

FACTS

1. The project

On August 11, 1998, the United States, through the Army Corps of Engineers, Mobile, Alabama District (the “Corps”), issued an invitation for bids via Solicitation No. DACA01-98-B-0056-0006 for a fixed-priced contract for the Education Center/Library Project (the “EC/L Project” or the “Project”). The EC/L Project consisted of the construction of a two-story Education Center and a one-story Library Wing at MacDill Air Force Base in Florida and the removal of asbestos from, followed by demolition of, Building 311, the existing library facility. 1/ The Air Mobility Command was the intended end-user, or customer, for the EC/L Project. Sunshine Construction & Engineering, Inc. (“plaintiff”), a Florida corporation specializing in federal construction projects, is an 8(a) minority contractor 2/ that submitted a bid for the EC/L Project. Plaintiff is no longer in business. 3/

1/ The EC/L Project Bid consisted of the following items of work: Bid Item Nos. 1-4 (the Base Bid) were (1) Education Center/Library; (2) Site Work; (3) Demolition of Building 311; and (4) Asbestos Removal, Building 311. Option No. 2 was “Two Story Addition (8 Classrooms),” and Option No. 3 was “Vehicle Parking Area & Detention Basin No. 1.” Option No. 1 was not listed.

2/ The Small Business Act, 15 U.S.C. §§ 631-657 (2000), assists “eligible small disadvantaged business concerns compete in the American economy through business development” through section 8(a), 15 U.S.C. § 637(a). 13 C.F.R. § 124.1 (2005). Under section 8(a), a small business concern is one “owned and controlled by socially and economically disadvantaged individuals[,]” and which has participated in the small business and capital ownership development program. 15 U.S.C. § 637(a)(1)(C).

3/ According to Pin Fei (“Mike”) Yang, plaintiff’s president, Sunshine Construction & Engineering, Inc., is no longer in business because “this project call[ed the] Education Center and Library in MacDill Air Force Base . . . basically drain[ed] out all [of] my company[’s] resources.” Transcript of Proceedings, Sunshine Constr. & Eng’g, Inc. v. United States, No. 02-250C, at 14 (Fed. Cl. Dec. 6-10, 13-15, 2004) (“Tr.”). On cross-examination defense counsel challenged this charge and elicited testimony from Mr. Yang showing that plaintiff’s certified claim did not state that plaintiff went out of business as a result of the EC/L Project, or that plaintiff filed for bankruptcy. See Tr. at 239-40. But, then, defendant should be reminded that trial is a *de novo* proceeding. Wilner v. United States, 24 F.3d 1397, 1401-02 (Fed. Cir. 1994) (holding that findings of fact in contracting officer’s decision are not binding on parties at trial).

Bids were opened on September 15, 1998. Plaintiff's bid, including the total Base Bid plus Options, at \$5,199,966.00, was the lowest bid reflected on the Report of Bid Opening & Award. In a September 16, 1998 letter, Edward M. Slana, the Corps's Contracting Officer, asked plaintiff to confirm its bid. Mr. Slana also informed plaintiff that the Corps had the option of awarding the Base Bid and Option No. 3 only, thereby causing plaintiff's bid to be reduced to \$4,678,100.00. Subsequently, on September 26, 1998, the Corps awarded plaintiff the EC/L Project contract for the Base Bid (Item Nos. 1-4) and Option No. 3. 4/ Plaintiff's bid of \$4,678,100.00 for these items again was the lowest bid for the EC/L Project.

Initially, plaintiff was required to complete the EC/L Project within 430 days of receiving the Notice To Proceed (the "NTP") dated December 17, 1998. When plaintiff acknowledged receipt of the NTP on December 18, 1998, the contract completion date was established as February 21, 2000. Through eighteen unilateral and bilateral modifications, 5/ however, the contract duration was increased by 347 calendar days, extending the completion date to February 2, 2001. 6/ Plaintiff contends that the contract completion date should be modified to August 31, 2001, with remission of liquidated damages, whereas defendant takes the position that plaintiff substantially completed the EC/L Project on September 5, 2001, 215 days after the February 2, 2001 extended completion date.

4/ The contract award also included Amendments to the original Solicitation No. DACA01-98-B-0056-0006. Testimony from Mr. Yang indicated that the Corps issued three Amendments, Tr. at 20, while defendant's pretrial memorandum indicates that the Solicitation had six Amendments prior to award of the contract. Def.'s Mem. filed Nov. 1, 2004, at 3. In fact, the Solicitation, Offer and Award of Contract No. DACA01-98-C-0089 contains section 19, "Acknowledgment of Amendments[,]" which lists six Amendments from August 19, 1998 through September 3, 1998. The contract was signed by Ernest E. Walters, Jr., plaintiff's then-Vice President. Amendments 0001 and 0002 addressed pre-proposal changes.

5/ The following numbering system applied to the Modifications: Modifications P00001 through P00006 and Modifications R00007 through R00018. Modifications associated with the EC/L Project increased the contract price by \$1,111,063.00, to \$5,789,163.00.

6/ Modification P00002 extended the contract completion date 90 days; Modification P00003, 22 days; Modification P00006, 8 days; Modification R00011, 197 days; and Modification R00017, 30 days.

Following award, on November 11, 1998, plaintiff sent a preliminary matrix, PX 50, consisting of forty-six issues to Leonard B. Paris, the Resident Engineer, MacDill Air Force Base Project Office, Army Corps of Engineers. Mr. Paris oversaw the day-to-day administration of the EC/L Project. Plaintiff prepared the matrix because of its concerns, according to plaintiff's president, Pin Fei ("Mike") Yang, in going forward on the EC/L Project when "serious problems" with items such as the footers, foundation, and structural steel still existed. Transcript of Proceedings, Sunshine Constr. & Eng'g, Inc. v. United States, No. 02-250C, at 32 (Fed. Cl. Dec. 6-10, 13-15, 2004) ("Tr."). Many of these issues addressed deficiencies in the contract drawings, representing principally conflicts in the layout and foundation work that plaintiff would be required to begin as soon as it received the NTP. Plaintiff requested the NTP issue only after it received satisfactory determinations on the matrix issues.

Plaintiff received the Corps's initial response to the matrix within one day; however, Mr. Yang testified that he was not satisfied with the individual answers to the matrix's queries because some responses were "not what we asked and some thing[s] they did not answer specifically." Tr. at 35. Notwithstanding plaintiff's request and the fact that outstanding issues remained on the matrix, the Corps issued the NTP on December 17, 1998, and plaintiff acknowledged receipt one day later on December 18, 1998.

In a separate communication on December 17, 1998, Roy McCracken, plaintiff's Project Manager at that time, ^{7/} sent a letter to Mr. Paris restating plaintiff's concerns about the initiation of the EC/L Project due to issues outstanding from the November 11, 1998 matrix, revisions to the original design drawings, and several other Project revisions. Even though plaintiff viewed resolution of discrepancies in the drawings and specifications as essential, receipt of the NTP contractually obligated plaintiff to begin work without correction to its satisfaction of the deficiencies that it noted in the matrix.

Plaintiff's claim is premised on the modifications that issued throughout the EC/L Project allegedly due to the deficiencies in the plans and specifications and that led to the changes that were implemented in order to complete the EC/L Project. It is plaintiff's stance

^{7/} In what served as a possible indicator of a lack of Project cohesiveness, plaintiff employed three Project Managers on the EC/L Project: Roy McCracken, December 1998-March 1999; Ralph L. Poole, Jr., March 1999-October 1999; and John D. ("Jack") Jesse, October 1999-August 2001.

that the modifications were, for the most part, a result of original defective contract documents. 8/

Changes to the EC/L Project plans began in February 1999 when the Corps issued drawings for Change Order 9/ No. 1. 10/ This Change Order revised 77 of the 140 drawings for the EC/L Project. 11/ The fiasco with the drawings was due to the Corps's misguided effort to satisfy its "customer," the Air Mobility Command, which decreed that the EC/L Project get underway in time to utilize funds that had been made available. The Corps's obeisance to its "customer's" time parameters ultimately cost taxpayers over \$1 million to

8/ The pertinent Modifications are, as follows:

P00002: Implemented structural changes and increased contract price by \$199,150.00.

P00003: Revised drawings for the EC/L Project and increased contract price by \$85,890.00.

P00005: Addressed alterations in the revised gutter detail, changed the color of the structural standing seam metal roof, and increased contract price by \$54,682.00.

P00006: Affected the stucco systems to the exterior wall areas and increased contract price by \$167,629.00.

R00011: Compensated plaintiff for extended field overhead costs incurred through January 3, 2001, and increased contract price by \$222,563.00.

R00012: Added clerestory bracing and increased contract price by \$23,843.00.

R00013: Revised the clerestory framing and added drainage pipe throughout the Project and increased contract price by \$25,435.00.

R00017: Called for changes to the main entry and the clerestory and increased contract price by \$37,083.00.

R00018: Subcontractor impact costs for the 205-day extension of the completion date due to R00006 and R00011 and increased contract by \$222,531.00.

9/ "Change Orders" were given both by the Corps to plaintiff, and by plaintiff to its subcontractors. The Corps issued three Change Orders to plaintiff in the form of drawings. Where necessary, distinction will be made as to which party was responsible for the Change Order under discussion.

10/ Change Order No. 1 was not incorporated officially into the contract until Modification P00002 on November 20, 1999.

11/ This count includes thirty-three architectural drawings, eight civil drawings, nineteen structural drawings, three mechanical drawings, and nine electrical drawings.

remedy the deficient drawings, so economy was neither the customer's objective nor responsibility. Moreover, the Corps never sought recourse from the architect/engineer, a familiar theme in government contract cases.

Edward W. ("Bill") Batchelor, the Contracting Officer's Technical Representative (the "COTR"), included critical observations concerning the deficient project drawings in his Quality Assurance Reports ("QAR"). For example, he noted in his QAR for January 11, 1999 through January 17, 1999, that the "[d]rawings issued to the Contractor are very poor & contain several deficiencies. Mobile is issuing new Drawings & Specifications [sic]." In the January 18, 1999 through January 24, 1999 QAR, Mr. Batchelor remarked that "[r]evised [d]rawings from the AIA have not arrived. No [w]ork can be performed until MOD is issued." Later, in his QAR of February 1, 1999 through February 7, 1999, Mr. Batchelor wrote that

AE Change 1 is impacting the contract. The change needs to be issued, however there are several errors in the change and the change does not address all the problems. . . . It appears that the contractor is reluctant to move until he receives the Change Order—With the magnitude [sic] of the errors in this contract this is understandable.

Mr. Batchelor was particularly blunt in his February 8, 1999 through February 14, 1999 QAR, where he wrote that the "drawings & Specifications are totally inadequate, innumerable errors. Until [changes] are issued the Contractor can not [sic] sign sub-contracts, the subs can not [sic] put transmittals together until the[y] can determine contract requirements." Later, in the March 8, 1999 through March 14, 1999 QAR, Mr. Batchelor wrote that the "[s]tatus of Plans & Specifications is affecting the overall contract." In a statement of the obvious, Mr. Batchelor noted in his March 15, 1999 through March 21, 1999 QAR that "Plans & Specification errors & omissions will impact contract in time & money." In reference to subsequent attempts to correct the drawing deficiencies, and in a display of the obstacles presented to plaintiff because of the drawings, Mr. Batchelor, in his March 22, 1999 through March 28, 1999 QAR, wrote that the "change for the reissue of the spec's [sic] & dwgs. not issued. There are several errors in the new drawings & spec's [sic]." Again emphasizing the poor quality of the Project's drawings, in his May 10, 1999 through May 16, 1999 QAR, Mr. Batchelor scathingly, and in convincingly summarizing fashion, wrote that the "drawings & specifications for this contract are deplorable. It appears that no one drawing is free of errors or conflicts. Details do not relate and dimensions vary from page to page. This has & is slowing progress, shop drawings & submittals. There will be a considerable increase in cost" because of these problems with the contract documents. Finally, as if to solidify the overall impression gained by the court's reading of all his QARs,

Mr. Batchelor testified that the drawings “were the worst I had seen in my Corps career.” Tr. at 1329.

