ARMED SERVICES BOARD OF CONTRACT APPEALS

Appeals of --	)	
	)	
Pyrotechnic Specialties, Inc.	)	ASBCA Nos. 57890, 58335, 59103
	)	
Under Contract No. W52P1J-04-C-0098	)	

APPEARANCE FOR THE APPELLANT:	Mr. David Karlson Chief Executive Officer
APPEARANCES FOR THE GOVERNMENT:	Raymond M. Saunders, Esq. Army Chief Trial Attorney Robert B. Neill, Esq. Trial Attorney

OPINION BY ADMINISTRATIVE JUDGE PAGE

Pyrotechnic Specialties, Inc. (PSI, the contractor, or appellant) appeals from the termination for default of its contract with the Department of the Army, Army Contracting Command – Rock Island[1] (the government). PSI's contract was terminated for default after the government rejected two production lots for their failure to pass multiple acceptance tests, which placed the contractor in a delinquent status under the contract's delivery schedule. PSI also seeks to recover $802,589 in unreimbursed costs relating to the government's alleged wrongful rejection of a production lot. We have jurisdiction over these appeals under the Contract Disputes Act of 1978 (CDA), 41 U.S.C. §§ 7101-7109. A hearing was conducted, and the parties extensively briefed the issues. Only entitlement is before the Board. We deny the appeals.

FINDINGS OF FACT

1. On 27 September 2004, the government awarded Contract No. W52P1J-04-C-0098 (the contract) to PSI (R4, tab 1). While the contract was awarded by the Army, it is a multiservice contract; units produced under the contract were designated for Army, Navy and Air Force customers (R4, tabs 1, 8; tr. 2/89). Both the Army and the Defense Contract Management Agency (DCMA) had active roles in contract administration. The various contracting officers (COs) assigned to the contract throughout contract performance were Army personnel. DCMA personnel acted as Quality Assurance Representatives (QARs) and

[1] The contract was awarded by Headquarters, U.S. Army Field Support Command (HQ AFSC), which is now known as the Army Contracting Command – Rock Island (R4, tabs 1, 185).

were responsible for issuing Corrective Action Requests (CARs) (*see, e.g.*, R4, tab 80 at 2),[2] whereas the Army CO maintained contract authority (*see, e.g.*, R4, tab 50 at 1). Contract performance issues were at times addressed by both the CO and the QARs through separate correspondence reflecting the divergent administrative roles of the CO and the QARs (*see, e.g.*, R4, tab 85 at 2).

2. The contract is a fixed-price contract for the production of 60,558 units of MK 124 Mod 0 Signal, Smoke and Illumination (MK 124 or signals) (R4, tab 1 at 1, 3, 6-12). The MK 124 is a distress signal that allows military personnel to signal to reconnaissance aircraft when in distress. Designed by the Navy for use in case of a service member overboard or a downed pilot, the MK 124 is used by all services of the Armed Forces. (Tr. 3/60, 71)

3. Through various contract modifications, additional quantities of signals were added to the contract during contract performance for a total quantity of 152,180 signals and a total dollar amount of $7,575,305 (R4, tabs 23, 28, 33, 38, 40, 47, 68-69).

4. The contract incorporated by reference FAR clause 52.246-2, INSPECTION OF SUPPLIES – FIXED-PRICE (AUG 1996). The clause states, in pertinent part:

> (b) The Contractor shall provide and maintain an inspection system acceptable to the Government covering supplies under this contract and shall tender to the Government for acceptance only supplies that have been inspected in accordance with the inspection system and have been found by the Contractor to be in conformity with contract requirements....
>
> ....
>
> (f) The Government has the right either to reject or to require correction of nonconforming supplies. Supplies are nonconforming when they are defective in material or workmanship or are otherwise not in conformity with contract requirements....
>
> ....
>
> (k) Inspections and tests by the Government do not relieve the Contractor of responsibility for defects or other

[2] For the purposes of identifying references to the record, we adopt the sequential pagination as affixed by the parties to the Rule 4 file documents.

failures to meet contract requirements discovered before acceptance.

(R4, tab 1 at 22)

5. The contract incorporated by full text FAR local clause 52.209-4511, FIRST ARTICLE TEST (GOVERNMENT TESTING) (MAY 1994), which provides, in relevant part:

> a. The first article shall consist of: IN ACCORDANCE WITH THE SPECIFICATION, which shall be examined and tested in accordance with contract requirements, the item specification(s), the Quality Assurance Provisions (QAPS) and drawings listed in the Technical Data Package.
>
> ....
>
> c. The first article shall be representative of items to be manufactured using the same processes and procedures as contract production.... All components, subassemblies, and assemblies in the first article sample shall have been produced by the Contractor (including subcontractors) using the technical data package provided by the Government.
>
> ....
>
> e. [A]n additional first article sample or portion thereof, may be ordered by the Contracting Officer in writing when (i) a major change is made to the technical data, (ii) whenever there is a lapse in production for a period in excess of 90 days, or (iii) whenever a change occurs in the place of performance, manufacturing process, material used, drawing, specification or source of supply.

(R4, tab 1 at 22)

6. The contract also incorporated by full text FAR local clause 52.246-4530, SUBMISSION OF PRODUCTION LOT SAMPLES (GOVERNMENT TESTING) (MAY 1994), which provides, in relevant part:

> a. A lot acceptance test sample is required to be submitted by the Contractor from each production lot

tendered to the Government for acceptance. This sample shall consist of: AS REQUIRED BY THE MK124 SPECIFICATION.

....

j. If the Contractor fails to deliver any production lot test sample(s) for test within the time or times specified, or if the Contracting Officer disapproves any production lot test sample(s), the Contractor shall be deemed to have failed to make delivery within the meaning of the Default clause of this contract. Therefore, this contract may be subject to termination for default.

(R4, tab 1 at 26-27)

7. The contract also incorporated by full text FAR local clause 52.246-4550, CRITICAL CHARACTERISTICS (FEB 2004), which provides, "As a result of previous practices, the governments technical data may refer to Critical...and Special characteristics. Characteristics classified as Critical...shall be subject to all requirements herein associated with Critical (I) characteristics and level I Critical nonconformances." FAR 52.246-4550(d). The clause defines Level I critical nonconformance.

> Level I critical nonconformance. A nonconformance of a critical characteristic that judgment and experience indicate would result in hazardous or unsafe conditions for individuals using, maintaining or depending upon the product; or a nonconformance that judgment and experience indicate would prevent performance of the tactical function of a weapon system or major end item. The following (as a minimum) are classified as Level I critical nonconformances:
>
> 1) A nonconformance that will result in a hazardous or unsafe condition (often referred to as a single point failure).
>
> (2) A nonconformance that will remove or degrade a safety feature (such as those in a safe and arm device or fuzing system).
>
> (3) A nonconformance that will result in violation of mandatory safety policies or standards.

FAR 52.246-4550(e). The clause also outlines actions to undertake in the event that a critical nonconformance is found. When a critical nonconformance is found, production is immediately stopped and the contractor is required to conduct an investigation to determine the cause of the deficiency. The contractor is required to submit a report of its investigation and suggest corrective action to fix the deficiency. After the report is provided to the government, the contractor may request to restart production. (R4, tab 1 at 28-29)

8. The contract incorporates by reference FAR clause 52.249-8, DEFAULT (FIXED-PRICE SUPPLY AND SERVICE) (APR 1984), which provides, in relevant part:

> (a)(1) The Government may, subject to paragraphs (c) and (d) below, by written notice of default to the Contractor, terminate this contract in whole or in part if the Contractor fails to –
>
> (i) Deliver the supplies or to perform the services within the time specified in this contract or any extension;
>
> (ii) Make progress, so as to endanger performance of this contract (but see subparagraph (a)(2) below); or
>
> (iii) Perform any of the other provisions of this contract (but see subparagraph (a)(2) below).
>
> (2) The Government's right to terminate this contract under subdivisions (1)(ii) and (1)(iii) above, may be exercised if the Contractor does not cure such failure within 10 days (or more if authorized in writing by the Contracting Officer) after receipt of the notice from the Contracting Officer specifying the failure.

(R4, tab 1 at 37)

9. The contract also incorporates, either by full text or reference, the following FAR clauses and FAR local clauses: FAR 52.233-1, DISPUTES (JUL 2002); FAR 52.243-7, NOTIFICATION OF CHANGES (APR 1984); Local FAR 52.245-4537, ACCEPTANCE INSPECTION EQUIPMENT (AIE) (FEB 2002); and Local FAR 52.246-4528, REWORK AND REPAIR OF NONCONFORMING MATERIAL (MAY 1994) (R4, tab 1 at 23, 27, 37, 39).

I. Design Specifications

10. The MK 124 is a cylindrical canister approximately 5.408 maximum inches long by 1.700 maximum inches in diameter; it weighs approximately 0.5 pounds (R4, tab 22 at 3). One end of the canister contains the flare candle subassembly (flare end); the opposite end contains the smoke candle subassembly (smoke end) (*id.* at 3, tab 97). The flare end, when triggered, produces a red flare, and is intended to be used for nighttime signaling. The smoke end, when triggered, produces a reddish orange smoke, and is intended to be used for daytime signaling. (R4, tab 22 at 12)

11. The design, production and testing of the MK 124 is controlled by the contract's technical data package (TDP). The contract's TDP incorporates Drawing No. 2113661, Tape, Foil (Drawing 2113661); Drawing No. 2114083, Disk, Sealing (Drawing 2114083); Drawing No. 3139733, Outer Container, Loaded (Drawing 3139733); and Specification No. WS 13697N, Prime Item Fabrication Specification, Signal, Smoke and Illumination, Marine MK 124 Mod 0 (Specification 13697N). (R4, tab 1 at 13, tab 294 at 2-5, tabs 295-96)

12. Of particular note to the present dispute, between each candle subassembly and its respective igniter/trigger assembly is a foil sealing disk (sealing disk) (ex. A-6). The primary purpose of the sealing disk is to "provide a hermetic seal at the end cap portion of the device so that...the candles inside the unit will stay dry." Secondarily, the disk assists in the buildup of heat and pressure in the candle when it is first ignited. The sealing disk must be strong enough to perform these functions but also fragile enough that it will burst so that the flare and smoke can be expelled from the canister to produce the distress signal. (Tr. 3/72)

13. The requirements for the sealing disk are controlled by Drawing 2114083 and Drawing 2113661. The sealing disk is circular, 1.500 ± .005 inches in diameter and .0065 inches thick (R4, tab 296). Drawing 2113661 notes the following average physical properties for an appropriate sealing disk:

1.	ADHESION TO STEEL	34 OZ/IN WIDTH
2.	TENSILE STRENGTH	23 LBS/IN WIDTH
3.	BACKING THICKNESS	2.2 MILS.
4.	ELONGATION AT BREAK	4%
5.	TOTAL TAPE THICKNESS	3.4 MILS.

(R4, tab 295) Drawing 2113661 lists a suggested source of supply. This list is meant to provide the contractor with a suggestion of previously proven good material (tr. 3/87). However, Note 1 of Drawing 2113661 states "IDENTIFICATION OF THE 'SUGGESTED SOURCE(S) OF SUPPLY' HEREON IS NOT TO BE CONSTRUED AS AGUARANTEE [sic] OF PRESENT OR CONTINUED AVAILABILITY AS A

SOURCE OF SUPPLY FOR THE ITEM(S)." Drawing 2113661's suggested source of supply lists 3M Industrial's (3M) Part No. 433L (Linered) High Temperature Aluminum Foil Tape (433L disk). (R4, tab 295; ex. G-1)

14. In addition to the sealing disks, each end of the MK 124 canister is secured by using an O-ring and crimping the MK 124 canister. The O-ring is a thin rubber ring that goes around the circumference of the igniter, one at each end of the canister (tr. 2/149). After the O-ring is put in place the canister is crimped, and the crimp in conjunction with the O-ring seals the unit (tr. 2/150).

