

In the United States Court of Federal Claims

No. 00-542C

Filed: July 29, 2005

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**SOUTHERN COMFORT BUILDERS,
INC.,**

Plaintiff,

v.

UNITED STATES,

Defendant.

* * * * *

* **Construction Contract;**
 * **National Aeronautics and**
 * **Space Administration;**
 * **Differing Site Conditions;**
 * **Defective Specifications;**
 * **Loss of Productivity;**
 * **Prompt Payment Act.**

John C. McManus, McManus & Graham, LLP, Atlanta, Georgia, **J. Hatcher Graham**, of counsel, for the Plaintiff.

Michael N. O'Connell, Jr., Trial Attorney, **Todd M. Hughes**, Assistant Director, **David M. Cohen**, Director, Commercial Litigation Branch, **Peter D. Keisler**, Assistant Attorney General, Civil Division, United States Department of Justice, Washington, DC, for the defendant. **Amber M. Hufft**, Assistant Chief Counsel, Kennedy Space Center Office, National Aeronautics and Space Administration, of counsel.

OPINION

HORN, J.

This case arises from a contract between the plaintiff, Southern Comfort Builders, Inc., (SCBI) and the National Aeronautics and Space Administration (NASA) to install heating, ventilation, and air conditioning (HVAC) equipment, along with the associated ductwork, wiring and piping in Mobile Launch Platforms (MLPs) for the NASA space shuttles at Kennedy Space Center, Florida. SCBI seeks damages alleging that, during the course of its performance, it encountered defective contract specifications, not obvious before actual performance, and a Type I differing site condition, in that the surfaces, ducts, and pipes of the MLPs were contaminated with lead-based paint, which was not indicated in the bid documents. The lead paint required abatement before SCBI could proceed with the contract. SCBI further claims that NASA improperly administered the contract. According to the plaintiff, the government's actions, including the defective specifications, differing site conditions and failure to properly administer the contract, all caused delays and loss of productivity, which resulted in added costs, for which plaintiff should be compensated. The plaintiff also alleges that the defendant failed to pay SCBI for its work in accordance with the terms and conditions of the

contract, in violation of the Prompt Payment Act, 31 U.S.C. §§ 3901, et seq. (2000). Finally, the plaintiff alleges that the defendant failed to negotiate contract modifications in good faith, which, according to the plaintiff, “constitutes a constructive change to the Contract.” Plaintiff’s complaint initially requested damages in the amount of \$374,946.00.¹

The defendant filed a counterclaim, initially in the amount of \$84,657.00. The defendant alleges that the plaintiff failed to provide coordination drawings as required by the contract and, therefore, that the plaintiff saved approximately \$30,000.00, the estimated cost of generating the required drawings. In the joint stipulation of facts, however, the defendant reduced this amount and the parties state: “The Government further seeks \$6,484.00, which is the Government’s calculation of the total costs of preparing coordination drawings for MLP-1.” The defendant also includes in its counterclaim the cost incurred to replace or correct rejected work, including fan drive mechanisms and belt guards and/or access door interlocks. The contracting officer issued a final decision finding that plaintiff owed the defendant \$54,475.00 for the cost of the government’s reprourement, although the defendant admits that \$3,500.00 of that amount was not related to work performed by the plaintiff. In the joint stipulation of facts, the defendant seeks \$50,975.00 for the reprourement. The total value of the defendant’s counterclaim is \$57,459.00. The defendant is currently holding retainage of \$15,975.00.

FINDINGS OF FACT

On March 25, 1998, NASA awarded SCBI contract no. NAS 10-98024 for replacement of HVAC equipment, along with the associated ductwork, wiring and piping in MLPs for the NASA space shuttles at Kennedy Space Center, Florida. The contract was awarded to SCBI based upon a sealed bid totaling \$818,056.00. On March 18, 1998, before NASA awarded the contract to SCBI, NASA sent a letter to SCBI requesting confirmation of their bid price. In the letter, NASA stated that SCBI actually was not the lowest bidder, but that the lowest bidder had requested to withdraw its bid because of a mistake in bid. NASA requested SCBI to confirm its bid stating that: “The disparity between [SCBI’s] bid and the other bids and the Government Estimate is of

¹ The parties filed a joint stipulation of facts, which included revised dollar amounts for the plaintiff’s damages claims, which differ from the plaintiff’s modified claim to the contracting officer. In the complaint, plaintiff included only a total dollar claim. No specific amounts were identified for individual counts. Regarding defendant’s counterclaim, the numbers in the joint stipulation of facts differ from in the contracting officer’s final decision awarding damages to the government. The court has used the dollar amounts in the joint stipulation of facts as the starting point for post-trial consideration by the court. In this court, the defendant also initially counterclaimed for an additional \$200.00 as a credit to the government for SCBI using a different pipe; however, during the proceedings in this case, the defendant waived that item in the counterclaim.

such a magnitude as to indicate the possibility of a mistake in bid.” The record does not indicate how SCBI verified its bid to NASA; however, SCBI was awarded the MLP contract.

The MLP contract was a fixed-price contract with two tasks and one option. Task one required SCBI to replace HVAC equipment in MLP-1. Task two required SCBI to replace HVAC equipment in MLP-2. The contract also included a fixed-price option for MLP-3. Before NASA awarded the MLP contract, a pre-bid site visit was held on February 24, 1998. During the site visit, potential bidders were invited to walk the facility, survey the MLPs and ask the contracting officer questions. Because the solicitation, specifications and diagrams were released before the pre-bid site visit, all potential bidders had an opportunity to review the drawings and specifications included in the solicitation before attending the pre-bid site visit, and to compare the contract specifications to the actual structural measurements in the MLPs. Although SCBI bid on and won the MLP contract, it did not attend the pre-bid site visit. After SCBI won the contract, however, it requested permission from NASA to survey the MLPs to conduct measurements. On April 2, 1998, the defendant informed SCBI that it could inspect MLP-1 on April 6, 7, and 8, 1998, and MLP-3 on April 6, 7, 8, 9, and 10, 1998. On April 9, 1998, SCBI visited MLP-1. Curtis Reed, SCBI’s project superintendent, stated at the trial that the purpose of the inspection was only to measure the MLP doors to determine how SCBI would fit its equipment into the MLPs and that the defendant did not permit SCBI access to the MLP to compare the contract specifications to the actual measurements of the equipment within the MLPs. A daily construction log entry drafted by the defendant on April 9, 1998, shows that SCBI visited MLP-1 “to take door opening measurements.” Another construction log entry drafted by the defendant indicates that SCBI visited the MLPs on the evening of May 6, 1998, “to take measurements and plan lifting procedure.”

The government issued SCBI a notice to proceed on April 3, 1998. Pursuant to the notice, SCBI was required to complete all contract performance, including punch list items, by December 28, 1999. In the notice, the government also stated that SCBI should “[k]eep in mind that access to the construction site will be governed by the ‘Work Area Access Constraints’ clause.” The constraints clause of the contract is found at Article 18 of the contract, which discusses the particular time and access restrictions within which SCBI was to complete the contract. Specifically, the contract was restrictive in that it set forth the precise sequence in which SCBI was to complete the MLP work and required all work packages to be completed in three modification periods or work windows, each six weeks long. The contract included thirteen work packages for each MLP, which were required to be performed during the NASA specified work windows.

The MLP contract specified SCBI’s work sequence by requiring that: “All tasks within a modification period shall be performed in the sequence shown for those tasks in that modification period.” The contract, however, also stated that “the sequence in which the modification periods (work windows) containing these tasks will be performed

will be based upon MLP availability and will be determined by the Government.” By a letter dated June 22, 1998, NASA informed SCBI that MLP-1 would be available from June 10 - July 21, 1998 for the first work window. Although the letter was sent after the work window commenced, the letter stated that it confirmed “previous informal discussions, provided at status meetings prior to the work window, which the parties agreed would suffice for notification of this work window.”

SCBI commenced work on the MLP contract in June, 1998.² Through the testimony of Russell Allison, SCBI’s project manager for the MLP contract, the plaintiff alleges that immediately upon commencing work, it encountered several government caused delays and changes in the expected work sequence. For example, Mr. Allison testified that the defendant delayed the start of the contract because MLP-1 was not at the park site, where SCBI planned to complete work on the contract. Additionally, Mr. Allison testified that SCBI was required to resequence the start of the work because the government was not prepared to begin the first work package. The first work package of each MLP required SCBI to construct chilled water piping modifications. Mr. Allison stated that SCBI could not complete work package no. 1 because the government had difficulty removing the coolant system. SCBI, therefore, was required to resequence their work and to begin with work package no. 2 for MLP-1. The plaintiff alleges that such scheduling conflicts occurred throughout its work on MLP-1, delaying SCBI’s performance and requiring SCBI to submit numerous Requests for Information (RFIs) to the government.

During the course of its performance on the MLP contract, SCBI submitted fifty-seven RFIs to the government. These RFIs requested information such as where to place piping and how to address structural obstructions confronted in the course of performance. In letters to NASA dated June 19, 1998 and July 25, 1998, SCBI expressed its concern about the timeliness of the government’s response to SCBI’s many RFIs. Specifically, in its July 25, 1998 letter to NASA, SCBI stated: “We have tried to work around all the out-of-sequence work, but keep coming up with incomplete answers to the RFI’S and design changes.” Additionally, SCBI argues in its complaint in this court that: “Given the restrictive nature of the time SCBI had for performance of the Contract, it was imperative that NASA respond to SCBI’s RFIs as quickly as possible.”

On August 1, 1998, SCBI again wrote to NASA’s contracting officer, Terrance Crowley, and expressed its concern about the scheduling impacts. Specifically, the letter to Mr. Crowley indicated that NASA was not responding to the plaintiff’s various RFIs. The August 28, 1998 letter stated: “We trust and hope this is a high priority for you to execute all of the RFI’s and concerns of ours in order that we may complete this project.” With the letter, SCBI attached its daily construction logs from July 27 through

² SCBI’s daily construction logs in the record start on June 10, 1998, but indicate that no work was performed that day due to the government’s alleged failure to make work package no. 1 available.

July 31, 1998. The logs indicate that the plaintiff was delayed in its performance awaiting a response specifically to RFI no. 22. For example, the daily log for July 28, 1998 states that: "RFI #22 is still not completely answered and we are being impacted from hooking up to the fan coils. We also, are being held up from placing pipe through penetration from B deck to A deck." SCBI states that NASA's failure to timely respond to its RFIs caused unnecessary and unreasonable delays in performance.

The government responds that many of the plaintiff's problems and its numerous RFIs would have been avoided if the plaintiff had produced the coordination drawings required by the contract. Coordination drawings were required from the contractor to identify and prevent conflict or clearance problems between trades, such as electrical, mechanical, and piping, and to coordinate between the different trades. Sections 1300 and 15050 of the contract required SCBI to submit specific data for the project. Section 15050, part 1.3 of the contract stated:

SD-04 Drawings

Coordination Drawings shall be submitted for Pipes, Valves, and Specialties showing coordination of work between different trades and with the structural, electrical and architectural elements of work. Drawings shall be in sufficient detail to show overall dimensions of related items, clearances, and relative locations of work in allotted spaces. Drawings shall indicate where conflicts or clearance problems exist between various trades.

The plaintiff admits that it did not draft coordination drawings for MLP-1 as the contract required. SCBI argues that NASA did not grant SCBI sufficient access to MLP-1 to properly inspect the MLP in order to draft the coordination drawings before beginning work. In addition, SCBI states that it relied upon the diagrams provided by the defendant during the solicitation process, stating that the defendant's drawings were unusually detailed, indicating their projected usefulness to determine pipe lengths and placement. The plaintiff, however, admits in its reply brief that it found that the actual measurements and routing of the piping were different from the drawings. Also, according to the plaintiff, NASA's contracting officer's technical representative, Armando Maiz, waived the requirement for SCBI to produce coordination drawings. In a submittal provided to NASA on April 22, 1998, Del Ellis, the president of SCBI, had written "N/A" in the section where the SD-04 drawing description would be provided and the requirement for SD-04 drawing was lined out. That document was countersigned by the contracting officer's technical representative on May 4, 1998. In a letter dated February 18, 2000, SCBI claimed, referring to SD-04, that: "Since it was just lined out, you did in fact accept N/A as submitted or it would have been stated Not Provided as it was stated on the As Built Drawings." (emphasis in original). At the trial, however, Mr. Maiz stated that he never advised the plaintiff that it did not have to complete coordination drawings.

Believing that many of SCBI's RFIs were the direct result of SCBI's failure to produce the coordination drawings, the government reduced SCBI's contract amount. In a letter from NASA to SCBI, dated February 2, 2000, NASA informed SCBI that it was crediting back to the government amounts given to SCBI under change orders resulting from the RFIs SCBI had previously submitted. In the letter, the government stated that: "SCBI failed to comply with the provisions of the submittal requirements [coordination drawings] of contract specification requirements as outlined below. This failure caused the Government to issue unwarranted modifications that were generated primarily through RFI's submitted by the contractor." In short, the government informed SCBI that many of its RFIs were unnecessary and the direct result of SCBI's failure to draft the coordination drawings required by the contract. In the letter, the government indicated that it intended to credit \$18,588.00 back to the government for SCBI's failure to produce the coordination drawings.

On July 1, 1998, SCBI's performance on MLP-1 was halted by NASA, after NASA informed SCBI that the paint on the MLPs into which SCBI was drilling contained lead. Before SCBI could continue performance, NASA required that the lead be abated. SCBI argues that the lead-based paint constituted a differing site condition, causing SCBI to delay its performance and to work in excess of the contract requirements. At NASA's request, and pursuant to contract modification nos. 2 and 12, SCBI hired a subcontractor, Sunrise Systems of Brevard, Inc., to complete the lead abatement. The defendant also modified the MLP contract to provide payment for the lead abatement work. According to the defendant, under contract modification no. 28, dated December 4, 1998, the government paid SCBI \$37,882.00 for the lead abatement work. Later, in modification no. 40, the government decreased that amount by \$5,995.00. In modification no. 52, issued on January 13, 2000, the government then decreased that amount by an additional \$1,412.00. Finally, on October 24, 2002, the defendant paid SCBI an additional \$8,364.32 for temporary pipe supports used during the lead abatement process. Despite the inclusion of the lead abatement, differing site condition claim in plaintiff's complaint, the government has demonstrated, based on the change orders, that SCBI has been compensated \$38,839.32 for the lead abatement work. Plaintiff's allegations that the lead abatement requirement caused delays to contract performance leading to loss of productivity will be addressed below.