On April 1, 1999, Mr. Paris sent a letter informing plaintiff that it was behind schedule, and that a January 29, 1999 preliminary Project Schedule only covered projected work on the EC/L Project through February 15, 1999. Mr. Paris’s letter noted that the Corps had not yet received the initial Project Schedule as required by the contract and that site and EC/L Project record reviews revealed “less than minimal physical progress and untimely transmittal of required submittals.”

Ralph L. Poole, Jr., plaintiff’s then-Project Manager, responded to Mr. Paris’s letter with an April 8, 1999 letter outlining plaintiff’s state of progress and its intent to submit an overall EC/L Project Schedule to the Corps no later than April 14, 1999. Mr. Poole’s letter illustrated the early difficulties experienced by plaintiff on the EC/L Project, as he explained that minimal progress had been made to date due to conflicts between the original drawings and Change Order No. 1, but that the reinforced steel was on site and that placement in the steel footers had begun. He further advised that placement of the concrete would begin no later than April 13, 1999, after plaintiff’s Quality Control Manager (the “QCM”) 12/ and the Corps’s COTR, Mr. Batchelor, had inspected the steel. Electrical and mechanical subcontractors were scheduled to begin placement of the duct banks under the footers by April 9, 1999. Although he admitted the submittal process had been slow, Mr. Poole faulted the drawing and change conflicts for the delay.

Prior to his response to Mr. Paris’s letter, Mr. Poole wrote Mr. Paris separately on April 2, 1999 outlining items that had still not been properly resolved from the November 11, 1998 matrix. Specifically, Mr. Poole noted that the Corps had not sufficiently answered Item Nos. 30, 35, and 37-46 of the matrix. 13/ Mr. Poole subsequently submitted Request for Information (“RFI”) Nos. 8 and 9 on April 13, 1999, asking for confirmation on a steel issue and clarification on the location and elevation for structural members at the eave/internal gutter, respectively. Mr. Paris promptly responded to both RFIs.

12/ It is unclear as to which QCM Mr. Poole’s letter refers, because plaintiff’s chorus-line of QCMs underwent a change from Ernest Rainwater to Michael Flanagan in April 1999.

13/ Item No. 30 asked the Corps to provide the manufacturer and installer of the fume hoods in the science lab room. Item No. 35 addressed bearing elevations for columns that do not match pedestal requirements. Item Nos. 37-46 concerned building glass.

On April 14, 1999, plaintiff submitted to the Corps its EC/L Project Schedule, which embodied its plan of construction. On April 21, 1999, the Corps returned the EC/L Project Schedule unapproved, with seventeen comments. Plaintiff resubmitted the schedule on May 3, 1999, including changes incorporated from the Corps's prior remarks to the April 21, 1999 submittal. The Corps returned plaintiff's revised schedule on May 25, 1999, with nine additional comments. Finally, plaintiff resubmitted the schedule on June 15, 1999, which the Corps approved on July 15, 1999. Thereafter, plaintiff updated the EC/L Project Schedule on a monthly basis and used it as a basis for each pay application.

Mr. Yang's testimony concerning these submissions was central to plaintiff's demonstration of the confusion that characterized the EC/L Project: As of April 14, 1999, May 3, 1999, and June 15, 1999, Mr. Yang testified that he was not certain whether all questions that were noted on plaintiff's preliminary matrix were sufficiently answered. Tr. at 231-32. Mr. Yang, however, admitted on cross-examination that the Corps had supplied answers for Item Nos. 26-34 on the matrix, which in prior testimony he had asserted were not answered, and that the blank column spaces used by plaintiff on Mr. Yang's direct examination were duplicates that did not reflect the Corps's answers that actually had been retained on the same pages. Compare Tr. at 42-51 with Tr. at 234-35.

The testimony and documentary evidence made obvious to the court that this initial difficulty between plaintiff and the Corps with regard to adequate project drawings prior to the actual start date of the EC/L Project was not an aberration. Instead, the interaction between plaintiff and the Corps was mired in a history of poor communications, strained relationships between individuals serving as points of contact, a chaotic work environment, and an overall lack of organization between the parties and their representatives.

Defendant's delay expert, Charles E. Bolyard, Jr., 14/ provided a reliable, comprehensive analysis regarding the sequence of contract performance. His cogent and credible testimony was helpful, because no documents, including plaintiff's updates, or witnesses presented as coherent a picture of the EC/L Project's work sequence. The extant documentary record is consistent with Mr. Bolyard's as-built analysis. Essential to Mr. Bolyard's testimony was his explication of the Critical Path Method ("CPM"). The "critical

14/ Mr. Bolyard is a construction engineering consultant and president and CEO of McDonough Bolyard Peck, Inc. He was certified under Fed. R. Evid. 702 as an expert in Critical Path Method scheduling for construction projects, delay analysis for construction projects, construction cost estimating, construction cost analysis, and construction means and methods. Mr. Bolyard's hands-on background in scheduling for construction projects is impressive.

path” provides a scheduling mechanism for construction projects and “is a way of grouping interrelated activities[.]” Wilner v. United States, 24 F.3d 1397, 1399 n.5 (Fed. Cir. 1994). Generally, any amount of delay to an activity on the critical path results in the same delay to the project’s completion, id., because those activities define the project’s path and chain of activities.

Plaintiff’s Project Schedule, as approved on July 15, 1999, dictated the Milestones throughout the EC/L Project. Beginning on December 18, 1998, plaintiff spent the first four months of the EC/L Project on Mobilization and Site Preparation Activities, including the critical activities of coordination meetings, support facilities layout submittal, support utilities, trailer installation, clearing and grubbing, building layout, and demolition of existing structures.

Plaintiff reached Milestone 1, the beginning of foundation construction, on March 23, 1999, thirty-five days ahead of its as-planned schedule, and at this time began foundation excavation, form work, steel reinforcement and concrete placement, and anchor bolt placement. Because of various foundation production problems, however, due to formwork failures, remedial work to anchor bolts, reinforcing steel layout errors, concrete placement, and quality issues and poor workmanship, plaintiff experienced delays and completed the foundations on August 29, 1999. The original foundations completion date was June 24, 1999. Mr. Batchelor, the COTR, discussed many of these issues in his QARs. In his QAR covering April 12, 1999 through April 18, 1999, Mr. Batchelor described the foundation work as “[a] complete disaster; resteel not aligned or plumb (Placement crew knocking resteel around), [r]esteel lacks clearances from soil, no pattern to consolidation There appeared to be no one in charge although the SUPT, OWNER, CQC and PE was [sic] on-site.” Subsequent QARs reflect equally negative comments concerning progress and workmanship:

The April 19, 1999 through April 25, 1999 QAR noted that “[c]oncrete placed last week is generally [sic] unacceptable[.]”

The May 10, 1999 through May 16, 1999 QAR reported that “[p]rogress is extremely slow.”

The May 17, 1999 through May 23, 1999 QAR remarked that “[t]he plans are difficult due to the design conflicts however, this contractor isn’t helping his cause as transmittals are incomplete & frequently fail to meet the contract requirements which result in lost time & confusion[.]”

The May 24, 1999 through May 30, 1999 QAR recorded Mr. Batchelor's impression that "columns are in the wrong location & will require corrective action."

Finally, the May 31, 1999 through June 6, 1999 QAR reported that "[w]ork is sloppy and there appears to be little supervision or oversight from the CQC. Mike [Yang] continually [sic] asks this QA for corrective action after his company messes something up or work does not comply [with] the contract. It appears that this contractor's on-site personnel lack the experience and/or are failing to read the contract."

Before reaching Milestone 2, the beginning of structural steel erection, plaintiff was to submit a structural steel erection plan. Plaintiff did not submit this plan until August 20, 1999, even though structural steel began arriving on site beginning on June 17, 1999, and the foundations were in acceptable condition to commence steel erection. Despite the Corps's approval of the structural steel erection plan on August 25, 1999, plaintiff did not begin steel erection until September 2, 1999. This overall delay amounted to an impact of thirty-one days, and, combined with the previous thirty-eight days during the foundation work, created a sixty-nine day delay prior to plaintiff's achieving Milestone 2. Given that Milestone 1 started thirty-five days ahead of schedule, plaintiff began Milestone 2 thirty-four days behind its as-planned schedule.

Milestone 2 was accomplished between September 2, 1999, and February 10, 2000. ^{15/} Placement of first floor exterior concrete masonry unit (the "CMU"), Milestone 3, had been scheduled to begin on August 30, 1999, after the structural steel erection, and was to continue in tandem with completion of the roof steel and decking. Work on the erection of the roof steel and deck started on October 27, 1999, but plaintiff did not begin the exterior CMU work until November 30, 1999. Plaintiff substantially completed the structural steel columns and beams on October 12, 1999, and it placed grout beneath the column base plates from October 1, 1999 to October 13, 1999. Plaintiff then installed the second floor deck from October 13, 1999 to October 25, 1999. After grouting the columns, plaintiff placed the concrete in-fill around the columns from October 27, 1999 to November 23, 1999.

Plaintiff began Milestone 4, interior gypsum wallboard activities, on August 27, 2000. This represented a 299-day disparity between the as-planned start date of November 2, 1999, including 207 days of critical delay specific to the interval between Milestones 3 and 4.

^{15/} The as-planned start and completion dates were scheduled to be July 30, 1999 and August 29, 1999, respectively.

From April 28, 2000 to August 26, 2000, plaintiff worked on the exterior light-gauge metal framing, drywall, and stucco system.

Milestone 5 was defined as the completion of the interior gypsum wallboard and was to take place on November 17, 1999. Instead, completion did not occur until March 14, 2001. Between Milestones 4 and 5, plaintiff on August 27, 2000, had begun work on the critical light gauge framing and interior wallboard, with the interior metal framing and gypsum wallboard systems being completed on March 14, 2001. This resulted in a 184-day delay to the as-planned schedule for the interior gypsum wallboard of Milestone 4.

Between Milestones 5 and 6, plaintiff performed work on, and experienced delays with, mechanical work and data cabling above the ceilings. Plaintiff completed the Acoustical Ceiling Tile, tested and balanced the heating, ventilation, and air-conditioning (the "HVAC") systems, and commissioned the building's mechanical systems. The mechanical commissioning of the EC/L Project occurred on June 13, 2001. Beneficial occupancy, as Milestone 6, was planned to occur on January 6, 2001, but did not occur until July 3, 2001.

Milestone 7 signified substantial completion of the EC/L Project. On July 17, 2001, between Milestones 6 and 7, the Corps completed relocation of operations from the existing Building 311 to the Education Center/Library. This occurred fifteen days after Milestone 6, beneficial occupancy, was achieved, which was seventeen days earlier than the as-planned duration. Plaintiff completed demolition of Building 311 and asbestos removal on August 31, 2001. The Corps declared Milestone 7 substantially completed on September 5, 2001, 16/ although punch list 17/ activity occurred through February 6, 2002. Per R00017's thirty-day extension for changes to the main entry and clerestory, the final Project completion date had been scheduled for February 2, 2001. The Corps assessed liquidated damages in the amount (reflecting a reduction from the contract daily rate) of \$62,580.00 for the 105 days of delay from February 2, 2001 to May 18, 2001.