15. Specification 13697N is a Naval Sea Systems Command specification that "covers the manufacture, assembly, and preparation for delivery of the MK 124...and the methods of examination and tests upon which product acceptance shall be based" (R4, tab 22 at 1). Essentially, it defines the performance parameters of the MK 124 upon completion of production (tr. 3/63).

16. Paragraph 3.4.2 of Specification 13697N classifies all MK 124 characteristics into one of three classifications: Critical, Major, or Minor. "Critical characteristics are identified by the symbol (C), and Major characteristics by the symbol (M).... Characteristics that are not annotated by the classification code symbol are classified as Minor." (R4, tab 22 at 3) All characteristics are assigned a subparagraph (i.e. 3.5.1.1); each characteristic requirement listed in paragraph 3 corresponds with a test requirement in paragraph 4 of Specification 13679N. Accordingly, determining whether an end unit complies with the requirement at ¶ 3.5.1.1 is accomplished by running the test described at ¶ 4.5.1.1. (*Id.* at 9)

17. Paragraph 3.5.1.1, Function, of Specification 13697N states:

> The signal shall meet the following requirements, when tested in accordance with 4.5.1.1.
>
> a. Display color (C1): Produce orange smoke and red flare display from the designated end.
>
> b. Function (M101): Ignite and produce a display from both ends.
>
> c. Delay (M102): 3 seconds maximum from initiation to generation of display....
>
> d. Display times (M103): The display time shall begin

after the delay time ends and shall not include any output after generation of the display stops.

TEST REFERENCE OF TABLE I	FLARE Min	(SEC) Max	SMOKE Min	(SEC) Max
Five Ft Drop (4.5.2.1)	16	23	12	19
Transportation Vibration (4.5.2.3)	16	23	12	19
Temperature and Humidity (4.5.2.4)	16	23	12	22
High Temperature (4.5.2.5)	16	23	11	18
Low Temperature (4.5.2.6)	16	23	15	25
Sealing Function (4.5.2.7)	16	23	12	19

e. Safety function (C8): During function igniter shall not separate from the outer container.

(R4, tab 22 at 4)

18. Compliance with the function requirements is tested in accordance with the Function Test described in ¶ 4.5.1.1; it describes the process used to ignite the signal to test whether the signal functions properly (R4, tab 22 at 9).

19. Paragraph 3.5.2.7, Sealing (M105), of Specification 13697N states, "The signal shall withstand a vacuum of 6.0 ± 1.0 inches of mercury below atmospheric for a minimum period of 60 seconds without signs of leakage when tested in accordance with 4.5.2.7" (R4, tab 22 at 5). Compliance with this requirement is tested in accordance with the Sealing Test described at ¶ 4.5.2.7 (*id.* at 11). During the sealing test, signals are submerged in a water vacuum. A defective signal, commonly referred to as a "leaker," is a unit that exhibits an escape of air bubbles in the water (tr. 2/120). The escape of air bubbles reveals that water has infiltrated into the unit, and, therefore, the unit does not meet the sealing characteristics described at ¶ 3.5.2.7 of Specification 13697N (R4, tab 22 at 11; tr. 2/94). Paragraph 4.5.2.7 specifically provides:

> Leakers are indicated by air bubbles issuing from the signal. Do not mistake the escape of occluded air for leakage. Signals which are not defective may be used for further testing or returned to the lot. Replace protective cap after test. Defectives are signals failing to meet the requirements of 3.5.2.7.

(R4, tab 22 at 11)

20. Mr. Robert Hirst, PSI's vice president and general manager, testified that there are a variety of reasons why a signal could leak (tr. 2/147). The three root causes most commonly discussed by the parties during the performance of this contract are as follows: (1) a problem with the sealing disk; (2) a defect in the O-ring; and/or (3) an improper crimp of the MK 124 canister. The Board also notes, that according to the testimony of Mr. Hirst, an ongoing point of contention between PSI and the government was the amount of air bubbles necessary to indicate a failure of the sealing test as opposed to an escape of occluded air (tr. 2/120).

21. Other signal requirements pertinent to this appeal are as follows:

> 3.5.2.1 Five (5) foot drop (C2). The signal shall withstand five (5) foot drop without exploding or burning when tested in accordance with 4.5.2.1.
>
> 3.5.2.2 Forty (40) foot drop (C3). The signal shall withstand forty (40) foot drop without exploding or burning when tested in accordance with 4.5.2.2.
>
> 3.5.2.3 Transportation vibration (C4). The packaged signal shall withstand transportation vibration without exploding or burning when tested in accordance with 4.5.2.3.
>
> 3.5.2.4 Temperature and humidity (C5). The signal shall withstand temperature and humidity without exploding or burning when tested in accordance with 4.5.2.4.
>
> 3.5.2.5 High temperature (C6). The signal shall withstand a temperature of +120°F ± 5°F for a minimum period of 16 hours without burning or exploding when tested in accordance with 4.5.2.5.
>
> 3.5.2.6 Low temperature (C7). The signal shall withstand a temperature of -20°F ± 5°F for a minimum period of 16 hours without burning or exploding when tested in accordance with 4.5.2.6.

(R4, tab 22 at 4-5)

22. Specification 13697N also describes the inspection requirements for the MK 124. It provides that there are two types of inspection requirements: (a) First Article

Inspection (4.3); and (b) Quality Conformance Inspection (4.4). Specification 13697N states that for a first article inspection "[t]he contractor shall deliver a sample of 185 signals to [Naval Service Warfare Center (NSWC) Crane], for examination, testing, evaluation, and acceptance as in Table I." (R4, tab 22 at 6) The parties commonly refer to a first article inspection as a first article test (FAT) (*see, e.g.*, tr. 2/110). For a quality conformance inspection, Specification 13697N prescribes the following:

> An inspection lot shall consist of 3201 to 10,000 signals offered for delivery at one time including test samples (see 6.2). Inspection lots shall be inspected as follows:
>
> ....
>
> b. Each lot shall be sampled as required for Plan A, Table I.
>
> c. Upon failure of any lot to meet acceptance requirements for either Plan A or Plan B tests, the next lot shall be tested and accepted in accordance with Plan A, Table I.
>
> d. No lot shall be accepted in accordance with Plan B, Table I, unless the preceding lot has met the test requirements of the applicable plan.
>
> e. Each inspection lot shall contain only primers from one lot produced by one manufacturer.
>
> f. Upon completion of a lot and selection of the sample, the Government shall be notified. The designated government activity shall then notify the contractor which test plan shall apply (see 6.2).
>
> g. Sampling, examination, testing, and acceptance of inspection lots shall be performed as specified in the steps given below.
>
> STEP 1. Upon starting production or delivery of an acceptable first article sample, as applicable, all inspection lots shall be examined, tested in sequence and accepted in conformance with Table I, Sampling Plan A, until two (2) consecutive lots have met acceptance requirements of Table I.

> STEP 2. Inspection lots other than those defined in Step 1 shall be examined, tested in sequence and accepted in conformance with Table I, Sampling Plan B, except that one lot shall be randomly selected from each five consecutive inspection lots and examined, tested in sequence and accepted in conformance with Table I, Plan A.

(R4, tab 22 at 6-7) The parties commonly refer to the quality conformance inspection as a lot acceptance test (LAT) (*see, e.g.*, tr. 2/110).

23. The pertinent inspection requirements for the MK 124 are as follows:

> 4.5.2.1 Five (5) foot drop test. The signal shall be subjected to the five foot drop test prescribed in Test A4 of MIL-STD-331, except the signal shall be dropped free-fall without guidance system or associated equipment. Defectives are signals failing to meet the requirements of 3.5.2.1.
>
> 4.5.2.2 Forty (40) foot drop test. The signal shall be subjected to the forty foot drop test prescribed in Test A3 of MIL-STD-331, except the signal shall be dropped free-fall without guidance system or associated equipment. Defectives are signals failing to meet the requirements of 3.5.2.2.
>
> 4.5.2.3 Transportation vibration test [(TV test)]. The signal, as packaged in accordance with drawing 2128332, shall be subjected to the transportation vibration test prescribed in Test B1, Section 6.1 of MIL-STD-331. Inert mock-up signals shall be used to complete the filling of the package for this test. Defectives are signals failing to meet the requirements of 3.5.2.3.
>
> 4.5.2.4 Temperature and humidity test [(T&H test)]. The signal shall be subjected to one 14 day temperature and humidity cycle prescribed in Test C1 of MIL-STD-331. Defectives are signals failing to meet the requirements of 3.5.2.4.

4.5.2.5 High temperature test. The signal shall be conditioned in a suitable chamber at +120°F ± 5°F for a minimum period of 16 hours and while at that temperature shall be subjected to the function test. Defectives are signals failing to meet the requirements of 3.5.2.5.

4.5.2.6 Low temperature test. The signal shall be conditioned in a suitable chamber at -20°F ± 5°F for a minimum period of 16 hours and while at that temperature shall be subjected to the function test. Defectives are signals failing to meet the requirements of 3.5.2.6.

(R4, tab 22 at 10-11)

24. Specification 13697N also includes Table I, which is a summary of the tests that are performed during inspection of the MK 124 (tr. 3/63). The table lists, in testing sequence order, all the inspections and tests that are performed as part of the FATs and LATs and details the sample size to be subjected to each particular test (R4, tab 22 at 8; tr. 3/64-65). Below is an excerpt of the tests pertinent to these appeals as they appear in the table.

EXAMINATIONS AND TESTS	FRIST ARTICLE SAMPLING PLANS		INSPECTION LOT SAMPLING PLANS			
Test Sequence4/	Sample Size	Acceptance Criteria1/	Plan2/ A	Plan2/ B	Sample Size	Acceptance Criteria1/
Sealing (4.5.2.7)	100% of Sample	Ac 0 Re 1	X	X	100% of Sample	Ac 0 Re 1
Five (5) Foot Drop (4.5.2.1) Sealing (4.5.2.7) Function (4.5.1.1)	5 Signals	Ac 0 Re 1 Ac 0 Re 1 (a&e) Ac 0 Re 1 (b, c, &d) Ac 1 Re 2	X		5 Signals	Ac 0 Re 1 Ac 0 Re 1 (a&e) Ac 0 Re 1 (b, c, &d) Ac 1 Re 2
Forty (40) Foot Drop (4.5.2.2)	5 Signals	Ac 0 Re 1			None	
Transportation Vibration (4.5.2.3) Sealing (4.5.2.7) Function (4.5.1.1)	30 Signals	Ac 0 Re 1 Ac 0 Re 1 (a&e) Ac 0 Re 1 (b) Ac 2 Re 3 (c&d) Ac 3 Re 4	X		20 Signals	Ac 0 Re 1 Ac 0 Re 1 (a&e) Ac 0 Re 1 (b) Ac 1 Re 2 (c&d) Ac 2 Re 3
Temperature and Humidity (4.5.2.4) Function (4.5.1.1)	30 Signals	Ac 0 Re 1 (a&e)	X		20 Signals	Ac 0 Re 1 (a&e)

		Ac 0 Re 1 (b) Ac 2 Re 3 (c&d) Ac 3 Re 4				Ac 0 Re 1 (b) Ac 1 Re 2 (c&d) Ac 2 Re 3
High Temperature (4.5.2.5) Function (4.5.1.1)	30 Signals	Ac 0 Re 1 (a&e) Ac 0 Re 1 (b) Ac 2 Re 3 (c&d) Ac 3 Re 4	X		20 Signals	Ac 0 Re 1 (a&e) Ac 0 Re 1 (b) Ac 1 Re 2 (c&d) Ac 2 Re 3
Low Temperature (4.5.2.6) Function (4.5.1.1)	30 Signals	Ac 0 Re 1 (a&e) Ac 0 Re 1 (b) Ac 2 Re 3 (c&d) Ac 3 Re 4	X		20 Signals	Ac 0 Re 1 (a&e) Ac 0 Re 1 (b) Ac 1 Re 2 (c&d) Ac 2 Re 3
Function (4.5.1.1)	50 Signals	(a&e) Ac 0 Re 1 (b) Ac 1 Re 2 (c&d) Ac 3 Re 4	X	X	50 Signals	(a&e) Ac 0 Re 1 (b) Ac 1 Re 2 (c&d) Ac 3 Re 4
Group Data Acceptance3/	155 Signals	(b) Ac 5 Re 6 (c&d) Ac 10 Re 11	X		115 Signals	(b) Ac 3 Re 4 (c & d) Ac 7 Re 8

NOTES: 1/ Ac = Acceptance number for defectives of specified requirements of Section 3.
Re = Rejection number for defectives of specified requirements of Section 3.

