

ARMED SERVICES BOARD OF CONTRACT APPEALS

Appeal of --)
)
Woerner Engineering, Inc.) ASBCA No. 52248
)
Under Contract No. DAAA09-96-C-0009)

APPEARANCE FOR THE APPELLANT: Kevin M. Cox, Esq.
Law Firm of Joseph A. Camardo, Jr.
Auburn, NY

APPEARANCES FOR THE GOVERNMENT: COL Michael R. Neds, JA
Chief Trial Attorney
CPT Timothy J. Ryan, JA
Trial Attorney

OPINION BY ADMINISTRATIVE JUDGE TODD

This appeal involves a claim for additional costs incurred in the performance of a contract for the production of demolition devices. Appellant maintains that the specifications were defective and that the Government issued directives that constitute compensable constructive changes. Appellant has alleged that it is entitled to recovery on the theories of implied warranty of specifications, Government withholding of superior knowledge, duty to cooperate with contractor and not impede performance, and Government-caused delay. Only entitlement is before us for decision.

FINDINGS OF FACT

1. On 12 December 1995, the U.S. Army Industrial Operations Command, Rock Island, Illinois awarded Contract No. DAAA09-96-C-0009 as a small business set-aside to appellant Woerner Engineering, Inc. (WEI), a company located in Elbert, Colorado, in the amount of \$1,846,399 for 635,100 M60 igniters at a unit price of \$2.49 each with a 100% option available, and for 100,000 M81 igniters at a unit price of \$2.65 each with a 300% option available. The contract stated that production deliveries were to begin on 15 August 1996, with a final delivery to occur on 15 August 1997. The igniters were to be produced in accordance with drawings and specifications in Technical Data Package (TDP) Listing TDPL 8822497. (R4, tab 9 at 23, tab 11 at 4, 10)

2. M60 and M81 igniters are used to initiate the firing train for demolition items, *i.e.*, M700 fuses or shock tube fuses. The items are cylindrical, about one-half inch in diameter and four inches long, and weigh a few ounces. They are olive green and have a pull loop at one end. The M60 and M81 are very similar in that they have a common manufacturing process, except for the primer bases which are different sizes to house

different primers. They share common plastic parts and metal parts. The plastic parts include the housing, top cap, end cap, collets, washers, and primer base. The metal parts include the pull rod, pull ring, and firing pin. There is a cord attached to the pull ring. The main difference between the M60 and the M81 is that the M60 houses an M39 primer and ignites an M700 fuse, and the M81 houses an M42 primer and can ignite both the M700 and shock tube fuses. (R4, tab 214; tr. 36-40)

3. The difference between the M39 and M42 primers is that the M39 is a potassium chlorate based primer, and the M42 is a lead stick based primer. The M39 primer has a tougher and thicker alloy in the cup, as well as a higher zinc content which requires a harder hit to ignite. The M42 primer has a thinner cup made of a softer alloy and a hotter mix of primer which makes it more forgiving of a lighter hit. The M42 primer would be more likely to fire as a result of an off-center hit from a firing pin than the M39 primer. (Tr. 36, 40, 78)

4. Appellant planned in bidding to obtain the component parts of the igniters from subcontractors and do only the assembly part of the manufacturing process in house. Appellant contracted with Caroba Plastics, Inc. (Caroba), located in Englewood, Colorado, for the plastic parts. At the time of bidding, appellant intended to have Caroba make new molds to produce these parts. Appellant had also received an offer for it to purchase used manufacturing equipment and plastic molds from Granite State Manufacturing, an Allard Industries (Allard) company in Manchester, New Hampshire, that was the current supplier of igniters under a contract with the Government.¹ After award, appellant saw the molds and considered that the purchase would save lead time over designing and building new tooling, even if some of the equipment needed rework or repair. (R4, tabs 5, 16; tr. 41-44, 171-75, 202-03) Appellant planned to obtain some of the components, namely the pull rods and striker assemblies, from Jewell Electrical Instruments (Jewell), a subsidiary of Allard (R4, tabs 18, 119).

5. The Government conducted a pre-award survey of appellant's capability to perform the subject contract and knew of the possibility that appellant would obtain used molds from Allard for the plastic parts. The Government considered appellant's preparation for producing the plastic parts inadequate because appellant did not know the condition of the molds or what "the quality history is for these parts" with the current supplier (R4, tab 1 at 6). The Government referred to "inherent manufacturing problems" in its pre-award survey, but there is no suggestion as to whether these problems were unusual (*id.* at 3). The Government did not discuss with appellant any difficulties previous contractors had. The Government had a concern that a contractor unfamiliar with the process would not meet production schedules. By letter dated 30 October 1995, appellant responded to the preaward survey report it had received that it had thoroughly analyzed the TDP and did not foresee any technical problems of consequence. Appellant stated that it had discussed manufacturing problems with the current supplier and learned that all had been corrected. On 1 November 1995, the Government made a determination of nonresponsibility. Appellant received the award after the contracting officer's action was

referred to the Small Business Administration (SBA). SBA determined that appellant had the capability to perform the contract. (R4, tabs 1, 5, 6; AR4, tab 307; tr. 48-50, 507-10)

6. The M60 igniters were previously produced and available to the Government in its inventory. Mr. Ronald Jones, appellant's former president, who testified on behalf of the Government, talked to two previous manufacturers who told him they did not have a problem with the M39 primer in the M60 igniter. Ms. Judith Belfer, the contracting officer, had "previous knowledge" of successful production by other manufacturers and was able to recall that Lance Ordnance used the M39 primer in production of M60s (tr. 414). There is no probative documentary evidence in the record, however, concerning the contents or performance of any prior contract. In particular, there is no proof of the terms of the TDP governing any previous manufacture. No evidence of the acceptance testing failure rates or deviations and waivers on prior contracts was offered. (Tr. 303-04, 410-11, 427-28)

7. The contract required appellant to use the M39 primer (or another primer identified as the M209 primer not in issue here) in the manufacture of the M60 igniters (compl., ans. ¶ 6).

8. The contract contained a first article testing requirement. The contractor was required to deliver the first article test report by 14 June 1996. The contract specified that the first article consisted of 100 igniters fully assembled and a number of components. Additional first article testing could be ordered by the contracting officer whenever a change occurred in the place of performance, manufacturing process, material used, drawing, specification, or source of supply. (R4, tab 9, AMD. No. 0001 at 21-22, tab 11) Following first article approval, the contract provided for the delivery of 57,000 M60s per month (compl., ans. ¶ 105).

9. The contract provided procedures for processing of Engineering Change Proposals (ECP), Value Engineering Change Proposals (VECP), Requests for Deviation (RFD), Requests for Waiver (RFW), Notices of Revisions (NOR), and Specification Change Notices (SCN) relative to the TDP (R4, tab 9 at 25). The contractor was required to support an RFD with test data and analysis, where appropriate to support the decision regarding acceptance of the nonconformance. The contractor classified the defect on the applicable forms for the purpose of requesting processing time by the Government. The contract provided that the Government should approve or disapprove proposed changes within 30, 60, or 90 days depending on how critical or urgent the contractor specified that the request was. (R4, tab 9 at 84-85; ex. G-3; tr. 251-52, 473-74)

10. Several provisions in the contract specifications are pertinent to this appeal. The contract required appellant to manufacture the pull ring using grade 1015 or 1020 steel carbon wire. The contractor was required to use a mildew resistant treatment on the string on the pull rings of the igniters. A square knot was required on the string on the pull ring. (R4, tab 13; compl., ans. ¶¶ 28, 33, 63)

11. The contract contained standard contract clauses, including the clauses at FAR 52.233-1 DISPUTES (MAR 1994), FAR 52.243-1 CHANGES - FIXED PRICE (AUG 1987), FAR 52.248-1 VALUE ENGINEERING (MAR 1989), FAR 52.249-8 DEFAULT (FIXED-PRICE SUPPLY AND SERVICE) (APR 1984), and FAR 52.209-3 FIRST ARTICLE APPROVAL (CONTRACTOR TESTING) - ALTERNATE I (SEP 1989) (R4, tab 9 at 51, 57-58).