16/ Plaintiff contends that the contract completion date should be modified to August 31, 2001, with the concomitant remission of liquidated damages.

17/ Mr. Bolyard customarily defines a "punch list" as "minor remedial and/or completion activities that are identified during pre-final or final inspections of facilities." DX 574/82. On the other hand, he interprets plaintiff's notion of a punch list as "miscellaneous completion activities that [plaintiff] anticipated it would have to perform to obtain Beneficial Occupancy." Id.

2. Plaintiff's claims

Despite these changes and challenges, plaintiff managed to complete the EC/L Project, albeit at a significantly later date than the contract initially envisioned. Plaintiff is left with what it claims are unreimbursed direct cost issues associated with various aspects of the EC/L Project due to the numerous changes made throughout the construction. The solicitation for bids was issued prematurely, plaintiff not unreasonably contends, because the plans and specifications for the EC/L Project were incomplete and inadequate for construction. Due to these deficiencies, plaintiff assigns the Corps responsibility for the additional costs incurred over the course of the EC/L Project.

Plaintiff submitted a certified claim on September 20, 2001, pursuant to the Contract Disputes Act of 1978, 41 U.S.C. §§ 601-613 (2000) (the "CDA"). As of the date plaintiff filed its complaint in the United States Court of Federal Claims, April 1, 2002, the contracting officer had delayed a final decision until completion of a Defense Contract Audit Agency ("DCAA") audit on plaintiff's claim. Plaintiff filed its complaint based on a "deemed denial" of plaintiff's certified claim pursuant to 41 U.S.C. § 605(c)(5). The case was transferred to the undersigned on March 8, 2004, for the purpose of conducting trial.

By the date of trial, plaintiff had reduced its claim from the \$1,747,482.00 sought in its certified claim to \$915,872.00. ^{18/} Trial addressed five elements of liability and damages: Direct Cost Issues (\$136,852.00); Extended General Conditions (\$163,899.00); Extended Home Office Overhead (\$285,893.00); Loss of Productivity (\$251,066.00); and Extra Contract Administration Costs (\$78,162.00). The Direct Costs Issues itemize costs associated with design changes, materials, and work not contemplated by plaintiff at the time of bid due to defects in the plans and specifications. Extended General Conditions include extended field overhead and home office overhead costs incurred as a result of the extended

^{18/} The amount that plaintiff sought at trial, \$915,872.00, differs from the total amount stated in the complaint. These reductions do not give rise to an inference that plaintiff unilaterally "scrubbed" or took pains to present conservatively its claimed damages. Rather, in response to the devastatingly critical analysis of Mr. Bolyard, plaintiff reduced elements of its claimed damages, and plaintiff adjusted its claim based on the August 30, 2004 report of Michael T. Midgette, its forensic expert. However, Mr. Bolyard's final assault at trial overcame plaintiff's proofs. The court makes no findings with respect to damages other than the following: The inclusion of facially improper items, such as Mr. Yang's personal family recreational expenses, detracted from the claims, and Mr. Midgette's analysis suffered because his initial expert report—hardly short of simply adopting plaintiff's initial claim—included many of these items.

contract period and not contemplated by plaintiff based on the defective plans and specifications. ^{19/} Extended Home Office Overhead consists of the cost related to plaintiff's home office necessary to continue operating the EC/L Project. Loss of Productivity measures the productivity impact cost due to Corps changes and delays to the EC/L Project, and was measured by "the severity of impact to labor and labor related costs caused by the [Corps's] delays and disruptions." Finally, the Extra Contract Administration Costs are plaintiff's costs associated with its employment of outside technical and legal consultants that were employed by plaintiff as a result of the defective plans and specifications. Plaintiff also requests remission of the \$62,580.00 assessed as liquidated damages by the Corps.

DISCUSSION

I. Overview

1. Background

The centerpiece of plaintiff's case was the testimony of John D. ("Jack") Jesse, who initially joined plaintiff in the capacity of its Operations Manager after the EC/L Project was underway. He also became Project Manager in October 1999, and served as Project Superintendent beginning in June 2001. The court does not question that Mr. Jesse is a competent and experienced manager of construction projects and well served plaintiff on the EC/L Project. However, he was not able to articulate sufficiently plaintiff's view of the dynamics that drove this project. Plaintiff attempted to use Mr. Jesse's testimony to support its theme that the EC/L Project suffered from a poor working relationship between plaintiff and the Corps's representatives. Although plaintiff portrayed Mr. Batchelor's supervision of the EC/L Project as so exacting that it impeded plaintiff's progress, and despite Mr. Jesse's testimony that there "seemed to be quite a bit of hostility between Sunshine's people and the Corps of Engineers' people," Tr. at 364, the record does not support a finding that Mr. Batchelor's conduct exceeded a reasonable, if exacting, degree of supervision. ^{20/} Mr.

^{19/} These extensions are based on plaintiff's calculation of a 240-day delay in the EC/L Project, 180 days of which plaintiff deemed compensable, 36 excusable, and 24 the responsibility of plaintiff.

^{20/} In response to plaintiff's claims of an excessive and unreasonable amount of supervision by the Corps, Kevin A. Powell, Florida Area Engineer, United States Army Corps of Engineers, Mobile District, testified that he "found no over-zealous inspection [by Mr. Batchelor]. I found a project engineer or inspector who was trying to enforce the terms of the contract." Tr. at 1475-76.

Jesse's testimony did not further plaintiff's cause in this regard. ^{21/} For example, Mr. Jesse's assessment was that "Mr. Batchelor didn't like the way we proceeded on some installation, different types of installation." Tr. at 366. To the extent that the court recognizes that Mr. Batchelor took a critical approach on the EC/L Project, the Corps and its representatives acted within their contractual rights and did not interfere with plaintiff's performance of the contract. Moreover, Mr. Jesse's testimony that the Corps did not give sufficient direction was unconvincing, although he was correct in saying that "[t]here wasn't enough information" in the plans and specifications. Tr. at 366.

^{21/} While they testified to a less-than-stellar working environment, other witnesses presented by plaintiff also did not succeed in establishing the actual cause of the Project's disarray. For example, Carlton D. Taylor, the contracts and construction manager for Industrial Steel, Inc. ("Industrial"), plaintiff's steel subcontractor, believed the Corps's representatives to be "antagonistic people[,]" Tr. at 603, but he failed to mention what Corps representatives he encountered on the Project. Mr. Taylor testified that "Sunshine Construction was fabulous to us, tried to help us in every way," Tr. at 603, but that the Corps was slow to provide answers to RFIs. While this provides insight into Industrial's relationship with the Corps and plaintiff, it does not address appropriately the dynamics between the parties that the Project created, and, like Mr. Jesse's testimony, does not allow the court to discern that the Corps exceeded its contractual rights. Similarly, John W. Wilde, Jr., president of J.W. Wilde Mechanical, Inc., plaintiff's HVAC and mechanical subcontractor, testified that plaintiff's supervision was fine, but that the job environment as a whole was "adversarial." Tr. at 642. Comparatively, defense witness Gregory W. Dayton, formerly vice-president of JSS Property Professionals, Inc., plaintiff's initial subcontractor for metal stud framing, drywall, and stucco, demonstrated the lack of clarity in assigning blame for the Project's chaotic atmosphere when he testified that the Project's environment was like a hornets' nest, that it "was not a friendly environment," and that "[t]here was one instance where a couple of superintendents were getting ready to fight." Tr. at 1367. At the same time, he attributed this atmosphere to the Corps's time demands.

The commonality in the testimony of these witnesses is an inability to trace the disturbance of Project performance and delay to Project completion to excessive demands.

Plaintiff also relied on the testimony, somewhat to its detriment, of Mr. Yang, 22/ plaintiff's president, who was on the stand during two days of trial. Although Mr. Yang's attempts to establish that plaintiff's difficulties in performance were due to the Corps's mismanagement of the EC/L Project, the court did not find him to be a credible witness. Mr. Yang is not a licensed architect or a certified civil or structural engineer; he was not sufficiently involved in day-to-day activities to give an accurate, first-hand account of either contract performance or the on-site working atmosphere; nor could not demonstrate a degree of involvement in the EC/L Project to support plaintiff's claims of excessive Corps supervision. Because plaintiff's audited claim was bloated and replete with bogus items, 23/ *see supra* note 18, Mr. Yang's credibility as plaintiff's president was undermined. A further harm to Mr. Yang's credibility was his testimony that for bid purposes, he simply "throw [sic] in a number" for items, such as site walls, if he could not find information, and that he based his chosen number on a "Means Guide" consisting of estimates for pricing in the construction industry. Tr. at 201-02. Finally, despite some verbal masquerading from Mr. Yang, it was demonstrated that plaintiff had never undertaken a project of the size, complexity, or value of the EC/L Project. Tr. at 282-83. It would be a disservice to "pick and choose" which parts of Mr. Yang's testimony to accept and which not to accept, depending on whether his testimony helped or hindered plaintiff's case. Defense counsel simply elicited too much damaging information. Therefore, Mr. Yang's testimony is given little weight.

Mr. Batchelor demonstrated on the stand that he was not plaintiff's nemesis; at most, he was a stern taskmaster in his position as the Corps's COTR for the entirety of the EC/L Project. While Mr. Batchelor showed little regard for plaintiff's employees, such as its Quality Control Representatives ("QCR"), Superintendents, and Project Managers, his attitude did not create an environment rife with hostility; rather, he was a part of an environment with frustrating interactions between plaintiff and the Corps and one in which differing opinions on how to proceed collided. Mr. Batchelor, for example, testified that his working relationship with Mr. Jesse was "[p]retty good[,]" Tr. at 1251, despite his

22/ Mr. Yang was born in Taiwan and came to the United States in the late 1970s, and his direct testimony was taken pursuant to Fed. R. Evid. 611(a). While Mr. Yang's mastery of the English language was impressive, his testimony was, at times, somewhat difficult to understand. The court made every effort to comprehend fully and completely Mr. Yang's testimony.

23/ Jeffrey D. Lundy, an auditor on the DCAA's audit of plaintiff's claim, thoroughly explained the DCAA report, which demonstrated that plaintiff exaggerated and miscalculated claims, failed to provide documentation for others, and, in general, provided an inaccurate accounting record.

frustrations with Mr. Jesse's complaints about the inadequacy of contract drawings after Mr. Batchelor, in his own estimation, had explained any details within the drawings that Mr. Jesse questioned. Tr. at 1251-52. As Mr. Batchelor testified, these discussions with Mr. Jesse amounted to a built-in delay in the EC/L Project, because, even after the clarifications, Mr. Jesse suspended work because of his claims that the drawings were inadequate. Tr. at 1251-52. Mr. Batchelor also testified to asking plaintiff to remove one of its QCRs, Mike Flanagan, because Mr. Flanagan had lied to Corps representatives during the EC/L Project. Mr. Batchelor was aware through prior deposition testimony that Ernest Rainwater, another QCR, accused Mr. Batchelor of being the cause of his resignation. See Tr. at 1246-47. The court did not discern, from the cumulative testimony of plaintiff's witnesses, the heavy-handed supervisory behavior alleged by plaintiff as a reason for plaintiff's delay in performance of the EC/L Project.