2/ Test plans applicable to inspection lots.

3/ Grouped for Function Test.

4/ Tests to be performed in order of indentured sequence within individual blocks.

(R4, tab 22 at 8-9)

25. Table I provides the acceptance criteria for each test and examination (R4, tab 22 at 8-9). For example, an acceptance criteria of "Ac 0 Re 1" attached to a test sequence means that a sample lot would pass the noted test and be accepted if there were zero failures but be rejected if there was one test failure, or defect, within the sample lot (tr. 2/122).

26. In some instances Table I lists a primary test and then notes secondary tests to be completed on the samples put through the primary test. For example, "Five (5) Foot Drop (4.5.2.1)" appears in the table, referring to the 5-ft. drop test described at ¶ 4.5.2.1. Directly below, in the 5-foot drop block of the table, "Sealing (4.5.2.7)" and "Function (4.5.1.1)" appear on sub rows. This prescribes that additional testing shall be performed immediately after the primary 5-foot drop test. Accordingly, for both the FAT and LAT Plan A, five signals are to be pulled and run through the 5-foot drop test. Following the 5-foot drop test, the same samples are to be put through the sealing test as described at ¶ 4.5.2.7. After the sealing test, the same samples are to be put through the function test described at ¶ 4.5.1.1.[3] Each stage of testing has its own acceptance criteria appearing on the corresponding sub row within the 5-foot drop block row of the table. (*See* finding 24)

27. Table I also indicates that the function test has multiple acceptance criteria (*see* finding 24). Acceptance criteria varies dependent upon the function characteristic requirements listed at ¶ 3.5.1.1 (*see* finding 17). For example "a&e" in Table I, refers to the "display color" requirement listed at "a" of ¶ 3.5.1.1 and the "safety function" requirement listed at "e" of ¶ 3.5.1.1. For those tests pertinent to this appeal, the acceptance criteria for the safety function requirement is "Ac 0 Re 1." (*See* findings 17, 24)

28. The TDP also includes Drawing 3139733, which depicts a cross section of the MK 124. The drawing identifies additional required characteristics of the MK 124. Note 10 of the drawing provides:

> After crimping, [both igniters] shall not be damaged and shall be capable of withstanding a torque of 20 inch-pounds min with [the outer container] without relative movement.

(R4, tab 97) Note 10 is preceded by the indicator "(M103)" identifying it as a Major characteristic. The drawing also includes Note 13, identified as a Critical characteristic. It provides:

> Alignment pin of [the igniter for the smoke trigger assembly] shall be in alignment pin hole of [the smoke primer and holder] after crimping.

(*Id.*)

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[3] For this reason when discussing a sealing test or function test performed on samples that first underwent a primary test, the primary test will often be referred to as the "preconditioning environment" (*see, e.g.*, tr. 3/78).

29. Mr. Kevin Bowen was the government's lead technical agent and design agent for the MK 124 during PSI's contract. He began acting as the design agent for the MK 124 in 1996 and, accordingly, was involved in the contracts for the production of the MK 124 prior to the award to PSI. Beginning in 1991 and up until the contract award to PSI, Martin Electronics produced the MK 124. Mr. Bowen testified that during that period of time Martin Electronics produced in excess of one million Code A[4] MK 124s. (Tr. 3/60, 169-70) Mr. Andy Long began working for Martin Electronics in 1998 in a consultant capacity relating to Martin Electronics' production of the MK 124. He testified that Martin Electronics experienced problems manufacturing the MK 124, particularly relating to signals leaking. He was not involved with the testing of the MK 124 and had no knowledge of whether Martin Electronics had failed any LATs. (Tr. 3/36-37) Mr. Long, who later acted as PSI's senior quality manager during PSI's performance of the contract, testified that he believed the MK 124 was an "extremely difficult item to manufacture" and described it as "virtually un-producible" with "a lot of pitfalls in the design that makes it easy to make mistakes during assembly" (tr. 3/38).

II. PSI's Relationship with DCMA

30. At the time of contract award, PSI had multiple contracts that were administered or otherwise monitored by DCMA, and three QARs were assigned to PSI's facility (*see* tr. 1/46, 52). PSI's facility is located in Byron, Georgia, and includes a test lab. Testing at PSI's lab is conducted by PSI personnel and overseen by the lead test technician, an employee of PSI. (R4, tab 282 at 2; tr. 3/6) QARs and other government personnel would observe testing performed at PSI's facilities if the tests were required by one of the government's contracts with PSI (*see, e.g.*, R4, tab 131).

31. Mr. David Karlson, a senior manager at PSI, testified that in 2004 the relationship between PSI and the QARs, particularly the lead QAR,[5] began to deteriorate (tr. 1/46). Mr. Karlson testified that the QARs began to make fraud allegations against PSI and that PSI was investigated by the FBI and indicted based, in part, on the QARs' allegations (tr. 1/46, 55). None of the fraud allegations are related to the contract at issue in these appeals or the MK 124 (tr. 1/104, 108).

32. Mr. Karlson specifically testified about one of PSI's other contracts, referred to as the M583 contract. He testified that by 2006 PSI had a nonfunctioning

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[4] Condition codes are assigned to ammunition items to denote their availability for use. Condition Code A denotes full unrestricted use. Condition Code B denotes some type of restriction, i.e. "for training purposes only" or only for use in areas above a certain temperature. (Tr. 3/154)

[5] According to the testimony of Mr. Dean Cowart, a DCMA QAR at PSI, there was no official lead QAR position (tr. 3/220).

working relationship with the QARs with respect to the M583 contract. Mr. Karlson described a meeting with the deputy program manager for the items produced under the M583 contract and testified that as a result of that meeting the lead QAR was removed from PSI in 2006. (Tr. 1/79-80)

33. Mr. Karlson testified that the removed QAR was replaced by one of his subordinates,[6] Mr. Dean Cowart (tr. 1/80). It appears that the removal of the lead QAR did not resolve the conflict between PSI and the QARs on the M583 contract. In fact, a government engineer assigned to PSI to work on the M583 contract by the deputy program manager eventually wrote a letter to the deputy commander of DCMA. He requested that Mr. Cowart be removed from the PSI contract "because he could not be objective because of an incident that had occurred before [the government engineer] had arrived." (Tr. 1/126) Mr. Cowart worked as a QAR at PSI from March 2004 to the summer of 2012 (tr. 3/203). Mr. Cowart was one of the QARs involved with witnessing the testing of the MK 124 (tr. 3/205-06).

34. All testimony describing incidents demonstrating the bad relationship between PSI and the QARs related to contracts other than the contract at issue in these appeals (tr. 1/108-09). However, Mr. Karlson testified that due to the actions and representations of the QARs "there was a black cloud over the company" (tr. 1/100). Mr. Karlson further testified that PSI only experienced problems on projects involving the QARs. He stated that "it was only where these QARs were involved that we had very significant constant problems that lasted for years and all of which coincided with the period of performance of [the contract at issue in these appeals]." (Tr. 1/82-3)

III. Contract Performance

35. PSI began producing lots of MK 124s in 2006. PSI's production is broken into four major stages called "interfixes." The change from one interfix to the next denotes either a major change in the manufacture of the MK 124 and/or a restart of production following a stop of work (tr. 2/23-24). During each interfix, PSI produced production lots to include no more than 10,000 signals (R4, tab 22 at 6, tab 157 at 3; tr. 4/52-53). Each production lot was assigned a number consisting of the number of the

[6] Mr. Cowart disputes that he was a subordinate of the removed QAR (tr. 3/220).

interfix in which it was produced followed by the number of the individual lot (*see, e.g.*, ex. A-5[7]). Accordingly, Lot 001-002 was the second lot produced during Interfix 1.[8]

A. Interfix 1

36. PSI produced eleven lots during Interfix 1. The signals produced during this interfix utilized the 433L disk, the suggested source of supply indicated in Drawing 2114083. (Tr. 2/22-23; ex. A-5)

37. Lot 1-1 failed the LAT due to leakers and was rejected (R4, tab 60 at 5; ex. A-5).

38. Mr. Bowen testified that the leakers in Lot 1-1 occurred as a result of the failure of a PSI vendor to properly re-anneal the outer containers of the MK 124s, which created problems when a unit was crimped (tr. 3/173-74). As a result, leaking was observed at the crimps around the O-ring (tr. 3/132). Accordingly, the lot was rejected (R4, tab 60 at 5; ex. A-5). Once the issue was brought to PSI's attention, the vendor was able to correct the issue (tr. 3/173-74).

39. Lot 1-2 failed the LAT due to long display times from the smoke end of the MK 124 (tr. 3/141). During the low temperature function test 12 signals, out of the sample of 20 signals, produced smoke displays longer than the maximum smoke display time of 25 seconds (R4, tabs 51, 285 at 5; *see* finding 17). The longest smoke display time was 30.29 seconds (R4, tab 283 at 3). Additionally, 6 units, out of a sample of 20 units, produced smoke displays longer than the maximum display time of 19 seconds during the TV function test (R4, tab 283 at 1; *see* finding 17). Mr. Bowen testified that witnesses to the test agreed that even though display times were long, the display of smoke "was continuous, was robust, and was significant" (tr. 3/141). PSI ultimately submitted Request for Deviation (RFD) No. 30606-8476-D012 (RFD 12), dated 28 November 2006, asking to extend the acceptable display time criteria for Lot 1-2 to 31 seconds. RFD 12 was approved, and Lot 1-2 was accepted on deviation. (R4, tab 51)

40. Lot 1-3 passed all inspections and was accepted by the government (ex. A-5).

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[7] During the hearing, the government objected to appellant's exhibit, marked as Exhibit A-5, stating that there were inaccuracies with some of the data presented. The document was admitted but the government was allowed the opportunity to question witnesses in order establish inaccuracies in the data. (Tr. 2/18-20) Any reference made to Exhibit A-5 refers to information that was either not disputed by the government or that the government did not show to be inaccurate.

[8] For the purposes of this decision, we will remove extraneous zeroes from the lot numbering system; Lot 001-002 will be referred to as Lot 1-2.

41. On 19 January 2007, PSI submitted an LAT report to the contracting specialist indicating that Lot 1-4 failed the LAT due to long display times from the smoke end of the MK 124. Nineteen units from a sample size of 50 units produced smoke displays longer than the maximum display time of 19 seconds during the function test. (R4, tab 283 at 9) The longest display time was 22.03 seconds (R4, tab 283 at 12). The lot was accepted on deviation (ex. A-5).

