mr. Cotton's analysis, but his conclusion that no profit should be allowed cannot be accepted. Instead, the court will reduce Metric's claimed profit to ten percent, an allowance that is fairly standard. *See ACE Constructors*, 70 Fed. Cl. at 279 (allowing a ten percent profit, citing factual evidence adduced in that case as well as John Cibinic & Ralph Nash, *Administration of Government Contracts* 754 (3d ed. 1995)).

Finally, Metric included in its claimed equipment rates for the pontoon claim a so-called "market" rate of $30,000 per month (or $1,000 per day) for its barge. PX 7 (certified claims) at 9. That rate also was strongly contested by Mr. Cotton. *See*, *e.g.*, DX 1002 (Cotton Report) at 17 ("Metric's barge costs are grossly overstated" (capitals omitted)). In post-trial briefing, Metric conceded that it "should not have used the $30,000 [per-month] market rate, but does consider that the $11,614 *Blue Book* rate to be the appropriate [per-month] rate to be applied in its claims." Pl.'s Post-Trial Reply at 17. The court will apply this concession.[33]

With these adjustments, the equipment rate for the 65-day period of delay attributable to the Navy's installation of the pontoon is $10,942.31 per day.

2. *Necessary equipment.*

At trial, an issue arose respecting what equipment necessarily remained on the island during the time Metric was on standby waiting for rubber rails to complete the 30-end arresting gear. Mr. Holmes initially testified at trial that while Metric was waiting for the rubber rails, each item of equipment that Metric had on the island was necessary other than the asphalt paving machine. Tr. 672:17 to 673:6 (Holmes). Metric's claim and Mr. Burnell's analysis of damages used this baseline to request a daily rate for standby equipment of $8,252.79. PX 7 (certified claims) at 9, 102; PX 6 (Hainline Arresting Gear Analysis) at 7; Tr. 676:11 to 679:25 (Holmes), 1440:9-16 (Burnell). After the government's expert, Mr. Cotton, testified questioning the need to have most of the equipment on the island to complete the work, Tr. 1848:22 to 1852:15 (Cotton); DDX 1019 (Cotton demonstrative) at 105-112; DX 1002 (Cotton Report) at 21-22, Mr. Miller opted to reduce Metric's claim by eliminating standby costs for some equipment that he conceded was not necessary to complete work on the arresting gear. Tr. 2354:15-21 (Miller). Mr. Miller prepared a fresh analysis of Metric's equipment list, noting which equipment was or was not necessary to complete the arresting gear or to accomplish the demobilization work. *See* PDX 3 (Arresting Gear Summary); Tr. 2327:2-18 (Miller). Mr. Miller provided two alternative calculations, one including standby costs for the barge and the other excluding barge costs after May 5, 2001, the date when all arresting gear materials had been delivered to the island. PDX 3 (Arresting Gear Summary) at 3-6; Tr. 2327:8-18 (Miller). Mr. Miller's alternative analysis

[33]In his expert report, Mr. Cotton stated that "[a] worksheet prepared by Metric indicates that Metric's calculation of the Blue Book rate for the barge supported a rate of only $9,407.34 per month." DX 1002 (Cotton Report) at 17. However, there is no evidentiary support in the trial record for the amount Mr. Cotton cites, and the court thus cannot accept it.

recognized that the barge was still needed to remove the equipment from the island and fully demobilize Metric's operations, but Metric's standby costs might eliminate the barge because the barge could have been available for rent during the time required for completion of the arresting gear project and preparations for demobilization. Tr. 2328:20 to 2329:11 (Miller); Pl.'s Post-Trial Br. at 24.[34]

Mr. Miller's summary totals the equipment costs and divides them by 341 days, the original time requested in Metric's certified arresting-gear claim. PDX 3 (Arresting Gear Summary); Tr. 2330:15 to 2331:14 (Miller). Metric thus requests compensation for equipment standby costs at a rate of $7,686.76 per day through May 5, 2001, and $6,506.82 for dates thereafter when the barge was no longer needed. PDX 3 (Arresting Gear Summary) at 1; Tr. 2330:10-14 (Miller). The daily rates included "[h]ome-office overhead per the Cotton Report, profit[,] and bond [costs]." PDX 3 (Arresting Gear Summary). Metric applied a 25 percent severity factor and a profit of twelve percent, however, both of which are excessive. *See supra*, at 34. The court has recalculated the daily equipment rate for the arresting-gear claim with a ten percent severity factor and a ten percent profit, generating a daily rate of $5,533.65.