2. The doctrine of patent ambiguity

While the resolution of plaintiff's claims in this matter often hinges on factual disputes, many of the disagreements between plaintiff and the Corps raise the issue of contractual ambiguity. A contract is ambiguous "when [it] is susceptible to more than one reasonable interpretation." E.L. Hamm & Assocs. v. England, 379 F.3d 1334, 1341 (Fed. Cir. 2004). When an ambiguity exists, the "general rule is *contra proferentem*, which requires ambiguities in a document to be resolved against the drafter." HPI/GSA-3C, LLC v. Perry, 364 F.3d 1327, 1334 (Fed. Cir. 2004). Inherent in this rule is the requirement that the contractor's interpretation be reasonable. Id. An ambiguity in a government contract "will only be construed against the government if it was not obvious on the face of the solicitation and reliance is shown." NVT Techs., Inc. v. United States, 370 F.3d 1153, 1162 (Fed. Cir. 2004). Two types of ambiguities are recognized: patent and latent ambiguities. A patent ambiguity "is one that is 'obvious, gross [or] glaring, so that plaintiff contractor had a duty to inquire about it at the start[.]'" id. (quoting H & M Moving, Inc. v. United States, 204 Ct. Cl. 696, 716, 499 F.2d 660, 671 (1974)) (alteration in original), whereas a latent ambiguity is "[m]ore subtle" than a patent ambiguity, Triax Pac., Inc. v. West, 130 F.3d 1469, 1475 (Fed. Cir. 1997).

The patent ambiguity doctrine prohibits application of the *contra proferentem* rule when an ambiguity is patent. HPI/GSA-3C, LLC, 364 F.3d at 1334. The doctrine calls for construing ambiguities against the contractor, not the drafter, "where the ambiguities are so patent and glaring that it is unreasonable for a contractor not to discover and inquire about them." Id. (quoting Triax Pac., Inc., 130 F.3d at 1474-75) (internal quotations omitted). A contractor has an obligation to inquire into an obvious ambiguity, and, if he does not do so, "his interpretation will fail." NVT Techs., Inc., 370 F.3d at 1162. Hence, while a contractor

may recover for a latent ambiguity, it may not recover for a patent ambiguity. E.L. Hamm & Assocs., 379 F.3d at 1342.

_____ Key to defendant's successful proof against plaintiff's claims was the thorough, detailed testimony of Mr. Bolyard, a certified structural engineer who served as defendant's expert. Mr. Bolyard was also very knowledgeable in terms of the overall contract performance sequence. While Michael T. Midgette, plaintiff's forensic expert, served plaintiff well as a consultant during contract performance, and was committed to advancing plaintiff's cause to the extent permitted by the scope of his retention, it was obvious at trial that he faced an uphill battle with numerous constraints hampering the task that plaintiff and the EC/L Project presented him.

Mr. Bolyard testified as an expert in CPM scheduling for construction projects; delay analysis for construction projects; construction cost estimating; construction cost analysis; and construction means and methods. See supra note 14. Mr. Bolyard has broad experience in the construction industry. He has served as a field engineer, design estimating engineer, and projects engineer for different employers on major construction projects. He has extensive experience in providing cost estimating services; CPM scheduling services; constructability reviews; construction cost analyses, including costs of changes and loss of labor efficiency; and analyses and cost control work. He is fully qualified to monitor and calculate a contractor's performance against a CPM schedule. Significantly, Mr. Bolyard was certified in April 2004 by the AACEI (formerly known by its full name, the Association for the Advancement of Cost Engineering International) as a Planning and Scheduling Professional, which is the only recognized professional certification for practitioners of CPM methodology, and is a member of the American Society of Civil Engineers, the Heavy Construction Contractors' Association, the Construction Management Association of America, and AACEI.

_____ Mr. Midgette was accepted as an expert in the field of scheduling and claims analysis and equitable adjustment claims. Mr. Midgette assists contractors with the resolution of construction contract disputes. He testified that he has experience as a general contractor in residential and light commercial work and that he has served as an office manager, where he maintained and copied drawings, sent them to the field, and maintained necessary data. He also has experience with CPM scheduling, loss of productivity analysis, and recovery schedules. Mr. Midgette is certified by AACEI as a Planning and Scheduling Professional, which notably, however, he received after he submitted his revised expert report of August 30, 2004, as he sat for the AACEI certification exam on October 6, 2004. Tr. at 827. He has never prepared a bid estimate for a project on behalf of a construction contractor. Mr. Midgette has a promising career as a construction consultant, because he showed himself to be dedicated and enthusiastic, but Mr. Bolyard's background, range of experience, and

knowledge of the Project overwhelmed Mr. Midgette's delay analysis and proved to be a more reliable source of expert opinion on the issues surrounding the EC/L Project.

II. Plaintiff's claims

1. Unresolved direct costs

_____ During the course of the EC/L Project, the Corps' defective plans and specifications, in plaintiff's view, forced plaintiff to alter how it planned to perform work or added elements of work. Plaintiff claims that it incurred additional costs as a result of these changes, some of which were not reimbursed.

1) Planter wall footers

Plaintiff asserts that it constructed footers, the concrete foundations, for the planter walls based on Note 6 on Sheet C-3.1 of the Enlarged Layout Plan. This note instructed: "Provide new retaining wall. Refer to Section C&D, Sheet S-5." JTX 2 at C-3.1. Based on the fact that the planter walls were not true retaining walls due to the minimal difference in elevation from one side to the other, according to Mr. Midgette, PX 318.109-110, plaintiff determined that Section C on Sheet S-5 applied to the planters on the north side of the building, while Section D applied to the retaining walls at the terraces. PX 318.109. The confusion arose when plaintiff constructed the footers for the planter walls based on Section C on Sheet S-5, JTX 1-C at S-5, which called for the footers to be 750 millimeters wide. Comparatively, Section D on Sheet S-5, JTX 1-C at S-5, called for footers of 1,100 millimeters in width. Plaintiff began work on the footings on March 6, 2000, and they were poured on March 16, 2000. The Corps rejected the footers as too narrow on April 17, 2000, and required plaintiff to enlarge the footers to the specifications shown in Section D of Sheet S-5. Plaintiff repoured the footings on May 22, 2000. PX 318.110.

Mr. Bolyard opined that plaintiff should have been able to construct the planter wall footers properly because information was available in the drawings to determine that the walls at issue were retaining walls and that the footings were to be 1,100 millimeters wide. He pointed out drawing C-3.1 of Change Order No. 0001, which noted the location of the planter wall footers. Mr. Bolyard identified Detail 1 on drawing C-3.1, an enlargement of the ramp and planter wall area that he had located elsewhere on drawing C-3.1 and consulted Note 6 on Detail 1. This Note, as stated earlier, required a new retaining wall and referenced Sections C and D on sheet S-5. Mr. Bolyard progressed to drawing S-5 of Amendment No. 0002, where Section D shows a section through a retaining wall with an unbalanced load, and Section C shows a retaining wall with balanced loading. Resolving the difference between Section D, which indicated that the footer width for the wall should be 1,100 millimeters, and

Section C, which indicated that the footer width should be 750 millimeters, Mr. Bolyard then proceeded to drawing A-15 of Amendment No. 0002, entitled “Site Walls,” where a section mark on the “Partial Elevation–Entry Site Wall” directed him to Section 3 on drawing A-19A. This drawing, entitled “Wall Sections,” contained Section 3, as referenced in drawing A-15, was labeled “Site Wall Section @ Entry Ramp & Planter,” which, according to Mr. Bolyard, “shows a retaining wall at the planter and entry ramps with unbalanced loading.” Tr. at 1819. Based on his examination of the above drawings, combined with the unbalanced load of the ramp and planter walls, Mr. Bolyard determined that the footing on those walls was intended to be 1,100 millimeters in width.

Unlike Mr. Bolyard, plaintiff’s expert, Mr. Midgette, was unable to provide a detailed explanation as to how plaintiff arrived at its determination of the footer width, other than to note that plaintiff’s interpretation and use of Section C on sheet S-5 should be considered a reasonable one. See Tr. at 946. Similarly, Mr. Jesse’s testimony that the plans and specifications “were very defective[,]” Tr. at 366, presented more of a general view than a specific explanation as to how or why the plans affected plaintiff’s performance. Mr. Midgette attempted to dispute the Corps’s interpretation that the wall in question was a retaining wall, but eventually spoke in circles and came close to calling it a retaining wall when he discussed the drawings: “[One wall is] shown as a planter wall and one wall is slightly lower [in] elevation than the other, so one wall had dirt against it and is retaining something.” Tr. at 947. Mr. Midgette then admitted that he was not sure whether the wall was a retaining wall. Tr. at 947.

Mr. Midgette’s testimony was sorely lacking in explanation as to why plaintiff had reason to interpret the drawings as it did. Conversely, Mr. Bolyard explained, drawing by drawing, how logically to arrive at the determination of the width of the footers for the retaining wall. Although Mr. Bolyard demonstrated the plans were self-explanatory—at least to someone familiar with construction projects—allowing that the possibility of an ambiguity was present in the drawings fails plaintiff, as well. Any such ambiguity could only be deemed patent because the discrepancies present in distinguishing between the balanced and unbalanced loading were so glaring and obvious that plaintiff was required to question the contracting officer as to how to proceed with the footers. Because plaintiff did not take this action, it cannot recover the \$4,812.00, inclusive of direct costs for the work, home office overhead, profit, and bond expense, that it seeks from the Corps.

_____ 2) Clerestory windows

_____ The dispute concerning the clerestory windows in the Project also presents a patent ambiguity. Plaintiff’s windows subcontractor, Weber Glass, Inc. (“Weber”), noted in the exclusion section to its September 14, 1998 bid proposal that “Note: Some area(s) of high clerestory framing/glass may require installation before installation of roofing panels. This

should be clarified during job scheduling phase.” The bid also noted that “[p]lans do not clearly identify windows, but details generally show storefront and we quote as storefront.” In later correspondence, Weber informed plaintiff that the EC/L Project bid documents lacked description of the panels at column liners 8, 11, G and P below the highest roof soffit line. PX 318.258. Jesse (“Tom”) Thomas, III, president of Weber, explained Weber’s problems with the solicitation and plans and the ambiguity that Weber perceived in the plans. Mr. Thomas attempted to demonstrate the difficulties Weber, as a subcontractor on the Project, encountered in providing plaintiff with a comprehensive bid and in performing its job as the EC/L Project progressed due to deficiencies and a lack of consistency within the plans and specifications. He failed in his mission because Weber had acknowledged in writing in its bid that the contract documents were not clear as to exactly where clerestory windows were required.

Mr. Thomas testified that there was nothing in drawing A-7 of Amendment No. 0002 to the Solicitation for the Project that indicated a requirement for windows at the second level of the east side of the building. Tr. at 323, 326. Drawing A-12 of Amendment No. 0002 gave him no information indicating a requirement of window installation below the highest roof soffit line and between column lines eight and eleven. Tr. at 337-38. Instead, Mr. Thomas stated that the indicated blank spaces could be interpreted as break metal counter flashing, which does not create a requirement for windows. Tr. at 338. Blank spaces also could be reasonably interpreted as plywood panels, cementitious panels, fascia panels or—even—windows. Tr. at 338. In contrast, Mr. Thomas testified that drawing A-10 contains a notation that explains blank spaces that are present in that drawing—namely, that an area of blank space on A-10 is an aluminum window system. Tr. at 340. This contributed to the confusion in interpreting the drawings because, as Mr. Thomas testified, a “plan sheet which has notations in some areas and clearly lacks notations in other areas would lead us to believe that windows are not required in the areas lacking those notations.” 24/ Tr. at 341.

Inherently, however, Mr. Thomas’s comparison of drawings reveals a patent ambiguity in the plans. The ambiguity was obvious: One set of drawings contemplated windows for the blank spaces, while other drawings were unclear about the meaning of blank spaces. Mr. Thomas’s acknowledgment of the discrepancy pre-bid alerted plaintiff to the obvious ambiguities, which charged plaintiff with the duty to inquire as to the Corps’s intent with respect to the requirements for windows.