42. On 24 January 2007, PSI submitted RFD No. 30606-8476-D013 (RFD 13). In Box 22, Description of Deviation/Waiver, it stated:

> Present requirements: WS 13697N, Para. 3.5.1.1, Table I; Smoke Max Burn time for sealing function is 19 to 25 seconds. The intent is that a full smoke column will be viable during this time frame. To have slightly longer column (plume) of smoke will not have an effect on Form Fit or Function as long as the Minimum to Maximum Smoke column is meet [sic].

In Box 23, need for Deviation/Waiver, it stated:

> We respectfully request, at no cost to the Government, a Deviation from the requirement maximum of 19 seconds to a maximum of 25 seconds for the smoke burn on this Contract W52P1J-04-C-0098 and all Mods.

By letter dated 5 February 2007, the government approved the request and agreed to incorporate the change into the contract. (R4, tab 55)

43. While Box 22 describes the sealing function specifically, it appears that the parties treated RFD 13 as having raised the maximum smoke display times for all function tests to 25 seconds throughout Interfixes 1, 2 and 3.[9] Mr. Bowen testified that RFD 13 changed the maximum smoke display time to 25 seconds "irrespective of...the preconditioning environment" (tr. 3/78; *see* finding 26 n.3). The individual test data sheets for Lot 1-6 lists the maximum smoke display times for all tests as 25 seconds. It also lists the longest smoke display times for signals tested in each preconditioning environment. Across multiple tests, the longest smoke display times are longer than the maximum display times listed in the "Test Reference of Table I" at ¶ 3.5.1.1(d) of Specification 13697N but less than 25 seconds (R4, tab 283 at 24; *see* finding 17). All

[9] The government describes the effect of RFD 13 in its brief stating that it "change[d] the maximum smoke display times listed in [Spec 13697N] to 25 seconds for the duration of the contract, regardless of preconditioning environment" (gov't br. ¶ 21).

are marked as conforming signals; there is no evidence that the government objected to these reportings (R4, tab 283 at 24). There is similar test data across the lots; signals showed smoke display times longer than their respective originally stated maximum display times but less than 25 seconds and were not marked as failures on the individual test data sheets (*see, e.g.*, R4, tab 193 at 10, tab 282 at 51, tab 283 at 68). In some instances, a government representative's initials appear at the bottom of the individual test data sheets (*see, e.g.*, R4, tab 282 at 51). However, the scope of the change implemented by the incorporation of RFD 13 into the contract became an issue during the performance of Interfix 4 (*see* findings 147-48).

44. In describing the purpose of the maximum smoke display time cap in the contract, Mr. Bowen testified that the cap is to ensure that the smoke expelled is robust and thick enough that it can be seen from a reconnaissance craft even if disbursed by wind. Mr. Bowen also testified that around 30 seconds had always been a working maximum smoke display time on accepting an extended display times. (Tr. 3/166) However, PSI personnel testified that throughout contract performance they were under the impression, as a result of comments from government personnel including Mr. Bowen, that signals burning a "little longer" were not a problem and may even be helpful to the signal user, provided the smoke display was consistent and robust (tr. 2/62-63, 3/9, 30).

45. Lot 1-5 passed all inspections and was accepted by the government (ex. A-5). There is no evidence in the record about the smoke display times of the MK 124 samples tested during Lot 1-5's LAT.

46. In March 2007, Lot 1-6 failed to meet the test requirements due to long smoke display times during low temperature function testing. The LAT report provides:

> Twenty signals (S/N [serial number] 41-60) were tested and were not in conformance with the requirements.... The following defect was noted.
>
> (a) A total of 15 signals had smoke display times greater than the 25 second maximum and failed to meet the requirement of [Specification 13697N] paragraph 3.5.1.1 with the application of [Deviation 30606-8476-D013 (RFD 13)].[10] The failure is classified as a major (M103) defect,

[10] The LAT report suggests that RFD 13 changed the maximum smoke display time for low temperature preconditioned samples. However, the Test Reference for Table I table as originally provided in Specification 13697N allowed a maximum smoke display time of 25 seconds for low temperature function

with an acceptance criterion of accept 2, reject 3 in accordance with [Spec 13697N] table I.

(R4, tab 283 at 23) The longest smoke display time was 33.2 seconds (R4, tab 283 at 24). PSI submitted RFD No. 30606-8476-D014 (RFD 14), dated 20 April 2007, requesting to extend the maximum display time to 34 seconds for Lot 1-6. The RFD was approved, and Lot 1-6 was accepted on deviation (R4, tab 56).

47. According to Mr. Bowen, Lot 1-7 was rejected due to tight trigger assemblies. The MK 124 is designed to be one hand operable. During testing of Lot 1-7, two signals were determined to be noncompliant because they could not be triggered by a thumb or a forefinger; the government classified this problem as a workmanship issue. After the initial failure, PSI performed a 100% screen on the lot to cull all tight trigger assemblies, reducing the quantity of Lot 1-7. The units that passed the screen were resubmitted for limited testing to establish that the cull had been successful and tight trigger assemblies had been removed from the lot. PSI then submitted a proposal to rework the trigger assemblies of the signals removed during the screening process, which the government approved. PSI performed the rework and submitted the reworked lot, designated Lot 1-7 Alpha (A); the term Alpha is used to indicate that the lot was previously submitted, reworked and then resubmitted. When a sample from Lot 1-7A was tested, a couple of trigger assemblies were still tight. Accordingly, PSI performed a second 100% screening and culling operation, after which Lot 1-7A was accepted. (Tr. 3/145-47)

48. Lot 1-8 was submitted and failed the LAT in June 2007 due to long smoke display times during low temperature function testing. Five units out of a sample of 20 units had smoke display times of greater than the 25 second maximum.[11] The longest smoke display time was 26.61 seconds. PSI submitted RFD No. 30606-8476-D015 (RFD 15), dated 26 June 2007, requesting that the government accept Lot 1-8 with the five time failures. The government approved RFD 15 and Lot 1-8 was accepted on deviation. (R4, tab 57 at 3)

49. Lot 1-9 passed the LAT and was accepted by the government (ex. A-5). There is no evidence in the record about the smoke display times of the MK 124 samples tested during Lot 1-9's LAT.

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testing (*see* finding 17). RFD 13 made no change to the maximum smoke display time for function tests performed on samples that had undergone low temperature preconditioning.

[11] From the beginning of contract performance, the maximum smoke display time for low temperature preconditioning function testing was 25 seconds (*see* findings 17, 46 n.10).

50. Mr. Terry Goodrich, a manufacturing engineer for appellant on the MK 124 contract in 2006, testified that PSI continued to experience problems with leakers throughout Interfix 1 (tr. 2/155). PSI implemented a process of in-house testing all manufactured signals for leaking prior to submitting a lot for the LAT, and during the in-house tests, it continued to discover leakers (tr. 2/155-56, 3/173).

51. Appellant alleges that the LATs for Lots 1-2 through 1-9 also found leakers during the sealing test. Mr. Goodrich testified that during Interfix 1, when a lot failed the sealing test, PSI performed a 100% screening to check for leaks. This screening was either observed by a QAR or Mr. Bowen or, if unobserved, following the screening, the government would pull a sample from the reworked lot and test again. (Tr. 2/157) Mr. Goodrich's testimony is the only evidence offered to support appellant's allegation that the sealing tests for Lots 1-2 through 1-9 revealed leakers. Mr. Bowen contradicted Mr. Goodrich's testimony; Mr. Bowen testified that no leakers were identified during the LATs for Lots 1-2 through 1-9 (tr. 3/149). Furthermore, there is no contemporaneous documentation in the record that indicates that Lots 1-2 through 1-9 failed the sealing test. Accordingly, we find that there is insufficient evidence of failures of the sealing test during the LATs for Lots 1-2 through Lot 1-9, and thus no need for the government to agree to PSI screening the lots for leakers with government witnesses present.

52. PSI submitted Lot 1-10 for the LAT. The LAT revealed multiple leakers during the sealing test. Concurrently there were long ignition times[12] during the function test. PSI attempted to rescreen the lot to cull the leakers. (Tr. 3/150) There is no contemporaneous documentation in the record concerning this rescreening, and it is unclear whether the government approved the process. Regardless, neither party disputes that PSI performed a 100% screening of Lot 1-10 for leakers following the LAT but continued to find leakers when it internally screened the reworked lot. The government rejected Lot 1-10. (Tr. 2/158, 3/86, 149-51)

53. Following the failure of Lot 1-10, PSI stopped further production of Lot 1-11 and submitted the lot, as it was, for the LAT. Lot 1-11 failed the LAT due to leakers and was rejected by the government. (Tr. 2/158, 3/86, 149-51)

B. Transition from Interfix 1 to Interfix 2: The Disk Change

54. PSI became concerned that the root cause of the leaking defects was the 433L disk. At the time, PSI believed that the production of the 433L disk had changed and

[12] This is the time from when a signal is triggered to when smoke or flare displays (tr. 2/158; *see* finding 17).

that, as a result, the disks they were receiving were of a poorer quality and causing the leakers.[13] (Tr. 3/86-87)

55. PSI began conducting engineering tests to look for an alternative sealing disk. PSI created three sample sets of 100 MK 124s. Each set was manufactured using a different sealing disk. One set was manufactured using the 433L disk, used during Interfix 1. The two alternative sealing disks were the 3M 363L High Temperature Aluminum Foil/ Glass Cloth Tape (363L disk) and the 3M 427 Aluminum Foil Tape. PSI then tested the samples in accordance with some of the LAT test procedures, including the sealing test, in the presence of an NSWC Crane engineering representative. (R4, tab 210 at 2; tr. 2/158-59) As a result of the testing, PSI determined that the 363L disk worked well (tr. 2/158).

56. The 363L disk has an adhesion strength of 67 ounces per inch width and a total thickness of 7.3 mils (R4, tab 210 at 3). In comparison, the 433L disk used to manufacture Interfix 1 has an adhesion strength of 38 ounces per inch width and a total thickness of 3.5 mils (ex. G-1).

57. On 5 November 2007, PSI submitted RFD No. 30606-8476-D017 (RFD 17). In Box 22, Description of Deviation/Waiver, it stated:

> We respectfully request, at no cost to the Government, Variance of Average Material thickness from 3.4 Mil. to 7.3 Mil. Further, confirm that Average characteristics noted in table (other than thickness) are minimums, not nominal.

In Box 23, Need for Deviation/Waiver, it stated:

> Recommended product (3M 433L) is no longer compliant with drawing requirements. Alternate product(s) have been found that meet/exceed the noted thickness consensus interpretation of characteristics are as minimums (except thickness) product data sheets and report from Engineering/Qualification Testing performed by PSI and witnessed by NSWC Crane are attached.

