

United States Court of Appeals for the Federal Circuit

99-1480

ESSEX ELECTRO ENGINEERS, INC.,

Appellant,

v.

Richard J. Danzig, SECRETARY OF THE NAVY,

Appellee.

Charles E. Raley, Law Offices of Charles E. Raley, of Hilton Head Island, South Carolina, argued for appellant.

Mark L. Josephs, Trial Attorney, Commercial Litigation Branch, Civil Division, Department of Justice, of Washington, DC, argued for appellee. With him on the brief were David W. Ogden, Acting Assistant Attorney General; David M. Cohen, Director. Of counsel was Anthony H. Anikeeff, Assistant Director.

Appealed from: Armed Services Board of Contract Appeals

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DECIDED: August 18, 2000

Before CLEVENGER, BRYSON, and LINN, Circuit Judges.

BRYSON, Circuit Judge.

Essex Electro Engineers, Inc., appeals from a decision of the Armed Services Board of Contract Appeals. The Board held that Essex was entitled to compensation for certain government-caused delays to its contract performance. For other government-caused delays, however, the Board held that Essex was not entitled to compensation, because it found that Essex concurrently delayed the performance of the contract. We conclude that the parties' delays in this case may be apportionable; we therefore vacate the Board's decision and remand for further consideration of that issue.

I

On September 6, 1990, the Marine Corps Research, Development and Acquisition Command awarded Essex a contract to manufacture, test, and deliver a number of skid-mounted floodlights. The contract required Essex to produce and test two prototype floodlights, which the contract referred to as First Articles. The contract further provided that following the government's review of and comment on the First Article inspection report, Essex would commence production of the remaining floodlights and periodically deliver the finished items.

A

The contract required Essex to use government-provided drawings. Drawing revisions, including any that were necessary to correct the government's initial drawings, required approval by way of formal engineering change proposals (ECPs). A configuration-management program, which Essex was to implement in accordance with a contract-specified standard, governed the submission of the ECPs.

On April 15, 1991, Essex notified the government that the drawings for the floodlights contained errors and omissions that had to be corrected before Essex could assemble the First Articles. Essex stopped work on that date because of the errors. The government's technical project officer contacted Essex by telephone on May 10 and provided additional details and revised dimensions that addressed some of Essex's concerns. Then, on May 21, the contracting officer sent Essex a letter advising that

changes to the drawings appeared to be indicated and directing that the proposed changes to the drawings be submitted as ECPs pursuant to the contract.

Essex submitted the ECPs on July 30 using the single-page form specified by MIL-STD-481, a military standard for configuration control and engineering changes. In the space on that form for specifying "Estimated Costs/Savings," Essex wrote "To be determined." The contracting officer replied by letter dated September 16 that the government rejected the ECPs "because they were not submitted in accordance" with the contract provision that specified MIL-STD-480 as the applicable standard. The five-page form designated by MIL-STD-480 requires extensive information in addition to the direct costs of implementing the change.

Essex did not consider MIL-STD-480 controlling. Counsel for Essex on September 20 requested a meeting with the government to discuss other issues, and on September 30 Essex asked that the discussion include the issue of the applicable standard for ECP submission. At the ensuing meeting between the parties on November 8, the government repeated its insistence that MIL-STD-480 applied to the ECPs and noted that Essex must provide the "costs associated with each one." On November 26, Essex submitted the ECPs on the correct form, providing the total proposed cost for each ECP, but no cost details.

The government on February 11, 1992, notified Essex that it had approved some of the ECPs but had rejected others. Two of the disapproved ECPs concerned the dimensional errors and detail omissions that were the subjects of the government's May 10, 1991, telephone call to Essex. The government informed Essex that it needed to submit additional cost details and a revised delivery schedule to complete the approved ECPs. Essex submitted the required cost details on May 5, 1992.

B

The contract required Essex to submit a draft First Article inspection procedure (FAIP). The government had 45 days to review and comment. Essex then had 30 days to submit the final FAIP.

Essex submitted its draft FAIP on March 6, 1991. The government responded with its comments on May 21. The response identified 12 alleged deficiencies and stated a contractual basis for each. In particular, the government faulted the draft for not listing the test equipment to be used, citing sections 10(d) and (e) of DI-T-4901, the standard for FAIPs that was incorporated by reference in the contract. Those sections required the FAIP to include such information as a "[d]escription of support equipment required from the Government" and a "[s]tep-by-step method to be followed for satisfying the particular requirements" of the contract. The government also faulted Essex's draft FAIP for using the word "may" in the criteria for rejection of the First Articles. The use of that term, the government contended, did not conform to the purchase description, which provided that test failures and defects "shall" be cause for rejection.