Weber’s bid was to the “minimum standard” provided by the plans and specifications as established by the architect and developer of the documents. Tr. at 335. As a result of

24/ A window schedule would have assisted Mr. Thomas in reading the plans; such a schedule is often, although not always, included in plans. Tr. at 341.

allegedly being unable to submit a thorough bid due to the deficiencies in the drawings, Weber claims that it performed additional clerestory work not originally planned, and that it incurred an additional cost of \$33,373.00 as a result of this clerestory installation. Weber requested payment from plaintiff, but has not received compensation for this work. In its revised expert report, plaintiff requests \$40,053.00, inclusive of Weber's direct costs, overhead costs, profit, and bond expense.

In response to plaintiff's clerestory claims, the Corps argues that the drawings were unambiguous and called for installation of windows in the area in question based on drawings A-12 and A-13 of Amendment No. 0002 to the EC/L Project, or, alternatively, that a patent ambiguity existed.

Plaintiff's clerestory windows claim for \$40,053.00, inclusive of subcontracting costs, overhead, profit, and bond expense, is denied because a patent ambiguity was present, and plaintiff failed to inquire with regard to the drawings in question. 25/

3) East side windows

The ambiguity at issue with respect to—if, in fact, any ambiguity actually is present—is again patent. In its September 14, 1998 proposal, plaintiff's glass subcontractor, Weber, informed plaintiff that the “[p]lans do not clearly identify windows[.]” Later, during the EC/L Project, in an August 30, 2000 letter, Mr. Thomas wrote that the contract drawings did not indicate windows at the second floor, east elevation, between columns H and T, and that installation of these windows would be an extra charge to plaintiff. Mr. Thomas testified that no such windows were indicated on drawing A-7. Tr. at 323. In the August 30, 2000 letter, after stating that the bid documents did not contain specifications for east side windows, Mr. Thomas also recognized that “elsewhere on the project blank spaces with vertical lines are used where windows are defined in the documents to be required. However, the following facts apply: . . . II. Blank spaces with lines are used elsewhere on the elevations where glasswork is not required.”

While plaintiff itself should have reviewed the plans for such ambiguities, it was also made aware of the obvious ambiguity concerning the east side windows by Weber's bid and letter. The ambiguity was not subtle; instead, it was quite apparent that different parts of the drawings indicated windows in a conflicting manner: Whereas some blank spaces with lines indicated windows, some did not. This lack of specificity triggered plaintiff's responsibility to seek clarification from the contracting officer.

25/ Both Mr. Bolyard and Mr. Midgette testified to this claim, but discussion of their testimony is unnecessary, as the claim fails on its facts.

Plaintiff's east side windows claim for \$6,477.00, inclusive of subcontracting costs, overhead, profit, and bond expense, is denied because a patent ambiguity existed, and plaintiff failed to inquire with regard to the drawings in question. 26/

4) Air handler controls circuitry

_____ Plaintiff claims that the electrical panel schedules in drawings E-16 and E-17, JTX 1-C, did not provide for any electrical circuitry for the four air handler controllers. As a consequence, plaintiff's electrical subcontractor, Lavandera Electric Company ("Lavandera"), did not include wiring, conduit, breakers or labor to install these materials in its bid. As Lavandera was performing work on the EC/L Project, it realized the deficiency and submitted a change order requesting the costs to cover this work. Plaintiff's expert, Mr. Midgette, unconvincingly testified that contractors, in a vacuum-like fashion, "bid what is shown on the drawings[,] and that bidders do not have time minutely to analyze drawings for items that might be missing. Tr. at 956. He found it difficult to believe that plaintiff or its subcontractor should have planned for wiring circuitry that was not shown on the drawings. Tr. at 955.

This view is contrary to the Corps's position that some level of coordination by the general contractor between the trades is required during the bidding process. Plaintiff sought additional compensation for adding wiring and circuit breakers to provide power to controllers for heating and ventilating equipment. The Corps denied the request, and the parties proceeded to try a \$1,200.00 claim.

Defendant points to the electrical specifications for the Project at Section 16415.1.2.2, which state that the "Contractor shall coordinate electrical work with the HVAC and electrical drawings and specifications and provide power related wiring." Defendant argues that this contractual provision alerts the general contractor and subcontractor to the fact that electrical requirements for the HVAC system depend on the equipment to be provided by the mechanical subcontractor, which was Superior Mechanical Systems in this case. To properly bid this part of the work on the Project, plaintiff had to liaise between the trades so that power related wiring was provided for the HVAC system, which included the air handler controllers, id., and to determine which subcontractor—electrical or HVAC—would supply the power related wiring. In essence, this contractual provision requires plaintiff to coordinate and supply a complete and operable system with regard to the air handling controller circuitry.

26/ See *supra* note 25 for comment on expert testimony.

Mr. Bolyard solidified the Corps's position that plaintiff's claim was without merit based on the technical specifications for the EC/L Project. The specific language of contract section 16415.1.2.2, pertinent to supply and installation of HVAC, provides that the contractor or its subcontractors may select the equipment that is best suited for the EC/L Project. Because the specifications allowed the contractor to select the equipment that would be used for the EC/L Project, the specific power requirements for each manufacturer customarily are not detailed on the drawings. Hence, HVAC equipment was not detailed in the drawings because plaintiff had the option of submitting equipment by different manufacturers. According to Mr. Bolyard, coordination must occur between the trades so that the electrical contractor may make proper provisions for the power requirements of the equipment once it is brought on site. Most importantly, Mr. Bolyard established that, without this power related wiring, the system would not be able to operate. Tr. at 1829.

Plaintiff's claim for \$1,200.00, including cost to Lavandera, overhead, profit, and bond expense, must be denied because the contract directed plaintiff's work to provide power related wiring. This wiring was necessary for the air handling systems to operate, and the contract specifications called for operable HVAC systems. It was plaintiff's responsibility to coordinate between subcontractors to ensure the performance of this work.

5) Columns at planters and terraces

Plaintiff claims that the Corps required columns at the planters and terraces, even though the EC/L Project drawings at Sheet C-3.1 did not indicate their presence. See PX 318.116. Mr. Midgette testified that the drawings were ambiguous, although he withheld judgment as to whether plaintiff's interpretation of the drawings was reasonable and marginally supported plaintiff's contention, stating that "Mr. Yang's interpretation may be held reasonable, it may not. However, I know it's a cost he had to pay." Tr. at 957. Mr. Midgette's report indicates that plaintiff interpreted vertical lines on drawing A-15, JTX 1-C, as masonry control joints because the two vertical lines were not dimensioned and nor explained on the drawings as to what they represented.

Mr. Bolyard effectively rebutted Mr. Midgette's testimony by demonstrating that a reasonable reading of the drawings leads to the conclusion that the vertical lines in question on drawing A-15, JTX 1-C, are columns at the planters and terraces. Mr. Bolyard meticulously walked through the process by which he determined the presence of columns: Beginning with sheet A-15, titled "Site Walls," he focused on the center drawing of "Partial Elevation-Rear Entry & Library Site Walls" and the "Partial Elevation-Library Site Wall" drawing. Mr. Bolyard then referenced drawing C-3.1 to "gain an understanding of what the site drawing showed about the configuration of the walls in question." Tr. at 1831. Drawing C-3.1 indicated curved walls in two locations. Mr. Bolyard returned to drawing A-15 and analyzed the delineation of the walls on the partial elevations, showing that columns were

indicated in those walls because the walls are curved in the drawings. Tr. at 1832. Comparatively, walls in an elevation, such as the one in drawing A-15, normally would be represented with flat links to signal curvature. The requisite indicators therefore are present on the partial elevations of columns, shown by two and three vertical lines. 27/

Mr. Bolyard also relied on references on drawing A-15 to Sections 4 and 5 on drawing A-18. JTX 1-C. Section 4 on drawing A-18 showed the masonry wall “in a cross-hatched pattern And then the columns are indicated by the black lines[.]” Tr. at 1836. The same pattern is shown in section 5. The cross-hatched area represented the wall, and the column in question was indicated by the lines present further down on the drawing. Tr. at 1836.

_____ Mr. Midgette’s minimal testimony did not help plaintiff. In contrast, Mr. Bolyard thoroughly demonstrated that columns were present in the drawings and that plaintiff should have recognized them based on a complete reading of the plans. As with other of plaintiff’s claims, any ambiguity in the drawings must be deemed patent due to the glaring ambiguity of the meaning of the vertical lines—as masonry control joints or as columns. Plaintiff therefore had a duty to inquire as to the meaning of the vertical lines. Its failure to do so forfeits plaintiff’s claim for \$14,406.00, inclusive of its subcontractor cost, overhead, profit, and bond expense.

_____ 6) Revised top of wall elevation

_____ Plaintiff contends that the top of the planter walls was initially in the Project drawings as 4.35 millimeters, but, through modifications and alterations to the Project drawings, was altered to 4.25 millimeters and then, finally, to 4.65 millimeters. Plaintiff claims that it is owed compensation for the additional work that it performed on the wall elevation. Plaintiff presented no testimony on this claim other than Mr. Midgette’s conclusory and unpersuasive testimony. Mr. Midgette merely repeated plaintiff’s claim—that the wall elevations changed from one drawing to the next—and was not able to substantiate a knowledge of the drawings to portend any understanding as to the relationship between drawings within the specifications. Moreover, Mr. Midgette was unable to testify as to what, if any, work plaintiff had to perform due to the alleged changes in the drawings.

_____ 27/ Mr. Bolyard explained that although curves are shown on drawing C-3.1, partial elevation drawings show them as horizontal flat lines, thereby giving the view of the surface as a straightened, flat detail. Because of the perspective, and because it is a curved wall, a column thus is represented by three straight lines.

Mr. Bolyard's testimony demonstrated the relationship between the drawings germane to the top of wall elevations, and showed that a reasonable interpretation of these drawings determines that the wall elevations remained constant at 4.65 millimeters throughout the EC/L Project. Mr. Bolyard began with drawing C-3.1, JTX 1-C, which included notations that said "FF Elevation 3.55" and "Top of Wall Elev. 4.35 (TYP) Except at Ramp and Planter." 28/ The second notation included an arrow to show that it applies to the retaining walls in the access ramp and planter area. Mr. Bolyard next referred to a section reference on the "Partial Elevation-Entry Site Wall" part of drawing A-15, JTX 1-C, that directs the contractor to Section 3 on drawing A-19A. Tr. at 1838. On drawing A-19A, Section 3 provides elevations for the site wall section. The first pertinent note of this section denotes "Top of Masonry El: 101,100." JTX 1-C. The second note states "Finished Floor El: 100,000." JTX 1-C. Both notes were expressed in millimeters. Mr. Bolyard subtracted these elevations and found the difference to be 1,100 millimeters (1.1 meters). He then returned to drawing C-3.1 and added the 1.1 meters to the 3.55 meters discussed previously. This exercise results in an elevation of 4.65 meters for the top of the wall. Based on his review of the drawings, Mr. Bolyard testified that this dimension did not change throughout the modifications to the drawings. Tr. at 1840.

Mr. Bolyard clarified plaintiff's confusion when he testified that he did not use the 4.35 meter measurement that plaintiff alluded to, because 4.35 refers to the typical elevation (TYP), and the issue with the walls is an exception, as noted on drawing C-3.1. Further, on drawing C-3.1 of Amendment No. 0002, a revised note reads "Top of Wall Elev. 4.25 (TYP) Except at Ramp and Planter." According to Mr. Bolyard, this does not, as plaintiff argues, mean that the top of wall elevations for the walls in this claim is 4.25 meters. Tr. at 1842. Instead, as in the original drawing, the finished floor elevation is shown as 3.55 meters, and the 4.25 meters does not apply to the walls at the ramp and the planter because that is the typical measurement. Here, the issue is controlled by the exception. The dimensions did not change in the amended drawings, so the top of wall elevation remained 4.65 meters.