(R4, tab 210 at 1) Attached to RFD 17 was a brief summary of the engineering testing PSI performed on potential replacement sealing disk candidates. It provides that "testing was performed...to assure capability of new material to be used on all future

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[13] Although it was believed by PSI that 3M's production facility had relocated to Mexico (tr. 3/86-87), this was later determined to be untrue (R4, tab 289 at 1).

manufacture of [the MK 124 under the contract]." PSI reported the testing results as follows:

> All Units functioned within limits except for the two (2) noted below.
>
> ....
>
> **Note**: we had one (1) misfire due to ice on the striker assembly (Cold test) and one short candle burn on the Smoke side. Both were utilizing the 427 Aluminum Foil Tape material.
>
> **Neither failure was a result of the Sealing Disk Material.**

(R4, tab 210 at 2)

58. By letter dated 26 November 2007, the government approved RFD 17 and agreed to incorporate the change into the contract. The letter stated:

> Enclosed are RFDs 30606-8476-D016, PAN R07Y7009 entitled: requirement to dry heat pad in vacuum oven; and RFD 30606-4876-D017 [RFD 17], PAN R07Y7010 entitled: change in material for foil tap [sic], drawing 211366 [sic]. These RFDs are forwarded for incorporation into the contract in accordance with the Changes Clause subject to changing the classification to "Minor" in blocks 6, and 14c to correct typographical errors.
>
> An authorized representative of your company is required to sign a copy of the letter and return it to the Procuring contracting Officer (PCO)[14] as acknowledgement and acceptance of the above terms and changes as described above. Signature waives any and all claims for equitable adjustment attributed to such facts and circumstances resulting from the changes. These changes are effective on the date the following is executed....

[14] The CO is often referred to as the procuring contracting officer (PCO) in contract documents and in the parties' correspondence (*see, e.g.*, R4, tab 85 at 2).

PSI's engineer manager signed the letter on 29 November 2007. (R4, tab 62 at 1)

59. The parties bilaterally executed Modification No. P00021 (Modification P00021) in January 2008. The modification revised the delivery schedule and incorporated two RFDs, including RFD 17, into the contract. It provided in part:

> 1. THE PURPOSE OF THIS MODIFICATION IS TO DO THE FOLLOWING:
>
> ....
>
> B. INCORPORATE RFDS 30606-8476-D016 PAN R07Y7009 REQUIRING TO DRY HEAT PAD IN VACUUM OVEN, AND RFD 30606-8476-D017 [RFD 17] PAN R07Y7010 TO CHANGE MATERIAL FOR FOIL TAPE UNDER DRAWING 2113661 AT NO ADDITIONAL COST TO EITHER PARTY. SEE HQ, ASC LETTER DATED 26 NOVEMBER 2007 INCORPORATED AT ATTACHMENT 043.

The modification included attachments and enclosures. The modification included an approved copy of RFD 17 as Enclosure 2, and it included the signed copy of the 26 November 2007 letter as Attachment 043. (R4, tab 63 at 3, 25-26, 28)

C. Interfix 2

60. PSI began a second round of production using the 363L disk in the manufacture of the MK 124. The second round of production was called Interfix 2. (Tr. 3/152-53, ex. A-5)

61. PSI submitted Lot 2-1 for the LAT in January 2008 (R4, tab 282 at 44). PSI submitted Lot 2-2 for the LAT at the same time (*id.* at 32). The LAT reports for Lot 2-1 and Lot 2-2 are both dated 17 April 2008 (*id.* at 32, 44).

62. Both lots failed the temperature and humidity (T&H) test. During Lot 2-1's LAT 10 units from a sample size of 20 units failed the T&H function test. During Lot 2-2's LAT, 13 units from a sample of 20 units failed the T&H function test. The cover letters of both LAT reports addressed the T&H failure in the same way. The letters stated:

> Sealing Disk failed to withstand Temperature & Humidity Testing.

This constitutes a Lot rejection as specified in WS 13697N, Table I Inspection Plan, "A" plan with paragraphs 4.5.2.4 and 4.5.1.1.

(R4, tab 282 at 32-33, 44-45)

63. PSI's Lot 2-1 LAT report also indicated that "Two (2) minors were noted; Igniter assemblies separated from the can, post function" (R4, tab 282 at 45). The attached individual test data shows a total three notations indicating that the trigger assembly separated from the MK 124 canister. On the TV test data sheet there is a notation reading "TRIG ASSM OFF." There are two "Trip Assembly came off" notations on the outside function test data sheet. (*Id.* at 46-47)

64. The Lot 2-2 LAT report similarly indicated that "One (1) minors [sic] was noted; Igniter assemblies separated from the can, post function, when the expended unit was tossed and hit the ground" (R4, tab 282 at 32). The attached individual test data shows a total two notations recording that the trigger assembly separated from the MK 124 canister. There is one notation on the TV test data sheet and one notation on the individual test data sheet for the outside function test. (*Id.* at 34-35)

65. The parties dispute the timing of the trigger assembly separations observed during the LATs for Lots 2-1 and 2-2. The government alleges that all separations occurred post function, after the flare end of the MK 124 had stopped burning. Appellant alleges there was one separation during function observed in each lot's LAT. Three individuals testified about their recollection of the separations observed during the testing of Lots 2-1 and 2-2.

66. The responsibilities of PSI's lead test technician, Mr. Darryl Suber, during the MK 124 LATs included observing the tests and recording the results. Government personnel, particularly Mr. Bowen, directed Mr. Suber to make notes on the test data sheets, like the trigger assembly notes. (Tr. 3/6-7, 13, 17) Mr. Suber testified that he remembered at least one flare burning for approximately 15 seconds and then a trigger fell off, after which the flare continued to burn. He also testified that he witnessed two separations during an LAT; one separation occurred after functioning, and the other occurred during functioning. Mr. Suber was not certain but to the best of his recollection, he believes that these instances occurred during the LAT for Lot 2-2. (Tr. 3/6-7, 13-15)

67. Mr. Goodrich recalled one trigger assembly falling off "at the end of the burning on the flare side" during the LAT for Lot 2-1 (tr. 2/160).

68. Mr. Bowen also witnessed trigger assemblies falling off during the LATs for Lots 2-1 and 2-2. He testified that all separations occurred post function.

(Tr. 3/111-12) He also testified that if the separations had occurred during function, the samples would have been marked as failures (tr. 3/117). Additionally, Mr. Bowen testified that having witnessed the separations in testing Lots 2-1 and 2-2, he initiated a conversation with PSI's engineering manager during which he informed PSI that separation did constitute a failure but that the government's enforcement of the specification concerning separation was limited by the language of the specification that prohibited only separation during function. During this conversation it was determined that PSI would make a notation of the separation and identify it as a minor defect. (Tr. 3/111-12)

69. We find that there is no evidence that the government was aware of a separation during functioning of an MK 124 during the LATs for Lots 2-1 and 2-2. PSI included no such detail in the LAT reports submitted to the contract specialist. Furthermore, Mr. Bowen's testimony shows that he was concerned about the separations post function but felt that the language of the specification did not prohibit a separation after functioning (tr. 3/111-12).

70. Both lots were accepted on deviation under Condition Code B (ex. A-5).

71. Lot 2-3 failed the LAT in February 2008 due to short burn times (tr. 3/153; ex. A-5). During manufacture of Lot 2-3, PSI lost its calibration control on the press operation used to manufacture the flare. As a result the flares produced lacked the appropriate quality and density of material. This resulted in multiple flares burning for less than the required minimum burn time. (Tr. 3/153) The government ultimately accepted the lot under Condition Code B as part of a settlement agreement between the parties (R4, tab 78 at 3).

72. Following Lot 2-3's failure, on 6 May 2008, the government issued a stop work order (R4, tab 78 at 3; tr. 2/15, 3/177, 4/17). During the suspension of work under the stop work order, PSI laid off the majority of its workforce hired for the contract (tr. 2/16-17).

73. The government lifted the stop work order by letter dated 13 January 2009 (R4, tab 70 at 3). PSI hired a new work force at the restart of production under the contract (tr. 2/16-17).

D. Interfix 3

74. PSI restarted production under Interfix 3 (tr. 2/15). Production of the MK 124s under Interfix 3 utilized the 363L disk (ex. A-5).

75. Due to the halt in production under the stop work order, the first lot produced under Interfix 3, Lot 3-1, was tested in accordance with FAT procedures

rather than LAT procedures (tr. 3/155). Lot 3-1 passed the FAT and was accepted by the government (tr. 2/15, 3/155).

76. PSI submitted Lot 3-2 for the LAT on 15 September 2009.[15] The lot failed due to the observation of one leaker during the sealing test. PSI's LAT report states:

> One unit s/n 110 of the Static Ambient group failed the Seal Integrity test. This failure is criteria for lot failure. It is hereby recommended that the entire lot be subjected to Water Submersion testing with 100% DCMA QAR witnessing.

(R4, tab 193 at 7)

77. There are two notations on the Lot 3-2 LAT report's individual test data sheet for the high temperature and low temperature function tests that state "Housing fell off" (R4, tab 193 at 17). This indicates a trigger assembly separation (tr. 3/117). There is no indication of the timing of the separation. The two samples with this notation were not marked as failures. (R4, tab 193 at 17)

78. Lot 3-2 was initially rejected by the government (tr. 3/155). PSI submitted RFD No. 30606-8476-D023 (RFD 23) to the government requesting that it be allowed to perform a 100% leak test screening of the lot to be witnessed by DCMA (R4, tab 73 at 3; tr. 3/155-56). RFD 23 proposed: "Following this screening, if the leak test passes, this lot to be considered as passing." Box 23, Need for Deviation/Waiver of the RFD, states: "This lot was rejected due to failure of one unit of the Lot Acceptance Test Sample, s/n 110. This failure was caused by a missing O-ring." PSI described the Corrective Action taken in Box 24 providing "[r]epr[i]mand of responsible employees. Simplification and reorganization of operation instruction sheets for clarity, to assist operators in proper execution at assembly." (R4, tab 73 at 3) PSI proposed a process for the leak testing; it mirrors the sealing test procedures described by Specification 13697N (*id.* at 5-6).

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[15] It appears that by no later than Lot 3-2, all testing, with the exception of T&H testing, was performed at PSI's test lab in Georgia. On 27 August 2007, the parties bilaterally modified the contract to move Plan B testing from the government testing facility to PSI's facility (R4, tab 60 at 3). At some point, Plan A and FAT testing were also moved to PSI's facility. The record does not include a contract modification changing the location for these tests. However, the LAT and FAT reports all state that testing was performed at PSI (*see, e.g.*, R4, tabs 282 at 2, 131). The T&H test continued to be performed at the government's facility after the other tests changed location (R4, tab 282 at 8).

79. The government approved PSI's request in exchange for additional units of the MK 124, and the change was incorporated into contract (R4, tab 73 at 1, tab 77 at 3).

80. Due to the need to coordinate the schedules of PSI and the government witnesses for the tests, it was approximately two months before PSI could begin the proposed leak screening. Screening took approximately 80 hours. (Tr. 3/156) After PSI's screening, Lot 3-2 was accepted (ex. A-5).

1. Lot 3-3

81. During the function test of Lot 3-3's LAT, one signal exhibited a critical defect of the separation requirement (R4, tab 194; tr. 2/16, 3/118; *see* finding 17). PSI's quality assurance and technical director described the incident in an email to the CO. He stated:

> During routine testing operations, at about 10:30 am, one unit, local s/n 21 failed to properly function. Upon initiation of the Smoke end of this signal, the contents of the smoke candle disintegrated, resulting in ejection of the candle and most of the internal components. Parts & candle debris were scattered over approximately a 14 ft. distance down range. The outer tube with associated attached parts was located approximately 141 feet downrange. No injuries or property damage occurred.

(R4, tab 194 at 1) Four additional signals in the sample group exhibited separation during function but with less extreme displays (R4, tab 208 at 2).

82. Following the failure, Lot 3-3 was rejected, and DCMA issued CAR No. 9295-0098 (R4, tab 208). PSI suspended production activities in accordance with the Critical Characteristics clause of the contract (R4, tab 194 at 1, tab 208 at 2; tr. 3/119; *see* finding 7).