In the course of SCBI's performance on the MLP contract, NASA observed that the belts on the Air Handling Units (AHUs) were wearing prematurely. Initially, it was believed that the sheaves on the AHUs were installed backwards, in that the fan sheaves were installed on the motor and the motor sheaves were installed on the fan. After confirming from the manufacturer that the sheaves were installed correctly, the parties discussed several corrective proposals. According to the government, however, the issue was not resolved and the problem lasted for several months longer. On July 8, 1999, NASA issued SCBI a non-conformance report, which indicated that the belts on the AHUs were wearing prematurely. Three months later, by a letter dated October 12, 1999, the contracting officer, Clarence Floyd, directed SCBI to repair or replace the defective equipment which had caused the premature wearing problem. In the letter,

Mr. Floyd stated that “the [belt] problems consisted of broken belts, misalign[ed] sheaves, probably the wrong types of sheaves installed, belts too tight, belts too loose and belts cracking.”

SCBI attempted to correct the wearing problem with the AHU belts by replacing the factory installed adjustable sheaves with fixed sheaves for two of the AHUs. SCBI also replaced all of the belts on 9 of the 11 AHUs, performed a sheave alignment check and adjustment on all 11 AHUs and tightened the belts per the manufacturer’s recommendations in its operations and maintenance manual. In a letter dated November 22, 1999, NASA stated to Carroll Air Systems, Inc. (Carroll Air), SCBI’s AHU supplier, that the wearing issue was “not a maintenance problem, but it instead appears to be a production problem.” The government requested immediate corrections to provide reliable units.

Through defendant’s expert witness at the trial, John M. West, and in the filings submitted to this court, the defendant argues that the reason the belts wore prematurely was that the drive service factor was incorrect. The MLP contract, at section 15855, part 2.1.1.1, required that the “[f]an drive shall be by V-belt, designed for not less than 150 percent of the connected driving capacity.” According to Mr. West, a drive service factor of 150 percent, or 1.5, means that the fan belt drive must be designed for 50 percent more horsepower than will be used in the AHU. In the AHU submittals presented to NASA by SCBI, the actual drive service factors of the installed AHUs ranged from 1.18 to 1.24, which is below the contractually required drive service factor of 1.50. The defendant argues that the cause of the premature wear was SCBI’s failure to provide AHUs with the appropriate drive service factor. The defendant, therefore, seeks compensation for reprocurring the belts and sheaves from another contractor.

In its counterclaim, the defendant also argues that SCBI failed to provide and install belt guards or access door interlock switches on each of the AHUs, as was required by the contract. The purpose of the belt guards or interlock switches was to prevent accidental, personnel contact with a moving fan belt. Specifically, the MLP contract at section 15855, part 2.1.1.1 required that: “A belt guard shall be provided inside the cabinet, or the access door shall be interlocked with the supply fan so that power to the fan will be interrupted when the access door is opened.” In its defense, SCBI claims that the AHUs specified by the government provided neither belt guards nor an access door interlock. Indeed, a letter from the manufacturer, McQuay International (McQuay) to SCBI’s supplier, Carroll Air, confirms that the AHUs installed by the plaintiff “do not have any offering for belt guards.” Instead, the McQuay AHUs were fitted with a bolt on the access door which prevented the doors from being opened without a specific kind of tool.

On December 7, 1999, SCBI submitted a deviation request asking to be relieved from the requirement of installing the belt guards or interlock switches. On December 16, 1999, NASA’s contracting officer, Clarence Floyd, denied SCBI’s request. In his denial, Mr. Floyd recognized that the use of a special tool to access the belts was an

acceptable practice under the Occupational Safety and Health Administration (OSHA) regulations. Nevertheless, Mr. Floyd stated that: "Although this meets OSHA requirements, it is inferior to what is required by the specifications and increases the probability that, through negligence or oversight, no safety device is used to protect technicians from the rotating equipment."

To resolve the premature belt wear and the required belt guards or interlock switches issues, on March 29, 2000, the government issued contract modification no. 53, which deleted from SCBI's contract the requirement to replace belts and sheaves on all MLP AHUs, as well as the requirement to install belt guards for all MLP AHUs. In addition, modification no. 53 decreased SCBI's MLP contract price by \$35,000.00. As reason for the decrease, the modification stated that: "The contractor failed to comply with the requirement of specification 79K35131, section 15855, part 2.1.1.1 to provide belt guards or access door interlocks for air handling units" The government also claimed as a basis for the decrease that: "The contractor failed to comply with the requirements of Specification 79K35131 Section 15855 paragraph 2.1.1.1 to provide the required air handling units belts for fan drive The belts installed by the contractor are breaking, too tight, too loose and cracking."

On June 5, 2000, NASA awarded a reprocurement contract in the amount of \$52,200.00 to Ivey's Construction, Inc. (Ivey's), to complete the portion of work not completed by SCBI under the original MLP contract. The reprocurement contract required Ivey's to design, build, and install belt guards for all the AHUs, as well as to install new sheaves and belts for all the AHU blower assemblies per the manufacturer's recommendation, and finally, to test and balance all the AHUs. NASA made one modification to Ivey's reprocurement contract, which raised the ultimate reprocurement contract price to \$54,475.00. The government is not seeking \$3,500.00 of the reprocurement cost, which did not relate to SCBI's MLP contract responsibilities. In its current counterclaim, the government seeks \$50,975.00 in reprocurement costs from SCBI for the replacement of belts and sheaves and the installation of belt guards for the MLP AHUs.

Throughout its progress, and after the MLP contract was completed, SCBI filed several requests for equitable adjustment (REA) and certified claims with NASA's contracting officer. SCBI filed its first REA in June, 1999. According to Michael Midgette, who was admitted at the trial as an expert in construction scheduling for the plaintiff, and the individual who assisted SCBI in drafting its REAs and certified claim, the government provided no response to SCBI's first REA. On March 3, 2000, SCBI submitted a certified claim for equitable adjustment to the contracting officer in the amount of \$374,946.00. In its claim, SCBI argued that because of the many design deficiencies encountered on MLP-1, NASA's slow response time to SCBI's RFIs, the large number of change orders issued as a result of the conflicts, and the discovery of a differing site condition in the lead paint, SCBI experienced additional costs over and above what it would have experienced. The plaintiff's claim, however, did not specifically request a contracting officer's final decision, and the contracting officer

responded to it only as an REA. On April 17, 2000, the contracting officer denied the REA in its entirety.

On April 25, 2000, through counsel, SCBI resubmitted its certified claim and specifically requested a contracting officer's final decision. On June 12, 2000, SCBI requested the Armed Services Board of Contract Appeals (ASBCA) to issue an order directing NASA to provide a contracting officer's final decision by July 31, 2000. In its review, the ASBCA found that: "The contractor's [SCBI's] 25 April 2000 claim essentially reiterates verbatim its 3 March 2000 certified Claim for Equitable Adjustment, with the sole difference that the 25 April 2000 claim adds an express request for a contracting officer's final decision." The ASBCA ordered NASA's contracting officer to issue a final decision on SCBI's April 25, 2000 claim. On August 25, 2000, the contracting officer issued his final decision, again denying SCBI's claim in its entirety.

Thereafter, the plaintiff filed its complaint in this court. In its complaint, the plaintiff requests \$374,946.00 in damages and alleges that 1) the contract specifications were defective, 2) the existence of lead-based paint in the MLPs constituted a differing site condition, 3) the government improperly administered the MLP contract causing delays and additional costs to SCBI, 4) the government failed to pay SCBI in accordance with the terms of the contract, in violation of the Prompt Payment Act, 31 U.S.C. § 3901, *et seq.*, and 5) the government failed to negotiate contract modifications in good faith.

After the commencement of litigation in this court, on October 24, 2002, the government issued unilateral modification no. 54, which increased SCBI's contract amount by \$66,167.00. This amount excluded Contract Disputes Act interest pursuant to 41 U.S.C. § 611 (2000). In May, 2003, the government released \$56,998.00 to SCBI, partially satisfying SCBI's claims for unresolved change orders. In modification no. 54, the contracting officer, Clarence Floyd, wrote that the payment was for: "items included in SCBI's claim, dated March 3, 2000. The Contracting Officer's Final Decision No. 1, dated 8/25/00, initially denied these items. After further review of the contractor's claim, the Contracting Officer has determined the contractor is entitled to payment for these items." Additionally, the defendant initially had denied payment to SCBI when modification no. 52 was issued, believing that the defendant was entitled to retain the funds to offset asserted cost savings the government claimed SCBI realized "by not working a second shift." After the commencement of this litigation, however, in November, 2002, the government released payment in the amount of \$78,999.00 to pay SCBI its additional costs incorporated into modification no. 52, issued on January 13, 2000.

In the joint stipulation of facts submitted to this court prior to the trial, the parties listed the plaintiff's claims and associated dollar figures as follows: "Defective Plans and Specifications" - \$28,179.00; "Unrecognized Changes," including adjustable sheaves, belts and limit switches - \$54,493.48; "Loss of Productivity" - \$75,079.00; "Subcontractor Claims" - \$9,113.00; and "In House Extra Contract Administration" -

\$4,608.00; "T.A. McMullen Consultants" - \$13,811.00; "Unresolved Cost of Changes" - \$4,515.00; "Release of Retention" - \$15,975.00, for a total of \$205,773.48. In its complaint, the plaintiff also alleges entitlement to damages due to differing site conditions, improper contract administration, failure to timely pay under the Prompt Payment Act, and failure to negotiate modifications in good faith.

In this court, the government has filed a counterclaim against the plaintiff, claiming that the plaintiff failed to provide coordination drawings as required by the contract. Defendant also alleges that the plaintiff did not adhere to the driving capacity for the AHUs as specified in the contract and failed to install belt guards or access door interlocks on each of the AHUs as required by the contract, resulting in costs incurred by the defendant to replace or correct rejected work. The total value of the government's counterclaim demanded in the joint stipulation of facts is \$57,459.00. As indicated above, the government is holding retainage of \$15,975.00.

DISCUSSION

I. Defective Specifications

The plaintiff argues that it experienced additional direct costs due to changes in its planned performance resulting from errors and omissions in the government's plans and specifications. According to the plaintiff, these deficiencies required SCBI to implement design changes and other work-around solutions not contemplated by either SCBI or the government at the time of the award to SCBI. At the trial, and in the exhibits presented to the court, particularly in its March 3, 2000 claim filed with the contracting officer, the plaintiff set forth the specific areas regarding which it believes NASA's design specifications of the MLP HVAC system were defective. In the joint stipulation of facts, SCBI seeks \$28,179.00 in damages resulting from the alleged defective specifications. In response, NASA argues that the contract clearly states that the drawings provided by the government were intended to be diagrammatic only and that many of SCBI's damages would have been prevented had SCBI attended the pre-bid site visit and drafted the coordination drawings required by the contract.

It is established in government contract law that whenever the government uses specifications in a contract, there is an accompanying implied warranty that the specifications are free from errors. See Robins Maint., Inc. v. United States, 265 F.3d 1254, 1257 (Fed. Cir. 2001) (citing United States v. Spearin, 248 U.S. 132, 137 (1918)); see also Blount Bros. Corp. v. United States, 872 F.2d 1003, 1007 (Fed. Cir. 1989); Hol-Gar Mfg. Corp. v. United States, 175 Ct. Cl. 518, 525, 360 F.2d 634, 638 (1966); Neal & Co., Inc. v. United States, 36 Fed. Cl. 600, 627 (1996), *aff'd*, 121 F.3d 683 (Fed. Cir. 1997). "The test for recovery based on inaccurate specifications is whether the contractor was misled by these errors in the specifications." Robins Maint., Inc. v. United States, 265 F.3d at 1257. As stated by the United States Supreme Court: "if the contractor is bound to build according to plans and specifications prepared by the owner, the contractor will not be responsible for the consequences of defects in the

plans and specifications." United States v. Spearin, 248 U.S. at 136-37 (citations omitted).

Under the Spearin doctrine, when the government provides a contractor with defective specifications, the government is deemed to have breached the implied warranty that satisfactory contract performance will result from adherence to the specifications, and the contractor is entitled to recover costs proximately flowing from the breach. Spearin v. United States, 248 U.S. at 136; see also Franklin Pavkov Constr. Co. v. Roche, 279 F.3d 989, 994-95 (Fed. Cir.), reh'g denied (2002) (citing Essex Electro Eng'rs, Inc. v. Danzig, 224 F.3d 1283, 1289 (Fed. Cir. 2000); USA Petroleum Corp. v. United States, 821 F.2d 622, 624 (Fed. Cir. 1987); Ordnance Research, Inc. v. United States, 221 Ct. Cl. 641, 609 F.2d 462, 479-80 (1979)). "The compensable costs include those attributable to any period of delay that results from the defective specifications." Essex Electro Eng'rs, Inc. v. Danzig, 224 F.3d at 1289 (citing La Crosse Garment Mfg. Co. v. United States, 193 Ct. Cl. 168, 432 F.2d 1377, 1385 (1970). "Unlike some situations in which the government has a reasonable time to make changes before it becomes liable for delay, 'all delay due to defective or erroneous Government specifications are per se unreasonable and hence compensable.'" Essex Electro Eng'rs, Inc. v. Danzig, 224 F.3d at 1289 (quoting Chaney & James Constr. Co. v. United States, 190 Ct. Cl. 699, 421 F.2d 728, 732 (1970)); see also Daly Constr., Inc. v. Garrett, 5 F.3d 520, 522 (Fed. Cir. 1993).

The doctrine of an implied warranty for government design specifications, articulated in United States v. Spearin, has been adopted and further developed by the United States Court of Appeals for the Federal Circuit:

Spearin stands for the proposition that when the government includes detailed specifications in a contract, it impliedly warrants that (i) if the contractor follows those specifications, the resultant product will not be defective or unsafe, and (ii) if the resultant product proves defective or unsafe, the contractor will not be liable for the consequences. Spearin, 248 U.S. at 136-37, 39 S. Ct. at 61. As with any contract-based claim, however, to recover for breach of warranty, a plaintiff must allege and prove (1) that a valid warranty existed, (2) the warranty was breached, and (3) plaintiff's damages were caused by the breach. San Carlos Irrigation and Drainage Dist. v. United States, 877 F.2d 957, 959 (Fed. Cir. 1989); accord Wunderlich Contracting Co. v. United States, 351 F.2d 956, 968, 173 Ct. Cl. 180[199] (1965) (stating that a plaintiff asserting a claim for breach of an implied warranty of specifications has the "burden of establishing the fundamental facts of liability, causation, and resultant injury."). . . . [T]he implied warranty of specifications covers problems arising after performance of the underlying contract. See Poorvu v. United States, 420 F.2d 993, 190 Ct. Cl. 640 (1970).