12. The Government's approach to requests for deviations and waivers received from appellant was to evaluate how they would affect reliability and the form, fit, and function of the affected part. If there were no adverse effects, the requests were usually granted with a price reduction obtained from the contractor to the extent of its savings. (Tr. 69-79, 474)

13. Shortly after contract award, on 18 December 1995, appellant submitted two RFDs to request use of the M42 primer in the M60 igniter based on a projection of less difficulty if the same primer and primer base were used in both the M60 and M81. Since the M42 was approved for use in the M81, appellant considered it reasonable to use it on the M60 also. The substitution would streamline appellant's manufacturing operations and provide considerable cost savings for appellant. The M42 primer costs approximately one-sixth that of the M39, or roughly three cents versus twenty cents, apiece. Appellant did not submit test or other supporting data to substantiate the technical feasibility of the substitution. (R4, tab 13; tr. 53)

14. Appellant did not know at the time of its request to substitute the M42 primer in the M60 about a memorandum, dated 19 May 1994, from Mr. Jeffrey Schneider, a Government project officer at Picatinny Arsenal, to the procurement office at Rock Island concerning modification of the standard M60 igniter to the M81 igniter in preparation for new munition items using shock tube technology. The memorandum contains the sentence, "[T]he M39 Primer will be replaced by the M42C1, which is already an allowable alternate in the M60 TDP."² (AR4, tab 303 at 1) Mr. Schneider testified that he was then under the impression that the M42 primer was an alternate, but learned later that it was not. He did not advise the procurement office of his mistake. (Tr. 325, 328-29)

15. On 18 December 1995, appellant submitted a third RFD to request a change from the contractually required square knot which it needed to tie by hand, to a knot that could be tied with a machine (R4, tab 13).

16. On 23 January 1996, appellant submitted a cost proposal to expedite deliveries of the M60 igniters in response to a potential Government need to accelerate the delivery schedule that was discussed in a telephone conversation. Appellant included a material and labor breakdown of proposed costs which would have increased the unit price of the M60 igniter from \$2.49 to \$3.256. Appellant anticipated earlier deliveries if it purchased the firing pin, pull rod, and all plastic parts from the Army's current suppliers and did not have a

learning period with new vendors. Appellant planned to have Allard produce the plastic parts with the molds it had been using. (R4, tabs 16, 20; tr. 205-06)

17. On 13 February 1996, the Government denied appellant's RFDs to substitute the M42 primer for lack of supporting data. Since the M42 igniter is more powerful, venting of additional gases carried a risk of the M60 breaking apart. The engineering command that reviewed appellant's RFDs, however, considered the venting sufficient with a modified primer base and had recommended approval. Appellant was notified of the disapproval on 20 February 1996. (R4, tabs 23, 24, 27; tr. 56-58, 155-56, 326-27, 330-32, 480, 505)

18. On 20 February 1996, the Government responded that the request regarding the square knot was not appropriate as a deviation and was unsupported by test data. The Government recommended that appellant submit an ECP with alternate cord fastening methods, test data, and samples of fastened cord. (R4, tabs 27, 197, vol. II, tab 47 at 4; tr. 491) There is no evidence of the date of the Government's receipt of the RFD, and we find the Government's response within 64 days of submission was timely.

19. On 20 February 1996, the contracting officer notified appellant that after review of the cost-benefits the determination had been made that it was not in the best interests of the Government to pursue acceleration of deliveries. Appellant could then have obtained new molds for the plastic parts from Caroba, as it originally intended, but there would have been more time and cost involved with manufacturing new molds. Appellant understood that the used molds, which cost less, although granted some deviations were producing acceptable parts for the Government. Appellant decided to proceed with the purchase of the used molds from Allard for transfer to Caroba, its subcontractor in Denver, to use in manufacturing the plastic parts. The molds were not received immediately because Allard had undertaken a contract obligation to deliver M60s to the Government. (R4, tabs 27, 30; tr. 175, 206-07, 274, 293-99)

20. On 27 March 1996, the Government received an RFW and an ECP that appellant submitted to request approval to substitute grades 1008 through 1015 steel carbon wire on the pull ring due to appellant's having found that the specified material was not always readily available. The RFW stated that the effect on the delivery schedule would be day by day delay until approval and there were no cost savings to appellant. The ECP was classified with a routine priority. (R4, tabs 38; tr. 281-82, 491-93)

21. Bilateral Modification No. P00001, dated 2 April 1996, made certain technical changes to specifications in the TDP, one of which added a waterproof requirement for the M700 safety fuse. The modification increased the contract price by \$30,495.74. (R4, tab 31) The modification specifically provided, "NO OTHER COSTS FOR EITHER PARTY ARE INCURRED DUE TO THE ABOVE CHANGES." (*id.* at 3) Appellant discovered it could not use fuses it had purchased. The record does not show the cost of the original fuses or how appellant disposed of the fuses it could not use. Appellant had not requested

that the cost of those fuses be compensated by the modification or reserved a right to submit a later claim. (R4, tab 197, vol. II, tabs 69-71; tr. 60, 280-81)

22. On 25 April 1996, the Government received appellant's ECP for approval of alternate fastening (in lieu of the square knot on the pull ring string) that would allow use of machinery with the capabilities of maintaining loop integrity while withstanding 35 pounds pull force. Appellant submitted the test results with the ECP. The ECP was not classified urgent. (R4, tab 33; tr. 58-59, 491)

23. On 10 May 1996, the Government received appellant's RFD and ECP requesting approval to use polyester cord on the pull rings that would be inherently fungi resistant. Appellant had not found a supplier of the specified cotton string because of environmental restrictions for disposal of the chemicals that were specified for treatment of the string. The ECP was classified with a routine priority. (R4, tabs 37, 41, 45; tr. 59, 64)

24. On 20 May 1996, appellant notified the Government it would not be able to meet the schedule for first article testing and requested an eight-week extension of time after approval of the request for substitution of the cotton cord required by the TDP (R4, tab 37).

25. On 28 May 1996, the Government approved the ECP regarding the grade of steel for the wire on the pull ring with modification (R4, tabs 38, 45; tr. 282).

26. On 18 June 1996, the Government approved the ECPs regarding the square knot and the polyester cord (R4, tabs 41, 45; tr. 59, 64-65, 491).

27. On 20 June 1996, appellant requested a further extension of time for first article testing because of additional time needed for supply of the polyester cord and due to a plant shutdown scheduled for the first two weeks of July (R4, tab 42).

28. Bilateral Modification No. P00002, dated 26 July 1996, memorialized technical changes by incorporating notices of revision "AT NO ADDITIONAL COST TO EITHER PARTY IN ACCORDANCE WITH PRIOR AGREEMENTS." (R4, tab 45 at 2) The changes included the Government's approval of appellant's requested alternates to the requirements for a square knot, wire on the pull ring, and cord on the pull ring. The modification also revised the delivery schedule. The modification also stated, "THERE ARE NO ADDITIONAL COSTS TO EITHER PARTY RESULTING FROM THE ABOVE CHANGES." (*Id.*) Appellant did not reserve a claim for delay or other impact resulting from the changes (*id.*).

29. On 30 July 1996, the Government notified appellant of a dimensional error on the drawing that provided the specifications for the shipping boxes. The M81s were larger than the M60s and did not fit into the shipping boxes in the same manner as the M60s. The Government recommended that a one inch high wood strip of the same thickness as the box

be added to the tops of the boxes to accommodate the M81s. Appellant purchased additional material and reworked the boxes accordingly. (Compl., answ. ¶ 52; R4, tab 47; tr. 63)

30. Appellant found dimensional errors in the plastic parts produced by Caroba with the Allard molds and asked Allard representatives if they had had the same problems with their use of the molds. Appellant learned that Allard had had similar problems, and appellant obtained copies of waivers and deviations that the Government had approved for Allard. In September 1996, before first article testing, appellant submitted several RFDs regarding variances between molded plastic parts and drawing tolerances on the M60 to the Government. The requests involved small variations that did not affect form, fit, or function of the igniters. The parts affected were unrelated to ignition. Appellant expected approval because Allard had submitted the same requests. (R4, tabs 40, 52; tr. 50, 65-72, 112-13, 175-76, 517)

31. Caroba did not like the way the parts came out of the used molds: some blocked or damaged cavities made the production cycle less efficient. Appellant decided to purchase new molds from Caroba to get better parts and more efficient production. Appellant incurred increased costs for plastic parts made from the new molds because the subcontract price was raised over that quoted at the time of bidding. (Tr. 116-17, 295-99)

32. On 9 October 1996, appellant conducted the first article test on the M60 and M81 igniters at its facility. Appellant failed the first article test because several of the M60s failed to function.³ The failure had an immediate impact on appellant's ability to meet the contract delivery schedule. (R4, tab 54; tr. 74-75, 82, 178, 260-61)

33. Appellant conducted a failure analysis that involved consideration of all the possibilities for the failures, including the primer which was sent back to the manufacturer for recertification. Appellant determined that the failure was due to the firing pin striking too far off-center to provide sufficient force to ignite the primer. In a letter dated 14 October 1996, appellant reported its analysis and recommended corrective action to the Government. Appellant recommended that the M42 primer be substituted for the M39 primer in the M60 igniter to improve the ability of the M60 igniter to meet the acceptance criteria of the contract. Appellant submitted first article test reports and photographs to support its detailed analysis of the failures. Appellant was using the M42 primer in the M81 igniter, and the M81 was performing more reliably. Appellant also noted that common use of the M42 primer would immediately guarantee equal reliability of operation and prevent further delay of the contract. Appellant projected that most of the cost impact would be limited to a second first article test if it were required. Appellant also recommended a design change to use a striker assembly guide to align the striker with the center of the primer. Appellant did not submit an ECP to request approval to use the M42 primer at this time. (R4, tab 58 at 4; tr. 74-75, 81)

34. Appellant provided further information in support of its failure analysis in a letter dated 16 October 1996, to the Government that suggested that the units could not repeatedly pass lot acceptance testing without improving the center impact to the primers. Appellant stated in the letter:

First Article failure is not the result of anything WEI caused by assembly method, defective components, quality or mistaken test procedure.