83. PSI conducted a failure analysis and determined the sole root cause was poor crimping of the MK 124 on the flare end (R4, tab 209 at 1; tr. 2/16). PSI determined that its new employees, those hired when MK 124 production was restarted for Interfix 3, were short cycling the press leading to improper crimps (tr. 2/16-17).

84. PSI submitted a response, dated 3 December 2009, to DCMA's CAR. In its response, PSI requested "permission to rework Lot 003-003 by recrimping 100% to bring the rounds within engineering specification" and concurrently requested "permission from the PCO to restart production on the next lot." PSI proposed the

following as part of the corrective actions to be taken by PSI to prevent recurrence of the root cause of the deficiency: "An operation sheet is being created that requires 100% torque of the units to verify proper crimp [as part of PSI's production], rather than performing the current sample torque." (R4, tab 209 at 1) PSI also altered the crimp machine to automatically cycle to prevent the short cycling of the press (R4, tab 195 at 6; tr. 2/34).

85. PSI submitted rework procedures for Lot 3-3 for government approval. The CO conditionally approved the rework procedures by letter dated 8 February 2010. (R4, tab 195 at 2-3)

86. Sometime after the testing of Interfix 3, the government approached PSI about working with it to develop an alternate sealing disk for the MK 124, and the government engaged PSI in a separate joint contract with SAIC to find and qualify an alternative sealing process and/or sealing material for the MK 124 (R4, tab 200 at 5; tr. 2/30, 3/134-36). Mr. Hirst testified that the primary purpose of the project was "to get a sealing disk in place that would pass all the contract test requirements consistently" (tr. 2/30).

2. Lot 3-3A

87. After receiving the government's approval, PSI began to rework Lot 3-3; the rework procedures focused primarily on recrimping the MK 124 in order to solve the separation issue (R4, tab 195; tr. 2/34). The QARs observed the recrimping of the MK 124s (tr. 2/34).

88. As part of the rework process, PSI performed a torque test on all the recrimped signals. This torque test was performed internally by PSI during the manufacturing process before the lot was resubmitted for a modified LAT. During the torque test, a test technician would hold the signal by the middle of the outer container and then attach a torque wrench to the trigger assembly (tr. 3/107). The torque wrench was set to 20 inch pounds, in accordance with Note 10 of Drawing 3139733 (tr. 3/107; *see* finding 28). Once attached, the wrench would rotate until 20 inch pounds was achieved at which point the torque wrench would click free (tr. 3/107).

89. The torque test was not one of the tests required by Specification 13697N (R4, tab 22; tr. 3/179-80). Rather it appears to have been a test performed by PSI as part of its own quality inspections (R4, tab 195 at 7; tr. 3/96, 4/11). Mr. Hirst testified that the purpose of the torque test was to check that the requirement at Note 10 of

Drawing 3139733[16] was met (tr. 2/133-34). During the rework, PSI performed the torque test on all MK 124s produced as a means to check that the MK 124s were crimped properly (R4, tab 195 at 3-7; tr. 2/35). It appears that prior to the LAT for Lot 3-3, PSI performed the torque test on a limited sample of MK 124s produced during a manufacturing cycle. After Lot 3-3's failure, PSI changed this internal inspection process to require torque testing on all MK 124s. (*See* finding 84)

90. The rework procedures, which included torque testing MK 124s after they were crimped before they moved to the next manufacturing operation, were conditionally approved by the government (R4, tab 195 at 2, 7). Mr. Cowart testified that he was aware of the torque test prior to the rework of Lot 3-3. He testified that he had witnessed the torque test while performing his sampling duties, wherein he randomly witnessed lot production and pulled MK 124s for testing. (Tr. 3/207-08) However, there is no evidence that the torque test was reviewed or approved by the government at any time prior to Lot 3-3's rework. The record does not include a proposed or approved quality management plan or AIE submission,[17] and no government witness could remember the torque test being submitted for approval (*see* tr. 3/179-80, 4/11).

91. Following the rework, the lot was resubmitted as Lot 3-3A for a modified LAT (R4, tab 196). Mr. Bowen testified that during the modified LAT, PSI chose to perform, at their own risk, a torque test on all LAT units prior to the function test (tr. 3/106). Similarly, Mr. Cowart testified that PSI chose to perform a torque test on the test rounds in the low and high temperature sample groups, after they were conditioned hot and cold. He testified that he had a conversation with PSI's lead test technician during which the technician informed Mr. Cowart that PSI had decided to do a torque test on the sample rounds. In response, Mr. Cowart stated that the test would be an unauthorized test and at the risk of the contractor. (Tr. 3/211) Furthermore, Mr. Hirst testified that due to his concerns about another separation occurring, "each and every one of those rounds was torque tested in the presence of the Government personnel watching the test...to demonstrate that...these samples were crimped correctly" (tr. 2/35).

92. Based upon the findings at ¶¶ 88-91, we find that prior to the modified LAT for Lot 3-3A, PSI performed the torque test during lot production as part of its crimping procedures, prior to submissions of lots for either an LAT or FAT. The criteria that trigger assemblies be capable of withstanding a torque of 20 inch-pounds

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[16] Note 10 states: "After crimping, [both igniters] shall not be damaged and shall be capable of withstanding a torque of 20 inch-pounds min with [the outer container] without relative movement" (*see* finding 28).

[17] The contract defines the AIE as "Acceptance Inspection Equipment" (R4, tab 1 at 23, ¶ E-4). The government did direct PSI to update its AIE after the torque test procedure was revised during Interfix 4 (R4, tab 137; *see* findings 114-15).

was in the contract (*see* finding 28), but there was no test specified in the contract to check for compliance with the requirement (*see generally* R4, tab 22). The first time a torque test was performed during a LAT was during the modified LAT for Lot 3-3A. PSI proposed running the torque test in front of government witnesses to demonstrate that the MK 124s met the torque requirements in the contract. At that time, it was PSI's decision to perform the torque test, and the government did not authorize performance of the torque test during the modified LAT.

93. Mr. Cowart testified about the risk of performing PSI's torque test on low and high temperature preconditioned MK 124s. He stated:

> [W]hen you have, especially cold rounds and you have a rubber seal [the O-ring] against a metal container and they're frozen....[and] you try to torque it, you break the seal between that rubber and the metal casing.

(Tr. 3/211)

94. During the modified LAT there were two nonconformities. The government rejected the lot, and DCMA issued CAR No. 10075-0098, dated 29 March 2010. The CAR describes the nonconformities as follows:

> **1.** On Tuesday, March 23, 2010, during the Lot Acceptance Test (LAT), the following nonconformance was noted; MK 124 round Serial number 66 failed to pass the leak test; Accept on 0, Reject on 1
>
> **2.** On Wednesday, March 25 2010, during the Lot Acceptance Test (LAT), the following round number 24 had a flare igniter assembly come off during function. This is a critical and the same non-conformance that was found during the initial testing of this lot. See CAR number 9295-0098.

(R4, tab 197 at 2) The Critical Characteristics clause was again implemented and the government instructed PSI to perform a root cause analysis and required corrective action be taken by PSI (*id.*; *see* finding 7).

95. PSI responded to the CAR by letter dated 9 April 2010. The response stated in pertinent part:

> Issue 1
> The leak test failure was due to a defective o-ring. PSI has issued a Supplier Corrective Action Request accordingly. The supplier's corrective action will be made available to the government upon receipt.
>
> Issue 2
> Lot 003-003 was recrimped 100% to meet drawing requirements, with oversight from DCMA. Before function testing of the LAT sample, the extra prove-out of torquing the rounds 100% to verify proper crimp was performed in the presence of Kevin Bowen, Dean Cowart, and Jimmie Berryman.[18]
>
> Unit # 24 was tested smoke-end first. The smoke end functioned properly. The unit was then reconditioned (hot) for flare testing. The flare housing worked itself off as the flare end burned. Otherwise, the unit functioned properly.
>
> PSI proved before the testing commenced that the crimp conformed to drawing requirements. The units were built to meet all requirements, yet the flare housing still detached itself from the outer container. This defect is a design flaw, and out of PSI's control. PSI's manufacturing process did not create this defect, nor does PSI have ownership of the product's design to correct the issue.

PSI also disputed the CAR's description of the separation deficiency. It stated:

> Note: DCMA's description of the deficiency likens this failure to the one experienced on this lot pre-rework (ref CAR 9295-0098.) The two are not the same. The cause of the original failure is understood to be bad crimps dispersed in the lot....
>
> No bad crimps were discovered after the rework. All LAT samples were field verified for secure crimps by the government representatives with the torque tool prior to firing. All units functioned properly during the retest LAT.

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[18] The government disputes that Jimmie Berryman was present (R4, tab 197 at 6).

> Past test history indicates that the flare igniter housing working itself free is a recurring problem. It has been witnessed during testing in previous LATs, and was not cause for lot rejection.
>
> PSI will submit a request for waiver for this lot.

(R4, tab 197 at 3-4)

96. DCMA disputed some of PSI responses as they related to the separation issue. In a letter dated 12 April 2010, DCMA stated, in relevant part:

> ***DCMA's response***: DCMA did not approve or agree to the additional retorquing test after conditioning. DCMA did agreed [sic] with the Navy Representative, Kevin Bowen, that the additional test was not in the specification but would allowed [sic] PSI to continue at risk.

In response to PSI allegations that the separation issue was a design flaw and had been witnessed in previous LATs, DCMA responded:

> PSI has built approximately 12 previous lots prior to this critical non-conformity. In **NO OTHER LOT** did this non-conformity occur during LAT testing. It [sic] no other lot was this non-conformity brought to our attention or reported.

(R4, tab 197 at 5-7)

97. The government disputes the efficacy of PSI's torque test to establish that PSI properly crimped the MK 124s. Mr. Bowen testified that PSI's torque test would be able to show a gross failure of the contract requirement that there be no "relative movement" between the trigger assembly and the outer container. However, he asserts that, as there was no datum collected to verify the absence of movement, the test would not reveal actual compliance with the relative movement requirement. (Tr. 3/107-08) He further testified that his understanding of the no relative movement requirement was that "[w]hen you torque the ignition assembly with twenty inch pounds it shall not...have relative movement. Movement here being relative of the trigger assembly relative to the outer container." He emphasized that no movement was an absolute requirement. (Tr. 3/96)

98. Based upon our findings in ¶¶ 88-97, there is insufficient proof that the torque testing performed by PSI during the modified LAT proved proper crimps.

99. PSI submitted RFD No. 8476-D024R01 (RFD 24R1), dated 13 April 2010, for Lot 3-3A. In Box 23, Need for Deviation/Waiver, it stated:

> Separation of the Igniter housing during burning did not interfere with the proper ignition and burning of the flare, therefore should not be considered a defect.
>
> Leakage due to a defective 'O'-ring is a rare occurrence and cannot be prevented by the contractor.

(R4, tab 198 at 3)

100. The government disapproved RFD 24R1, by letter dated 13 May 2010, stating that "[t]he basis for this disapproval is that this lot failed a critical requirement (Trigger Assembly shall not separate during function) after being reworked to specifically correct this flaw" (R4, tab 198 at 2).

101. PSI continued to assert that Lot 3-3A was a conforming lot and request that the government accept the lot (R4, tab 199). PSI maintained this position throughout the rest of the contract's performance (*see, e.g.*, R4, tab 82).