On June 24, Essex submitted a revised FAIP, which the government rejected on

August 12 for failing adequately to address nine of the deficiencies previously identified. On August 22, Essex challenged the government's interpretation of the contract's FAIP requirements. Essex asserted that its revised FAIP fully listed all support equipment required from the government and that its revised FAIP stated that test failures and defects "will" cause rejection, as the government had directed.

At the parties' November 8 meeting, the government accepted some of Essex's comments, but continued to require a generic list of test equipment and insisted that Essex use the term "shall" instead of "will" in the rejection criteria. Essex submitted a further-revised FAIP on November 22, but without incorporating all agreed changes. The government rejected the FAIP again on December 27, and Essex complied with the government's comments on January 7, 1992. On January 16, the government approved the FAIP.

Certain mandatory First Article tests required the use of government-furnished equipment, such as electric generators. Essex commenced First Article testing on March 5, 1992, even though the ECPs had not been formally approved. The next day, Essex notified the government that the government-supplied equipment had malfunctioned and could not be used for testing. Instead, Essex proposed using commercial power for one of the tests, to which the government did not object. The government and Essex attempted to repair the equipment so that it could be used in another test, but they were unsuccessful and the government could not locate replacement equipment. On April 6, Essex asked permission to proceed with revised tests that did not require the use of the defective equipment, and on April 15 the government agreed.

Essex submitted its First Article inspection report on May 20, 1992. The government approved the report on August 17, and Essex began production of the floodlights. Following completion of the contract, Essex requested an equitable adjustment. Among other claims, Essex argued that it was entitled to delay and disruption costs associated with the ECP and FAIP approval processes and with the defective generating equipment. The contracting officer denied Essex's request for adjustment in toto. Essex then appealed to the Armed Services Board of Contract Appeals.

II

The Board found that the government had provided Essex with defective drawings and was liable for the resulting harm to Essex. For that reason, the Board awarded Essex recovery of the engineering and production costs it incurred to incorporate the disapproved ECPs in the floodlight design. In addition, the Board found the government liable for Essex's costs associated with the 25-day delay between Essex's April 15, 1991, notice to the government of the drawing defects and the government's May 10 telephone call providing additional detail and revised dimensional information, because that delay affected the production of the First Articles. For the period after May 10, however, the Board concluded that Essex had acted unreasonably in stopping work pending the government's acceptance of the ECPs. Therefore, the Board reasoned, any government-caused delays after that date were concurrent with

Essex-caused delays and precluded Essex from further recovery based on delays associated with the erroneous drawings.

A

Essex attacks the Board's ruling on several fronts. The essence of Essex's argument, however, is that the government's demand for cost information did not excuse the delay caused by the defective specifications. In support of that argument, Essex cites numerous reasons that the Board should not have charged it for the delay in providing the cost estimates. According to Essex, because the contract allowed the government to reject nonconforming goods and required the contracting officer to authorize in writing all changes to the contract, Essex could not proceed with work on the First Articles until the government approved the ECPs. In addition, the contract required the contracting officer to use formal modifications to incorporate the changes necessary to correct specification errors and required Essex to continue performing under the contract pending resolution of any requested equitable adjustment for the changes. Thus, Essex argues, the contract did not contemplate that a change required a cost estimate as a condition precedent.

The contractual requirement that an ECP comply with MIL-STD-480 does not affect that conclusion, Essex contends. Because MIL-STD-480 allows the invocation of MIL-STD-481 for a contractor "who is required to fabricate an item to a product configuration identification which they did not prepare, or one who did not participate in engineering development and hence is not familiar with requirements of the system or high level configuration item," Essex argues that its interpretation of MIL-STD-480 to allow it to submit an ECP according to MIL-STD-481 is reasonable and controlling as a matter of law. In addition, Essex notes that the government did not explicitly raise the issue of cost until the meeting on November 8, 1991. Finally, Essex points out that neither standard requires the government to withhold approval of a change pending the submission of cost information.