Hercules Inc. v. United States, 24 F.3d 188, 197 (Fed. Cir. 1994), aff'd, 516 U.S. 417

(1996). In addition, it is a basic tenet of this legal doctrine that:

The implied warranty is not overcome by the customary self-protective clauses the government inserts in its contracts . . . requiring the contractor to examine the site, to check the plans, and to assume responsibility for the work, including its safekeeping, until completion and acceptance.

Al Johnson Constr. Co. v. United States, 854 F.2d 467, 468 (Fed. Cir. 1988) (citing United States v. Spearin, 248 U.S. at 132).

The Court of Appeals for the Federal Circuit also commented on the competing interests often present in a defective specifications cases:

We think the restriction of the implied warranty to those who have fulfilled the specifications, or tried and failed to do so because of the defects themselves, has strong policy behind it that would not be served by allowing the implied warranty to run to one who has not done what he contracted to do and fails to satisfactorily explain why not. Any other exception should therefore be restricted to instances . . . of manifest inequity, or to a deviation from the specifications shown to have been entirely irrelevant to the alleged defect.

Al Johnson Constr. Co. v. United States, 854 F.2d at 470.

Moreover, "[i]f a contractor enters into a contract aware of the fact of defective specifications, it is not entitled to recover on a claim based on these defective specifications." NVT Techs., Inc. v. United States, 370 F.3d 1153, 1163 (Fed. Cir. 2004) (quoting Robins Maint., Inc. v. United States, 265 F.3d at 1258).

The plaintiff's claim for defective plans and specifications totals \$28,179.00. This amount is broken into ten separate claims, including claims for RFI nos. 7, 12, and 31; relocating AHUs 21, 23 and 26; fume cleaners; relocating electrical lights and piping; Lull forklift rental; extended welding equipment rental; unplanned escort costs and extended supervision. The plaintiff also identified the chilled water system as defective. On June 15, 1998, the plaintiff filed RFI no. 7 with NASA's contracting officer, Terrance Crowley. In RFI no. 7, SCBI stated: "New chilled water system in room 15b, pipe size 1 ½", elevation needs to be 7' 3", instead of 8' 10" due to obstacles in the way. Please Advise." On July 1, 1998, Mr. Crowley approved the RFI and marked on the form that a contract modification would be issued. SCBI's second alleged defective specification was set forth in SCBI's June 24, 1998, RFI no. 12, which addressed obstructions requiring additional piping and fittings. Specifically, SCBI's RFI no. 12 stated: "As discussed in field because of existing obstructions (electrical panels & etc.) that it would be necessary to relocate the piping & penetrations for the heat exchanger. This will involve additional fittings & piping. Please Advise." On July 1, 1998, Terrance Crowley approved the RFI and again indicated that a contract modification would be issued.

Although NASA's contracting officer initially indicated that contract modifications would be issued on RFI nos. 7 and 12, in a letter sent to SCBI from NASA on August 7, 1998, NASA changed its position regarding issuing a contract modification and stated that: "After further review of these responses, we have determined that the instruction provided is within the base contract requirements, and does not require change orders for implementation."

The MLP contract, at section 15050, part 1.3, SD-04 Drawings, required the contractor to prepare coordination drawings precisely to indicate conflict or clearance problems. During the trial in this case, Mr. Midgette, who drafted SCBI's certified claim and was the plaintiff's expert at trial, was asked whether the chilled water issue was something that could have been identified if SCBI had produced the coordination drawings. In response, Mr. Midgette stated: "There's a high probability that that would have been noticed in the coordination process." Additionally, at the trial, Mr. West, the government's expert witness, indicated that SCBI would have "mapped out those fittings while preparing shop drawings or coordination drawings," which, as stated above, SCBI did not produce for MLP-1.

On July 29, 1998, SCBI submitted RFI no. 31, which was answered on August 4, 1998. In the RFI, SCBI stated that it was encountering extra fittings due to routing problems and conflicts. In his response, Terrance Crowley indicated that no change order and no contract modification would be provided. Also in his response, Terrance Crowley directed SCBI to "provide all fittings as required for a complete system," and referred to section 15003, part 1.3 of the contract, which states: "Drawings are diagrammatic. They are not intended to be absolutely precise; they are not intended to specify or to show every offset, fitting, component and exact configuration required." In response to NASA's refusal to provide a contract modification for RFI no. 31, and NASA's August 7, 1998 letter, SCBI wrote to NASA rejecting NASA's position that the diagrams provided for the contract were intended to be purely diagrammatic, stating that: "The prints that we received from you should be final and workable drawings."

Additional defective specification claims presented by SCBI include costs generated from RFI no. 9, filed by SCBI on June 19, 1998, for additional man-hours required to lay out all new AHUs for work package no. 3. In the RFI, SCBI indicated that all of the AHUs "have some type of interferences" In response to SCBI's RFI no. 9, contracting officer Terrance Crowley indicated that a contract modification would be issued. As a result, NASA issued contract modification no. 8 on August 5, 1998. In modification no. 8, NASA responded to RFI no. 9 and stated that "the contractor [SCBI] is directed to provide labor, materials, and equipment to relocate AHU's 21, 24 & 26" In its claim, and at trial, SCBI argued that although NASA recognized RFI no. 9 to require additional work and indeed issued a contract modification, it now refuses to pay SCBI for the additional work. The defendant has presented no evidence to dispute the plaintiff's claim that NASA indeed should have paid SCBI for its performance under

modification no. 8 and the plaintiff seeks \$1,732.89 as compensation for this work. The court, therefore, finds that plaintiff is entitled to that amount.

Similar to the issue regarding RFI no. 9, the plaintiff claims that NASA failed to pay for the contract modification issued under modification no. 16, which addressed plaintiff's RFI nos. 25 and 25A. In modification no. 16, contracting officer Terrance Crowley directed SCBI to "provide labor, materials, and equipment to rotate the AHU # 26 & 30 blower modules 180 degrees" In its claim, SCBI alleges that NASA never paid it for the work performed under contract modification no. 16, and seeks \$1,497.49 in uncompensated work. The government's expert, Mr. West, stated that the necessity for this work would have been discovered during the coordination drawing phase and stated that "any interferences would have been noticed at that time." Regardless of Mr. West's opinion that the interference would have been recognized, SCBI performed work authorized and directed by NASA under a specific modification to the original terms of the contract, contract modification no. 16. Moreover, NASA has brought forth no evidence that it has paid SCBI for its costs in doing the work, or that the government deleted the requirement from the contract. This court, therefore, finds that SCBI is entitled to its costs under modification no. 16, totaling \$1,497.49.

The plaintiff's next claim for alleged defective specifications arises from SCBI's RFI nos. 55, 56, and 57, which addressed the requirement for SCBI to remove existing lights due to conflicts with the new supply air duct line. On June 22, 1998, NASA responded to each of these RFIs, indicating that contract modifications would not be issued and directing SCBI to modify light stems, remove lights, and relocate lights per NASA's field inspector's recommendation. In response to each of these RFIs, NASA referenced section 150003, part 1.3 of the contract, which states that the diagrams were not intended to accurately represent all dimensions of the equipment in the MLPs.

The remainder of plaintiff's claims, described as part of plaintiff's defective specification claims when submitted to the contracting officer, relate to additional costs incurred for renting equipment and providing additional escort personnel. Specifically, SCBI claims additional expenses for Lull forklift rental, stating that "[d]ue specifically to the changes and out of sequence work SCBI was forced to keep the Lull forklift available for most of the project." SCBI stated that it intended to rent the forklift for only 14 days, but, instead, was required to keep it for 96 days. Therefore, the plaintiff requests reimbursement for the additional 82 days in the amount of \$1,505.64. In addition, SCBI requests reimbursement for additional expenditures it incurred to rent welding equipment. SCBI claims that, similar to the Lull forklift, SCBI was required to keep the welding equipment for additional days. SCBI requests reimbursement of \$11,505.37 for additional costs incurred for welding equipment rental in its claim to the contracting officer, although the amount is not specifically included in the plaintiff's complaint or in the joint stipulation of facts. Beyond the information presented in plaintiff's claim to the contracting officer and a general claim for damages resulting from defective specifications in the complaint, plaintiff presents little evidence to support a nexus between the alleged extended Lull forklift and welding equipment rental and the

alleged defective specifications. For these reasons, plaintiff's claims for \$11,505.37 and \$1,505.64 are denied.

SCBI's final claims are for unplanned escort costs and unplanned supervision costs. At the trial, plaintiff's expert, Mr. Midgette testified that when the MLPs were located at the vehicle assembly building, escorts were required. Additionally, in its claim, SCBI quoted amendment no. 1 to the contract, which responded to a question from a bidding contractor. Amendment no. 1 stated that: "Should the need arise to have work completed in an area requiring escorts, the additional requirement would be considered a change within the general scope of the contract, and any cost and/or schedule impacts arising therefrom will be handled in accordance with the contract's Changes clause." SCBI alleges that it incurred an additional cost of \$1,513.89 for escorts in the vehicle assembly building. SCBI also alleges it is entitled to \$2,063.00 for additional costs incurred for extra supervision. SCBI argues that government caused delays extended work on MLP-1 by ten days beyond its scheduled end date of October 13, 1998. The MLP project was planned to end on October 13, 1998, but did not actually end until October 23, 1998. SCBI, however, claims it is entitled only to eight days compensation for this extra supervision, or \$2,086.78. At the trial, Mr. Midgette testified that MLP-1 was extended eight days from its initial milestone completion, that the plaintiff's claim, however, was "not a delay claim in the sense that a time extension was required," but was simply a claim for additional supervision because of the extension.

During the performance of this contract, SCBI submitted more than 50 RFIs and NASA responded by modifying the contract more than 50 times, issuing change orders to address the expenses SCBI incurred for extra work. As discussed more fully below, the court finds that SCBI's failure to produce coordination drawings and attend the pre-bid site visit contributed significantly to SCBI's encountering interference and alleged defective specifications, including plaintiff's claim for extra on-site escort services and extra supervision.

After reviewing the trial testimony and the documents submitted at trial, the court finds that SCBI is not entitled to recover for its claimed additional administrative and supervision costs, or its claims for additional rental equipment costs. Outside of conclusory amounts presented in its certified claim to the contracting officer, SCBI fails to substantiate any amount directly related to its extra administrative costs. For example, in none of the testimony presented at trial did SCBI discuss direct administrative costs. The only testimony presented was by Mr. Midgette, who simply discussed the amounts requested in plaintiff's certified claim, without presenting any supporting documentation to verify the additional costs SCBI claims to have expended. The plaintiff's lack of evidence regarding direct costs is applicable also to its claim for additional days required to rent the Lull forklift and welding equipment. Regarding these claims, no testimony, receipts or other documentation was offered by the plaintiff sufficient to verify the plaintiff's claims or amounts regarding its rental equipment. Furthermore, because the court finds that the plaintiff's failure to attend the pre-bid site

visit and to conduct the coordination drawings contributed to the difficulties presented during performance on this project, the court finds that SCBI contributed significantly to its alleged, additional costs incurred for administrative expenses and equipment rental. For these reasons, the plaintiff's claims for extra administrative and supervision costs, as well as for extra costs for rental equipment is denied.

II. Differing Site Condition Arising From the Presence of Lead-Based Paint

In its complaint, the plaintiff claimed damages due to the existence of a differing site condition alleging that: "SCBI encountered a type 1 differing site condition in that surfaces, ducts, and pipes were contaminated with lead-based paint." A Type I differing site condition consists of "subsurface or latent physical conditions at the site which differ materially from those indicated in th[e] contract." FAR 52.236-2(a)(1) (Apr. 1984). To establish entitlement to an equitable adjustment due to a Type I differing site condition, a contractor must prove by a preponderance of the evidence that:

[T]he conditions indicated in the contract differ materially from those actually encountered during performance; the conditions actually encountered were reasonably unforeseeable based on all information available to the contractor at the time of bidding; the contractor reasonably relied upon its interpretation of the contract and contract-related documents; and the contractor was damaged as a result of the material variation between expected and encountered conditions.

Comtrol, Inc. v. United States, 294 F.3d 1357, 1362 (Fed. Cir. 2002); see also H.B. Mac, Inc. v. United States, 153 F.3d 1338, 1345 (Fed. Cir. 1998).

As described above, on July 1, 1998, NASA stopped SCBI's performance and required it to abate lead-based paint present on the decks of MLP-1. NASA then asked SCBI to conduct the lead abatement work, which SCBI completed through a subcontractor, Sunrise Systems of Brevard, Inc. The presence of the lead-based paint on the MLP structure presented an unforeseeable differing site condition as the plaintiff claims. There was no indication in the contract documents that the MLP surfaces contained lead-based paint, and a reasonable inspection of the MLP would not have revealed the presence of lead-based paint. The remaining issue, therefore, is whether SCBI has been fully compensated for the work and impacts caused by the necessity to stop progress and conduct the lead abatement prior to continuing.

NASA provided payment for the lead abatement work on MLP-1 through several contract modifications. Modification no. 2, dated August 4, 1998, required SCBI "to provide labor, materials and equipment to abate lead paint at required floor and wall penetrations in MLP-1" Modification no. 12, dated August 6, 1998, required SCBI "to provide labor, materials, and equipment to abate lead paint at penetrations in Compartment 16B." Modification no. 18, dated August 19, 1998, required SCBI to provide portable filtration units for lead particulate removal. Modification no. 19, dated

September 8, 1998, required SCBI to provide personnel with protective masks for welding in areas containing lead paint. Modification no. 28, dated December 4, 1998, paid SCBI \$10,963.00 for modification no. 2, \$1,816.00 for modification no. 12, \$6,117.00 for modification no. 18, and \$18,986.00 for modification no. 19.

In SCBI's first certified claim to the contracting officer, filed March 3, 2000, SCBI requested \$9,258.07 for additional costs incurred in conducting the lead abatement work. Specifically, SCBI requested reimbursement for temporary pipe supports, which SCBI used when they could not drill into the MLP to permanently connect the piping. On October 24, 2002, after the litigation in this case had commenced, almost three years after SCBI filed its certified claim to the contracting officer, NASA approved unilateral modification no. 54, which paid SCBI \$8,364.32 for the temporary pipe supports. In the modification, the government stated that: "Claimed amount of \$9,258.07 reduced by \$893.75 of material costs. This amount was included in the material costs for temporary pipe supports paid under Modification No. 35 for MLP-2."