Plaintiff's Revised Top of Wall Elevation claim, totaling \$5,120.00, fails. The resulting extra work amounting to \$4,266.00 that plaintiff asserts it was required to perform in this area arose from plaintiff's failure to correctly interpret the EC/L Project's drawings. As Mr. Bolyard testified, an analysis of the plans and specifications was sufficient to comprehend the drawings properly. 29/

28/ FF denotes "Finished Floor." These notations appeared in meters, as the contract specified that the metric system would control the units of measurement.

29/ Significantly, with respect to this and other claims, Mr. Bolyard was not testifying based on his expertise; instead, he was interpreting the contract drawings as a reasonable

7) Window jamb condition

Plaintiff contends that the detail of the header of the first floor windows on drawing A-20 was deficient and that plaintiff could not construct the area as it was depicted because the CMU required by the drawings was not manufactured during the time frame of the EC/L Project. Instead, plaintiff used lumber and besser brick; the Corps compensated for the extra lumber, but denied plaintiff's claim for the extra cost of the besser brick. Mr. Midgette was not familiar with the nature of work performed, and was only able to testify that he believed part of plaintiff's work on the window jamb condition was an extra to the contract and that plaintiff is owed the amount, submitted as \$2,780.00 in Mr. Midgette's report, that the Corps has withheld.

Mr. Bolyard again provided necessary industry knowledge and analysis for this claim. His discussion of drawing A-20, JTX 1-B, focused on Detail 4 entitled "Corner Pilaster/Window Jamb." Mr. Bolyard found that this detail required CMU, except for rigid insulation against the outside face of the steel column, as fill for the area around the steel column out to where the windows were to be installed. While plaintiff substituted some of the CMU area with besser brick, that area, in fact, could have been constructed with masonry, as called for in the drawings. Tr. at 1846. Even if masonry block was not available off the shelf to meet the specifications, plaintiff could have cut the available CMU to fit the EC/L Project requirements. Tr. at 1847.

Plaintiff's claim in the amount of \$2,780.00, inclusive of overhead, profit, and bond expenses, for the besser brick used in place of CMU fails because plaintiff could have constructed the window jamb condition as required by the drawings. Instead of cutting CMU block, plaintiff used a less expensive substitute in the besser brick as an alternative design method.

8) Differences in dimensions on A-5 and S-3.1 drawings

Proving that no claim was too small for trial, damages sought on this claim stand at \$182.00, plus markup. During construction plaintiff discovered a 100-millimeter discrepancy between drawing A-5 (architectural) and drawing S-3.1 (structural). The Corps did not dispute plaintiff's contention that drawing A-5 presented column line K to T along line 16

29/ (Cont'd from page 25.)

contractor would be expected to do. Throughout his testimony, the court found that Mr. Bolyard greatly assisted in the explanation and understanding of how the EC/L Project actually was constructed.

as 19,500 millimeters, whereas drawing S-3.1 presented the same line as 19,400 millimeters. Once plaintiff alerted the Corps of this discrepancy, the Corps instructed plaintiff to use the dimensions contained in drawing S-3.1. Plaintiff requested updated architectural drawings; the Corps declined to provide such drawings and instructed plaintiff to reflect the change in the as-built drawings. Plaintiff also requested a change order for this work, but the Corps again declined. Mr. Midgette's testimony was limited to verifying the invoice submitted by plaintiff's subcontractor for the amount claimed.

Plaintiff was unable to substantiate its allegations that the Corps was responsible for the extra costs that plaintiff claims it incurred due to the differences in dimensions on the two drawings. Plaintiff alerted the Corps to the discrepancy—something plaintiff failed to do on many other occasions that would have saved it much aggravation—and the Corps directed plaintiff to follow drawing S-3.1. It is also questionable why plaintiff would request more money for this item of the EC/L Project, when the Corps actually instructed plaintiff to construct to the smaller of the column lines.

9) Unidentified fascia material

Plaintiff contends that fascia material was not correctly identified in the original A-18 and A-19 drawings, but that the soffit is defined as plaster on weatherproof gypsum board. Because of the failure of the plans and specifications to identify the fascia material, plaintiff's plaster and roofing subcontractors did not include fascia-related costs, such as purchasing and installation, in their bids. Plaintiff subsequently incurred \$28,514.00 in additional costs when it was forced to pay its subcontractors to purchase and install the fascia that was not originally included in the bids.

K.G. Sales, Inc. ("K.G. Sales"), an architectural sheet metal contractor, served as plaintiff's metal roofing subcontractor. According to George Frey, Vice-President of K.G. Sales, the EC/L Project drawings did not indicate any exterior finish for the fascia and that K.G. Sales did not include that area of work in its bid because it was not indicated as sheet metal. Mr. Frey testified that his later conversations with plaintiff's representatives established that K.G. Sales would be compensated for the change order requiring K.G. Sales to install colored sheet metal for the fascia panel.

While Mr. Frey presented himself as a knowledgeable witness for plaintiff's claim, cross-examination revealed that K.G. Sales's September 15, 1998 bid proposed "to furnish all labor, material, tools and equipment necessary to erect the metal roof panels *including* dry-in, rigid insulation, *fascia*, gutters and downspouts." See Tr. at 668. Moreover, Mr. Frey's handwritten summary of the estimate included a line for "fascia 19 sq @ 140" for a total of \$2,660.00. JTX 190/1. On the last page of his estimate, Mr. Frey made a notation for 950 feet of fascia, and a labor estimate of two men for twelve days. Finally, K.G. Sales's

subcontract with plaintiff requires K.G. Sales to provide “[a]ll work necessary or incidental to complete[,]” including providing labor, material, and equipment needed to “erect the metal roof panels, including dry-in, rigid insulation, fascia, gutters, and down spouts.” Critical to Mr. Frey’s discussion of K.G. Sales’s bid, however, was his testimony that he did not provide an estimate for fascia because the composition of the fascia was not defined in the drawings. Mr. Frey left the determination of the fascia composition to plaintiff for resolution with the Corps.

It appears that Mr. Frey’s handwritten estimate was just that—an estimate—and not part of K.G. Sales’s contract with plaintiff, which generally instructs that K.G. Sales will provide fascia. As such, Mr. Frey’s testimony that he did not price fascia because he was waiting for plaintiff to inquire as to the type of fascia corresponds with the documentary evidence. Unfortunately for plaintiff, however, Mr. Frey’s testimony indicates that plaintiff was aware of the lack of specificity for the fascia and that K.G. Sales had discussed this with plaintiff. See Tr. at 668.

Plaintiff cannot prevail on this claim because it failed, again, to address a patent ambiguity in the drawings. Its discussions with K.G. Sales alerted plaintiff to this lack of clarity, and plaintiff did not fulfill its duty of asking the contracting officer to clarify the ambiguity. As the general contractor, plaintiff was responsible for ensuring that its subcontractors appropriately addressed the EC/L Project requirements. Going forward based on K.G. Sales’s quote when plaintiff had been made aware of the ambiguity forecloses plaintiff from recovering the \$27,874.00, inclusive of subcontractor cost, overhead, profit, and bond expense, that it claims.

_____ 10) Increased painting costs

_____ Plaintiff takes the position that its initial painting subcontractor, Shivers Paint Company (“Shivers”), defaulted on its subcontract because of problems with the drawings and the delays caused by the Corps’s failure to respond to RFIs. In its contract with Shivers, plaintiff had contracted for painting, wall covering, and joint sealant (caulking) for the EC/L Project. When plaintiff contracted with B&G Painting, Inc., to replace Shivers, caulking was not included in the new contract, and plaintiff retained an additional subcontractor for that work. Hence, plaintiff’s claim for the increased painting work is based on the costs associated with hiring new subcontractors. Plaintiff asserts that the difference was \$18,900.00, and that, with overhead, profit, and bond expense, the total claim is \$22,683.00.

Again, testimony dooms plaintiff’s claim. Mr. Jesse testified that Shivers repeatedly ignored plaintiff’s communications and did not timely submit proposals. Tr. at 559. A ream of correspondence between plaintiff and Shivers demonstrates plaintiff’s difficulty in its relationship with Shivers: A September 30, 1999 facsimile transmission from Mr. Poole to

Shivers requested required submittals for the EC/L Project. The following year, a March 30, 2000 fax from Mr. Jesse to Shivers requested a cost proposal for a change order to drywall and paint, but as of April 10, 2000, plaintiff had not received this proposal and had been unable to reach Shivers via telephone. Mr. Jesse pointed out Shivers's failure to communicate in an April 17, 2000 fax, but again, according to Mr. Jesse, plaintiff received no response, see Tr. at 559. Mr. Jesse followed this fax with a letter to Shivers on April 18, 2000, reiterating Shivers's failure to adhere to its contract responsibilities. In a May 22, 2000 letter, plaintiff subsequently gave Shivers a cure notice under the contract, warning that Shivers's subcontract with plaintiff would be terminated in seven days if it did not respond to plaintiff's requests for correspondence. Not surprisingly, Shivers did not respond, and plaintiff terminated its contract with Shivers in a June 9, 2000 letter.

_____ Mr. Jesse was unable to substantiate that Shivers, plaintiff's original paint subcontractor, defaulted on its contract due to defects in the plans and specifications. Instead, his testimony indicates that Shivers was unresponsive to plaintiff's apparently reasonable requests for submittals and other information relating to the EC/L Project. Mr. Jesse's acknowledgment that he never had any oral communication with representatives from Shivers concerning nonperformance and default further detracts from plaintiff's claim. Without speaking or corresponding with Shivers, plaintiff presents mere conjecture that Shivers defaulted due to faulty plans and specifications. Plaintiff's claim must be denied.

_____ 11) Additional cost for development of as-built drawings

_____ Plaintiff's final direct cost claim asserts that it incurred more than six times its budgeted amount of \$3,400.00 for as-built drawings 30/ due to the magnitude of deficiencies in the drawings for the EC/L Project. Plaintiff minimizes the enormity of the claim, however, by admitting that much of the alleged cost overrun is absorbed in its Project Manager's salary and only reimbursable in the extended general conditions of its claim because that position was responsible for drafting the as-built plans. Plaintiff ultimately claims that it spent \$8,925.00 on putting the as-built drawings in an electronic format to complete the contractual requirement of as-built drawings, \$5,525.00 over its budgeted amount of \$3,400.00. With overhead, profit, and bond expense included, plaintiff's claim for the as-built drawings amounts to \$6,631.00.

As has been the case for prior claims, plaintiff has not demonstrated sufficient evidence that the difference between its bid amount for as-built drawings and the actual amount spent on the drawings is attributable to any defects in the plans and specifications for

30/ As-built drawings are prepared to show any deviation from the as-planned drawings, and are used for future reference in the maintenance of the subject of the drawings.

the Project. Plaintiff is also harmed by the contract language of Section 01000-10(e), which states “Payment: No separate payment will be made for the as-built drawings required under this contract, and all costs in connection there-with will be considered a subsidiary obligation of the Contract.” Additionally, Mr. Bolyard’s report highlights a critical point: Simply, “it appears that Sunshine’s budgeted cost to provide electronic format ‘As-Builts’ was underestimated.”