....

WEI has conducted an extensive investigation of the conditions surrounding the failures during FAT [first article testing]. There is just no way our assembly methods or components can be producing the failures. All have been verified as being within the specification requirements.

(R4, tab 56 at 3-4) Appellant discussed its recommended striker assembly guide on the M60 igniters to lessen the chance of a misfire. The guide would orient the firing pin so that it could not move into the gas vent grooves in the housing and would be more centered to give a stronger impact to the primer. The M42 primer was easier to initiate, and off center hits in the M81 igniters were thus less likely to be significant for functioning of those units. (R4, tab 56; tr. 78-79, 83-85, 303, 356, 443, 495)

35. In its further investigation appellant found that a stronger spring would overcome the light hits of the firing pin. The stronger spring caused the firing pin to impact the primer at a greater velocity than the existing spring, thereby indenting the primer cup deeper and improving the reliability of ignition. (Tr. 75, 79-80)

36. On 3 and 4 December 1996, the Government evaluated the cause of the first article failures with additional testing conducted at appellant's facility. Mr. Peter Lee, a Government project engineer at Picatinny Arsenal, planned the "Design of Experiments" (DOE) test that would mix and match parts of appellant's units with existing units in Government inventory to determine which component was the cause of the failure. Mr. Lee intended to assemble all the units so there would be no variable in the assembly methods used by different persons. Appellant assembled a few units before the Government arrived for the testing to expedite the testing. There was no significant commingling that could have compromised the integrity of the test because the total number of igniters tested was relatively very large. Appellant's units tested with the same failure rate that had occurred in the first article test. Mr. Lee's trip report stated that the "[f]ailures were encountered in several groups and did not reveal which components were cause of major FAT failure." (AR4, tab 316 at 1) The test data was "inconclusive." (Tr. 450) During the DOE test appellant informed Mr. Lee of the testing it had done of some M60s that it had assembled with a stronger firing spring, and offered to demonstrate the firing of these units. All of the

50 M60s tested with a stronger spring fired successfully. The Government witnessed this informal test and recognized that the stronger spring would improve reliability. The Government recommended that appellant submit an ECP to use a stronger spring. The DOE test results do not attribute the first article failures to any alleged failure of the appellant to adhere to the TDP. (AR4, tab 316; tr. 82, 91-94, 96-97, 445, 450-52, 454-57, 496-500, 522-24)

37. During the DOE test, Mr. Lee learned that appellant had ordered new molds for manufacture of the plastic parts that would be received in late March 1997. Mr. Lee observed that appellant's parts were "rough" compared with the Government inventory parts which he described as "very smooth." (Tr. 456) He made no reference to the conformance of appellant's parts in his trip report (AR4, tab 316).

38. On 9 December 1996, the Government responded to appellant's failure analysis and recommended changes. The Government required appellant to conduct further analysis because it did not believe that a design change was necessary. Appellant had discussed its consideration of primer quality as the cause of the failure in its failure analysis (finding 33, *supra*), but the Government was apparently skeptical that there were no quality problems with the M39 primers supplied by appellant's vendor. The Government directed appellant to analyze the sensitivity data on the M39 primer to insure that the appellant's specific primers were within the criteria specified in the TDP. (R4, tab 65; tr. 359)

39. On 10 December 1996, appellant requested that its vendor Acme-Monaco Corporation continue to delay shipping the balance of its purchase order for the pull rings because it only wanted a quantity for production of the M81 units before it received the Government's final approval on the M60 units (R4, tab 197, vol. II, tab 45). On the same date, appellant sent a similar letter to Industrial Gasket, Inc. requesting that it delay shipping parts (*id.*, tab 46).

40. By letter dated 13 December 1996, appellant submitted two RFDs requesting approval to use the stronger spring based on its failure analysis and the recent testing. The RFDs were not supported by test or other data. The letter also responded that the sensitivity of the primer appellant used exceeded specifications. Appellant again pointed out that its plastic components were within drawing tolerances on all internal dimensions that affected the spring and the primer. Appellant did not want the Government to delay its decision concerning the stronger spring until fabrication of new molds for the plastic parts. Appellant was concerned about delay because on 7 November 1996, the Government had disapproved an ECP for dimension changes on the fuse holder cap for this reason. Appellant did not believe the molds had any relationship to the spring or the primer. (R4, tabs 63, 66; tr. 81, 134-36, 308-09) The letter stated:

[T]he failure analysis . . . presents decisive evidence the M39 Primer fails to initiate because of an inadequate spring, or primer impact too far off center, or both. Past acceptance of

the need for two or three impacts is evidence the spring rate was marginal. WEI components meet drawing tolerances. First article failures are then beyond this contractor's control.

(R4, tab 66 at 2)

41. On or about 18 December 1996, appellant submitted several RFDs for dimensions that were out of tolerance. The requests applied to the M81 igniters which were manufactured using the original M60 molds from Allard. The RFDs noted as corrective action that appellant had ordered new molds. By letter dated 7 January 1997, the Government approved the requests. The Government did not object to use of the Allard molds, but allowed them to be used to produce the first quantity of 100,000 M81s. The Government's letter contained the following statement:

An authorized representative of your firm is required to sign a copy of this letter and return it to the undersigned as acknowledgment and acceptance of the changes described above. This signature waives any and all rights and circumstances giving rise to and resulting from the changes.

(R4, tab 72 at 1) The Government provided that the changes would be effective with appellant's signature on the waiver, and a contract modification would then be issued. Mr. Jones signed the letter in his capacity as president. (R4, tabs 68, 72; tr. 51, 87, 138-39, 363-64)

42. On 13 January 1997, appellant submitted an ECP to increase the firing spring rate for the M60 (R4, tab 77). On 27 January 1997, appellant submitted a revised RFD D010-R1 that changed the requested function pull force for the stronger spring deviation for the M60 (R4, tab 92). On 29 January 1997, the Government disapproved appellant's two requests regarding the stronger spring and increased pull force for lack of supporting data on the number of pulls required and the pull force required. Since the stronger spring required extra pull force to fire the unit, the Government questioned whether an increase in pull force was acceptable. (R4, tabs 79, 80; tr. 97)

43. On 7 February 1997, appellant requested reconsideration of the RFD and submitted further support explaining why the firing pin was not providing sufficient energy to initiate the M39 primer. (R4, tabs 83, 92). Appellant's letter offered the following analysis of its first article failures:

There is no doubt the current firing spring is inadequate to function reliably. While we cannot account for previous acceptability of the M60 Igniter, it has clearly been marginally functional within the performance specification. There is unquestionably a performance problem under our contract and

WEI has provided competent engineering analysis of the cause.

...

... Where the GFM and WEI built M60 Igniters both are creating primer indents of only 0.009 to 0.015 inch depths, a guaranteed failure mode exists. That has been documented by manufacturer and user alike. While the product specification allows the M60 and M81 to be recocked and fired a second or third time, percussion primers are not designed for more than one impact. That alone suggests past design deficiencies were incorrectly identified and remedied.

(R4, tab 83 at 2)

44. By letter dated 19 February 1997, the Government provided test requirements for increasing the firing spring rate on the M60 igniters (R4, tab 87; tr. 366).

45. By letter dated 8 April 1997, the Government notified appellant of several approvals (R4, tab 105). The first article test report for the M60 was approved. The Government approved the stronger spring and increased pull force requests with a modification of the maximum pull force. The Government approved the earlier RFDs for dimensions that were out of tolerance for plastic parts (finding 30, *supra*) for 150,000 M60s. The letter stated that the RFDs were incorporated into the contract at no cost to either party. The same deviations were previously granted for out of tolerance dimensions for M81 igniters (finding 41, *supra*). The letter required the remaining contract requirements to be produced using the new molds. (R4, tabs 92, 94, 95, 96, 97, 98, 101; tr. 225, 370-71) The letter contained the statements of appellant's waiver and Government explanation that were in the Government's letter, dated 7 January 1997 (finding 41, *supra*; R4, tab 105).

46. Ms. Judith D. Woerner signed the letter in her capacity as vice-president. Appellant's counsel by letter, dated 14 April 1997, returned the Government's 8 April 1997 letter signed, but notified the Government that appellant did not intend to waive its rights to an equitable adjustment and objected to information received by telephone that "the release language was mandatory." (R4, tab 108; tr. 371) The Government advised appellant that the RFDs would not be approved, the option would not be exercised, and the contract possibly would be terminated for default if appellant failed to agree to the waiver of rights in the signed letter (AR4, tab 326).