102. By letter dated 11 November 2010, PSI submitted an additional response to CAR No. 10075-0098 concerning Issue 2. The letter reiterates many of PSI's statements made in the 9 April 2010 response. It also included the following additional statements:

> PSI has determined the root cause of the discrepancy is due to the Sealing Disk. The thickness of the disk creates too much back-pressure, which caused the flare igniter assembly to work free regardless of crimp.
>
> ....
>
> PSI holds a MK124 contract with Science Applications International Corp (SAIC) to assist the government in correcting technical issues with the design of the MK124 round, specifically to develop a solution for the problems and test failures associated with MK124 sealing disks. This contract is to produce prototypes of government provided design or subcontractor developed design of

> MK124's using alternate production methods to modify and/or replace the component Sealing Disk. Please see attached test reports for further information. (Three test reports total.)
>
> PSI's root cause correction for the housing coming loose will be to use an alternate Sealing Disk once Engineering testing is complete, and new disks have been qualified. Currently, two disks are being evaluated for use on the contract. A thinner disk will create less pressure build-up, and will minimize the chance of the defect recurring.

(R4, tab 197 at 10-11)

103. DCMA rejected PSI's second response to the CAR because PSI did "not address the documented root cause and corrective action." DCMA rejected the response in part because PSI had not submitted any test reports to support its conclusion that "too much back pressure" was the root cause of the separation issue. DCMA's rejection also noted:

> This CAR is an opportunity to document Root Cause and analysis of a detected and reported non-conformity. PSI's contract with SAIC came **after** this non-conformity occurred and is not part of the corrective action at this time.

The government instructed PSI to resubmit its corrective actions by no later than 8 December 2010. (R4, tab 200 at 6)

E. Restart of Production

104. Beginning in late 2010, there appears to have been a desire by both parties to restart production under the contract as quickly as possible due to certain Air Force funds attached to contract line item numbers (CLINs) under the contract that were set to expire on 30 September 2011 (R4, tab 175; tr. 2/45).

105. Around the same time, Mr. Ryan Pierce was assigned as the new CO to the contract (tr. 4/22-23).

106. By letter dated 13 January 2011, CO Pierce outlined the steps PSI needed to complete in order to receive approval to restart production. The steps included (1) performance of a root cause investigation into the test failures; (2) submission of a report on the investigation including recommended corrective actions; and (3)

submission of a request to restart production. The letter also informed PSI that "due to the production lapse of greater than 90 days, the Government is requiring a full First Article Test (FAT)" and required PSI to submit an FAT plan and schedule for review. (R4, tab 81)

107. PSI submitted a third response to CAR No. 10075-0098 on 28 January 2011. PSI's response reiterated many of PSI's statements submitted in earlier responses to CAR No. 10075-0098. It also stated:

> PSI's root cause correction for the igniter assembly separation is to use an alternate Sealing Disk 3M 433 foil with higher adhesion strength. Based on a series of Engineering tests, this disk has demonstrated a lower bursting pressure with little or no igniter assembly movement after functioning. Use of a thinner disk will create less pressure build-up, and will minimize the chance of the defect recurring. The adhesion strength will be certified to 40 oz/in to assure a strong bond of the disk to the primer holder assembly.

(R4, tab 82 at 2-3)

108. PSI submitted a series of documents in conjunction with its 28 January 2011 response including a Foil Seal Evaluation Test Report, a Root Cause and Corrective Action Report, and a Sealing Disk Engineering Test Report (R4, tabs 82, 83). PSI also submitted a request to restart production and provided a FAT plan and schedule (R4, tab 82 at 17, 22). PSI conditioned its request to restart production upon the government's approval of the 3M 433 High Temperature Aluminum Foil Tape (433 disk) (R4, tab 82 at 22). The proposed FAT plan and schedule is as follows:

> Detail inspections of piece parts – 4 weeks
> Build FAT samples – 2 weeks
> FAT test – 1 week
> Ship T&H samples to Crane – 1 week
> Conduct T&H test – 2 weeks
>
> Total time is 10 weeks after government approval to proceed.

(R4, tab 82 at 17)

109. The 433 disk is similar to the 433L disk used during production of Interfix 1. The primary differences between the two items is the backing material used

on the foil tape and the adhesion strength. (Tr. 3/90-91, 93-94) The 433 disk has an adhesion strength of 40 ounces per inch width – compared to the 38 ounces per inch width of the 433L disk (ex. G-1). The 433 disk also has a different backing material that allows for validation of the adhesion strength (tr. 3/93-94). Otherwise the two disks have virtually identical characteristics (tr. 3/94; ex. G-1).

110. On 7 February 2011, DCMA rejected PSI's 28 January 2011 response to the CAR. DCMA found that "PSI did not effectively show how the back pressure was measured [during its testing] and did not show any other investigation of other possibilities" of causes of the trigger assembly separation defect. DCMA determined: "Based upon the data submitted root cause in this instance is not conclusive. The test data as presented appears to show more of a quality deficiency with the production line than a sealing disc issue." (R4, tab 84 at 2)

111. By letter dated 11 February 2011, the CO approved PSI's request to proceed with the FAT. The approval letter stated:

> This FAT will serve as objective evidence of effective implementation of necessary corrective actions for causes associated with previous critical defect failures. PSI will need to implement all necessary corrective actions before producing FAT samples. FAT samples shall be produced utilizing processes, equipment, and suppliers that will be used to manufacture scheduled CLIN deliveries. PSI will have successfully met all FAT requirements once the FAT report has been approved by the PCO.

(R4, tab 85 at 2) However, the letter also stated that it did not change the government's position relative to CAR No. 10075-0098 as communicated by DCMA's 7 February 2011 letter (*id.* at 3).

112. The CO's letter also requested an updated/tentative production and delivery schedule for the CLINs remaining on the contract and PSI's agreement to allow a government team on site at PSI to review implementation of corrective actions and to plan for the FAT (R4, tab 85 at 3).

113. PSI submitted an updated delivery schedule on 25 February 2011 setting forth the following schedule:

	Date	Quantity
FAT Complete	22-Apr-11	
Lot 1	17-Jun-11	5,400
Lot 2	29-Jul-11	8,000
Lot 3 – Priority CLINs complete	9-Sep-11	8,000
Lot 4	21-Oct-11	8,000
Lot 5	12-Dec-11	10,000
Lot 6	20-Jan-12	9,876
Accept 003-003A	20-Jan-12	8,537
[Total]		57,813

(R4, tab 88)

114. On 1-2 March 2011, the government conducted an on-site visit at PSI's facilities. The agenda for the meeting included the following items: discuss FAT planning and scheduling; discuss/review previous product failures; and review corrective action implementation efforts to address identified root causes (R4, tab 89). During the visit, the parties changed the date of the FAT to 29 April 2011 (R4, tab 91). The parties also discussed how they would examine the MK 124's compliance with Drawing 3139733's Major characteristic requiring that all trigger assemblies (igniters) be capable of withstanding a torque of 20 inch-pounds minimum "without relative movement" (tr. 2/47; *see* finding 28). The government proposed drawing a line on the MK 124 canister during PSI's torque test in order to have a visual aid to examine for relative movement. Other than drawing the line, the torque test procedures were not changed. PSI expressed concerns with the line drawing and ran torque tests and function tests in the presence of the government personnel present in order to examine the efficacy of the proposed line drawing. (R4, tab 99; tr. 2/47-50, 3/108, 4/42)

115. By letter dated 17 March 2011, the CO addressed the torque test requirements, stating:

> [T]he government does not agree with PSI's assessment that drawing a witness mark on the igniter housing and case prior to torque testing is a "new requirement". Testing on March 1 and 2, 2011 at your facility demonstrated that a visual inspection is not sufficient to see if there is relative movement between the two parts, a requirement that has been in the Technical Data Package (TDP) from the beginning of the contract.... The witness

> mark is simply an aid to ensure that this long standing requirement is being met, not a completely new requirement. Therefore, this method is still a requirement during the FAT to ensure that the units meet the requirements of the TDP. To ensure the requirement is met, the Government recommends utilizing an ultra-fine permanent marker to draw lines perpendicular to the crimped seal across both the smoke and flare ends of the signal, as performed during the testing at PSI on 1-2 March 2011. Each line should be drawn using a straight edge, be continuous from the igniter housing to the outer case, and be of sufficient length to visually indicate movement relative to each other.
>
> In response to your request to recrimp any torque failures, it is the Government's position that it is a variation from normal production procedures. Since the FAT samples are supposed to be representative of the production units, your request to recrimp any torque failures is hereby disapproved.

(R4, tab 99)

116. During the hearing, several witnesses testified about the decision to have PSI draw a line on the MK 124s during PSI's torque test. Mr. Cowart testified that the government did not have a problem with the PSI torque test process to assess the crimping process until the trigger assemblies started separating (tr. 4/10). CO Pierce testified that he issued the 17 March 2011 letter to communicate that the visual inspection performed during the torque tests up through the production of Lot 3-3A "was not sufficient to validate that there was no relative movement between the two parts" (tr. 4/30). Mr. Bowen testified that the government determined that the line drawing method, in conjunction with the torque wrench procedure, was the best method to test the relative movement requirement without having to resort to costly and/or destructive testing (tr. 3/95-96, 183-84). Mr. Hirst testified that PSI considered the line drawing to be a new test because the government stated that any movement of the line during the torque test would be considered a failure (tr. 2/49).

117. On 14 March 2011, PSI provided its proposed delivery schedule itemized by CLINs (R4, tab 96). On 17 March 2011, the government accepted PSI's schedule change for the completion of FAT units by 8 April 2011 (R4, tab 99).

118. Bilateral Modification No. P00034 (Modification P00034) was executed by the parties on 25 March 2011. The modification revised the delivery schedule and established the FAT schedule. It provided:

> Detail inspection of piece parts-4weeks. Complete by 03/22/2011.
> Build FAT samples-3 weeks. Complete by 04/08/2011.
> Send T+H sample to Crane- Complete by 04/08/2011.
> FAT test-1 week. Complete by 04/15/2011.
> FAT Report- Submitted by 04/20/2011.
> Conduct T&H test-Complete by 05/06/2011.

(R4, tab 105 at 3)

119. Prior to final execution of Modification P00034, the parties negotiated the language of Paragraph B of the modification. As originally proposed by the government, Paragraph B stated:

> B. Revise the delivery schedule for CLINs 0001AQ...as delineated in the following section B. As consideration for revising the delivery schedule, only NON-Air Force CLINs will be accepted under Condition Code: B status. All remaining Air Force CLINs Must be Condition Code: A material. Both parties agree that any Air Force CLINs/Quantities that have not been produced/invoiced by 09 Sep 2011 will be removed from the contract at no cost to the Government.

(R4, tab 100 at 3) PSI specifically requested the removal of Paragraph B (*id.* at 1). PSI also proposed revising the third sentence to provide: "In the event that Pyrotechnic Specialties Inc. cannot produce/invoice Condition Code A units for the Air Force by 09 Sept. 2011 they will be removed from the contract with no financial obligation to PSI for unliquidated progress payments" (R4, tab 101). As executed, Paragraph B of Modification P00034 did not contain such language. It provided, "Revise the delivery schedule for CLINs 001AQ...as delineated in the following section B," but did not address either party's financial obligation relating to items not produced or invoiced as Condition Code A by 9 September 2011. (R4, tab 105 at 3)

F. Interfix 4

120. PSI began production of Interfix 4 using the 433 disk in the manufacture of the MK 124 (tr. 2/51, 3/90).

121. PSI submitted 185 signals on 5 April 2011 as a first article sample lot, Lot 4A-1. The FAT was conducted from 12 April 2011 through 14 April 2011. PSI submitted the FAT report on 21 April 2011. (R4, tab 129 at 4) The report provided:

> No failures beyond the allowed quantities have been experienced at this point,[19] with the exception of the following:
>
> - Forty two (42) units failed initial [Sealing] Test on the Flare End.
>
> - Twenty one (21) units failed [Sealing] Test on the Flare End after being subjected to the Transportation Vibration Test.
>
> - Three (3) units failed [Sealing] Test after being subjected to the 5 Foot Drop Test.