While it is unfortunate that plaintiff must bear what, to it, appears to be an extra cost, the contractual language requires plaintiff to perform the task of producing as-built drawings. That plaintiff failed to adequately bid its as-built drawings and then encountered some difficulty in their execution cannot be deemed the responsibility of the Corps without a further showing from plaintiff. Because of the lack of evidence tying the defective drawings and specifications to plaintiff’s struggle with the as-built drawings, plaintiff’s final direct cost claim cannot succeed.

_____ 12) Uncontested claims

_____ Defendant does not dispute two of plaintiff’s claims. It accepts liability for plaintiff’s Add Interior Windows claim to the extent of the \$2,143.00 in direct costs, and does not dispute the 7% profit and 0.65% bond expense rates. Defendant does, however, dispute plaintiff’s 11.44% rate for overhead markup. Defendant also does not dispute liability for plaintiff’s claim of \$2,026.00 for the Weld Reinforcement Bar to Lintels. Defendant accepts the \$1,642.00 in direct costs, and the 10% profit and 0.65% bond expense rates proffered by plaintiff, but does contest plaintiff’s markup for overhead at 11.44%.

Defendant based its dispute of plaintiff’s 11.44% markup for overhead on the DCAA audit produced by Mr. Lundy and Mr. Lundy’s testimony at trial. According to Mr. Lundy, plaintiff’s direct cost claims were entitled a 3.3% home office overhead (“G&A”) markup because the DCAA questioned 10.7% of plaintiff’s claimed 14% G&A rate. See DX 595/24; Tr. at 1769. The markup on the direct cost claims does not include the \$124,745.00 that Mr. Lundy computed in the calculation of unabsorbed home office overhead under the Eichleay formula. 31/ As plaintiff has not carried its burden under the Eichleay formula, it is not

_____ 31/ The Eichleay formula is used to “equitably determine allocation of unabsorbed overhead to allow fair compensation of a contractor for government delay.” Wickham Contracting Co., Inc. v. Fischer, 12 F.3d 1574, 1578 (Fed. Cir. 1994); see P.J. Dick Inc. v. Principi, 324 F.3d 1364, 1370 (Fed. Cir. 2003). The formula, set forth in Eichleay Corp., ASBCA No. 5183, 60-2 B.C.A. (CCH) ¶ 2688 (1960), multiplies the daily contract overhead by the number of days delayed to determine the amount recoverable. The daily contract overhead is determined by multiplying the allocable overhead by the number of days of

entitled to recovery. Mr. Lundy took the position, therefore, that the \$124,745.00 for unabsorbed home office overhead must be added back to the allowable G&A costs. Tr. at 1769-70. This produces a revised G&A markup of 5.9%. Tr. at 1770.

Mr. Lundy's testimony was credible and exacting. Plaintiff failed to produce evidence to show why it is entitled to a G&A markup of 11.44% on its direct cost claims. Its undisputed claims shall be calculated using the 5.9% G&A markup rate, entitling plaintiff to \$2,444.00 for its Add Interior Windows claim and \$1,925.00 for the Weld Reinforcement Bar to Lintels claim.

2. Delay Costs

Plaintiff asserts that the Corps caused the delays associated with the EC/L Project and that the Corps, as a consequence, is responsible for costs resulting from that delay. When a contractor asserts a claim based on alleged government-caused delay, "the contractor has the burden of proving the extent of the delay, that the delay was proximately caused by government action, and that the delay harmed the contractor." Wilner, 24 F.3d at 1401; see also Servidone Constr. Corp. v. United States, 931 F.2d 860, 861 (Fed. Cir. 1991) ("To receive an equitable adjustment from the Government, a contractor must show three necessary elements—liability, causation, and resultant injury."). The Eichleay formula is used to compensate a contractor for unabsorbed overhead costs due to government-caused delay. P.J. Dick Inc. v. Principi, 324 F.3d 1364, 1370 (Fed. Cir. 2003); see supra note 31. As plaintiff has failed to demonstrate the requisite causation between the Project delay and the Corps's actions, plaintiff's delay claims fail. Further, plaintiff did not show that, per the Eichleay formula, it was forced to standby during the delays, thereby eliminating use of the Eichleay formula.

31/ (Cont'd from page 30.)

performance. The allocable overhead is determined by dividing the contract billings by the total billings for the contract period, and then multiplying the result by the total overhead for the contract period. Nicon, Inc. v. United States, 331 F.3d 878, 883 (Fed. Cir. 2003). In order to utilize the Eichleay formula, a contractor "must show that a government-imposed delay occurred, that the contractor was required to stand by during the delay, and that while standing by it was unable to take on additional work." Sauer Inc. v. Danzig, 224 F.3d 1340, 1348 (Fed. Cir. 2000).

1) Delay along the critical path

____ Along with its direct cost claims, plaintiff alleges that defective plans and specifications generated delay on the EC/L Project from January 3, 2001, to August 31, 2001—a total of 240 days, 204 of which plaintiff deems excusable and compensable. The resolution of plaintiff’s delay claims, similar to many of its direct cost claims, must be based on the testimony of the parties’ respective experts and their competing delay analyses.

Mr. Midgette introduced his Time Entitlement Analysis, whereby, in essence, he compared the EC/L Project’s critical path with end-of-the-month updates to determine how many days of delay occurred during a given month. See Tr. at 972-73. Comparatively, Mr. Bolyard prepared a Critical Path Method Schedule Delay Analysis, in which he reviewed the as-planned schedule, schedule updates, progress payments and other Project documentation in order to construct an as-built schedule. Mr. Bolyard identified the critical path on the as-built schedule, compared it to the critical path on the as-planned schedule, and analyzed “where activities may have been performed in the same time as was originally planned, may have been performed in a shorter time than original [sic] planned, or may have been performed in a longer time than originally planned.” Tr. at 1852. For activities that occurred in periods shorter or longer than planned, Mr. Bolyard analyzed the cause for the change. This was the foundation for his delay analysis. Tr. at 1852-53.

____ Mr. Bolyard’s testimony and expert report are to be commended for their clarity, comprehensiveness, and reliability. Plaintiff was not persuasive that Mr. Midgette’s approach represents an accepted CPM methodology. 32/ Mr. Midgette, who had consulted for plaintiff intermittently since May 1999 on the contract performance issue, was not convincing that the Corps required plaintiff to provide data adjusted on a monthly basis. Plaintiff updated its as-planned schedule on a monthly basis, which had the effect of disregarding any chain of events that reflected actual progress. The court finds that the delays on the Project occurred consistent with Mr. Bolyard’s analysis.

While plaintiff reached Milestone 1 thirty-five days ahead of schedule, it subsequently incurred delay between Milestone 1 and Milestone 2. The critical delay from the foundation

32/ Mr. Midgette’s approach involved breaking the Project into “fragnets.” A “fragnet” is a “fragment of the network analysis system[,]” Tr. at 832, and is a scheduling tool that modifies the contract schedule so as to determine the impact of a change to a contract’s completion date. As a practical matter, a scheduling change is a part of the scope of work and should be tracked for purposes of cost, delay, and future impacts, and the fragnet provides this tracking. Mr. Midgette could not demonstrate that this approach is a recognized method for CPM analysis.

work totaled thirty-eight calendar days, and Mr. Bolyard assigned thirty-one of those days to plaintiff because of its “self-inflicted production problems” and “numerous foundation production problems[,]” DX 574/61, and the other seven days of responsibility to the Corps. He attributes minimal delay impact on the foundation construction to Modification P00002, but allotted the seven days of delay to the Corps to cover any possible delays for which the Corps may have been responsible.

The elapsed time between Milestones 2 and 3 of the EC/L Project resulted in fifty-eight days of delay. As of the date on which plaintiff began the CMU walls at Milestone 3, the Project had been delayed a total of ninety-two days from the as-planned schedule. Between Milestones 2 and 3, Mr. Bolyard attributed the entirety of the fifty-eight day delay to plaintiff because of its “slower than planned production.” 33/ DX 574/65.

Between Milestones 3 and 4, the first floor CMU work commenced on November 30, 1999—a ninety-two day delay from the as-planned schedule—and was completed on March 27, 2000. Mr. Bolyard found a 207-day delay between Milestones 3 and 4, to which he attributed 87 days of delay to plaintiff’s CMU production, 31 days to plaintiff’s late framing and stucco submittals, 34 days to plaintiff’s work on exterior metal framing and stucco, and 70 days to the Corps’s alteration to the exterior light-gauge metal framing and stucco system. Mr. Bolyard credited the Corps with fifteen days of recovery “due to reduction in the planned critical duration of activities[,]” DX 574/74, and determined that of the 207 days in the delay between Milestones 3 and 4, plaintiff was responsible for 152 days, while the Corps was responsible for 55 days.

According to Mr. Bolyard, work between Milestones 4 and 5 created a 184-day delay because of the delayed finish to the gypsum wallboard systems. During this period the mechanical systems installation became critical from August 27, 2000 through March 14, 2001, because of the trade work scheduling between the interior wall construction and the above ceiling mechanical work. The mechanical installations were the sole critical activity from March 15, to April 6, 2001. Mr. Bolyard assigned responsibility to plaintiff for 184 days of delay to Milestone 5 because of plaintiff’s “significant production problems[,]” DX 574/78, while the Corps was responsible for 17 days of critical concurrent delay due to additional time required for changes in the clerestory covered in Modifications R00012, R00013, and R00017, and the relocation of exhaust fan #5, as required by Modification

33/ Mr. Batchelor’s QARs noted a variety of problems in plaintiff’s steel erection procedure during this time, including the steel erection crew “pull[ing] out” in protest of the use of leveling nuts; plaintiff’s failure to multitask; the steel erection crew not being the proper size for the job; and poor workmanship that required plaintiff to re-do parts of the construction.

R00012, thereby making plaintiff responsible for 167 days of inexcusable critical delay. By this point, at Milestone 5, the EC/L Project was 483 days behind the as-planned schedule.

Due to delays various items of work joined the critical path between Milestones 5 and 6: Mechanical work above the ceiling was the single critical path from March 15, 2001 to April 6, 2001; data cabling was on the critical path from April 7, 2001 to May 15, 2001; and the completion of the Acoustical Ceiling Tile was critical from May 15, 2001 to its completion on May 24, 2001. A total of 110 days elapsed between Milestones 5 and 6; this was 61 days longer than the as-planned schedule allowed. By the time Milestone 6 was achieved, the Project was 544 days behind the as-planned schedule. Mr. Bolyard attributes fifty-one days of critical delay—of the sixty-one days in excess of the as-planned schedule—to plaintiff due to its production that was slower than planned and its inability to explain periods of no work, including its failure to address critical path work, and its failure to provide its subcontractors with requisite shop drawings. Mr. Bolyard found that the Corps was responsible for ten days of the delay due to data cabling routing changes, and defendant concedes this ten-day delay.

Finally, Mr. Bolyard assigned thirty-three days of critical delay between Milestone 6 and Milestone 7 to plaintiff because of plaintiff's "failure to properly plan and manage the work." Plaintiff required fifty days, July 18, 2001 to September 5, 2001, to attain substantial completion of the Project, thirty-five days longer than planned. As a two-day discrepancy existed between the contract and the as-planned schedule for the relocation of the Corps to the new building, Mr. Bolyard credited plaintiff with two days, which reduced the critical delay to thirty-three days.

The court reviewed all aspects of Mr. Bolyard's testimony and analysis and determined that Mr. Bolyard's conclusions are reliable and correctly reflect the critical path of the delays that occurred and the parties' respective responsibilities for delay.

_____ Plaintiff is entitled to reimbursement for its extended field overhead costs during the ten-day delay during the data cabling routing changes conceded by defendant. While plaintiff asserts that the daily rate of reimbursement should be \$738.00, the court finds that defendant's proposed rate of \$553.00 per day is proper. ^{34/} With a 5.9% G&A markup, see DX 595/24; Tr. at 1769-70, 10% profit markup, and 0.65% bond expense, defendant conceded \$6,484.00 for plaintiff's field overhead claim.