As a result of unilateral modification no. 54, which awarded plaintiff additional money, including \$8,364.32 for temporary pipe supports, SCBI resubmitted its claim to NASA on June 4, 2003. In its modified claim, SCBI recognized that NASA had paid SCBI its claim for temporary pipe supports and stated that it accepted the \$893.75 reduction for material costs paid in modification no. 35. In its modified claim, SCBI, therefore, listed "0" as the amount owed for temporary pipe supports, and stated that "Differing Site Conditions - conceded in Mod No. 54," indicating that plaintiff had been fully paid for the differing site condition encountered because of the presence of lead-based paint. SCBI stated in its modified claim to the contracting officer that the temporary pipe support claim was presented only "to continue to illustrate NASA's inappropriate actions regarding the administration of this contract." Additionally, at the trial, Mr. Midgette testified that SCBI "kept the facts and the narrative in [SCBI's modified claim], but illustrated that while we were requesting \$9,258.07 we're now requesting zero and note that the government paid that through mod 54, that was issued on October 23, 2002."

In sum, SCBI has been compensated \$38,839.32 for the lead abatement work and all claims by the plaintiff for damages resulting from a differing site condition have been fully satisfied when NASA issued contract modification no. 54. Because SCBI has been fully compensated, and admits to receiving full compensation, SCBI is not entitled to further compensation under its claim of a differing site condition for the lead abatement work on MLP-1. Any claim for loss of productivity related to the differing site condition will be addressed below.

III. Unrecognized Changes

SCBI claims \$54,493.00 for unrecognized changes added during the punch list phase of its performance. The claims are specifically for work done on the AHU belts and sheaves, which were wearing prematurely, as well as for the contractually required

belt guards and limit switches in the doors of the AHUs. SCBI originally submitted this certified claim to the contracting officer as eight discrete items, totaling \$65,815.00. NASA subsequently paid six of SCBI's eight claims through unilateral modification no. 54. SCBI's two remaining claims are \$3,518.48 for alleged additional work completed on the adjustable sheaves and belts, and \$50,975.00 claimed for the limit switches. SCBI arrives at its \$50,975.00 claim for the limit switches by arguing that the \$35,000.00 reduced from the MLP contract under modification no. 53 and the \$15,975.00 retainage withheld from SCBI for reprocurement costs were unwarranted.³ In return, the defendant has counterclaimed against SCBI for \$54,975.00, the costs of reprocurring the work on the belts and sheaves from Ivey's.

A. Belts and Sheaves

The premature wearing of the belts and replacement of the AHU sheaves, as well as the requirement for SCBI to provide belt guards or limit switches, were testified to extensively at the trial by witnesses for both parties. As described above, on July 8, 1999, NASA issued a non-conformance report to SCBI, indicating that the drive belts on the AHUs were wearing prematurely. A few months later, on October 7, 1999, NASA issued SCBI a punch list that directed SCBI to remove the adjustable type sheaves and replace them with fixed sheaves. In response, in November, 1999, SCBI attempted to correct the wearing problem with the AHU belts by replacing the factory installed adjustable sheaves with fixed sheaves for two of the AHUs. SCBI also replaced all of the belts on 9 of the 11 AHUs, performed a sheave alignment check and adjustment on all 11 AHUs and tightened the belts per the manufacturer's recommendations in its operations and maintenance manual. After SCBI completed this work, on November 22, 1999, NASA sent a letter to Carroll Air, SCBI's AHU supplier, stating that the wearing issue "was not a maintenance problem, but it instead appears to be a production problem."

³ In its amended claim to the contracting officer, SCBI stated that: "As a result of this issue [belt guards] and the design problems encountered with the AHU's belts and sheaves, SCBI was back charged \$35,000 in Modification No. 53 with an effective date of March 29,2000. In addition, NASA's letter of October 23, 2002 states its intention to withhold an additional \$15,975 from the payment due for Modification No. 54 with an effective date of October 24, 2002. This totals to \$50,975 that NASA is currently withholding for work performed by another subcontractor to design, build and install belt guards and for the replacement of belts and sheaves on all AHU's as re-designed by McQuay." (citations omitted). In the joint stipulation of facts submitted by the parties for use at trial, however, the retainage of \$15,975.00 appears to be attributed to the limit switches, not the belts and sheaves. Regardless, the \$15,975.00 retained by the government is part of the court's final calculations of damages owed to the plaintiff or the defendant, as discussed below.

As a purchaser of supplies and services, the government is entitled to the contractor's strict compliance with the contract specifications. See Granite Constr. Co. v. United States, 962 F.2d 998, 1006-07 (Fed. Cir. 1992), cert. denied, 506 U.S. 1048 (1993); Cascade Pac. Int'l v. United States, 773 F.2d 287, 291 (Fed. Cir. 1985); Peters v. United States, 694 F.2d 687, 695 (Fed. Cir. 1982). Strict compliance with the government's specifications is important in order to insure that a contractor does not gain an advantage in the bidding process by the use of different products. See Peters v. United States, 694 F.2d at 695. The government, however, "should not be permitted to direct the replacement of work in situations where the cost of correction is economically wasteful and the work is otherwise adequate for its intended purpose. In such cases, the government is only entitled to a downward adjustment in the contract price." Granite Constr. Co. v. United States, 962 F.2d at 1007.

The court's analysis of SCBI's requirement to provide conforming belts and sheaves, as well as belt guards or limit switches, begins with the contract. The relevant section of the contract addressing the belts and sheaves is part 2.1.1.1, which states that the "[f]an drive shall be by V-belt designed for not less than 150 percent of the connected driving capacity." This requirement must be considered along with part 2.2.5, which specified the use of McQuay AHUs, or their equal. Specifically, in addressing the filters to be used in the AHU, the contract stated "filters shall be installed in a frame to ensure filtering of all moving air before entry into unit (McQuay 3CB-301B or equal)" In its post-trial brief, the defendant recognizes that premature belt wear may be caused by several factors. First, premature belt wear may be caused simply by a loose belt, or by a misalignment between the motor sheave and the fan sheave. The defendant, however, through its expert, Mr. West, asserts that the premature belt wear was caused by a low drive service factor. As noted above, the drive service factor required by the contract was 150 percent of the connected driving capacity, or a 1.50 drive service factor. The AHUs provided by SCBI for the MLP project were rated at a drive service factor of 1.18 to 1.24, below the drive service factor required by the contract. The defendant's expert, Mr. West, therefore, concluded that it was SCBI's non-conformance with the contract requirements that caused the belts to wear prematurely.

By letter dated October 12, 1999, the contracting officer, Clarence Floyd, directed SCBI to "repair or replace this defective equipment no later than 10-20-99 without the Government taking further actions." The defendant argues that despite this letter, SCBI did not fix the problem with respect to the belts. After being informed by NASA that the AHU belts were wearing prematurely, in a letter dated February 16, 2000, the manufacturer of the AHUs, McQuay, proposed to replace the belts and sheaves so as to deliver a higher service factor to the units. McQuay proposed that the cost be split between McQuay, Carroll Air, and SCBI. SCBI did not accept this proposal. Instead, SCBI wrote to NASA the following day, February 17, 2000, demanding that NASA furnish a design and issue a change order to SCBI to perform the work.

Because SCBI failed to properly correct the belt problems associated with the AHUs, by issuance of modification no. 53 on March 29, 2000, the government deleted the requirement regarding belts and sheaves on all MLPs and AHUs from plaintiff's contract. Thereafter, the government entered into a contract with Ivey's in the amount of \$54,475.00, to replace the plaintiff's defective work. The defendant acknowledges that \$3,500.00 of the procurement contract with Ivey's did not relate to the plaintiff's contract with the government. Therefore, the government does not seek this amount from the plaintiff. According to the testimony of the contracting officer, Clarence Floyd, when NASA reprocured for the new sheaves and belts through Ivey's, the AHUs were fitted with double belted assemblies, which doubles the drive service factor of the single belt assembly. NASA claims that after completion of the work by Ivey's, NASA obtained a higher service factor on the AHUs, which ultimately resolved the long standing problem of the AHU belts wearing prematurely.

In rebuttal testimony, the plaintiff's expert, Robert Ketchum, admitted to the court as an expert in mechanical engineering and forensic engineering as related to the skill of mechanical engineering, rejected Mr. West's finding that the drive service factor for the AHU belts was properly represented by the 1.18 and 1.24 numbers in the McQuay submittals. Mr. Ketchum indicated that the definition of a belt drive service factor is dependent upon the amount of horsepower for which a belt is rated, divided by the amount of horsepower the system to which the belt would be installed contains. Mr. Ketchum gave the example of a belt which was rated for 10 horsepower being placed on a drive system with a maximum output of 7.5 horsepower. According to testimony provided by Mr. Ketchum, this would provide a drive service factor of 1.5 or 10 divided by 7.5. Although this calculation actually would provide a drive service factor of 1.33, not 1.5, the point of Mr. Ketchum's testimony was to identify the proper drive service factor indicated on the McQuay submittals. In his testimony, Mr. Ketchum also stated that the number identified as the "actual drive service factor" on the McQuay submittals was listed in the "supply fan" section of the AHU submittal, indicating that only the supply fan had a service factor of 1.18 and not necessarily that the belts were to have a service factor of 1.5. On the submittals provided by SCBI and McQuay, the column beneath the supply fan specifics is titled "drives." In this section, the belts to be used on the AHUs are identified as type "A23." In his testimony, Mr. Ketchum stated that, in his experience, "A-class" belts were ordinarily rated to withstand at least a 5 horsepower load, and the AHU supply fan motor was identified as a 3 horsepower motor, which would result in a drive service factor of greater than 1.5.

In the plaintiff's claim to the contracting officer, SCBI argued that the belts were wearing prematurely as a result of NASA personnel operating the equipment beyond specified conditions. Although in its claim, SCBI did not expand its explanation of how NASA personnel were improperly operating the AHUs, at the trial, SCBI's project superintendent, Curtis Reed, explained that the belts were operating satisfactorily for a week or two, and began to wear prematurely only because NASA personnel were constantly turning the AHUs on and off. According to Mr. Reed, this continual stopping

and starting of the AHUs eventually caused burn spots on the belts and caused the belts to wear down.

The record does not support plaintiff's expert's theory that the AHU drive belts wore prematurely simply because of how NASA personnel operated the equipment. As defendant's expert, Mr. West, indicated in his testimony, AHUs normally operate by turning on and off depending on the temperature settings. It also is clear from the evidence presented that the wearing problem with the AHU belts began almost immediately after the AHUs were installed. Even SCBI's own project superintendent, Curtis Reed, admitted that the belts began to show problems within two weeks after operations began. Although the evidence presented by the defendant does not clearly indicate that the belt problem was directly related to the drive service factor, the court cannot ignore the fact that the belt problem disappeared only after Ivey's installed the new belts and sheaves. Therefore, whether it was a drive service factor or a maladjusted sheave problem is not clear. What is clear, however, is that SCBI provided defective AHUs, which did not operate properly or in conformance with the contract. As described above, the government is entitled to the contractor's strict compliance with the contract specifications. See Granite Constr. Co. v. United States, 962 F.2d at 1006-07. Therefore, the court finds that the plaintiff, SCBI, is not entitled to additional compensation for its work undertaken to correct the nonconforming AHUs.

B. Door Interlock Switches and Belt Guards

The second part of the plaintiff's claim for unrecognized changes alleges that SCBI is entitled to \$50,975.00 for door interlock switches required by the contract for the AHUs. Section 15855, part 2.1.1.1 of the contract states that: "A belt guard shall be provided inside the cabinet, or the access door shall be interlocked with the supply fan so that power to the fan will be interrupted when the access door is opened." The record reflects that belt guards are typically constructed of steel and steel mesh in a way that the fan belt can be observed, but will prevent accidental contact. As described at the trial, the guard can be fabricated in a sheet metal or welding shop and installed by a mechanical contractor. Fan interlock switches are positioned in the AHU such that the switch is activated and power to the fan is interrupted when the access door is opened. The switches may be purchased at an electrical supply house and installed by either an electrical contractor or a mechanical controls contractor. When SCBI provided the AHUs to NASA for the MLP contract, the AHUs supplied by SCBI had neither belt guards nor interlock switches. Instead, SCBI furnished a product with a bolt on the access door to prevent the doors from being opened without a specific kind of tool. Curtis Reed, SCBI's project superintendent, admitted at trial that the units provided by McQuay were not in conformance with contract specifications. Mr. Reed, stated:

I even called the McQuay people and I said, this don't quite meet the specs and they said the reason those units don't come in like that is they did not have time to get them to this project in that time frame with doing those things. So the next best thing that they could do was provide a

system where you had to have a special wrench to open the door. And Armando was in on that. Dave Park was in on that. Everybody knew about that. And they said it's not sufficient. They told me verbally, not sufficient then, that we have to have belt guards or an interlock. So I proceeded on and thought no more of it until way later in the project, the issue came up which was about four months later.

It is the plaintiff's position that SCBI's failure to provide the required belt guards or interlock switches was resolved in discussions held in June, 1998, before the AHUs were delivered to NASA, and that NASA had accepted the units provided by McQuay. At the trial, SCBI's project superintendent, Curtis Reed, testified that he had discussed the belt guard and interlock requirement with several individuals from NASA. Initially in his testimony, Mr. Reed stated that: "I said, well, what about belt guards and they said, don't need them." Additionally, when the units arrived, SCBI states that NASA paid McQuay in full, and did not issue a non-conformance report based on SCBI's failure to provide belt guards or interlock switches in accordance with the contract. Based on these actions, SCBI argues that it "reasonably understood that NASA had accepted the units as provided by McQuay." Mr. Reed also testified that after informing NASA that SCBI only could provide an alternate safety system that included the lock and special wrench, NASA informed Mr. Reed that the system was not sufficient. On December 7, 1999, after SCBI had already installed the AHUs, SCBI submitted a deviation request, which was denied by NASA's contracting officer.

In a January 27, 2000 letter from McQuay to Carroll Air, SCBI's AHU supplier, McQuay stated that the AHUs used for the MLP project "do not have any offering for belt guards." The government's expert, Michael West, stated in his report, and testified at trial, that although it is correct that the AHU manufacturer did not offer either a belt guard or interlock switch, SCBI easily could have met the contract requirement of providing belt guards or installing interlock switches. As described in Mr. West's expert report, the belt guards themselves were neither sophisticated, nor complicated, in that they were simply a metal mesh construction that covered the moving sheaves and belts to prevent injury.

The defendant claims that because SCBI failed to provide the guards or interlock switches as required by the contract, for safety reasons, the government exercised its right under the clause at FAR 52.246-12, Inspection of Construction (Aug. 1996), to replace and correct the work. FAR 52.246-12 states in relevant part that:

(f) The Contractor shall, without charge, replace or correct work found by the Government not to conform to contract requirements, unless in the public interest the Government consents to accept the work with an appropriate adjustment in contract price. The Contractor shall promptly segregate and remove rejected material from the premises.