47. Bilateral Modification No. P00003, dated 16 April 1997, exercised the option, revised the delivery schedule, and incorporated the approved RFDs identified in the 8 April 1997 letter (R4, tab 110; tr. 372-73). The modification specifically provided that the revision to the delivery schedule was "accomplished at no cost to the government." (*Id.* at 3) The modification also specifically provided that it incorporated the RFDs "at no cost to

the Government and no impact on delivery schedules.” (*Id.*) The RFDs incorporated into the modification concerned both the M60 and the M81 (tr. 404, 430-31).

48. On 7 May 1997, appellant delivered the first quantity of 100,000 M81s to the Government. These units were manufactured with the original used molds from Allard that were suitable for both M81 and M60 parts. The parts conformed to the TDP and approved waivers and deviations. There is no evidence that the quality of the parts used for the M81 production exceeded the quality used in later M60 production. There were an insignificant number of ignition failures in the acceptance testing. All the lots were satisfactory and were accepted by the Government. These were the only production units manufactured with the used molds. (R4, tabs 68, 72; tr. 88, 137-39, 149, 225, 239, 513-14)

49. By letter dated 14 May 1997, appellant advised the Government of the Jewell vendor delay in delivering striker assemblies and pull rods for its June 1997 deliveries of M60s (R4, tab 115; tr. 375). Jewell was unable to make the deliveries because it overestimated its production capability and had undertaken a contract obligation to deliver M60s to the Government. Appellant complained about the “lack of support” from the vendor stating that it wanted “immediate cooperation” or it would remove its equipment and purchase the vendor’s inventory (R4, tab 115). Appellant did not attribute the cause of delay to the Government, but agreed to take the necessary action to correct the situation. As a result, appellant decided to purchase Jewell’s inventory of incomplete machined parts and use its equipment to begin manufacture of the parts in house. By letter dated 21 May 1997, appellant requested required limited first article testing to obtain approval of this new manufacturing process. By letter dated 17 June 1997, the Government informed appellant that it had approved its request. (R4, tabs 119, 121, 123, 127; tr. 376-78)

50. Appellant had continuing problems with ignition of the M60s even when the stronger spring was used. In June 1997, appellant failed the first three lot acceptance tests of 5,100 M60 igniters because they failed the waterproof test. Appellant determined that the cause of the failure was the M39 primer being used because all units had been manufactured and assembled strictly in accordance with the TDP. When the units were submerged per the specification, the fuse did not initiate and upon investigation, appellant found evidence of moisture in the ignition cavity. Appellant expected that the more forceful M42 primer would overcome this condition and ensure reliability of the M60 functioning. (R4, tab 130; tr. 100-01, 181, 238, 452-53)

51. On 3 July 1997, appellant submitted an ECP to request approval to use the M42 primer instead of the M39 primer in the M60 igniters. As stated in the ECP, the M42 primer ignites with more energy and heat than the M39 primer and is more effective in igniting the fuse. Appellant now considered the insufficient force of the primer as the cause of the M60 failures. Appellant expected that the change in primer would improve performance and reliability of the M60 igniters. Appellant submitted test data on M81 igniters which showed only one failure in testing three lots of 75. (R4, tab 131)

52. On 15 July 1997, the Government issued appellant a show cause notice for failure to make deliveries under the contract. Appellant had not made any deliveries of the 100,000 M60s that were required by 30 June 1997 under the revised delivery schedule in Modification No. P00003. (R4, tabs 110, 128; tr. 380) By letter dated 28 July 1997, appellant replied with a discussion of the causes of its delays and proposed revisions to the delivery schedule. Appellant had subcontractor problems, including vendor delays and equipment that required major maintenance and rebuilding, that delayed its deliveries to the Government. Appellant proposed a delivery schedule that showed it could increase monthly deliveries to 100,000 units in November 1997, and to 150,000 units in January 1998, with completion of deliveries by June 1998. Appellant stated that problems before submission of the first article were attributable to the Government's defective TDP. After first article approval appellant contacted its vendors and learned that Jewell would be unable to make deliveries. Appellant had production problems due to the condition of the used molds and equipment appellant purchased from Jewell. There were other problems with appellant's housings vendor. Appellant also referred to the M60 failures of the waterproof test in initial lot acceptance testing. Appellant requested approval of its request to waive the failures and its ECP to change the primer on the M60, which were pending. Appellant stated:

WEI has taken full responsibility for all delays and problems that have been created by their vendors and . . . has taken extraordinary and costly steps to put this contract back on track.

(R4, tab 130 at 5; tr. 219-24, 380-81, 405-06)

53. On 19 August 1997, the contracting officer responded to appellant's reply to the show cause letter. The Government did not believe that the TDP was defective, was continuing its evaluation of appellant's ECP, and reestablished the delivery schedule for September and October 1997, as proposed in appellant's 28 July 1997 letter. The letter stated, "Acceleration is encouraged." (R4, tab 133) Ms. Belfer encouraged acceleration because there was a need for the items. The letter further noted that at least limited first article tests would be required for any parts manufactured on new or modified equipment or any parts obtained from new vendors. (*Id.*; tr. 382)

54. On 21 August 1997, the Government responded to appellant's request to change the primer with a test plan to demonstrate that the use of the M42 primer with the M60 shipping plug would not degrade performance of the M60 igniter, even when the igniter was subjected to water immersion conditions. Appellant conducted the special testing on 28 August 1997. Mr. Lee witnessed the tests and concluded that the performance of the M42 primer was "much better" than the M39 primer (R4, tab 140). He recommended approval of the ECP so that the M42 primer could be used as an alternate in the M60 igniter. (R4, tab 135; tr. 101-02, 383)

55. On 11 September 1997, the Government issued NOR R7B3012 adding the M42 primer as an alternate. According to Ms. Belfer, the purpose of allowing appellant to use the M42 primer was to help it produce a functioning item that met the Government's requirements. The contracting officer did not consider that prior failures were attributable to nonconforming parts. The deviations granted for out-of-tolerance dimensions corrected nonconformities, but did not affect the reliability of the ignition of the M60s. (R4, tab 145; tr. 429, 431-32)

56. Mr. George Sudol, who was a lead engineer at Picatinny Arsenal, testified that he concluded that nonconforming parts were the cause of appellant's M60 first article test failure. The DOE test (finding 36, *supra*) "indicated" this conclusion to him (tr. 522). According to Mr. Sudol, more than one component manufactured from the molds used for the plastic parts caused the failures, but his conclusion is not supported by the underlying test on which it is based. He was not actively involved in the design or observation of the conduct of the DOE test. He recalled that the Government deliberately ran off center hits on a sample of M60s and did not find an increase in ignition failures. (Tr. 458, 501, 522-24) Mr. Sudol's conclusion appears to have been reached after the parties' dispute arose since the Government never informed appellant during contract performance that nonconforming parts were considered to be the cause of the failure, but only contended generally that the TDP was not defective (R4, tab 133; tr. 261, 410, 496).

57. We find that the most probable cause of appellant's first article test failure on the M60, when considered with reference to all other possible causes, was the Government's defective specification of a test requirement for ignition that could not be met reliably with the M39 primer (R4, tabs 56, 58, 66, 72, 130, 131, 133, 140; AR4, tab 316; tr. 69, 75, 78, 88, 103, 261, 410, 414, 431-32, 450, 455-56, 458, 496, 501, 517, 522-24). We further find that the change to the M42 primer effectively and permanently solved appellant's problems with unreliable and inconsistent ignition (tr. 182).