For those reasons, Essex claims that the government caused all the delay associated with the ECPs. Failing complete success on that argument, Essex contends that the government nevertheless caused delays in approving the ECPs that are separately apportionable from the periods of delay for which Essex is responsible. Furthermore, Essex asserts that any delay in the ECP approval process that may be attributable to it ended when it began First Article testing on March 5, 1992.

In response, the government argues that the contract expressly required the ECPs to conform to MIL-STD-480. That standard, the government contends, allows it—but not the contractor—to invoke MIL-STD-481 for a contract in appropriate circumstances. The government further notes that the form specified by MIL-STD-480 requires a breakdown of costs. Even if Essex could elect to use the short form allowed by MIL-STD-481, that form requires a total cost estimate, which Essex did not provide until November 26, 1991. Thus, the government concludes, Essex cannot avoid liability for the delays resulting from its failure to submit cost data.

B

When the government provides a contractor with defective specifications, the government is deemed to have breached the implied warranty that satisfactory contract performance will result from adherence to the specifications, and the contractor is entitled to recover all of the costs proximately flowing from the breach. See, e.g., United States v. Spearin, 248 U.S. 132, 136 (1918); USA Petroleum Corp. v. United States, 821 F.2d 622, 624 (Fed. Cir. 1987); Ordnance Research, Inc. v. United States, 609 F.2d 462, 479-80 (Ct. Cl. 1979). The compensable costs include those attributable to any period of delay that results from the defective specifications. See La Crosse Garment Mfg. Co. v. United States, 432 F.2d 1377, 1385 (Ct. Cl. 1970). Unlike some situations in which the government has a reasonable time to make changes before it becomes liable for delay, "all delay due to defective or erroneous Government specifications are per se unreasonable and hence compensable." Chaney & James Constr. Co. v. United States, 421 F.2d 728, 732 (Ct. Cl. 1970); see Daly Constr., Inc. v. Garrett, 5 F.3d 520, 522 (Fed. Cir. 1993).

The Board concluded that the government provided Essex with defective drawings and that as a result the government was liable for the 25-day delay from Essex's notice to the government on April 15, 1991, and the government's telephone call providing additional detail and revised dimensions on May 10. The government has not appealed from that determination.

Essex argues that the government's liability for the defective drawings did not end with the May 10 telephone call in which the government allegedly provided Essex with correct dimensions and details. We agree. In J.D. Hedin Construction Co. v. United States, 347 F.2d 235, 252 (Ct. Cl. 1965), the Court of Claims considered a situation in which the government delayed making a necessary change to the specification. The government argued that the contractor could have avoided much of the delay if it had proceeded with performance following the government's authorization for the change, rather than waiting for a formal change order to issue three months later. The court disagreed: "[A] change authorization is not a change order. . . . Until [the order issued, the contractor] had no obligation to proceed." Id. at 252 n.7; see also Daly Constr., 5 F.3d at 521 ("[T]he government was not bound in contract [regarding a change due to defective specifications] until a formal written modification was executed.").

This appeal presents a similar issue. The contract specifically stated that no "contract modification, change order or other matter deviating from or constituting an alteration or change of the terms of the contract will be effective or binding upon the Government unless formalized by contractual documents executed by the Contracting officer." In addition, the contract allowed the government to reject floodlight sets that were "not in conformity with contract requirements." Thus, the telephone call from the government required Essex to choose whether to produce floodlight sets that did not conform to the official drawings and that could be rejected by the government on that ground, or to defer further First Article development pending formal ECP approval by the contracting officer. Neither the contract nor our precedents required Essex to proceed at its peril following the government's telephone call.

We do not, however, accept Essex's contention that the government's liability extends to all the delays associated with the approval of the ECPs. Delays caused by

factors outside the government's control relieve the government of liability "irrespective of its faulty specifications." J.D. Hedin, 347 F.2d at 244. Any delay in the ECP approval process attributable to Essex therefore is not chargeable to the government.

Essex caused delay in the approval of the ECPs by failing to follow the applicable standards prescribed by the contract. The statement of work specified that "[i]dentification of incorrect engineering drawings, revisions to existing drawings and development of new . . . drawings shall be made after approval of formal engineering change proposals." Pursuant to the contract's configuration management requirement, Contract Data Requirements List A001 stated that "ECP's shall be submitted for all changes which affect government established baselines. . . . MIL-STD-480B applies. In addition, ECP's shall be submitted at the request of the government." Thus, the contract clearly allowed the government to begin remedying a defective drawing by requesting ECPs submitted in conformance with MIL-STD-480, although the government might remain liable for delays during that process.