(g) If the Contractor does not promptly replace or correct rejected work, the Government may (1) by contract or otherwise, replace or correct the work and charge the cost to the Contractor or (2) terminate for default the Contractor's right to proceed.

48 C.F.R. § 52.246-12. The court concludes from the evidence provided, and as admitted to by SCBI's project superintendent, Curtis Reed, that SCBI failed to adhere to the contract requirements when it provided the AHUs without the required belt guards or interlock switches. (see contract section 15855, part 2.1.1.1).

SCBI's failure permitted NASA to reduce SCBI's contract amount, reprocur the contract requirements under FAR 52.246-12, and charge the excess cost of the reprocurement to SCBI. See E.R. Smith Constr. Co., DOTCAB No. 1077, 80-1 BCA ¶ 14,386, at 70,936, 1980 WL 2382 (1980) (holding that in situations in which the government does not terminate a contractor, but rejects nonconforming work, the government is entitled to recover the costs of reprocurring the contractor's faulty work). In unilateral modification no. 53, NASA reduced SCBI's contract amount by \$35,000.00, effective March 29, 2000. NASA then reprocured new belts, sheaves, and belt guards through a reprocurement contract with Ivey's.

In his contracting officer's final decision denying SCBI's certified claim, Clarence Floyd, NASA's contracting officer stated that:

Under modification no. 53 the contract was decreased by \$35,000.00, which was an estimate of the Government's cost to complete the work under a re-procurement contract. This modification further noted that the Contractor would be held liable for any excess costs. . . . Upon completion of the re-procurement contract, the Government will notify the Contractor regarding the additional costs over and above the \$35,000 decrease already taken in Modification 53.

The full price to the government to reprocur SCBI's faulty work was \$50,975.00 (\$54,475.00 - \$3,500.00 not attributable to the plaintiff). SCBI makes no argument that the government failed to mitigate its damages in reprocurring the contract work, so no dispute exists regarding the cost of the reprocurement contract. The court, therefore, finds that NASA is entitled to recover \$50,975.00. NASA has already reduced SCBI's contract by \$35,000.00, leaving a balance of \$15,975.00 that SCBI owes the government for the government's remaining reprocurement costs. This amount equals the \$15,975.00 withheld by the government as retainage to cover the additional costs incurred to reprocur for SCBI's faulty work. No evidence was provided to the court to indicate that NASA had paid SCBI for the belts, sheaves, interlock switches and belt guard work and that, therefore, the defendant needs to recover that amount back from the plaintiff. Based on the record, the court, therefore, finds that NASA is entitled to retain the \$15,975.00, which represents the difference between the cost of Ivey's reprocurement contract and the \$35,000.00 NASA reduced from SCBI's contract, and

the government is owed no additional money for belts, sheaves, interlock switches and belt guards.

IV. Loss of Productivity

The plaintiff's largest claim in this case is for "loss of productivity," for which it seeks \$64,816.00.⁴ SCBI argues that it is entitled to compensation for overall loss of productivity that was a direct result of government generated changes and differing site conditions. SCBI also argues that its work was effectively accelerated, which resulted in inefficiency. Referring to its certified claim to the contracting officer, SCBI stated that "a contractor who is forced to accelerate its work suffers a percentage decline in productivity among the entire work force due to work force suspensions, loss of learning, and out-of-sequence production, all of which result in confusion and interruption of the orderly progression of work." SCBI claims that the acceleration, delays and disruptions resulted from the government's failure to allow adequate access to the project site, to furnish complete and accurate plans and specifications, failure to sufficiently and timely respond to SCBI's RFIs, failure to process SCBI's change orders in a timely manner so as to allow payment for extra work actually performed and accepted by the government, and to the existence of differing site conditions.

In its claim to the contracting officer, SCBI presented a loss of productivity claim, and stated that from the start of the MLP project, SCBI was prevented from performing its work as scheduled. Mr. Midgette, plaintiff's expert, also testified at trial that the disruptions caused by the government caused the plaintiff to resequence its work throughout the contract. Although in its complaint, the plaintiff includes counts listing claims for defective specifications, differing site conditions, improper contract administration, failure to timely pay under the Prompt Payment Act and failure to negotiate modifications in good faith, SCBI did not present a "delay" claim to the contracting officer or to this court, nor did the plaintiff present a specific loss of productivity count in its complaint in this court. Presumably, plaintiff's loss of productivity claim falls under the improper contract administration count in SCBI's complaint.

⁴ In the joint stipulation of facts filed by the parties prior to trial, the claim for lost productivity is listed as \$75,079.00, the average of plaintiff's expert's modified measured mile analysis and his modified total cost method. In the plaintiff's post-trial brief, however, plaintiff begins with \$70,000.00, apparently dropping \$111.00 from the number calculated by plaintiff's expert as the result of calculating damages under his modified total cost method. However, referring to a \$5,183.41 payment made by the government, and not included in the plaintiff's expert's calculations, plaintiff stated in its post-trial brief that: "Therefore, this element of the claim should be reduced by \$5,183.41, resulting in an amended loss of productivity claim in the amount of \$64,816.59." Plaintiff also acknowledges through its expert, Mr. Midgette, and in its post-trial brief that the \$5,183.41 included in the plaintiff's total cost calculation for the claim was "an improper entry."

The contract allowed 425 calendar days from the April 3, 1998 notice to proceed for the work under the contract to be completed. The contract completion date was listed as December 28, 1999. The contractor was to complete its work within a specified work sequence and contract windows established by the government. The loss of productivity claim before this court is for work performed on MLP-1. It is not clear from the record presented to the court, however, whether or not there were delays on MLP-1. Mr. Allison, SCBI's project manager, although not certain, thought the project on MLP-1 ran over some 9 or 10 days. The plaintiff's expert, Michael Midgette suggested that the work on MLP-1 was extended 8 days. The government's expert, Mr. Doran, testified that the project was "not delayed substantially" but also pointed out that plaintiff did not present a delay claim. Therefore, any delays relied on by the plaintiff for entitlement to damages must be offered to support SCBI's loss of productivity claim.

A loss of productivity claim "is based upon the theory that individual compensable changes to a Contract, taken as a whole, can have such a disruptive effect on the contractor's performance that the contractor has a compensable claim for costs in addition to the amounts of its individual change orders." Jackson Constr. Co., Inc. v. United States, 62 Fed. Cl. 84, 103-04 (2004) (citing J.A. Jones Constr. Co., ENGBCA Nos. 6348, 6386-6391, 00-2 BCA ¶ 31,000, at 153,107, 2000 WL 1014011 (2000); McMillin Bros. Constr., Inc., EBCA No. 328-10-84, 91-1 BCA ¶ 23,351, at 117,102-05, 1990 WL 140900 (1990), aff'd, 949 F.2d 403 (Fed. Cir. 1991); Bechtel Nat'l, Inc., NASA BCA No. 1186- 7, 90-1 BCA ¶ 22,549, at 113,177-78, 1989 WL 160470 (1989)).

The government has a duty not to act in a way that will hinder or delay the contractor's performance. See Malone v. United States, 849 F.2d 1441, 1445 (Fed. Cir. 1988), opinion modified on other grounds, 857 F.2d 787 (1988); SMS Data Prods. Group, Inc. v. United States, 17 Cl. Ct. 1, 6 (1989) ("The Government has an implied obligation to refrain from willfully or negligently interfering with a contractor's performance."). In order for the government to be found liable for delay a plaintiff must demonstrate that the government caused the plaintiff a compensable injury. See Servidone Constr. Corp. v. United States, 931 F.2d 860, 861 (1991); Boyajian v. United States, 191 Ct. Cl. 233, 239-47, 423 F.2d 1231, 1235 (1970). The government, therefore, is not liable for breach of contract, or causes of action that rely upon "severe defects" in contract drawings, or government hindrance of performance, unless SCBI proves that the alleged defects, changes, or hindrances negatively impacted costs and performance of the contract.

Loss of productivity claims can be difficult to prove. Experts are generally relied on to develop and document such claim. According to the United States Court of Claims:

It is a rare case where loss of productivity can be proven by books and records; almost always it has to be proven by the opinions of expert witnesses. However, the mere expression of an estimate as to the amount of productivity loss by an expert witness with nothing to support it will not

establish the fundamental fact of resultant injury nor provide a sufficient basis for making a reasonably correct approximation of damages.

Luria Bros. & Co. v. United States, 177 Ct. Cl. 676, 696, 369 F.2d 701, 713 (1966) (citing Wunderlich Contracting Co. v. United States, 173 Ct. Cl. 180, 199, 351 F.2d 956, 968 (1965)).

Plaintiff has claimed damages for loss of productivity, not delay. The proof methodology acknowledged by courts to prove delay damages, however, is instructive and relevant to document a loss of productivity claim. In a classic delay claim, one established way to document delay damages is through the use of Critical Path Method (CPM) schedules, combined with an analysis of the effects of government-caused events upon the critical path of the project. In establishing the causal link between the government's alleged wrongful acts and the delay, "the contractor must show that the government's actions affected activities on the critical path of the contractor's performance of the contract. However, in order to properly demonstrate delay to a project, the CPM schedule must be kept current to reflect any delays as they occur." Fortec Constructors v. United States, 8 Cl. Ct. 490, 505 (1985), aff'd, 804 F.2d 141 (Fed. Cir. 1986). "The required nexus between the government delay and a contractor's failure to complete performance at some unspecified earlier date cannot be shown merely by hypothetical, after-the-fact projection." Interstate Gen. Gov't Contractors, Inc. v. West, 12 F.3d 1053, 1060 (Fed. Cir. 1993). Part of understanding that an activity belongs on the critical path of a project also is an understanding of how that activity affects the other activities. See Mega Constr. Co., Inc. v. United States, 29 Fed. Cl. 396, 424-25 (1993). "A general statement that disruption or impact occurred, absent any showing through use of updated CPM schedules, logs or credible and specific data or testimony, will not suffice to meet that burden." Preston-Brady, Co., Inc., V.A.B.C.A. Nos. 1892, 1991, 2555, 87-1 BCA (CCH) ¶ 19,649, at 99,520, 1987 WL 41248 (1987), clarified on denial of reconsideration, V.A.B.C.A. Nos. 1892, 1991, 2555, 87-2 BCA (CCH) ¶ 19,925, 1987 WL 46592 (1987).

In Sauer, Inc. v. Danzig, 224 F.3d 1340, 1348 (Fed. Cir. 2000), the United States Court of Appeals for the Federal Circuit recognized the importance of proving the impact on the schedule of a project in order to prove a loss of productivity or loss of efficiency claim. In Sauer, the plaintiff argued that the ASBCA wrongfully applied the standard for disruption damages, or loss of productivity, by requiring the plaintiff to "establish that overall contract completion was excusably delayed." Id. at 1348. In rejecting the ASBCA's analysis, the Federal Circuit stated that a plaintiff "need not establish delay to overall contract completion to succeed on its disruption claim." Id. The Federal Circuit went on to state in Sauer that, "if the Navy's failure to follow the crane-installation schedule provided in the . . . Contract can properly be considered a change or a constructive change – a matter not decided by the Board – then any increased costs flowing directly and necessarily from that change would be compensable." Id. at 1349 (citing Electronic & Missile Facilities, Inc. v. United States, 189 Ct. Cl. 237, 416 F.2d 1345, 1361 (1969); Paul Hardeman, Inc. v. United States, 186 Ct. Cl. 743, 406 F.2d

1357, 1361-63 (1969) (noting that the allowable equitable adjustment is "the difference between what it cost [the contractor] to do the work and what it would have cost [the contractor] if the unforeseen conditions had not been encountered") (internal quotation omitted).

As stated in the Federal Circuit's Sauer decision, an overall delay in the contract is not necessary to recovery for a loss of productivity claim; however, the plaintiff must still prove, through schedules or other methods, that the government's actions can properly be considered compensable changes. Id. at 1348.

SCBI never provided the contracting officer or this court with a critical path analysis of the alleged government-caused hindrances and their effect upon the critical path or productivity of this project. Plaintiff has only offered a variety of examples of government caused delays. Plaintiff's manner of proof, only by example, without tracing a chronology of negative impact on the project, in testimony, in the extensive documentary records offered at trial without comment or in the post-trial briefing, has made the court's analysis difficult and time consuming. The court, however, has undertaken to conduct an independent review of the information offered at trial, as well as all the exhibits, with attention to each of plaintiff's claims.

SCBI alleges that many of the disruptions caused by the government resulted from NASA's failure to respond to plaintiff's RFIs in a timely manner, which addressed interferences or obstructions encountered by SCBI. In the documents provided to the court, SCBI submitted an RFI log indicating the times within which NASA responded to SCBI's RFIs. Of the RFIs submitted by SCBI, many were answered in about a week's time. Others were responded to more slowly by NASA, including those which resulted in contract change orders. For example, SCBI cited a letter it sent to NASA on June 19, 1998, shortly after the commencement of work on the MLP project. In the letter, SCBI stated that it was to receive MLP-1 on June 10, 1998, but did not actually receive MLP-1 until June 15, 1998, causing SCBI to work the required packages out of sequence. On July 25, 1998, SCBI provided NASA with another notice of delays encountered during performance. In the letter, SCBI stated: "As per your work schedule (phase & work package's) and the project schedule that was submitted and approved, can not [sic] be implemented. On our letter dated June 19, 1998, the reaction time on answers to the problems addressed to you on RFI'S are delaying the project and have cost our company time and money" In the list of areas affected by the government's alleged scheduling failures and delays, SCBI listed "rental equipment, out-of-sequence work, time constraints/acceleration if required, loss of time for hourly employees working out of scheduled sequence work, field overhead, and unabsorbed home office overhead." SCBI wrote to NASA again on August 1, 1998, and stated that: "As of this date very little has been accomplished on the part of NASA to eliminate our concern for the completion of MLP # 1 Modification in the time allotted We want to point out that we are prepared able & ready to carry out this order of work" SCBI attached to its August 1, 1998 letter copies of its daily construction logs from July 27 - 31, 1998. In those logs, SCBI indicates that it was awaiting a complete response from NASA on

RFI no. 22, which had requested information on how SCBI was to attach the AHUs to the support frame.

In its claim to the contracting officer, SCBI also set forth other incidents that plaintiff alleges caused delay or interruption of work on the MLP-1 project. For example, on June 18, 1998, SCBI discovered interference between the ventilation air and chilled water piping. On June 24, 1998, SCBI was asked by NASA whether it would commence air tests on the halon compartments, and SCBI responded that it was awaiting feedback on the RFI concerning the halon system. On July 20, 1998, SCBI indicated that "RFI # 22 answered all but 5 units on B level where we are currently working. Since we do not have a complete answer on those 5 units we are being held up from doing the coil piping." On August 10, 1998, SCBI wrote that it was still awaiting answers on RFI nos. 22, 29, and 25A, and indicated that the RFIs were impacting the MLP project. These RFIs concerned obstructions encountered in placing the AHUs onto their bases. Specifically, RFI no. 29 indicated that several AHUs were extending beyond the dimensions of the base. Submitted on July 25, 1998, a contacting officer's response was not provided until August 18, 1998, seventeen days after submission. When NASA's contracting officer did respond to RFI no. 29, the result was a change order to the contract, recognizing that a modification to the contract was appropriate.