58. By letter dated 28 August 1997, Mr. Robert Rapant, Business Development Manager for Accurate Energetic Systems, LLC, notified the Government that it had recently acquired WEI. The acquisition was not an asset sale, but a stock acquisition without a change of name or the necessity of novation of current contracts. Ms. Woerner became contract administrator. (R4, tab 138; tr. 145-46, 383-84)

59. On 15 September 1997, the Government enclosed the NOR in a letter to appellant that stated that the ECP for the M42 primer in the M60 was approved and the RFD for the stronger spring, which had been approved earlier, was void. The letter included the statements of appellant's waiver and Government explanation that were in the Government's letter, dated 7 January 1997 (finding 41, *supra*). Ms. Woerner signed the letter after lining through the waiver sentence. On 19 September 1997, she forwarded it to the Government with a transmittal letter confirming appellant's intent to submit a request for an equitable adjustment for added work, delays and disruptions. The transmittal letter specifically mentioned the cost of rework of the approximate 75,000 M60s which had been

manufactured with the stronger spring. The letter further stated that appellant would not proceed with incorporation of the change until written direction was received from the contracting officer's office. On 23 September 1997, Mr. Rapant forwarded a second copy of the Government letter to the Government emphasizing that appellant had signed it, but eliminated the waiver of rights. Appellant requested inclusion in the modification to be issued of the FAR provision for reserving all outstanding claims. (R4, tab 147; AR4, tab 336; tr. 180-81)

60. On 23 September 1997, appellant proposed a revised delivery schedule for the igniters, including the M60 igniters, which needed to be converted. Appellant proposed monthly deliveries of 100,000 igniters beginning in January 1998. (R4, tabs 143, 146; tr. 185)

61. During October 1997, appellant began the disassembly and remanufacture of the approximately 75,000 M60s which had been manufactured with the M39 primer and the stronger spring. These units were not subjected to a first article test, which is a destructive test, but were accepted. Appellant completed deliveries of these units on 31 December 1997. Appellant used the alternate M42 primer for all its production of M60s. Appellant used new molds for manufacture of the plastic parts by Caroba after the first 100,000 units were delivered. Appellant's production lots of M60s with the M42 primer passed the required lot acceptance testing. (R4, tabs 155, 158; tr. 103, 182, 503-04)

62. As of 9 October 1997, the Government had awarded a follow-on contract to Lance Ordnance that, upon bilateral agreement to the terms of a comparable ECP, similarly allowed for the use of the M42 primer as an alternate in manufacture of M60 igniters (AR4, tab 339; tr. 421-27, 505-06, 524).

63. The Government wanted to protect itself from future claims and used waiver language in its letters asking for the contractor's acceptance of approval of requests for deviations or waivers. According to internal Government correspondence on 9 October 1997, the contracting officer told appellant that it would not approve the ECP for use of the M42 primer in the M60 unilaterally. If appellant did not agree to release its claims, the Government advised that it would withhold approval and if appellant did not deliver the M60s in accordance with the TDP using the M39 primer, the contract would be terminated for default (AR4, tab 339; tr. 421-26).

64. By letter dated 14 October 1997, the Government responded to appellant's proposed delivery schedule with a schedule that was substantially the same as appellant's proposed schedule of monthly deliveries of 100,000 units. The letter stated that the delivery schedule would be incorporated in a contract modification, but was subject to change. (R4, tab 165) The Government issued changes to the delivery schedule on 12 November 1997, and again on 20 November 1997 (R4, tabs 158, 161). The Government made further changes to the delivery schedule in its letters, dated 5 and 7 January 1998 (R4,

tabs 166, 167). These modifications did not affect the Government's substantial agreement with appellant's proposed deliveries.

65. On 16 October 1997, appellant submitted its costs in the amount of \$123,983 to rework work approximately 75,000 M60 igniters. On 4 November 1997, appellant withdrew the request and agreed to sign a waiver of this claim. (R4, tabs 151, 153; tr. 181, 183)

66. On 6 November 1997, the Government sent a second letter approving the M42 primer as an alternate adopting the following language that had been proposed by appellant:

Based upon the above, the parties hereby mutually agree, by the acknowledgement [sic] and acceptance of this letter, to waive any and all rights for costs associated solely with the implementation of NOR R7B3012 [permitting use of the M42 primer], dated September 11, 1997 [sic], specifically the costs attributable to the usage of the alternate primer in the production quantities required under the referenced contract.

(R4, tabs 153, 156) The language used refers to production quantities, as opposed to the costs attributable to the research and development effort following the first article test to determine the cause of the failure and manufacture an acceptable first article (R4, tab 156). Ms. Woerner signed this letter in her capacity as contracts administrator (*id.*). She understood that the parties agreed that appellant would waive any claim for costs to rework the 75,000 M60's, but not other previously incurred costs (tr. 186-87). We find that appellant intended to waive only the rework costs.

67. Bilateral Modification No. P00005, dated 4 March 1998, revised the delivery schedules. The stated purpose of the modification was to incorporate the revised schedule in Government letters, dated 20 November 1997, and 5 and 7 January 1998, substantially as proposed by appellant. The modification also changed the quantities to certain destinations. The last deliveries were required by 30 October 1998. The modification did not increase the contract price or state that the changes were made at no cost. The modification did not include a waiver, release, or reservation of rights pertaining to any costs and made no mention of the M42 primer. (R4, tab 170; tr. 187-88, 241-44, 435)

68. Appellant prepared new applications for bills of lading and shipping labels and, in some cases, unpackaged and repackaged the units to be shipped to deliver to the revised shipping destinations in Modification No. P00005. Appellant had ordered a number of boxes to ship them full and was required to obtain more boxes because most of the deliveries required less than a full box of igniters. Appellant incurred additional costs associated with its implementation of the Government's modified shipping schedule. (R4, tab 170; tr. 189-90)

69. On 14 July 1998, the Government issued appellant a cure notice for failure to make timely deliveries of 100,000 M60s by 30 June 1998. On 23 July 1998, appellant responded that its problems involving financial and labor resources, which had resulted in short shipments for both May and June 1998, had been corrected. Appellant offered completion of deliveries by 31 October 1998. In July 1998, appellant was able to deliver over 100,000 M60s. Appellant eventually completed the contract on or about 30 October 1998. (R4, tabs 194, 196, 197, ex. 13, tab 204).

70. On 30 July 1998, appellant submitted a request for an equitable adjustment (REA) in contract price in the amount of \$577,083.14 (R4, tab 197). Appellant included the following quantified items in this request:

A. Redesign of the M60	\$152,151.07
B. Steel Grade on Pull Ring	3,004.50
C. Anti-Fungal String	5,922.31
D. Elastomer Shipping Plug	69,554.91
E. Acceleration	939.86
F. Wood Shipping Box	1,195.59
G. Delay of Subcontractors	1,841.66
H. Square Knot	0
I. Molds	72,378.05
J. Bills of Lading	14,721.15
K. M700 Safety Fuse	2,157.51
L. Contract Modifications	2,601.99
M. Miscellaneous [Impact Costs]	250,614.54
1. Show Cause Notice - "Constructive Acceleration"	\$21,137.74
2. Cross-Contractual Damage	10,023.00
3. Higher Labor Rates	17,631.45
4. Storage Costs	1,649.31
5. Additional Costs (including burden fluctuation of \$160,438.04 and proposal preparation of \$39,735).	

(*Id.*, vol. 4 at 3; vol. 6, vol. III, tab 1, tab 2 at 5-6; vol. 7, vol. 4, tabs M.5. at 3, M.6. at 1, M.8 at 2) Appellant stated in the REA that it was not charging for unabsorbed burden of \$119,628.96 for 123 days of delay during 30 June 1997 to 31 October 1997, because it was recouping burden through direct charges on the REA (*id.*, vol. 7, vol. IV, tab M.5. at 3). Appellant argued that it was entitled to recovery on the theories of implied warranty of specifications, Government withholding of superior knowledge, duty to cooperate with contractor and not impede performance, and Government-caused delay (*id.*, vol. 4 at 3-4).

71. On 13 April 1999, appellant converted its REA into a certified claim (R4, tab 210). Appellant quantified the claim in the amount of \$512,455.94. Appellant explained that the reduction in the amount was due to a modification that provided the direct compensation requested for one item, Elastomer Shipping Plug. Appellant included a

breakdown of the amount claimed that conformed to the amounts in the REA, except for the Elastomer Shipping Plug, which remained in the certified claim solely as an impact cost of \$4,927.71. Appellant changed the designation of the item in the REA labeled “Miscellaneous” to “Impact Costs” (*id.* at 5). Appellant forwarded the original of the signed certification to the contracting officer on 21 April 1999 (*id.* at 1).

72. On 1 July 1999, appellant filed this appeal based on a deemed denial of its claim (R4, tab 212).

73. The contracting officer’s final decision, dated 23 September 1999, denied the claim on the merits on the basis that appellant was unable to meet the contract requirements and was delayed by its unnecessary redesign of the M60 igniter. The contracting officer agreed to provide compensation for the costs of new wood shipping boxes in the amount of \$54.00, but did not award appellant all of the increased costs claimed for the Government’s defective specifications for the shipping boxes. The decision stated that this compensation was not part of Modification No. P00003 as the result of an oversight. The contracting officer did not consider the “Redesign of the M60” item or other items in the certified claim to have been waived by appellant, but addressed the merits of the claim in the final decision. (R4, tab 214)

74. In its complaint, appellant made its allegations with respect to the redesign of the M60 as its first area of entitlement. In addition, appellant alleged 16 other items of entitlement. At the hearing of the appeal, appellant presented testimony with respect to only some of these items. Appellant has briefed only some of the issues presented in the pleadings (app. br. at 19-27). Appellant alleged its entitlement for defective specifications, superior knowledge, duty to cooperate, and delay. We have reviewed all of appellant’s claims and discuss those parts of the appeal that appellant has pursued in briefing the evidence presented in the appeal. We did not find merit in appellant’s other claims and consider them to have been abandoned.