Contrary to Essex's assertions, it did not have the option of submitting the short form complying with MIL-STD-481 in lieu of the long form required by MIL-STD-480. The foreword of each standard states that the standards are "approved for use by all Departments and Agencies of the Department of Defense." The MIL-STD-480 foreword further states that "MIL-STD-481 may be invoked" for contracts involving "procurement from a contractor who cannot reasonably be expected to know all of the consequences of an engineering change" and that when "MIL-STD-481 is prescribed, the major portion of the analysis of the impact of an [ECP] on associated items is transferred from the contractor to the procuring activity." The MIL-STD-481 foreword similarly directs that when "complete descriptions of ECPs are required, MIL-STD-480 should be specified in contracts." The clear import of that language is that the government may contractually specify the particular standard to which the ECPs should conform. The government specified MIL-STD-480 in the floodlight contract. In addition, Essex has not cited any language in MIL-STD-480 that reasonably can be interpreted as allowing the contractor to submit the short form intended for MIL-STD-481 in satisfaction of MIL-STD-480. The fact that the government could have chosen to impose MIL-STD-481 for the floodlight contract does not change that conclusion.

Essex never submitted a fully compliant ECP. In addition to requiring on the first page an overall estimate of additional costs under the contract, the form prescribed by MIL-STD-480 requires on page four a disclosure of estimated costs by categories, such as costs for the item itself and for associated engineering work. The form also requires the contractor to disclose the breakdown between nonrecurring and recurring (by unit) costs for each category. Essex finally provided that detail to the government on a facsimile cover sheet that it transmitted on May 5, 1992.

In addition to Essex's failure to provide cost information, both Essex and the government may have delayed the approval of the ECPs in other ways. Every contract, as an aspect of the duty of good faith and fair dealing, imposes an implied obligation "that neither party will do anything that will hinder or delay the other party in performance of the contract." Luria Bros. v. United States, 369 F.2d 701, 708 (Ct. Cl. 1966); see Malone v. United States, 849 F.2d 1441, 1445, modified 857 F.2d 787 (Fed.

Cir. 1988); Restatement (Second) of Contracts § 205 cmt. d (1979). The government requested ECPs for the defective drawings on May 21, 1991, and Essex submitted the ECPs on July 30. As noted earlier, the government's liability for the defective drawings extended past the May 10 telephone call in which it provided additional information; it was liable for whatever period of time Essex reasonably needed to respond to the government's written request for the ECPs, but not for any longer. The Board on remand should therefore determine whether Essex acted reasonably in taking 70 days to submit the original ECPs, and if not, what constituted a reasonable period for preparing the ECPs.

Even though Essex submitted the ECPs on the wrong form and may have taken an unreasonable amount of time to submit the original ECPs, Essex's conduct in turn did not relieve the government of its obligation to proceed reasonably thereafter. The government has an "ever-present obligation to carry out its contractual duties within a reasonable time." J.D. Hedin, 347 F.2d at 253. The government breaches that duty when it delays correcting defective plans. See Luria, 369 F.2d at 708. When the contract does not specify the period in which the government must respond, "the law imposes an obligation to act within a reasonable period of time." Specialty Assembling & Packing Co. v. United States, 355 F.2d 554, 565 (Ct. Cl. 1966). That period is determined by "the reasonable expectations of the parties in the special circumstances in which they contracted." Commerce Int'l Co. v. United States, 338 F.2d 81, 87 (Ct. Cl. 1964). Therefore, the government had a continuing obligation not to delay Essex's performance, even if Essex's ECP submissions did not comply with the requirements of the contract.

The Board did not find that the government acted reasonably in responding to Essex's various ECP-related submissions, and the record certainly does not compel such a conclusion. After Essex's initial ECP submission on July 30, 1991, the government took 48 days to respond simply that Essex had not followed the applicable standard. Within 15 days of the government's response, Essex requested a meeting with government officials concerning the ECPs. Thirty-nine more days elapsed before the government met with Essex on November 8 and stated that the ECPs required cost data. Essex then submitted ECPs with estimates of total costs. The record suggests that the government did not respond again for another 77 days, when it notified Essex that some of the ECPs had been approved, subject to the submission of cost details. On remand, the Board should determine whether the government acted reasonably in the substance and pace of its responses to Essex's various submissions, keeping in mind that the need for the ECPs arose from the government's defective specifications in the first place.