The court accepts Mr. Miller's revised analysis of necessary equipment because it takes account of Mr. Cotton's criticisms and removes standby rates for equipment that was present on the island but not needed for completion of the work. Because all of the pertinent time (73 days) on the 30-end arresting-gear project waiting for rubber rails occurred after May 5, 2001, a daily rate of $5,533.65 will be applied.

3. *Soil containment removal.*

Metric seeks $183,417.78 for its demobilization and environmental clean-up efforts. Tr. 1005:3 (Miller). Metric's claimed costs for soil removal are based on its charge to the government of twelve-thirtieths of its total costs for removing contaminated soils from San Nicolas Island, representing the claimed use of 12 of the 30 roll-off bins that Metric brought to the island for clean-up of contaminated soils that Metric believes represent the government's responsibility for contaminants in aggregate piles located at the Sand Spit. PX 330 (Letter from Metric to Navy regarding certified claim (Jan. 26, 2004)) at 2-3; Tr. 1007:16-25 (Miller).[35]

The government contends that Metric's contractor IWS Environmental removed only five bins from the Sand Spit, not twelve as Metric claims. Ms. Jones, an expert in construction project management, scheduling, and delay, testified that IWS Environmental accounted for the

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[34]In fact, the barge was leased to others for use during Metric's work on San Nicolas Island. DX 1002 (Cotton Report) at 18 ("An invoice dated December 4, 1998 indicates that the barge was used for non-[San Nicolas Island] work during the [contract periods].").

[35]The claimed cost consists of $152,003.40 of direct costs and $31,414.38 of profit and overhead costs. PX 330 (Letter from Metric to Navy regarding certified claim (Jan. 26, 2004)).

bins differently than Metric does in its claim. Tr. 2135:22-24 (Jones). IWS Environmental's report states that there were a total of 13 bins used for removals at Area of Contamination number 1, the asphalt batch plant area, 12 bins used at Area number 2, the concrete batch plant area, and five bins used for removal at Area number 3, the Sand Spit area. DDX 1028 (Jones demonstrative) at 22 (citing DX 1001 at 326-28, the report by IWS Environmental). Ms. Jones recalculated the amount due to Metric based on the removal of five of the 30 bins from the Sand Spit area, or 16.66% of the total costs, which amounts to a total due of $57,950.05, including both direct and indirect costs. Tr. 2136:17-22 (Jones); DDX 1028 (Jones demonstratives) at 23. The court accepts this analysis by the government's expert, Ms. Jones, and will use a baseline amount of $57,950.05 for removal of contaminants from the Sand Spit area. That amount must be adjusted, however. Metric applied a profit of ten percent as well as a home-office overhead of 8.45 percent and a bond premium of 1.15 percent to its direct costs. DX 1002 (Cotton Report) at 10. The court has reduced the home-office overhead to 5.31 percent and the bond cost to 1.05 percent to accord with its ruling regarding rates for standby equipment. The resulting amount recoverable by Metric is $56,072.47 for removal of contaminants from the Sand Spit area.

4. *Synopsis.*

Respecting the pontoon claims, the court finds that Metric was delayed by 65 days, not 368 days as Metric claimed. Applying a daily equipment rate of $10,942.31 per day, Metric is due an equitable adjustment of $711,250.15 for those claims. Respecting the arresting-gear claim, Metric was delayed 73 days, not 390 days as Metric claimed. Applying a daily equipment rate of $5,533.65 to those days, Metric is due an equitable adjustment of $403,956.45 for its arresting-gear claim. Metric is also due an adjustment of $56,072.47 for removal of contaminants from the Sand Spit area.