DISCUSSION

Accord and Satisfaction

The Government argues that consideration of the merits is unnecessary because appellant waived all rights and claims that support its allegations. According to the Government, appellant signed waiver letters and bilateral modifications during contract performance that now preclude any entitlement. Appellant maintains that it did not at any time release its claims for the defective TDP as it relates to the redesign of the M60 igniters. Appellant seeks to have its agreement with respect to approval of the primer change interpreted in the context of its earlier correspondence stating its intention to submit an REA for the added work. Appellant acknowledges that it released costs with respect to the defective TDP only for the rework of 75,000 M60s which had incorporated a

stronger spring (app. br. at 33). Appellant notes that not all the modifications contained release language.

The Government has the burden of proof to establish that the parties' agreement constitutes an accord and satisfaction that operates to bar one or more claims. The essential elements of accord and satisfaction are proper subject matter, competent parties, meeting of the minds of the parties, and consideration. To reach an accord and satisfaction there must be mutual agreement between the parties with the intention clearly stated and known to the contractor. *Mil-Spec Contractors, Inc. v. United States*, 835 F.2d 865 (Fed. Cir. 1987); *Sawyer Tree Company*, ASBCA No. 50545, 99-1 BCA ¶ 30,326. Where the parties continue to consider the claim, their conduct indicates an intent that the parties never understood the agreement as an accord and satisfaction or release of the contractor's claim. *Community Heating & Plumbing Company, Inc. v. Kelso*, 987 F.2d 1575 (Fed. Cir. 1993); *Metric Constructors, Inc.*, ASBCA No. 46279, 94-1 BCA ¶ 26,532 at 132,058.

The Government maintains that appellant's claim for redesign of the M60 is barred by Ms. Woerner's signature on a letter, dated 6 November 1997, that approved adding the M42 primer to the TDP for the M60 igniter as an alternate to the M39 primer. The Government wanted a complete release of claims from appellant and prepared each letter approving changes in the TDP with release language. By requiring appellant's signature on the letter, the Government sought a binding agreement before issuance of a bilateral contract modification. The proposed intention of the parties was plain in the "waives any and all rights" language the Government included in these letters that it asked appellant to sign (finding 41). Appellant recognized the Government's intention and, as a result, appellant made known its intention to reserve its right to submit a claim for an equitable adjustment in its letter, dated 19 September 1997 (*id.*, finding 59). When appellant signed a second letter, dated 6 November 1997, approving the primer change, it agreed to a waiver of rights that was limited to the costs attributable to the use of the M42 primer in the production quantities of the M60 (finding 66). Appellant did not waive its right to assert a claim for pre-production costs of research and development to determine the cause of the first article test failures. Appellant had previously made its position clear to the Government. There is no release language in any later bilateral modification. The Government's interpretation of the scope of the waiver is unreasonable. Under the circumstances, there was no meeting of the minds, which is an essential prerequisite to finding an accord and satisfaction that would bar appellant's claim. Furthermore, the consideration of the merits of the claim by contracting officer in her final decision indicates the Government's understanding that the parties had not mutually agreed in the approval letter or bilateral modification and the claim was not released. Appellant's claim for the redesign of the M60 is not barred.

With respect to other changes to the TDP, however, appellant signed bilateral modifications that included statements that the changes were at no additional cost to either party. Appellant had previously requested all of these changes. Appellant did not reserve a claim or a right to claim for delay or other impact from the changes. The parties'

agreement to incorporate these contractor-initiated changes at no increase in contract price without condition or reservation in a bilateral contract modification serves to bar any further recovery. *Kurt Manufacturing Company*, ASBCA No. 51074, 00-2 BCA ¶ 30,938. Modification No. P00001, which stated that no other costs were incurred due to the changes, provided a price increase for the added waterproof requirement for the M700 safety fuse (finding 21). Modification No. P00002, stated that the changes it incorporated were at no additional cost to either party (finding 28). These changes allowed for an alternate steel grade for the pull ring (findings 20, 25), deleted the requirement for mildew resistant treatment on the string on the pull rings (findings 23, 26), and implemented the approved alternate to the requirement for a square knot (findings 22, 26). Modification No. P00003, which stated that the changes were at no cost to the Government, incorporated changes to the dimensions of the wood shipping boxes (finding 47). These bilateral agreements plainly provide that changes were made at no cost or no additional cost to the Government. We have found no evidence from appellant that they are unenforceable. We have concluded that there was a meeting of the minds in these modifications and an accord and satisfaction that bars appellant's claims. Accordingly, the following parts of the claim set forth in finding 70 are denied:

- B. Steel Grade on Pull Ring
- C. Anti-Fungal String
- H. Square Knot
- K. M700 Safety Fuse

To the extent appellant's claim designated F. Wood Shipping Box requested compensation for the cost of new shipping boxes, it is entitled to the equitable adjustment that was provided by the contracting officer's final decision. Other parts are barred for the reasons stated above. The merits of other claims are discussed below.

Redesign of the M60

Appellant maintains that the Government's TDP was defective and, specifically, that the M39 primer could not be effectively used in the M60 igniter causing appellant to perform a costly research and development effort and delaying its contract deliveries. Specifically, according to appellant, the M60 igniters were manufactured in accordance with the TDP using the M39 primer, but could not pass the first article test because of ignition failures. The Government argues that appellant has failed to establish that the TDP was defective. Since appellant did not manufacture the M60 igniters successfully until it had received deviations and waivers of the specification requirements, the cause of the test failures according to the Government was appellant's nonconforming parts. The Government maintains that the previously used molds that appellant decided to purchase were producing parts that did not conform to the specification requirements and the poor condition of the molds caused the first article test failures. The Government argues that appellant manufactured approximately 80,000 M60s with stronger springs before notifying

the Government of test results, which was a choice to deviate from the TDP that bars recovery.

When the Government provides a contractor with design specifications, such that the contractor is bound by contract to build according to the specifications, the contract carries an implied warranty that the specifications are free from design defects. *United States v. Spearin*, 248 U.S. 132 at 166, 169 (1918); *White v. Edsall Construction Company, Inc.*, 296 F.3d 1081 (Fed. Cir. 2002); *McElroy Machine & Manufacturing Company, Inc.*, ASBCA No. 46477, 99-1 BCA ¶ 30,185. To recover under the implied warranty relating to a Government specification, a contractor must have reasonably relied upon the defective specifications and complied with them. *Al Johnson Construction Company v. United States*, 854 F.2d 467 (Fed. Cir. 1988).

The contractor has the burden of proving that the specifications are defective. *J.C. Equipment Corporation*, ASBCA No. 42879, 97-2 BCA ¶ 29,197. Once the contractor has established it substantially complied with Government plans and specifications, but that unsatisfactory performance resulted, the burden shifts to the Government to prove that the contractor performed improperly, or that there were other causes absolving the Government of liability. *M.A. Mortenson Company*, ASBCA No. 53062 *et al.*, 01-2 BCA ¶ 31,573 at 155,906 (design specifications for compacting soil for planting trees held defective when the Government failed to show the contractor performed improperly or that any other exculpatory action occurred); *SPS Mechanical Co., Inc.*, ASBCA No. 48643, 01-1 BCA ¶ 31,318 at 154,692 citing *C.L. Fairley Constr. Co. Inc.*, ASBCA No. 32581, 90-2 BCA ¶ 22,665, *aff'd on reconsid.*, 90-3 BCA ¶ 23,005. In *R.C. Hedreen Co.*, ASBCA No. 20599, 77-1 BCA ¶ 12,328, we described the burden that shifts to the Government as the burden “to prove that defective materials were installed or that defective workmanship materially and measurably contributed to the . . . [failures], or that there are additional causes of the contractor's difficulties which absolve the Government of responsibility.” 77-1 BCA at 59,554. In that appeal, the contractor was held entitled to recover the costs of attempting to perform to defective specifications for ductile iron pipe that could not meet the test requirements for no leakage in an underground piping system. Appellant established that it had attempted to perform in accordance with the specifications, but lengths of piping failed the rigid testing and had to be replaced. The Government argued, in part, that it had installed ductile iron underground pipe in prior systems, but its contention failed for lack of proof. The Board stated:

The evidence did not, however, reveal the exact specification pipe previously used nor the tests required under the prior contracts and in the gas industry. . . .It has been held in connection with contracts for the procurement of supplies and equipment that it is not enough for the respondent to show that a similar article of the same general type was manufactured elsewhere. It must go further and establish that the other article had the same relevant characteristics as that

manufactured under the dispute contract. Here, likewise, if respondent had brought forth evidence which established a sameness between previously installed underground piping systems and that constructed under the disputed contract, its argument that the pipe installed under the present contract was defective would have been enhanced. It has, however, failed to do so.

77-1 BCA at 59,553-54 (citations omitted).