Although SCBI claims that the government caused delays to its schedule, it also recognizes that "NASA has issued change orders providing partial reimbursement for the direct costs of the majority of the changed work" (emphasis in original). SCBI claims, however, that it has not been fully reimbursed for loss of productivity due to the untimely performance of the changed work, slow response time from NASA on SCBI's RFIs and resulting lack of information, or the differing site conditions encountered with the lead paint. SCBI also claims that it was forced to work under "unusually severe performance conditions" for two weeks at the Vehicle Assembly Building (VAB), and cites to amendment no. 1 of the contract as recognizing that working in the VAB would constitute a changed condition.

In assessing plaintiff's damages for loss of productivity, SCBI's consultant, Mr. Midgette, computed plaintiff's damages using a modified total labor cost method and a modified measured mile analysis. Offering yet a third alternative, without stating which method of calculation was more supportable, plaintiff's expert averaged the numbers resulting from his modified measured mile analysis and from his modified total cost method, to conclude that plaintiff should be reimbursed in the average amount of \$75,079.00.

A total cost method is based on a formula that assumes that a contractor is owed the difference between the actual cost of the contract and the contractor's bid. See Raytheon Co. v. White, 305 F.3d 1354, 1365 (Fed. Cir), reh'g denied (2002); see also Sunshine Constr. & Eng'g, Inc. v. United States, 64 Fed. Cl. 346, 371 (2005). To utilize the total cost method, a contractor must prove: "(1) the impracticability of proving its actual losses directly; (2) the reasonableness of its bid; (3) the reasonableness of its

actual costs; and (4) lack of responsibility for the added costs." Propellex Corp. v. Brownlee, 342 F.3d 1335, 1339 (Fed. Cir. 2003) (citing Servidone Constr. Corp. v. United States, 931 F.2d at 861). A total cost method is not favored and should not be used when another, more reliable, method is available by which to compute a contractor's damages. See Hi-Shear Tech. Corp. v. United States, 356 F.3d 1372, 1383 (Fed. Cir.), reh'g en banc denied (2004); Sunshine Constr. & Eng'g, Inc. v. United States, 64 Fed. Cl. at 371. The United States Court of Appeals for the Federal Circuit has stated that "the preferred way for a contractor to prove increased costs is to submit actual cost data because such data 'provides the court, or contracting officer, with documented underlying expenses, ensuring that the final amount of the equitable adjustment will be just that – equitable – and not a windfall for either the government or the contractor.'" Propellex Corp. v. Brownlee, 342 F.3d at 1338-39 (quoting Dawco Constr., Inc. v. United States, 930 F.2d 872, 882 (Fed. Cir. 1991), overruled on other grounds by Reflectone, Inc. v. Dalton, 60 F.3d 1572 (Fed. Cir. 1995)). A modified total cost method, as calculated by the plaintiff, adjusts the total cost method for a contractor's lack of proof in the requirements of the total cost method. See Propellex Corp. v. Brownlee, 342 F.3d at 1339; Servidone Constr. Corp. v. United States, 931 F.2d at 861. Under a modified total cost approach, a contractor still has the burden of proving the four requirements discussed in the Propellex and Servidone cases, although that burden is eased. See Propellex Corp. v. Brownlee, 342 F.3d at 1339, Servidone Constr. Corp. v. United States, 931 F.2d at 861.

Mr. Midgette performed a modified total labor cost method, or "should cost" method to try to establish SCBI's loss of productivity claim. Using this approach, Mr. Midgette calculated the total labor cost owed as the difference in the total costs expended (total labor plus burden), minus acknowledged contractor problems, minus total labor cost paid. Mr. Midgette subtracted the total labor cost paid from the total labor cost expended and further subtracted a percentage for any potential inefficiencies caused by SCBI. Using this method, Mr. Midgette calculated that the total labor cost expended by SCBI on MLP-1 was \$184,889.00. Mr. Midgette then subtracted from this amount 10 percent of SCBI's planned labor, or \$7,825.00. From this total, Mr. Midgette deducted the total amount SCBI was paid for its labor on MLP-1, or planned labor (\$78,249.00), plus change order labor (\$28,704.00). The resulting damages claim under Mr. Midgette's modified total cost claim was \$70,111.00.

According to Mr. Midgette, plaintiff's expert and consultant, a measured mile analysis provides the loss of productivity measured by analyzing a period of unimpacted work against a period of impacted work. At trial, and in SCBI's claim, Mr. Midgette stated that he was able to arrive at a modified measured mile analysis for MLP-1 by comparing work done by SCBI on MLP-1 to work conducted on MLPs 2 and 3 by SCBI's subcontractor, Merritt. In its claim to the contracting officer, however, SCBI acknowledged that "the major drawback to using Merritt's performance to establish a production baseline is that SCBI's performance will now be measured against Merritt's performance" See Kit-San-Azusa, J.V. v. United States, 32 Fed. Cl. 647, 660 (1995), aff'd as modified, 86 F.3d 1175 (table), reh'g denied (1996) (in which the court

rejected a measured mile analysis and stated: “The impact of the changes could not be captured by comparing the time and effort involved in laying a ‘normal’ stretch of pipeline with that of laying an impacted stretch.”). In the case currently before the court, in its certified claim, the plaintiff also admitted, however, that: “In this instance it is impossible to establish an acceptable measured mile since 1) SCBI’s entire performance period while installing the HVAC modification on MLP 1 was impacted due to the many conflicts encountered and the slow response time by NASA, and 2) due to the short duration of the installation of the HVAC modifications to MLP 1 (June to October), contemporaneous data segregating productivity impacts is simply not available.”

To determine SCBI’s modified measured mile loss of productivity, Mr. Midgette compared Merritt’s planned labor for MLPs 2 and 3, \$67,106.00 and \$67,610.00 respectively, with SCBI’s planned labor for MLP-1, \$78,249.00. Mr. Midgette found that Merritt submitted certified payrolls, with labor burden, totaling \$167,019.00 for labor expended on MLPs 2 and 3 combined. Mr. Midgette then broke down the actual labor expended by each contractor on each MLP and found that, with labor burden included, SCBI submitted actual payrolls of \$184,889.00 for MLP-1, or \$106,640.00 more than planned. After deducting change order work, Mr. Midgette found an average of \$56,241.00 spent on labor for MLP 2 and 3 each. Mr. Midgette then reduced SCBI’s actual labor costs on MLP-1, by the \$28,704.00 provided in change orders, leaving a total of \$156,185.00. Averaging SCBI’s planned labor of \$78,249.00 and Merritt’s average labor of \$56,241.00, Mr. Midgette arrived at a baseline average labor of \$67,245.00. Mr. Midgette concluded that “a reasonable estimate of loss of productivity can then be calculated by subtracting this baseline labor figure of \$67,245 from actual labor expended towards base contract work on MLP 1 of \$156,185, resulting in \$88,940, which represents a fair and reasonable estimate of the total dollar value of the loss of productivity encountered.” Mr. Midgette reduced this amount by 10 percent “for any inefficiencies that Southern Comfort may have caused,” which brought Mr. Midgette’s measured mile analysis down to \$80,046.00.

During cross-examination, Mr. Midgette, plaintiff’s expert, admitted that inaccuracies existed concerning his damage calculations. Specifically, when questioned about the differences between his measured mile and modified total cost analysis, Mr. Midgette testified as follows:

Q. [defendant’s attorney] You’ve got a modified measured mile claim here that is a number approximately 80,000 here, correct sir?

A. [Mr. Midgette] Yes.

Q. You’ve got a modified total cost claim of 70,000, correct, sir?

A. Yes.

Q. You know, based upon your expertise in this area, that a total cost claim is the ceiling of a contractor’s potential recovery, correct, sir?

A. Yes.

Q. To the extent that an alternate method produces a higher valuation of the damages than a total cost claim, that method would, by definition, be incorrect?

A. Again, these calculations cannot precisely pinpoint exactly what the loss of productivity is. They're simply methods to develop a range that the loss of productivity be and in both instances, we reduced the amount by ten percent to address any contractor inefficiency.

Q. To the extent that the measured mile analysis or the modified measured mile analysis gives a damages figure of approximately 80,000 and the total costs method produces a number that's 70,000, that would indicate that the modified measured mile analysis is off by at least \$10,000, correct, sir?

A. This is why it was averaged to 75,000. I will agree that it's imprecise.

Additionally, during cross-examination, the defendant elicited testimony from Mr. Midgette, that in his total cost calculations he had not taken into consideration all of the costs previously paid to SCBI for its claims. Specifically, Mr. Midgette testified as follows:

Q. [defendant's attorney] This [exhibit JX 6.262] represents NASA payment to Southern Comfort for the temporary pipe supports claim, correct, sir?

A. [Mr. Midgette] Yes, sir.

Q. In that claim, there was \$5,183.41 paid for labor, correct sir?

A. Yes, sir.

Q. This is money that should be subtracted from the total cost claim, correct?

A. Yes, sir.

Q. That would bring the claim down from about 70,000 to say roughly 65,000?

A. Yes, sir.

To rebut Mr. Midgette's calculations, the defendant provided expert evidence through the testimony of Mark Doran, who was admitted at the trial as an expert in construction scheduling. In his expert report, and during the testimony at the trial, Mr. Doran offered several opinions rejecting SCBI's loss of productivity calculations. First, Mr. Doran stated that SCBI's loss of productivity estimate was so high because SCBI had undervalued its estimated labor activities in its bid submitted prior to contract award. Specifically, SCBI estimated its total labor value to be \$54,215.00, and \$78,249.00 with labor burden. Mr. Doran, however, found the bid estimate sheet to show approximately \$175,000.00 for labor for a typical MLP. In short, Mr. Doran concluded that SCBI underbid the contract, or that SCBI's bid was unreasonable. Finally, Mr. Doran rejected Mr. Midgette's loss of productivity calculation for failing to properly calculate Merritt's payrolls under the Davis Bacon Act.

The defendant argues that SCBI is not entitled to recover under the modified total cost method for several reasons. First, the defendant argues that SCBI presented no evidence that it was impracticable for SCBI to calculate its damages using another method. The defendant states that SCBI's "initial use of the mechanical contractor's association bulletin⁵ and its use of the modified measured mile approach indicate that other methods would have been possible." Moreover, the defendant, supported by Mr. Doran, argues that SCBI underestimated its planned labor costs in its bid and, therefore, that its bid was unreasonable. See Propellex Corp. v. Brownlee, 342 F.3d at 1339 (holding that a contractor must prove that its bid was reasonable before it can recover under a total cost method). Specifically, the defendant compares SCBI's estimated labor costs with the government's independent labor estimate completed in 1997, before the project was awarded. In the government's independent estimate, the labor costs were estimated at \$175,113.00 per MLP, well above the \$54,215.00 estimated by SCBI providing further evidence that SCBI underestimated its contract. Finally, the defendant argues that SCBI cannot demonstrate the degree to which SCBI was responsible for the overrun in price, and the court should not accept Mr. Midgette's 10 percent deduction provided in his calculations.

SCBI's failure to produce coordination drawings compounded its earlier failure to attend the pre-bid site visit. By failing to produce the coordination drawings and not attending the site visit, SCBI did not avail itself of all of the information it could have gleaned from a proper inspection of MLP-1. The contract informed bidders that the drawings provided by the government were "diagrammatic," were not intended to be absolutely precise, and did not show every offset, fitting, component and exact configuration required. The government's expert, Mr. West, testified that this contract provision meant that the drawings could be used for quantifying materials in an estimate, but that the drawings could not be used to anticipate every fitting "needed to go around existing structural obstruction or coordinating with other trades." The defendant further argues that although SCBI claimed to be surprised by the obstructions encountered, a responsive bidder should have attended the site visit and prepared the required coordination drawings. Having done so, the contractor would have known of the obstructions and number of extra fittings for purposes of making well informed allowances.

The court agrees with the defendant that SCBI's failure to attend the pre-bid site visit and failure to produce the coordination drawings contributed significantly to SCBI's failure to understand the many interferences and obstructions it was to face in completing the MLP contract. "It is well-settled that a contractor is charged with knowledge of the conditions that a pre-bid site visit would have revealed." H.B. Mac, Inc. v. United States, 153 F.3d at 1346. A failure to attend a pre-bid site visit, therefore,

⁵ The plaintiff's expert, Mr. Midgette, used the Mechanical Contractor's Association Bulletin in his first calculation, before he used a measured mile analysis and a modified total cost analysis in plaintiff's revised claim.

does not relieve a contractor of the knowledge it would have gained from attending the visit. Specifically, the clause at 48 C.F.R. § 52.236-3 (Apr. 1984) (incorporated by reference into the contract through 48 C.F.R. § 52.236-27 (Feb. 1995)) states that: “The Contractor also acknowledges that it has satisfied itself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site” The section continues: “Any failure of the Contractor to take the actions described and acknowledged in this paragraph will not relieve the Contractor from responsibility for estimating properly the difficulty and cost of successfully performing the work, or for proceeding to successfully perform the work without additional expense to the Government.” 48 C.F.R. § 52.236-3. The United States Court of Appeals for the Federal Circuit has stated that this language “informs potential bidders to take the necessary steps to ascertain the conditions that may affect the cost of completing a project.” Oman-Fischbach Int’l (JV) v. Pirie, 276 F.3d 1380,1385 (Fed. Cir. 2002).

After carefully reviewing the loss of productivity calculations provided by SCBI, the expert testimony provided by plaintiff’s expert Mr. Midgette and defendant’s experts Mr. Doran and Mr. West, and the voluminous documentary evidence entered into the record, this court finds that the plaintiff is not entitled to loss of productivity damages as claimed in its certified claim to the contracting officer and apparently claimed in the improper contract administration count included in plaintiff’s complaint in this court. The court finds that many of the obstructions and interferences encountered by SCBI could have been identified by SCBI, had SCBI drafted the coordination drawings required by the contract. Furthermore, SCBI’s failure to attend the pre-bid site visit resulted in SCBI’s failure to compare the solicitation and contract specifications to the existing conditions. In addition, SCBI was aware that the MLP contract presented tight scheduling windows and limited access to the site requirements. In the contract, the government required the winning contractor to adhere to a schedule requiring 42-day work windows. Finally, although the government’s responses to the RFIs presented by SCBI to the government were not always immediate, the evidence presented to the court does not trace or support specific derivative delays or negative impacts on the contractor’s work, which was completed very near to the targeted completion date.