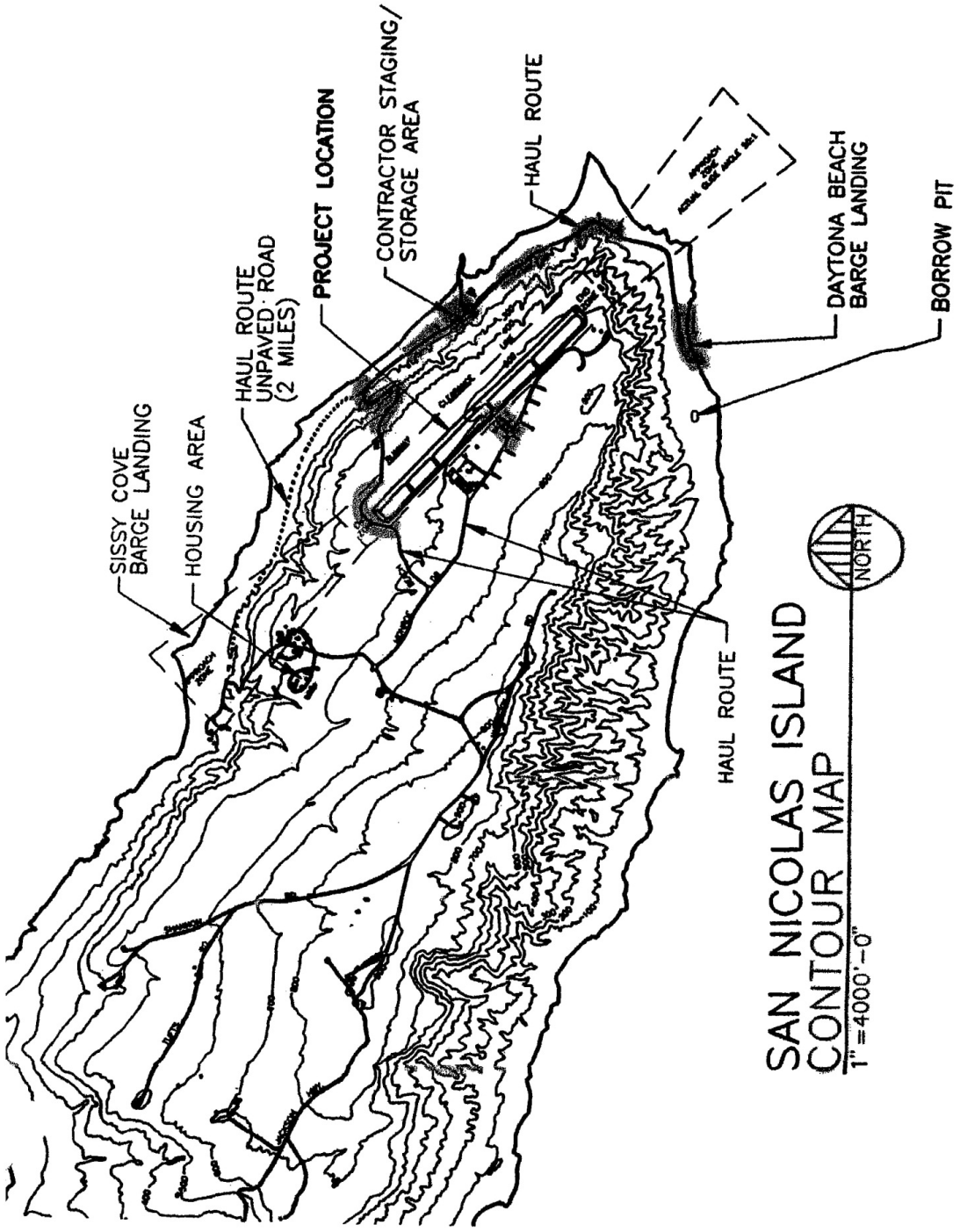
CONCLUSION

For the reasons stated, Metric has established its entitlement to equitable adjustments totaling $1,171,279.07. Metric also is awarded interest at the rate specified in 41 U.S.C. § 611, calculated as to $711,250.15 from January 9, 2003, as to $403,956.45 from June 17, 2003, and as to $56,072.47 from January 26, 2004, until receipt of payment from the government. The clerk shall enter final judgment in favor of Metric as specified.

No costs.

It is so ORDERED.

s/ Charles F. Lettow
Charles F. Lettow
Judge


SISSY COVE BARGE LANDING
HOUSING AREA
HAUL ROUTE UNPAVED ROAD (2 MILES)
PROJECT LOCATION
CONTRACTOR STAGING/ STORAGE AREA
HAUL ROUTE
DAYTONA BEACH BARGE LANDING
BORROW PIT
HAUL ROUTE
SAN NICOLAS ISLAND
CONTOUR MAP
1" = 4000'-0"
NORTH

PX038-006