A finding that the government did not act reasonably in responding to Essex's ECP submissions may affect the Board's conclusion that most government-caused delays were concurrent with Essex-caused delays. As this court has stated, a contractor cannot recover "where the delays are 'concurrent or intertwined' and the contractor has not met its burden of separating its delays from those chargeable to the Government." Blinderman Constr. Co. v. United States, 695 F.2d 552, 559 (Fed. Cir. 1982). Nevertheless, if "there is in the proof a clear apportionment of the delay and the

expense attributable to each party," then the government will be liable for its delays. Coath & Goss, Inc. v. United States, 101 Ct. Cl. 702, 714-15 (1944). The sequential nature of Essex's submissions and the government's responses renders each party's delays inherently apportionable, at least in the case of ECP-related delays. A more definite attribution of ECP-related delays may also affect the Board's overall conclusion of concurrency, as we discuss below.

III

The Board decided that both Essex and the government caused delays in the approval of the FAIP. Of the nine grounds on which the government rejected Essex's revised FAIP, the Board found that the government ultimately accepted Essex's position on all but two. One was the government's insistence on the use of the word "shall" instead of "will" to require the rejection of nonconforming items that failed objective tests. On that issue, the Board found that the government's position "did not have a rationale." The other ground was the FAIP's failure to list the equipment that would be required in the testing process. On that issue, the Board rejected Essex's argument that the contract could not incorporate by reference a standard provision that the government had discontinued, and it further determined that the government "could have reasonably construed the requirement for stating the step-by-step method to include a general list of test equipment." The Board held that Essex could not recover for the government's delay concerning the word "shall" because the Board found that that delay was concurrent with Essex's delay in submitting the list of test equipment and with Essex's delay in providing the ECP cost data.

On appeal, Essex renews the argument that it was not required to submit a list of test equipment. According to Essex, the contract explicitly stated that only documents and publications in effect on the date of the solicitation were applicable. Before the contract solicitation, the Department of Defense had canceled DI-T-4901, a standardized provision setting forth the required contents of FAIPs. For that reason, Essex argues, it was not required to comply with the requirements of DI-T-4901. Essex further argues that even if DI-T-4901 was properly incorporated into the contract, a contractor could reasonably interpret it to require only a list of the test equipment to be furnished by the government. According to Essex, the requirement in DI-T-4901 that the FAIP include a step-by-step account of the testing procedure does not explicitly state that all test equipment must be listed, and inferring such a requirement is inconsistent with the explicit requirement in DI-T-4901 to list only "support equipment required from the Government." Finally, Essex notes that the contract provided for only one round of government comment on the FAIP, followed by Essex's submission of one revised FAIP. Essex contends that the government caused delay by requiring further revisions to the FAIP after the one round of comment and response.

In reply, the government points out that the contract expressly incorporated DI-T-4901 and that DI-T-4901 was not listed in the provisions of the contract that limited the documents incorporated by reference to those that were in effect on the date of the solicitation. Moreover, the government argues that the Board correctly construed the provision of DI-T-4901 requiring a step-by-step account of testing procedures to allow the government to request a complete list of test equipment. The government also

agrees with the Board that any government-caused delay in FAIP approval was concurrent with delays in that activity that were caused by Essex. Finally, the government contends that it was entitled to demand performance pursuant to contractual requirements, and thus it could require revisions to the FAIP until it conformed to the requirements of DI-T-4901.

Essex has not cited any authority for the proposition that the government cannot include a canceled standard provision in a contract, nor has Essex explained why the government and a contractor may not agree to be bound by a particular contract provision, even though that provision is no longer in general use. The contract plainly incorporated DI-T-4901 in its requirements, and in the absence of some authority indicating that it was improper to do so, we see no reason that the parties should not be bound by its terms.

Essex argues that DI-T-4901 cannot be construed to require a contractor to submit a list of test equipment other than the equipment to be provided by the government, which is specifically required by section 10(d) of DI-T-4901. As the basis for requiring a list of all test equipment, the government cited section 10(e) of DI-T-4901, which requires that the FAIP include the "[s]tep-by-step method to be followed for satisfying the particular requirements of the . . . contract." We agree with the government's argument that as part of the step-by-step description of the testing methodology, the government may permissibly insist on a listing of all equipment to be used in the testing process. The question in this case is whether, prior to the November 8, 1991, meeting, the government adequately conveyed its insistence on a list of all equipment to be used in the First Article testing process.