^{34/} Defendant arrived at this daily rate by dividing the sum of the monthly field overhead expenses from January 2001 through August 2001, \$132,643.00, as determined in Mr. Lundy's DCAA Audit, by the 240 days of this time period. The court agrees with Mr. Lundy's rejection of claimed costs and adjustment of the claimed rate for field overhead.

Additionally, because it was forced to continue devoting its resources to the EC/L Project for a longer-than-planned period, plaintiff seeks reimbursement for unabsorbed home office overhead for 180 of the 240 days of delay from January 3, 2001 to August 31, 2001. Plaintiff also seeks recovery for the 205-day no-cost extension granted by Modifications P00006 and R00011 (June 12, 2000 to January 3, 2001). Plaintiff calculates 385 days of delay at \$671.00 per day, and, inclusive of markups for profit and bond cost, requests \$285,893.00 in reimbursement expenses. Plaintiff, however, did not prove that all work in the contract was ever suspended during any particular time period. See P.J. Dick, Inc., 324 F.3d at 1370; see also supra note 31. Messrs. Jesse and Midgette testified that no formal suspension of work occurred, nor did any witness testify that most or all of the work was suspended at any time. Thus, plaintiff cannot recover under the Eichleay formula for unabsorbed home office overhead.

2) Loss of productivity costs

_____ Plaintiff alleges that defective specifications, the Corps's failure to provide corrected drawings, and plaintiff's subsequent attempts to mitigate damages as delays occurred entitle it to compensation. In assessing its damages, plaintiff utilized a Modified Total Labor Cost Method. A total cost method is based on the formula that a contractor is owed the difference between the actual cost of the contract and the contractor's bid, Raytheon Co. v. White, 305 F.3d 1354, 1365 (Fed. Cir. 2002), whereas a modified total cost method adjusts the total cost method for a contractor's lack of proof in the requirements of the total cost method, Propellex Corp. v. Brownlee, 342 F.3d 1335, 1339 (Fed. Cir. 2003). A total cost method is not favored and should not be used where another, more reliable, method is available by which to compute a contractor's damages. Hi-Shear Tech. Corp. v. United States, 356 F.3d 1372, 1383 (Fed. Cir. 2004). 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." Id. Under a modified total cost approach, a contractor still has the burden of proving these four requirements, although that burden is eased. Propellex Corp., 342 F.3d at 1339.

Mr. Midgette attributed delay causes to many of the factors listed by the Mechanical Contractors Association of America (the "MCAA") 35/ as factors affecting productivity: the

_____ 35/ Mr. Bolyard warned about the use of these factors, found in the MCAA's Bulletin No. 58, and quoted that Bulletin in his expert report, which cautioned that

“[t]he material contained in this manual is intended to assist you in planning and is not meant to provide absolute costs nor percentages which would be

stacking of trades; poor morale and attitude on the job site; reassignment of manpower; crew size inefficiency; concurrent operations (stacking of plaintiff's own force); dilution of supervision; a continually-changing learning curve due to changes on the EC/L Project; errors and omissions on the EC/L Project because of constant changes; site access interference affecting subcontractors' ability to perform work; and ripple effect, whereby changes in one trade's work affected the overall schedule.

After Mr. Bolyard's testimony demonstrated that Mr. Midgette's approach measuring lost productivity was not recognized as an accepted approach by his peers or by any trade association, plaintiff adopted Mr. Bolyard's analysis, which would have netted plaintiff \$40,952.00. 36/ However, the court has found that plaintiff did not sustain the predicate for loss of productivity by showing that the Corps was responsible for the underlying causes of delay due to the defective plans and specifications.

35/ (Cont'd from page 35.)

incurred. Each project, locale, situation is unique and variances will occur even within the same jurisdiction.

....

These factors listed are intended to serve as a reference only. Individual cases could prove to be too high or too low."

36/ Mr. Bolyard determined this value of loss of productivity by taking the total labor costs expended, including plaintiff's labor force with markup and its labor agents, and subtracting the following items: planned labor, plaintiff's increased unit cost of labor, plaintiff's work for others, missing labor from plaintiff's bid, increased unit cost due to labor agents, cost attributed to plaintiff's welder, labor cost for defaulted subcontracts, home office and field overhead personnel, direct labor costs in plaintiff's claim, and labor for contract modification. Although defendant conceded this amount, Mr. Bolyard noted that plaintiff self-imposed a labor loss of productivity cost in the concrete foundation and slab work that Mr. Bolyard determined to be \$30,351.00 through July 24, 1999. If accounted for, this would reduce the labor loss of productivity cost to \$10,601.00. In any event, per Mr. Bolyard's analysis, the maximum plaintiff could recover for labor loss of productivity, based on all of the days that plaintiff regards as affected, would be \$40,952.00.

3) Remission of liquidated damages

Plaintiff seeks remission of the \$62,580.00 assessed by the Corps as liquidated damages because it asserts that the delay on the EC/L Project was due to the Corps's actions and failures under the contract. The original contract between plaintiff and the Corps provided for a penalty against plaintiff of \$1,275.00 for each day of delay on the EC/L Project. According to Kevin A. Powell, Florida Area Engineer, United States Army Corps of Engineers, Mobile District, the total amount of liquidated damages was recalculated to an amount that he "felt to be a more fair and equitable rate of true impacts to the government or true costs to the government for the delays." Tr. at 1477. The Corps reduced this penalty to \$596.00 per day in July 2001, and assessed liquidated damages against plaintiff in this amount for the 105-day period of delay from February 2, 2001 to May 18, 2001. On May 18, 2001, the Corps determined plaintiff had substantially completed construction of the Education Center/Library portion of the contract (plaintiff had not yet demolished the existing library). The Corps assessed liquidated damages against plaintiff for 105 days of delay. Defendant subsequently conceded twenty-two of these days prior to trial and does not dispute that plaintiff is entitled to remission of the liquidated damages for these days.

The law on the apportionment of liquidated damages is unsettled, particularly with respect to sequential, as opposed to concurrent, delay. One line of sequential delay cases identifies the "rule against apportionment," which holds that "where delays are caused by both parties to the contract the court will not attempt to apportion them, but will simply hold that the provisions of the contract with reference to liquidated damages will be annulled." Acme Process Equip. Co. v. United States, 347 F.2d 509, 535, 171 Ct. Cl. 324, 367 (Ct. Cl. 1965) (quoting Schmoll v. United States, 91 Ct. Cl. 1, 28 (1940)), rev'd on other grounds, 385 U.S. 138 (1966); see also United States v. United Eng'g & Constructing Co., 234 U.S. 236, 242 (1914) (holding that in order to enforce liquidated damages clause, party assessing damages must not prevent performance under contract, and that if it does, even if completion is "delayed by the fault of the contractor, the rule of the original contract cannot be insisted upon, and liquidated damages measured thereby are waived").

In a later case, however, the United States Supreme Court affirmed a Court of Claims decision that apportioned liquidated damages in the instance of a sequential delay. Robinson v. United States, 261 U.S. 486 (1923). The Court held that government-caused delay does not deny the government compensation for loss suffered due to fault of the contractor because "the contractor agreed to pay at a specific rate for each day's delay not caused by the government, [and] it was clearly the intention that it should pay for some days' delay at that rate, even if it were relieved from paying for other delays, because of the government's action." Id. at 488. The Robinson Court distinguished the case from United Eng'g & Constructing Co., 234 U.S. 236, by noting that the question in United Eng'g & Constr. Co. was one of documentary construction, and that the liquidated damages clause in that case was

not applicable. Robinson, 261 U.S. at 489. Conversely, the issue in Robinson was not one of construction, so Robinson is law that sequential delay does not sound a death knell for a liquidated damages provision.

Most recently, the United States Court of Appeals for the Federal Circuit issued Sauer Inc. v. Danzig, 224 F.3d 1340 (Fed. Cir. 2000). In Sauer the Federal Circuit stated the general rule of liquidated damages, which requires “a party asserting that liquidated damages were improperly assessed [to] bear[] the burden of showing the extent of the excusable delay to which it is entitled.” Id. at 1347. It then upheld a decision by the Armed Services Board of Contract Appeals apportioning in the contractor’s favor two days of assessed liquidated damages from a sequential delay to the project at issue because the contractor had demonstrated only two days of excusable delay. Id. While the Sauer court did not discuss precedent concerning the apportionment of liquidated damages, it did distinguish two cases cited by plaintiff as inapplicable because those cases addressed liquidated damages in the context of concurrent delay. See id.

A thorough, insightful analysis of the apportionment of liquidated damages was given in a recent decision by another judge of this court. See R.P. Wallace, Inc. v. United States, 63 Fed. Cl. 402, 409, 2004 U.S. Claims LEXIS 329. The court agrees with the analysis in R.P. Wallace, Inc. that finds Sauer’s “clear apportionment” rule consistent with the Supreme Court precedent of Robinson. Although Sauer did not discuss precedent on apportionment of liquidated damages, and therefore did not indicate the Federal Circuit’s current stance on “no apportionment” versus “clear apportionment,” Sauer is recent caselaw and is consistent with the Supreme Court’s decision in Robinson. The rule against apportionment should not be applied in this instance, and the court therefore follows Robinson’s minimization of the importance of the chronology of delays when determining apportionment of liquidated damages:

If it had appeared that the first 61 days’ delay had been due wholly to the contractor’s fault, and the Government had caused the last 60 days’ delay, there could hardly be a contention that the provision for liquidated damages should not apply. Here the fault of the respective parties was not so clearly distributed in time, and it may have been difficult to determine, as a matter of fact, how much of the delay was attributable to each. But the Court of Claims has done so in this case. Its findings are specific and conclusive.

Robinson, 261 U.S. at 488-89.

Although plaintiff could not demonstrate with certainty that any of the delay claimed was excusable on the EC/L Project, prior to trial defendant remitted liquidated damages for twenty-two days. Thirteen of these days attributable to the Corps occurred between March

2, 2001 and March 14, 2001, when additional time was required to account for changes in the clerestory covered by Modifications R00012, R00013, and R00017. An additional three days of Corps-induced delay ran from April 7, 2001 through April 9, 2001, when changes occurred in the routing of data and communications cable. The final six days in defendant's concession of Corps-attributed delay occurred from May 10, 2001 through May 15, 2001, during the completion of data cabling. The court finds that, under Robinson and Sauer, apportionment is proper. The Corps is currently in possession of the \$62,580.00 assessed in liquidated damages against plaintiff. The concession of twenty-two days totals a remission of \$13,112.00 in liquidated damages.

CONCLUSION

Based on the record developed at trial, the court finds and concludes that plaintiff cannot establish liability, other than for the two direct cost claims that defendant conceded before trial and for ten days of delay as conceded by defendant for field overhead costs. The Government must remit conceded liquidated damages assessed for twenty-two days of delay on the Project. Accordingly,

IT IS ORDERED, as follows:

1. Plaintiff is entitled to recover \$2,444.00 for the Add Interior Windows claim and \$1,925.00 for the Weld Reinforcement Bar to Lintels claim.
2. Plaintiff is entitled to recover \$6,484.00 for field overhead costs.
3. Plaintiff is entitled to remission of liquidated damages in the amount of \$13,112.00.
4. The Clerk of the Court shall enter judgment for plaintiff in the amount of \$10,853.00, with interest pursuant to 41 U.S.C. § 611 (2000), from September 20, 2001.

s/ Christine O.C. Miller

Christine Odell Cook Miller
Judge