Based on the information presented, this court cannot adopt Mr. Midgette’s measured mile analysis or modified total cost analysis to support SCBI’s calculation of damages for loss of productivity. Nor can the court adopt an average of the two calculations. Plaintiff’s expert attempted three different methodologies without explicitly signing on to any one of those definitively, and his analysis on each of the methodologies presented at trial was flawed. SCBI’s measured mile calculation is deficient in that it does not adequately represent a comparison between SCBI’s unimpacted work with SCBI’s impacted work. Instead, SCBI’s calculation compares SCBI’s work with the work performed by another contractor, Merritt. Although the two companies conducted similar work, even SCBI’s own expert, Mr. Midgette, indicated that, under a measured mile analysis, comparing two separate companies is fundamentally flawed. Also, since SCBI did not provide a basis of its work unimpacted

by government actions, the court cannot properly conclude what SCBI's unimpacted work would have been. Another flaw in SCBI's measured mile analysis is that in its calculations, plaintiff's final average labor costs under the measured mile analysis is greater than the total cost calculations. This presents a fundamental problem because, as Mr. Midgette admitted, a total cost analysis represents the maximum amount a contractor could possibly receive. It, therefore, is unreasonable for SCBI's measured mile calculations to be higher than its total cost calculation, perhaps a result of comparing SCBI's costs with Merritt's costs.

SCBI's modified total cost analysis fails to pass the four-prong analysis required for utilization of the total cost analysis method. See Propollex Corp. v. Brownlee, 342 F.3d at 1339; Servidone Constr. Corp. v. United States, 931 F.2d at 861 (requiring a contractor to prove that no other more reliable method is available, its bid was reasonable, that the actual costs were reasonable, and that the contractor lacked responsibility for the added costs). The court notes that, SCBI's bid, while accepted, was lower than the next responsive bid price by 5.3 percent and lower than the government's estimate by 22.2 percent. While this in itself does not demonstrate an unreasonable bid, the evidence suggests that SCBI underestimated its labor costs as testified to at the trial by the defendant's expert, who was not challenged on this testimony at trial. There also is little or no evidence in the record to demonstrate that SCBI's costs were reasonable. Furthermore, SCBI's failure to attend the pre-bid site visit contributed to SCBI's increased costs due to not being able to recognize difficulties at the site. Finally, although SCBI included a 10 percent inefficiency amount in its loss of productivity calculations, the number appears to be randomly chosen and the court cannot with any certainty identify this amount as the percentage of loss caused by SCBI's failure to properly inform itself of the construction conditions. For these reasons, the court finds that SCBI has not proven entitlement to damages for loss of productivity.

V. Defendant's Counterclaim for Failure to Produce Coordination Drawings

In its counterclaim, the government seeks \$6,484.00 for plaintiff's failure to produce the coordination drawings required by the contract. Contract specification section 15050, part 1.3, titled "SD-04 Drawings," required SCBI to submit coordination drawings to avoid routing conflicts between trades and conflicts with the existing structure and equipment. Specifically, paragraph 1.3 stated: "Coordination drawings shall be submitted for Pipes, Valves, and Specialties showing coordination of work between different trades and with the structural, electrical and architectural elements of work."

During the trial in this case, the plaintiff's claim consultant, Mr. Midgette agreed that the contract required SCBI to produce coordination drawings. Specifically, Mr. Midgette testified as follows:

Q. [defendant's attorney] You agreed with the statement, don't you, Mr. Midgette, that the contract required coordination drawings?

A. [Mr. Midgette] Yes, sir.

Q. You would agree that the coordination drawings saved the contractor money because the contractor knows in advance where the existing conflicts are and the contractor can resolve them before the work starts?

A. Yes, sir.

Q. You also recognize that Southern Comfort did coordination drawings for MLP-2?

A. Yes, sir.

In response to the government's counterclaim, based on plaintiff's failure to produce coordination drawings and the defendant's allegations that many of SCBI's problems would have been avoided had SCBI produced the drawings for MLP-1. SCBI presents several arguments. First, SCBI argues that denial of access to MLP-1 should excuse SCBI from the contract requirement to prepare and submit coordination drawings. According to SCBI, it was not allowed access to MLP-1 before April 3, 1998, but access to MLP-1 was not granted until June 16, 1998. Second, according to Mr. Allison, SCBI's project manager, the government's contracting officer, Terrance Crowley, never complained about the missing coordination drawings for MLP-1. Third, SCBI claims that the coordination drawings were unnecessary because the MLP drawings given to the contractor by the government were not diagrammatic, but instead were specific and of sufficient detail so as to not require coordination drawings. Finally, SCBI argues that because the government never requested the coordination drawings, SCBI was not required to produce them. SCBI claims that only after SCBI submitted its request for equitable adjustment did the government, through a successor contracting officer, Clarence Floyd, raise the issue of the coordination drawings.

The defendant refutes the plaintiff's claim that NASA did not raise the issue until 2000, stating that meeting minutes dated July 15, 1998, indicate that NASA raised the issue of whether coordination drawings had been prepared or not. The defendant also cites to the trial testimony of Curtis Reed, plaintiff's project superintendent, who concedes that NASA raised the issue in 1998. The defendant further rejects SCBI's claims that it was not granted access to the MLP to conduct measurements for the coordination drawings. A NASA memorandum to the file from Mr. Maiz, the contracting officer's technical representative, dated April 2, 1998, states that SCBI would have access to MLP-1 on April 6, 7, and 8, 1998. In his testimony, Mr. Maiz stated that the purpose of making MLP-1 available on those dates was for SCBI to take measurements and do whatever they needed to prepare for the project. Although NASA made MLP-1 available to SCBI, the defendant alleges that SCBI failed to take advantage of this availability. Defendant also claims that NASA made MLP-1 available on additional dates, including April 9, 1998, and May 6, 1998. According to the defendant, plaintiff's contentions that NASA denied plaintiff access to the site and that plaintiff was told not to do coordination drawings are unjustified. Moreover, because the contract required plaintiff to prepare coordination drawings, the requirement was never waived, and plaintiff failed to prepare those drawings, defendant is entitled to a contract reduction to represent the cost of preparing those drawings.

The government contends, and the court agrees, that plaintiff likely would not have encountered or been surprised by many of the problems which occurred during the project, had the plaintiff prepared the coordination drawings required by the contract. Similarly, defendant argues, and the experts for both parties agree, that had plaintiff produced coordination drawings, the loss of productivity claim would have been reduced or eliminated. Mr. West concluded that both SCBI's loss of productivity claim and its claim for defective plans and specifications lacked merit because of its failure to produce coordination drawings. Mr. Doran also concluded that SCBI's loss of productivity claim was caused by its failure to do coordination drawings. Finally, Mr. Midgette, SCBI's own consultant, agreed that if SCBI had obtained access to the site to do coordination drawings then all damages flowing from the failure to do coordination drawings would be the responsibility of SCBI.

During the trial in this case, Mr. Midgette specifically acknowledged that at least one of the difficulties encountered would have been resolved had the plaintiff produced coordination drawings. When asked about RFI no. 7, which addressed the chilled water system that interfered with SCBI's progress, Mr. Midgette testified as follows:

Q: [defendant's attorney] The RFI 7 issue is an issue that would have been eliminated with coordination drawings, correct?

A: I think I said that most probably, yes.

The plaintiff further admits in its post-trial reply brief that "had a detailed survey of the interior of MLP 1 been performed, including review and measurement of the pipe runs, a great deal of the confusion and necessity for the Request for Information (RFIs) could have been avoided."

The record does not support plaintiff's claim that SCBI was not required to produce coordination drawings or that the requirement was waived. With the exception of a single document, written by SCBI, which stated that the coordination drawings were "N/A," SCBI produced no additional evidence at trial proving that NASA waived the requirement to produce the coordination drawings. Similarly, plaintiff provided insufficient evidence to demonstrate that SCBI was denied access to MLP-1 to produce the drawings. The record clearly demonstrates that on April 2, 1998, the defendant informed SCBI that it could inspect MLP-1 on April 6, 7, and 8, 1998, and MLP-3 on April 6, 7, 8, 9, and 10, 1998. There is no evidence to suggest that SCBI was, or would have been, denied sufficient access to MLP-1 for inspection, measurements and to produce coordination drawings during those dates.

The defendant has claimed that it is due \$6,484.00 as damages for plaintiff's failure to produce coordination drawings as required by the contract. In his expert report, defendant's expert, Mr. West, included a cost estimate for a contractor to prepare coordination drawings for MLP-1, including the overhead, profit, and bond rates used by SCBI. Mr. West broke down the estimate to types of trades involved, foreman, pipefitter, electrician, laborer, added a 44.33 percent wage burden, miscellaneous

supplies, overhead, profit and bond. He detailed his assumptions and concluded that the cost was \$6,483.77.⁶ He also testified to his estimates and conclusions at trial, allowing an opportunity for cross-examination by the plaintiff. Based on a review of Mr. West's expert report, which broke down costs for the component parts, the court finds that the uncontroverted amount claimed by the defendant as the cost of preparation of coordination drawings is reasonable. Plaintiff also has offered no contrary evidence to rebut the \$6,484.00 damage amount claimed by the government. The court, therefore, finds that the defendant is entitled to \$6,484.00 for SCBI's failure to perform a required element of the contract, to provide coordination drawings.

VI. Subcontractor Claims and Other Extra Contract Administration Costs, Including Consultant Fees

The plaintiff's final claims include consulting costs for putting its REA together, additional administrative costs, and subcontractor pass-through claims. Plaintiff's claims for damages resulting from loss of productivity have been addressed immediately above. Although the attempted pass-through claims for three subcontractors claims, allegedly caused by delays experienced on the project, were included in the plaintiff's revised, certified claim submitted to the contracting officer and were listed in the joint stipulation of facts presented to this court prior to trial, they were not included in plaintiff's complaint filed in this case. There is no mention in the complaint of New Age Insulation Inc., Thermal Systems Balancing, Inc., or Military Construction Corporation. The United States Court of Appeals for the Federal Circuit has stated on numerous occasions that a plaintiff's failure to raise a claim or argument in its complaint may be deemed as a waiver of that argument by the plaintiff. See Casa de Cambio Comdiv S.A., de C.V. v. United States, 291 F.3d 1356, 1366 (Fed. Cir. 2002), cert. denied, 538 U.S. 921 (2003) ("[W]e conclude that we need not address Casa's agency theory because it was not properly raised. No mention of this theory appears in Casa's complaint. Under the circumstances, we hold that Casa waived any claim it may have against the government based on such a theory."); Mients v. United States, 50 Fed. Cl. 665, 671 (2001) ("The court's duty to scour the complaint for 'any possible basis on which the non-movant might prevail,' W.R. Cooper, 843 F.2d at 1364, does not mean that the court must adjudicate every possible cause of action that plaintiff might have pleaded."). Plaintiff's failure to identify its subcontractor pass-through claims in its complaint in this court, therefore, is fatal, regardless of the possible merits of such claims. Moreover, the record contains little evidence to support the plaintiff's subcontractor claims.

With respect to the plaintiff's claim for extra contract administration costs for preparation of plaintiff's request for equitable adjustment submitted on June 1, 1999, after the complaint in this court was filed, the government issued modification No. 54 and paid the plaintiff \$1,662.00 for this item. The contractor, nonetheless, continues to

⁶ In the joint stipulation of facts, the defendant rounded this number up to \$6,484.00.

claim \$4,608.00 for extra in-house administration costs. This category of claim was alleged by the plaintiff in its revised claim to the contracting officer and included in the joint stipulation of facts. Once again, however, plaintiff failed to include it in the complaint filed in this court, resulting in no award.

VII. Bad Faith

In this court, SCBI titled count five of its complaint, "Failure to Negotiate in Good Faith." Plaintiff claims that the government failed to negotiate contract modifications in good faith. SCBI states in its complaint that: "In several cases, NASA refused to negotiate after admitting liability for the extra work and later refused to negotiate for a price extra work claiming it had been included in the basic Contract price." SCBI then states that: "NASA's unreasonable failure to negotiate modifications to the Contract caused SCBI to perform work for NASA without compensation."

The court proceeds from a "strong presumption that government officials exercise their duties in good faith." Am-Pro Protective Agency, Inc. v. United States, 281 F.3d 1234, 1239 (Fed. Cir. 2002) (citing Knotts v. United States, 128 Ct. Cl. 489, 492, 121 F. Supp. 630 (1954)); see also T & M Distributions, Inc. v. United States, 185 F.3d 1279, 1285 (Fed. Cir. 1999); Caldwell & Santmyer, Inc. v. Glickman, 55 F.3d 1578, 1581 (1995) ("We assume the government acts in good faith when contracting."); Spezzaferro v. Fed. Aviation Admin., 807 F.2d 169, 173 (Fed. Cir. 1986); Sanders v. United States Postal Service, 801 F.2d 1328, 1331 (Fed. Cir. 1986) (stating that "there is a strong presumption in the law that administrative actions are correct and taken in good faith"); Torncello v. United States, 231 Ct. Cl. 20, 45, 681 F.2d 756, 770 (1982); Kalvar Corp. v. United States, 211 Ct. Cl. 192, 198-99, 543 F.2d 1298, 1301-02 (1976), cert. denied, 434 U.S. 830 (1977); Librach v. United States, 147 Ct. Cl. 605, 612 1959 WL 7633 (1959); Morganti Nat'l Inc. v. United States, 49 Fed. Cl. 110, 143 (2001), aff'd, 36 Fed. Appx. 452 (Fed. Cir.), reh'g and reh'g en banc denied (2002).