Referring to section 10(d) of DI-T-4901 (which applies to "support equipment required from the Government"), the government's May 21, 1991, letter requested, as item 4, a "list of Test Equipment and Government Furnished Equipment/Government Loaned Property." Referring to section 10(e) of DI-T-4901 (which applies to the step-by-step method of testing), the government requested, as item 11, "identification of test equipment to be used (at least name and model number)." Item 11 of the May 21 letter made it clear enough that the government required a listing of all test equipment, not simply the test equipment to be provided by the government. Some possible confusion may have been generated, however, by the government's August 12, 1991, response to Essex's June 24 submission. In the August 12 letter, the government referred to the absence of a list of test equipment under item 4. With respect to item 11, the August 12 letter made no reference to test equipment, but instead referred to an unrelated requirement. In its August 22 response to the government's August 12 letter, Essex noted that it had provided a list of all "support equipment require [sic] from the Government," and added, "We do not understand the Government comment 'not fully incorporated (test equipment list not provided).'" Based on the Board's findings, it appears that the government did not take any steps to resolve the possible ambiguity introduced by the August 12 letter until the November 8 meeting, at which the government made clear that it wanted a list of all the equipment that was to be used in the First Article testing, not simply the equipment to be furnished by the government.

The Board has not expressly addressed the question whether the government's

communications—particularly the May 21 and August 12 letters—failed adequately to apprise Essex of the need to provide a list of all the equipment to be used in the First Article testing. On remand, the Board should make express findings on that issue.

In making its legal arguments concerning the required contents of the FAIP, Essex notes that the Board failed to account for various delays by the government in responding to Essex's submissions. As with the ECP approval process, the FAIP approval process appears susceptible of a "clear apportionment of the delay and the expense attributable to each party." Coath & Goss, 101 Ct. Cl. at 715. First, under the contract's express terms, the government appears to have been about a month late in commenting on Essex's initial FAIP submission. Second, the government took 49 days to respond to Essex's revised FAIP submission. Third, Essex responded on August 22, 1991, to the government's rejection of the revised FAIP, but the government did not meet with Essex to discuss the matter until November 8. Fourth, Essex made another submission to the government on November 22, to which the government did not reply until December 27. The government's delays in its second, third, and fourth responses to Essex may or may not have been unreasonable, a determination the Board should make on remand. In addition, as in the case of the ECP delays, apportioning the FAIP delays may affect the Board's overall conclusion of concurrency, an issue that we address in Part VI below.

IV

The Board found that the government caused delay and disruption by providing defective generating equipment for use in the First Article testing. That government-caused delay occurred between March 6 and April 15, 1992, before Essex secured final approval of the ECPs by submitting the cost details on May 5. Consequently, the Board decided that Essex could recover the costs it incurred by attempting to use the equipment, but that Essex could not recover any costs resulting from the associated delay, which was deemed to be concurrent with Essex-caused delays.

Essex appeals the Board's determination of concurrency on the ground that it started First Article testing on March 5, 1992. Because Essex did not wait for ECP approvals before starting the testing, it argues that the subsequent delay caused by the defective equipment cannot be considered a concurrent delay to the First Article testing and submission of the inspection report. The government's only response is that Essex was not authorized to begin First Article testing before approval of the ECPs and that when it did so Essex was proceeding at its own risk.

As Essex points out, because it began the testing process before the ECPs were formally approved, the delay in the final approval of the ECPs did not delay the start of First Article testing. In light of the government's acceptance of the First Articles as tested, the fact that Essex proceeded with the tests without authorization does not mean that the government could delay those tests without incurring liability. If the government had not provided faulty generating equipment, Essex would have completed the First Article tests earlier than it did.

On the other hand, the government was not obligated to approve the First Article

inspection report unless the First Articles conformed to the specification. Until the government approved the ECPs or effectively waived the requirement for ECPs by deciding to accept nonconforming items, the First Articles would fail the contractually required inspection procedures.