A contractor is entitled to reimbursement of extra costs incurred in attempting to perform a contract with erroneous specifications even though the contractor is unable to explain why its solution correcting the error assured reliability of performance and substantially eliminated the test failures. See *Ordnance Research, Inc. v. United States*, 221 Ct. Cl. 641, 671-72, 609 F.2d 462, 479-80 (1979) (a dangerous compound in Government specifications for igniters used in fire bombs held the cause of explosions rather than the contractor's failure to follow advisory specifications for the blending method); *R.E.D.M. Corporation v. United States*, 192 Ct. Cl. 891, 899, 428 F.2d 1304, 1308 (1970) (tolerance specifications for the release mechanism in artillery fuses held defective when the use of thinner leaves dropped the rejection rate to an acceptable level).

Appellant manufactured the igniters in accordance with the TDP, but their performance was unsuccessful (finding 32). The failures that occurred in first article testing that are in issue here were in ignition of the primer in the M60 igniters. Appellant took several measures to identify the cause of the unsatisfactory performance. Appellant's extensive investigation did not reveal its responsibility for faulty primer or defective manufacturing practices that could account for the ignition failures (findings 33-34). When appellant received approval to use the M42 primer, which ignites with more heat and more readily ignites the fuse, the M60 igniters passed lot acceptance testing without further problems (finding 61). Based on our review and consideration of the record evidence presented by the parties, we found that the probable cause of appellant's first article test failure on the M60 was the M39 primer (finding 57).

The Government has focused on appellant's nonconforming parts as the cause of the failures. The record does not, however, support a conclusion that appellant's manufacture of igniters with the used molds for plastic parts was causally related to the ignition failures. The Government relied for proof that the causes must be attributable to appellant only on inferences from the unsatisfactory results. The Government attempted an independent analysis of the failures in its DOE test, but it was inconclusive, and the Government could not determine the cause of the failures (finding 36). We have found that appellant did not compromise the integrity of the DOE test (*id.*), as the Government has argued. Mr. Sudol's recollection of testing that showed off center hits on the M39 primer to be no different than direct hits was uncorroborated by any documentation. Appellant received deviations and waivers for manufacture of the igniters, but we have found that they were unrelated to

ignition of the primer (finding 30). Appellant assembled M81 igniters with plastic parts from the used molds. There were no nonconforming parts that caused failures. All of these M81 igniter production lots were accepted and delivered (finding 48). The Government's claim that nonconforming parts for which appellant was responsible were the cause of the failures is not supported.

The Government also contended that the M60 igniter had been successfully manufactured by other contractors in the past using the same TDP and therefore, the TDP was not defective. The Government did not offer evidence, other than generalized conclusory reference to prior manufacture allegedly using the same TDP, that it was feasible to manufacture the M60 igniters using the M39 primer. We require more than conclusory and generalized allegations unsupported by specific proof and probative evidence. *See AGH Industries, Inc.*, ASBCA Nos. 27980, 31150, 89-2 BCA ¶ 21,637 at 108,864 (generalized conclusory, unsupported opinion type testimony does not demand weight where there is no reliable or persuasive proof of additional costs incurred). The terms of the TDP in prior contracts were not offered in evidence to show that they were the same as those in the subject contract. The acceptance testing failure rates, as well as the deviations and waivers, on prior contracts were also not placed in evidence. The Government has not produced reliable or persuasive proof of successful performance under prior contracts to meet its burden of proof.

The Government did not advise appellant during contract performance of its purported explanation for the failures. There is no Government analysis or evaluation that recorded contemporaneously that the failures were attributable to allegedly faulty manufacture of components of the igniters by appellant or any of its vendors. Instead the Government relied on appellant's investigation and recommendations and approved use of the M42 primer. Accordingly, we have concluded that the Government's evidence of nonconforming parts and prior manufacture was not sufficiently definite to be persuasive of its contention that appellant was responsible for the first article test failures.

The Government's argument that appellant failed to comply with the TDP in electing to manufacture M60 igniters with a stronger spring is also without merit. The Government relies on our decision in *McElroy Machine, supra*, which is inapposite. In that case the contractor proceeded in accordance with its substituted specifications and failed to timely notify the Government that it had identified problems with the specifications. Its claim that the problems made the specifications defective was, accordingly, barred. Here the Government knew there were problems with the specifications for the M60 from the first article failures and expected appellant to conduct a failure analysis to identify the nature of the problem and how it could be resolved. Appellant was on that course of action in an effort to comply with the TDP in using the stronger spring.

The Government's TDP was defective because appellant's manufacture of M60 igniters with the prescribed M39 primer did not result in an item that could satisfactorily meet the first article test requirements. We have concluded that the use of the M42 primer,

although it coincided in part with appellant's use of new molds for the manufacture of plastic parts, was the change that effectively and permanently solved the problem of inconsistent ignition of the M60 igniters (finding 57). As a result of the defective specifications, appellant was required to perform its failure analysis of the problem as well as additional research and development to find a solution to the problem. Appellant's efforts to obtain production approval for the M60 igniters after the first article test failures on 9 October 1996 were the result of the deficiencies in the Government specifications and are compensable in the form of an equitable adjustment in contract price.

Government-caused Delay

Appellant argues that Modification No. P00005, which extended the contract delivery schedules, constitutes an admission by the Government that it was responsible for the delays on the contract due to its defective TDP. Appellant maintains that the Government is liable for its delivery delays during the period 30 June 1997 to 31 October 1997 (finding 70).

To recover delay damages, the contractor has the burden of demonstrating that the specific delays were due to Government responsible causes, that the overall contract completion was delayed as a result, and that any Government-caused delays were not concurrent with delays within the contractor's control. *W.G. Yates & Sons Construction Company*, ASBCA Nos. 49398, 49399, 01-2 BCA ¶ 31,428 at 155,215. Bilateral Modification No. P00005, dated 4 March 1998, extended the contract deliveries so that the last deliveries were required by 30 October 1998 (finding 67). An extension of time granted by the Government without consideration constitutes an admission that it was responsible for the delays encountered in limited circumstances where there is no rebuttal evidence that overcomes the presumption Government responsibility. *David Builders, Inc.*, ASBCA No. 51262, 98-2 BCA ¶ 30,021 at 148,539. Appellant cannot rely on this presumption where, by its own admissions in its response to the show cause notice in July 1997, there were numerous contractor-caused delays (finding 52). There was contractor-caused delay attributable to appellant's vendors, equipment that required major maintenance and rebuilding, numerous requests for deviations, changes, and waivers unrelated to the primer, problems involving financial and labor resources, and a plant shutdown that impacted appellant's deliveries. None of these delays have been shown to be excusable. To establish a compensable delay, the contractor must separate Government-caused delays from its own delays. *Sauer Incorporated v. Danzig*, 224 F.3d 1340, 1348 (Fed. Cir. 2000). Appellant has not done so, and its claim for delay fails for lack of proof.

Acceleration

Appellant claims entitlement to compensation for costs associated with constructive acceleration of the delivery schedule.⁴ The Government's letter, dated 19 August 1997, after receipt of appellant's response to its show cause notice, stated that "[a]cceleration is encouraged" (finding 53). Appellant argues it was "forced" to accelerate production and

delivery of M60s beginning in June 1997 as a result (app. br. at 42). The Government notes appellant's "convoluted interpretation" of the facts (Gov't reply br. at 16) and argues that not all the delays were excusable and that appellant did not accelerate its delivery (*id.*, at 13-18).

In order to recover under a theory of constructive acceleration, the contractor must show excusable delays giving rise to the order to accelerate, the Government's knowledge of the excusable delay, statements or acts that can be construed as an acceleration order, notice that the order constitutes a constructive change, and reasonable efforts by the contractor to accelerate the work that resulted in added costs. *See Monterey Mechanical Co.*, ASBCA No. 51450, 01-1 BCA ¶ 31,380 at 154,955; *DANAC, Inc.*, ASBCA No. 33394, 97-2 BCA ¶ 29,184 at 145,152; *Norair Engineering Corporation v. United States*, 229 Ct. Cl. 160, 666 F.2d 546 (1981).

The delays that gave rise to what allegedly was an acceleration order were not all excusable as plainly evidenced by appellant's admissions in its response to the show cause notice of vendor and equipment problems for which it was responsible (finding 52). We have denied appellant's delay claim because there were numerous concurrent causes for which the Government was not responsible. Moreover, the revised delivery schedule was proposed by the contractor, not imposed by the Government. Appellant claims that it began to produce and ship approximately 100,000 units per month as a result of the acceleration, but in fact on 28 July 1997, it had proposed monthly deliveries of 100,000 to 150,000 units. The Government decreased appellant's own proposed schedule to require only monthly deliveries of 100,000 units. When appellant shipped 100,000 M60s to the Government, it was not accelerating deliveries, but only responding to the Government's acceptance of that less stringent delivery schedule. There was no Government order to accelerate.