In 2002, the Federal Circuit stated that "for almost 50 years this court and its predecessor have repeated that we are 'loath to find to the contrary [of good faith], and it takes, and should take, well-nigh irrefragable proof to induce us to do so.'" Am-Pro Protective Agency, Inc. v. United States, 281 F.3d at 1239 (quoting Schaefer v. United States, 224 Ct. Cl. 541, 633 F.2d 945, 948-49 (1980)) (alteration in original); Four Points by Sheraton v. United States, 63 Fed. Cl. 341, 344 (2004) (finding that in order for the protestor to prevail on an allegation of bias and bad faith, it must overcome the presumption of regularity and good faith); Orion Int'l Tech. v. United States, 60 Fed. Cl. 338, 346 (2004) (finding that a court must not inquire into the mental processes of an administrative decisionmaker without a "strong showing of bad faith.") (quoting Aero Corp. v. United States, 38 Fed. Cl. 408, 413-14 (1997)); Libertatia Assocs. Inc. v. United States, 46 Fed. Cl. 702, 706, 708 (2000) (finding that an agency official acted with personal animosity and intimidation toward plaintiff and manifested specific intent to injure) (citing Spezzaferro v. Fed. Aviation Admin., 807 F.2d at 173); Hoffman v. United States, 16 Cl. Ct. 406, 410 (1989) (finding that mere contentions of bias do not

constitute proof), aff'd, 894 F.2d 380 (Fed. Cir. 1990); Space Age Eng'g, Inc. v. United States, 4 Cl. Ct. 739, 744 (1984) (finding that inferences and allegations alone fail to fulfill the “clear and convincing proof” required to show impropriety on the part of the government) (citing Heyer Prods. Co. v. United States, 135 Ct. Cl. 63, 140 F. Supp. 409, 414 (1956)); see also Galen Med. Assocs., Inc. v. United States, 369 F.3d 1324, 1330 (Fed. Cir.), reh'g denied (2004) (“[W]hen a bidder alleges bad faith, ‘in order to overcome the presumption of good faith [on behalf of the government], the proof must be almost irrefragable.’”) (quoting Info. Tech. & Applications Corp. v. United States, 316 F.3d 1312, 1323 n.2 (Fed. Cir. 2003)) (alteration in original); Caldwell & Santmyer, Inc. v. Glickman, 55 F.3d 1578, 1581 (Fed. Cir. 1995) (reiterating the principle that “[a] contractor can overcome [the presumption that the government acts in good faith] only if it shows through ‘well-nigh irrefragable proof’ that the government had a specific intent to injure it”) (quoting Torncello v. United States, 231 Ct. Cl. at 45, 681 F.2d at 770); CACI, Inc.-Federal v. United States, 719 F.2d 1567, 1581-82 (Fed. Cir. 1983) (determining that the possibility and appearance or suspicion and innuendo of impropriety, without “hard facts” to support misconduct, is an inadequate basis for withholding award of the contract); Torncello v. United States, 231 Ct. Cl. at 45, 681 F.2d at 770 (stating “the government . . . is assumed always to act in good faith, subject only to an extremely difficult showing by the plaintiff to the contrary.”) (citation omitted); Kalvar Corp. v. United States, 211 Ct. Cl. at 193-94, 543 F.2d at 1298; Librach v. United States, 147 Ct. Cl. at 612 (stating that “clear evidence to the contrary” is necessary to overcome the presumption in favor of the government).

In Am-Pro Protective Agency, Inc. v. United States, the United States Court of Appeals for the Federal Circuit considered the extent of proof required to demonstrate that the government acted in bad faith and further explained the “well-nigh irrefragable proof” language, consistent with its “well-established precedent that a high burden must be carried to overcome” the presumption of good faith. Am-Pro Protective Agency, Inc. v. United States, 281 F.3d at 1239. The court determined that the “clear and convincing” standard of proof “most appropriately describes the burden of proof applicable to the presumption of the government’s good faith.” Id. “Based on this well-established precedent, it logically follows that showing a government official acted in bad faith is intended to be very difficult, and that something stronger than a ‘preponderance of evidence’ is necessary to overcome the presumption that he acted in good faith, i.e., properly.” Id. at 1240; see also Galen Med. Assocs., Inc. v. United States, 369 F.3d at 1330 (“‘Almost irrefragable proof’ amounts to ‘clear and convincing evidence.’”) (quoting Am-Pro Protective Agency, Inc. v. United States, 281 F.3d at 1239-40).

The Federal Circuit in Am-Pro Protective Agency described the “clear and convincing” standard of proof, as follows:

A requirement of proof by clear and convincing evidence imposes a heavier burden upon a litigant than that imposed by requiring proof by preponderant evidence but a somewhat lighter burden than that imposed

by requiring proof beyond a reasonable doubt. “Clear and convincing” evidence has been described as evidence which produces in the mind of the trier of fact an abiding conviction that the truth of a factual contention is “highly probable.”

Am-Pro Protective Agency, Inc. v. United States, 281 F.3d at 1240 (quoting Price v. Symsek, 988 F.2d 1187, 1191 (Fed. Cir. 1993)). The Federal Circuit further wrote:

In the cases where the court has considered allegations of bad faith, the necessary “irrefragable proof” has been equated with evidence of some specific intent to injure the plaintiff. Thus, in Gadsden v. United States, [111 Ct. Cl. 487, 489-90 (1948)] the court compared bad faith to actions which are “motivated alone by malice.” In Knotts, [v. United States, 128 Ct. Cl. 489, 492 (1954)], the court found bad faith in a civilian pay suit only in view of a proven “conspiracy . . . to get rid of plaintiff.” Similarly, the court in Struck Constr. Co. v. United States, [96 Ct. Cl. 186, 222 (1942)] found bad faith when confronted by a course of Governmental conduct which was “designedly oppressive.” But in Librach, [v. United States, 147 Ct. Cl. 605 (1959)], the court found no bad faith because the officials involved were not “actuated by animus toward the plaintiff.”

Am-Pro Protective Agency, Inc. v. United States, 281 F.3d at 1240 (quoting Kalvar Corp. v. United States, 211 Ct. Cl. at 192, 543 F.2d at 1302 (citations omitted)); see also Galen Medical Assocs., Inc. v. United States, 369 F.3d at 1330 (“In the cases where the court has considered allegations of bad faith, the necessary ‘irrefragable proof’ has been equated with evidence of some specific intent to injure the plaintiff.”) (quoting Torncello v. United States, 681 F.2d at 770)).

In this case, SCBI has failed to present clear and convincing evidence to overcome the presumption of good faith afforded to the actions of government personnel. Although SCBI claimed bad faith in its complaint, it brought forth no evidence at trial to substantiate its allegations. Moreover, after SCBI submitted its first claim to the contracting officer, and after the complaint in this court was filed, NASA issued unilateral modification no. 54, which increased SCBI’s contract amount by \$66,167.00. In May, 2003, the government released to SCBI \$56,998.00, partially satisfying SCBI’s claims for unresolved change orders. SCBI, therefore, has been compensated for a portion of the claims it argues were negotiated in bad faith. Because SCBI has failed to carry its high burden of proof regarding the government’s bad faith, SCBI is entitled to no compensation under to its bad faith claim.

VIII. Prompt Payment Act Interest

Count four of the plaintiff’s complaint argues that SCBI is entitled to Prompt Payment Act interest. The plaintiff alleges that: “NASA failed to pay SCBI for its work in accordance with the terms and conditions of the Contract. Therefore, SCBI is entitled to

recover interest on improperly withheld funds from the date the payments were due until the date such funds are/were actually paid.”

“Interest on a claim against the United States shall be allowed in a judgment of the United States Court of Federal Claims only under a contract or Act of Congress expressly providing for payment thereof.” 28 U.S.C. § 2516(a) (2000). The Prompt Payment Act states in relevant part that :

(a) Under regulations prescribed under section 3903 of this title, the head of an agency acquiring property or service from a business concern, who does not pay the concern for each complete delivered item of property or service by the required payment date, shall pay an interest penalty to the concern on the amount of the payment due. The interest shall be computed at the rate of interest established by the Secretary of the Treasury, and published in the Federal Register, for interest payments under section 12 of the Contract Disputes Act of 1978 (41 U.S.C. 611), which is in effect at the time the agency accrues the obligation to pay a late payment interest penalty.

(b) The interest penalty shall be paid for the period beginning on the day after the required payment date and ending on the date on which payment is made.

31 U.S.C. § 3902(a)-(b). “The Prompt Payment Act of 1982 was enacted in order to provide incentives for the Federal Government to pay its bills on time. . . . If the government would properly implement the Act’s requirements to pay its bills in a timely fashion, the price it must pay for goods and services would most likely decrease as a result of more competition and lower bid prices.” H.R. Rep. No. 784, 100th Cong., 2d Sess. 11 (1988), reprinted in 1988 U.S.C.C.A.N. 3036, 3036.

The Prompt Payment Act applies when the agency in question is acquiring goods or services from a plaintiff under a written contract. See New York Guardian Mortgage Corp. v. United States, 916 F.2d 1558, 1560 (Fed. Cir. 1990). The Prompt Payment Act does not require a contractor to ask for Prompt Payment Act interest in order to receive Prompt Payment Act interest, but instead states that, “[a] business concern shall be entitled to an interest penalty of \$1.00 or more which is owed such business concern under this section, and such penalty shall be paid without regard to whether the business concern has requested payment of such penalty.” 31 U.S.C. § 3902(c)(1). The Code of Federal Regulations states that: “[w]hen payments are made after the due date, interest will be paid automatically in accordance with the procedures provided in this part.” 5 C.F.R. § 1315.4(i) (2004).

The Prompt Payment Act does not apply when the payment in question is disputed. Section 3907 states:

(c) Except as provided in section 3904 of this title, this chapter does not require an interest penalty on a payment that is not made because of a dispute between the head of an agency and a business concern over the amount of payment or compliance with the contract. A claim related to the dispute, and interest payable for the period during which the dispute is being resolved, is subject to the Contract Disputes Act of 1978 (41 U.S.C. 601 et seq.).

31 U.S.C. § 3907(c). Discussing this provision, the legislative history to the Prompt Payment Act indicates:

The act's protections apply only when there is no dispute relating to a contractor's performance in accordance with the terms and conditions of the contract. If a dispute exists, a contractor is not entitled to payment or late payment interest penalties until the dispute is resolved If a contractor prevails under its claim filed under the Contract Disputes Act, interest is to be paid pursuant to that act.

H.R. Rep. No. 784, 100th Cong., 2d Sess. 11 (1988) reprinted in 1988 U.S.C.C.A.N. 3036, 3039 (quoting OMB circular A-125, "Prompt Payment").

Also discussing disputed claims, the United States Court of Federal Claims and numerous Boards of Contract Appeals have acknowledged that the Prompt Payment Act applies only where no dispute exists over the claim. See George Sollitt Constr. Co. v. United States, 64 Fed. Cl. 229, 304 (2005) ("Disputed contract payment amounts are subject to Contract Disputes Act interest, 41 U.S.C. § 611, not Prompt Payment Act interest."); Cargo Carriers, Inc. v. United States, 34 Fed. Cl. 634, 645 (1995), aff'd, 135 F.3d 775 (Fed. Cir. 1998) (table) (holding that there was no waiver of sovereign immunity to allow Prompt Payment Act interest when nonpayment by the agency is the result of a dispute with the business concern); MCI Worldcom Communications, Inc. v. Soc. Sec. Admin., GSBCA No. 16169-SSA, 04-2 BCA ¶ 32,689, at 161,747, 161,761, 2004 WL 1798094 (Aug. 4, 2004), appeal dismissed sub nom. Barnhart v. MCI Worldcom Communications, Inc., 120 Fed. Appx. 321 (Fed. Cir. 2005) (holding that, "as a matter of law, any claim for PPA interest on the disputed amount from the date of partial payment to the date on which the contracting officer received MCI's certified claim of April 4, 2003, must be denied"); Marut Testing & Inspection Servs., Inc. v. General Servs. Admin., GSBCA No. 15,412, 02-2 BCA ¶ 31,945, at 157,813, 157,824, 2002 WL 1813662 (Aug. 2, 2002), appeal dismissed 66 Fed. Appx. 886 (Fed. Cir. 2003) (holding that because the payment amount was in dispute, Prompt Payment Act interest did not run upon receipt of the payment request, and awarding CDA interest from the date it filed its certified CDA claim with the contracting officer).

In this case, the court has found that the plaintiff is entitled to recover under two small claims which were not disputed by the government. The first claim was for SCBI's work under contract modification no. 8. In modification no. 8, NASA responded to

SCBI's RFI no. 9, and stated that: "the contractor [SCBI] is directed to provide labor, materials, and equipment to relocate AHU's 21, 24 & 26" In its claim, and at trial, SCBI argued that although NASA recognized that RFI no. 8 required additional work, and issued a contract modification, it now refuses to pay SCBI for the additional work. The defendant presented no evidence to dispute the plaintiff's claim that NASA should have paid SCBI for its performance under modification no. 8. The plaintiff seeks \$1,732.89 in compensation for this work. Having found that plaintiff is entitled to this payment, and that the defendant does not dispute the amount, the court finds that the plaintiff is entitled to Prompt Payment Act interest on the \$1,732.89.

The plaintiff's second claim for which it is entitled to Prompt Payment Act interest involves contract modification no. 16, which responded to SCBI's RFI nos. 25 and 25A. In modification no. 16, contracting officer Terrance Crowley directed SCBI to "provide labor, materials, and equipment to rotate the AHU # 26 & 30 blower modules 180 degrees" In its claim, SCBI alleged that NASA never paid it for the work performed under contract modification no. 16, and sought \$1,497.49 for uncompensated work. Although the government issued modification no. 16, which recognized additional work required on the MLP contract, the government, through the trial testimony of Mr. West, later attempted to dispute the work. Mr. West alleged that the necessity for this work would have been discovered during the coordination drawing phase and stated that "any interferences would have been noticed at that time." Regardless of the defendant's later attempt to dispute the amount claimed by the plaintiff, SCBI performed the work authorized and directed by NASA under a specific modification to the original terms of the contract, contract modification no. 16, and NASA has brought forth no evidence that it has paid SCBI for its costs in doing the work, or deleted that requirement from the contract. Therefore, having found that plaintiff is entitled to its costs under modification no. 16, totaling \$1,497.49, the court also finds that SCBI is entitled to Prompt Payment Act interest on this amount. Outside of the amounts discussed above, the plaintiff is entitled to no other interest under the Prompt Payment Act.

CONCLUSION

After reviewing the testimony presented at trial and the documents presented to the court, the court finds that SCBI is entitled to recover \$3,230.38. This amount includes \$1,732.89 in additional work completed under contract modification no. 8, and \$1,497.49 for work completed under contract modification no. 16. The court also finds that the plaintiff is entitled to Prompt Payment Act interest on these two amounts. The remainder of plaintiff's claims are dismissed. On the defendant's counterclaims, the court finds that the government is entitled to \$6,483.77 on its claim for uncompleted coordination drawings, and \$50,975.00 for its cost to reprocur SCBI's nonconforming work. Because the government has already reduced SCBI's contract by \$35,000.00, and has retained \$15,975.00, the result is that the government retains the \$15,975.00, and is owed only the \$6,483.77 for the failure to prepare coordination drawings. The

parties are directed to submit to the court a calculation, within ten days of the issuance of this opinion, of the final dollar amounts owed in accordance with this decision.

Each party shall bear its own costs.

IT IS SO ORDERED.

**MARIAN BLANK HORN
JUDGE**