As a result, Essex's failure to provide ECP cost data did not delay the start of First Article testing, but would have delayed its completion had the government not provided faulty generating equipment. The government approved the ECPs on May 5, which was 15 days before Essex submitted the inspection report. Therefore, the defective generating equipment actually delayed testing and report submission by only 15 days. Essex is plainly entitled to compensation for its costs associated with that 15-day delay. On remand, the Board may also find that the government unreasonably delayed ECP approval. If so, that finding would increase the amount of compensable delay for the defective equipment, up to the maximum of 40 days of delay that the Board determined was attributable to the defective equipment without taking into account any concurrent delay chargeable to Essex.

V

The Board decided that the government caused periods of delay in approving the First Article inspection report and in providing manuals to ship with the floodlight sets. Those delays occurred in the summer of 1992 and in April 1993, respectively. Because the Board concluded that Essex's production period was June 1992 through December 1993, it held that those government-caused delays "did not cause the shift in the production period to which appellant has attributed most of its claimed increased costs."

Essex challenges the Board's conclusion that the production period started in June 1992. According to Essex, that finding is arbitrary and capricious because the evidence of record establishes that the government did not authorize production until August 17, 1992, and that Essex did not actually commence production until then. The government responds by suggesting that the Board reached its conclusion based on information in Essex's claim and that substantial evidence thus supports the Board's finding.

Inconsistent findings by the Board undermine its conclusion as to when Essex's production period began. While the Board at one point stated that the production period began in June 1992, it elsewhere found that "the Government's actions on appellant's First Article Inspection Report delayed appellant's production . . . to 17 August 1992," that "the Government authorized appellant to begin production on 17 August 1992," and that "[a]ppellant began production upon receipt of the Government's authorization." On remand, the Board should make a conclusive finding on that issue.

VI

The final question in this case is how the overall delay in contract performance should be apportioned. A contractor seeking to prove the government's liability for a delay must establish the extent of the delay, the contractor's harm resulting from the delay, and the causal link between the government's wrongful acts and the delay. See

T. Brown Constructors, Inc. v. Peña, 132 F.3d 724, 734 (Fed. Cir. 1997). The contractor generally cannot recover for concurrent delays for the simple reason that no causal link can be shown: A government act that delays part of the contract performance does not delay "the general progress of the work" when the "prosecution of the work as a whole" would have been delayed regardless of the government's act. Coath & Goss, 101 Ct. Cl. at 714-15; see Tuller Constr. Co. v. United States, 118 Ct. Cl. 509, 525 (1951) (contractor could not recover for government tardiness in providing drawings because "the evidence shows that there would have been substantially the same delay in the completion of the job, if the Government had been prompt"); see also Paul Hardeman, Inc. v. United States, 406 F.2d 1357, 1361 (Ct. Cl. 1969) (contractor does not incur expenses associated with delayed performance "unless there is a prolongation of performance beyond the anticipated date of completion"). In recent cases, that principle has been characterized as requiring the government's act to "have affected activities on the critical path." Mega Constr. Co. v. United States, 29 Fed. Cl. 396, 424 (1993); see Wilner v. United States, 24 F.3d 1397, 1399 n.5, 1400-01 (Fed. Cir. 1994) (explaining critical path management and rejecting testimony that failed to establish that the government's acts "fell on the critical path of the project so that they delayed the overall completion of the project").

If the Board on remand finds that the government acted unreasonably in responding to Essex's ECP and FAIP submissions, the Board should then determine whether, as a result, Essex incurred delay to its overall contract performance. If, but for government-caused delay, the ECP and FAIP submissions would both have been approved prior to the date Essex actually began First Article testing, the Board should find the delay in the First Article testing to be attributable to the government. The amount of any such overall delay chargeable to the government should be equal to the period between the time both the ECP and FAIP submissions would have been approved absent culpable delay by the government and the time Essex actually began First Article testing.

This inquiry requires the Board to focus on the overall effect that government-caused delay had on the beginning of First Article testing, and not to focus on each discrete period of delay and then automatically treat as concurrent delay any period of government-caused delay during which Essex was causing unrelated delay. That type of instance-by-instance analysis of the delays could result in distortion of the proper measure of overall delay. The reason is that, in the absence of any government-caused delay, Essex's unrelated delays might have been concurrent with each other (rather than concurrent with government-caused delays), so that the overall delay in contract completion would not have been as great.

AFFIRMED IN PART, VACATED IN PART, and REMANDED.