Other Theories of Recovery

Appellant maintains that the Government failed to disclose superior knowledge concerning problems previous contractors had with the TDP, that the M42 primer was an allowable alternative to the M39 primer under the TDP for the M60, and that the molds appellant proposed to use had a history of quality problems. The Government argues that it did not have superior knowledge and appellant was responsible for discovering the condition of the molds through a reasonable inspection, which it failed to conduct.

In *Hercules, Inc. v. United States*, 24 F.3d 188, 196 (Fed. Cir. 1994), *aff'd on other grounds*, 516 U.S. 417 (1996), the Federal Circuit set forth the elements required for recovery under the doctrine of superior knowledge as follows: (1) the contractor undertakes to perform without vital knowledge of a fact that affects performance costs or duration, (2) the Government was aware the contractor had no knowledge of and had no reason to obtain such information, (3) the contract specification misled the contractor or did not put it on notice to inquire, and (4) the Government failed to provide the relevant

information. The Board has recently stated the doctrine of superior knowledge as follows: “In order to establish superior knowledge on the part of the Government, it is [appellant’s] burden to show that the Government had vital knowledge of a fact affecting contract performance which it did not share and was aware [appellant] did not have, and had no reason to obtain.” *Defense Systems Company, Inc.*, ASBCA No. 50918, 00-2 BCA ¶ 30,991 at 152,991.

Appellant has failed to show that the Government had information that constitutes superior knowledge. The M42 primer was not an approved alternate primer prior to appellant’s completion of required testing and acceptance of its ECP in September 1997 (finding 7). The Government had no obligation to inform appellant of the status of possible changes in the TDP that may or may not have been incorporated into the TDP. The Government had only general knowledge of problems manufacturing igniters in accordance with the TDP experienced by previous contractors. The Government did not control the manufacturing processes selected and technical choices made by contractors to meet the requirements of the TDP. As for the condition of the molds, there was no reason for the Government to anticipate that appellant would not have investigated the condition of the molds to its satisfaction and obtained information about any problems directly from Allard before relying on the used molds for its production of the igniters. Appellant’s claimed costs for the molds it purchased, repairs to the used molds, and higher part prices after Caroba made new molds are not recoverable. Appellant was responsible for devising a satisfactory manufacturing process and cannot shift this responsibility to the Government. Moreover, there is no evidence of prior manufacture using the same TDP, as we have discussed above, from which the Government could have received specific information that would constitute superior knowledge.

Appellant claims that the Government breached its duty of good faith and fair dealing and, in some cases, acted in bad faith citing specific examples of Government conduct that resulted in added costs and delay and disruption for which it claims compensation. The Government argues that it acted in the spirit of cooperation and specifically refutes appellant’s examples of alleged lack of cooperation on the part of the Government. We have reviewed the various examples of alleged lack of cooperation and bad faith and find appellant’s contentions to be without merit. We have found appellant entitled to compensation for the redesign of the M60. Appellant has failed to otherwise establish its entitlement with respect to the approval process for deviations.

The Government’s initial rejection of the M42 primer as a deviation from the specifications was not a breach of the duty of cooperation. Appellant’s reliance on a memorandum from Picatinny Arsenal that the M42 primer was an approved replacement for the M39 primer in the M60 igniters is misplaced. The TDP in the contract did not provide for the M42 primer in the M60, and the Government was under no obligation to approve appellant’s request to substitute the M42 primer. The Government had reservations about its use that were not arbitrary, and it reasonably requested test data on its use in the M60.

We do not consider the failure of the Government's procurement office to amend the TDP without further data from the contractor as actionable (finding 17).

The Government's failure to advise appellant of any problems previous contractors had with the manufacture of the M60 igniters was also not a breach of the duty of cooperation. As we have discussed above, there was no obligation on the Government to disclose information about the used molds for the plastic parts that it learned appellant was planning to acquire.

Contrary to appellant's allegations, the Government cooperated in allowing appellant to substitute materials at its request when requests were submitted with the appropriate documentation. The Government acted reasonably in insisting that appellant support its requests for deviations from the TDP with adequate test data and was timely in its responses.

Appellant has alleged that the Government acted in bad faith in seeking to obtain releases of claims and suggesting that the contract would be terminated for default if appellant failed to deliver. The Government disputes appellant's characterization of statements made by Government representatives to protect against the filing of contractor claims. Government officials are presumed to act in good faith. Appellant is required to prove by clear and convincing evidence that the Government had a specific intent to injure appellant to overcome that presumption. *Am-Pro Protective Agency, Inc. v. United States*, 281 F.3d 1234, 1239 (Fed. Cir. 2002); *Morgan & Son Earthmoving, Inc.*, ASBCA No. 53524, 02-2 BCA ¶ 31,874. Appellant has provided no evidence of the required specific intent to injure that is essential for a claim of bad faith.

Other Claims

Delay of Subcontractors. Appellant attributes the delayed production of its vendor Jewell to the delayed approval of first article caused by the defective TDP and claims as a separate item entitlement to compensation from the Government for all delay and related costs (compl. ¶ 62; finding 70, item G.). Appellant has claimed delay of its vendor Acme-Monaco Corporation also, but not explained how the Government is allegedly responsible for this delay (app. br. at 23). To the contrary, the record indicates deliveries were delayed because appellant directed these subcontractors to hold deliveries of parts for the M60 units while first article approval was pending (finding 39). Appellant has not established a causal relationship between the need for Government first article approval and the delivery of parts by appellant's subcontractors. During the course of the contract, appellant did not protest that delays were causing harm to its subcontractors, but acknowledged its responsibility for vendor problems that had occurred (finding 52). In addition, we have denied appellant's delay claim, and there is generally no compensation due on behalf of a subcontractor without delay to the prime contractor. *Cf. E.R. Mitchell Const. Co. v. Danzig*, 175 F.3d 1369, 1379 (Fed. Cir. 1999).

Bills of Lading. Appellant claims entitlement to compensation for its additional costs to ship the igniters in accordance with the revised delivery schedules. The Government has denied entitlement and argued that appellant signed no-cost waivers and modifications throughout performance of the contract (Gov't reply br. at 19).

There was no language in Modification No. P00005 pertaining to an agreement to release or waive any claims. The modification made changes with respect to shipments of quantities to specified destinations that required repacking different quantities of igniters and new bills of lading (finding 68). Appellant is entitled to an equitable adjustment in contract price for these compensable contract changes.

DECISION

Appellant is entitled to an equitable adjustment for the additional costs incurred in research and development of the M60 igniter as a result of the Government's defective TDP. Appellant is also entitled to the additional costs of labor, material and delay incurred as a result of the Government's revised shipment schedule that we discussed under the heading Bills of Lading. Appellant is entitled to \$54.00 for the wood shipping boxes. Appellant is entitled to interest in accordance with Contract Disputes Act, 41 U.S.C. § 611 from the date the Government received appellant's certified claim, dated 21 April 1999. Appellant's other claims are without merit for the reasons discussed and the appeal is, accordingly, denied in all other respects. The matter is remanded to the parties for the negotiation of quantum.

Dated: 20 February 2003

LISA ANDERSON TODD
Administrative Judge
Armed Services Board
of Contract Appeals

I concur

I concur

MARK N. STEMLER
Administrative Judge
Acting Chairman
Armed Services Board
of Contract Appeals

ROBERT T. PEACOCK
Administrative Judge
Acting Vice Chairman
Armed Services Board
of Contract Appeals

NOTES

1 The molds were located at Hermsdorf, a molder in New Hampshire that worked
closely with Allard (tr. 172).

2 Mr. Schneider's memorandum, dated 25 January 1995, to the same procurement
office, includes the following sentence, "The M42 Primer is an alternate already
called out by the present M60 TDP." (AR4, tab 304 at 1)

3 Appellant also failed the first article test on the M81 igniters. On 9 December
1996, the Government accepted appellant's failure analysis on the M81. On 7
January 1997, the Government issued approvals required for appellant to proceed
with production of the M81 igniters. (R4, tabs 56, 59, 65, 69, 72; tr. 495-96) The
M81 igniters are not in issue in this appeal.

4 This claim was part of appellant's impact costs (finding 70). Appellant's other
claim, identified as E., Acceleration, was for costs allegedly incurred after the
Government rejected its acceleration schedule in February 1996 (finding 19). The
Government was not obligated to accept appellant's cost proposal for an
acceleration of deliveries and is not liable for the disapproval. This claim has not
been briefed, and we consider it to have been abandoned.

I certify that the foregoing is a true copy of the Opinion and Decision of the Armed
Services Board of Contract Appeals in ASBCA No. 52248, Appeal of Woerner Engineering,
Inc., rendered in conformance with the Board's Charter.

Dated:

EDWARD S. ADAMKEWICZ
Recorder, Armed Services
Board of Contract Appeals