(R4, tab 129 at 9)

122. In its email accompanying the FAT Report, PSI asserted the root cause of the leakers was that the parts were crimped at 900 psi. The contractor indicated that it had conducted limited testing in front of government witnesses and ascertained that the leakers could be stopped by reducing the crimp pressure to the 700-750 psi range. The contractor proposed that the government permit PSI to submit an additional test sample of 59 signals, to include the 7 signals successfully tested on 12 April 2012. Under the proposal, the additional sample would be tested for "crimp integrity, leakage and separation after function." (R4, tab 129 at 1)

123. Following directions from the CO to submit its proposal in writing and provide additional detail about why additional testing was the best option, PSI submitted a written request to perform retesting by letter dated 27 April 2011 (R4, tabs 131-32). The request provided the following additional information:

> We are certain that the root cause of the leaking is that the parts were crimped at 900 psi. Extreme care was taken to produce units with impeccable crimp integrity. This was achieved. All samples passed the torque test.

---

[19] The 40 foot drop test and the T&H test had not been performed at the time PSI produced the FAT report (R4, tab 129 at 9).

> It was later found that crimping the parts at 900 psi places excessive pressure on the primer holder on the flare side of the MK 124. This can cause the primer holder to slightly bow and create a leak path.
>
> ....
>
> ...PSI proposes an additional test be conducted of 59 samples. These units will be crimped at 700-750 psi. We request that the 7 samples successfully tested on 4/12/11 be counted toward the total test sample. We will build the balance – 52 units and test for crimp integrity, leakage and separation after function.
>
> PSI believes that a successful outcome of this test coupled with the LAT results will clearly prove that all previous manufacturing issues related to this contract have been addressed and that we are ready to resume production.

(R4, tab 132) PSI proposed scheduling the proposed modified FAT for 16 May 2011 (*id.*).

124. Crimping at 900 psi was an anomaly for PSI. Mr. Karlson testified:

> [PSI was] so wrought up about this new requirement of relative movement in this line [drawing a line during the torque test], that we decided we were going to increase the crimp pressure. Normally those rounds were crimped under a pressure of 700 to 750 psi. These rounds were purposely crimped at a higher crimp pressure, 900 psi.

(Tr. 2/51)

125. On 4 May 2011, CO Pierce advised PSI that it had failed the FAT for Lot 4A-1 due to the leakers. However, the CO also approved PSI's request to submit another sample for a modified FAT, subject to a number of conditions and changes to PSI's proposed modified FAT. The CO required PSI to produce sixty samples for the modified FAT; PSI was not permitted to use the seven signals tested on 12 April 2011 as part of the sample lot. The CO also designated the tests to be performed during the modified FAT and defined the sample size for each test; the CO identified more tests to be performed than PSI had initially proposed. The CO provided test procedures and stated that "[t]here will be no re-crimping permitted. If a unit fails the torque test requirements, that data will be documented as a failure." The CO also required that

"the Government witness 100% of the assembly and testing of this modified FAT." (R4, tab 133 at 4)

126. By letter dated 9 May 2011, PSI provided a schedule for the FAT. It proposed testing from 31 May 2011 through 2 June 2011. PSI also stated the production schedule would be impacted by the additional FAT; the first lot of signals would be completed by 22 July 2011. (R4, tab 135)

127. PSI objected to the CO's prohibition on re-crimping during the modified FAT. It stated: "Our approved production process allows for re-crimping units that fail this test. It is our belief that the FAT should mirror the production process" and requested that the CO reconsider. (R4, tab 135)

128. The only approved production process in the record is the conditionally approved procedures for the rework of Lot 3-3, dated 18 January 2010. It provides for the following steps to be completed after the crimps are visually inspected:

> 11. Transfer each tray of completed assemblies to the PSI-P-0877 inspection station and perform the torque test on each completed assembly. Notify supervision immediately of any failure to pass this inspection. **The crimp ring must be replaced immediately** and the part re-crimped, prior to continuing to the next operation.

(R4, tab 195 at 6-7) It is unclear from the record whether the CO's disallowance of recrimping precluded the recrimping described at Step 11 of PSI crimping process during lot production or if it only disallowed recrimping if an MK 124 failed a torque test performed during the modified FAT, what PSI referred to as the crimp integrity testing.

129. The CO disapproved, by letter dated 12 May 2011, PSI's request to recrimp units for the modified FAT. The CO further required that a reference line be drawn on the MK 124 during torque testing to identify any relative movement; this is the same procedure that was followed during the initial FAT for Interfix 4. (R4, tab 137) PSI agreed to conduct the modified FAT according to the CO's instructions (R4, tab 138).

130. Due to a delay in the delivery of the sealing disks to PSI, the modified FAT was postponed to 13 June 2011. When PSI notified the government of the delay, it also indicated that the production schedule would be impacted; the delivery date for the first production lot was changed to 5 August 2011. (R4, tab 139)

131. On 19 May 2011, the government requested that PSI provide a new schedule for the balance of deliverables under the contract (R4, tab 140 at 1). By memorandum dated 23 May 2011, the CO further provided:

> PSI still owes the Government a proposed production schedule revision as a result of the FAT delay. As you are aware, funding for 21,112 units will expire for disbursement on 30 September 2011.... [U]sing the lead-times from the original schedule adjusted to account for receiving the modified FAT report on 22 June, it appears as though only 13,370 units will be delivered by the END of September 2011. Expiring CLINs must be invoiced by 9 September 2011.... Any production invoiced after 9 September 2011 MUST be applied to non-expiring CLINs as there will be insufficient time to process payment against expiring CLINs after this date.
>
> Request PSI provide an updated, more realistic schedule based upon your current component inventory and updated FAT schedule.

(R4, tab 141)

132. On 26 May 2011, PSI proposed a new delivery schedule.

	Date	**Quantity**
FAT Complete	16-Jun-11	
Lot 1	5-Aug-11	5,400
Lot 2	2-Sep-11	8,000
Lot 3	21-Oct-11	6,000
Lot 4	13-Jan-12	10,000
Lot 5	2-Mar-12	10,000
Lot 6	13-Apr-12	9,876
Accept 003-003A	2-Sep-11	8,537
[Total]		57,813

(R4, tab 142) By letter dated 9 June 2011, CO Pierce stated that he would not accept Lot 3-3A unless PSI could provide adequate documentation that the critical defects were removed from the lot or submitted a plan to remove the defects. The letter also

required submission of a delivery schedule, broken down by CLIN, not including Lot 3-3A. (R4, tab 144 at 2, 4)

133. On 14 June 2011, PSI informed the government of the need to change the delivery schedule because PSI could not meet the total requirement for the 2 September 2011 deliveries due to the long lead time required to manufacture outer containers. PSI proposed the following delivery schedule:

8/5/11 – 5,400
9/2/11 – 13,600
1/13/12 – 10,000
3/2/12 – 10,000
4/13/12 – 8,925

(R4, tab 146 at 1)

134. PSI conducted the modified FAT from 14 June 2011 to 16 June 2011. The 60 signals submitted for the modified FAT were designated Lot 4A-2. (R4, tab 147 at 3) Lot 4A-2 failed the modified FAT (R4, tab 151). The FAT report noted the following failures:

> **Function, M101 TV and High Temp. –** Two Smoke End units [out of a sample of 20 units] did not function (Dud) in Transportation Vibration, reject on 2 failures. Two Smoke End units [out of a sample of 20 units] did not function in the High Temp Function group, reject on 2 failures.
>
> **Delay M101 Cold –** Ten Smoke End Low Temperature units [out of a sample of 20 units] failed the 3 second Delay time, reject on 3 failures
>
> **DISPLAY Time M103 Cold –** Nine Low Temperature units [out of a sample of 20 units] exceeded the 25 second maximum Display time, reject on 3 failures.

The longest smoke display time was 28 seconds. (R4, tab 147 at 6, 15-16)

135. PSI addressed the failures and asserted that the cause of all failures was the age of the ignition disks. PSI proposed replacing the ignition disks with new materials and running limited testing to show that the age of the ignition disks caused the failures during the FAT. PSI also proposed that "production of the first lot in the

delivery schedule commence[] immediately after it has been proven that the age of the ignition disks caused the failures." (R4, tab 149)

136. DCMA issued CAR No. 30606-20110014 on 23 June 2011 and requested a response by 7 July 2011 (R4, tab 150).

137. CO Pierce issued a cure notice on 29 June 2011. It stated, in part:

> You are notified that the Government considers your recent failure to pass consecutive First Article Tests to be a condition that is endangering performance of the contract. Therefore, unless the condition is cured within ten (10) days after receipt of this notice, the Government may terminate for default under the terms and conditions of clause 52.249-8, Default (Fixed-Price Supply and Service), of the contract. You are hereby requested to advise Ryan Pierce, Contracting Officer...as to how and when the problem will be cured. The response must outline a detailed plan of action for successful contract performance and completion, to include PSI's proposed delivery schedule for remaining/undelivered contract CLINs.

(R4, tab 152)

138. PSI responded to the cure notice on 11 July 2011. PSI reiterated that the age of the ignition disks caused the FAT failures. It also provided a summary of the results of testing that it had performed using new ignition disks. PSI reported:

> The no function Dud problem has been cured by using new ignition disks. Remaining old ignition disks in storage will be scrapped.
>
> The delay and display time issue with the smoke end at Cold Temperature remains to be solved. The smoke candles used in the Modified FAT and PSI testing were made on May 16, 2011. The smoke candles that successfully performed at the initial FAT in April, 2011 were produced on February 8, 2011. The May 16, 2011 candles are bad and will be removed from inventory.

(R4, tab 156 at 2-3)

139. PSI's response also detailed its plans to conduct further testing and included an action plan for contract completion. It stated:

> Further testing will be conducted this week to determine the integrity of the smoke candles in inventory. The effect of more thorough and vigorous brushing of the bore of the smoke candle will be evaluated. It is expected that the cure of the smoke delay and display problem at cold temperature to be in place by July 15, 2011.
>
> PSI will remain in production and start assembling Lot 1 the week of July 15, 2011.
>
> **ACTION PLAN FOR CONTRACT COMPLETION**
>
> ....
>
> The Air Force CLINs will be completed by the September 2, 2011 requirement. Inventories of candles and subassemblies have been built ahead. The quantity required will be manufactured with an experienced crew of 10 employees.
>
> PSI will recruit, hire and train additional employees over the next three months to meet the manpower requirements of the remaining part of the schedule.... Each employee will have to meet a qualification standard of job proficiency before working on the production line.
>
> All suppliers are able [sic] deliver raw materials to meet the requirements of the schedule provided below.
>
> **SCHEDULE**
>
> Lot 1 - 5,400 – Complete 8/5/11
> Lot 2 - 17,128 – Complete 9/2/11
> Lot 3 - 10,000 – Complete 1/13/12
> Lot 4 - 10,000 – Complete 3/2/12
> Lot 5 - 5,397 – Complete 4/13/12

(R4, tab 156 at 3-4)

140. The CO requested, by letter dated 13 July 2011, additional information from PSI concerning its plan to scrap old ignition disk and how PSI would identify the bad candles. The government also raised concerns about PSI's proposed delivery schedule, particularly the size of Lot 2.[20] The letter also provided:

> Should the Government accept PSI's proposed schedule, Lot 1 shall be tested via a combined FAT/LAT. This will entail testing in accordance with FAT requirements, less the 40' Drop test.

(R4, tab 157 at 2-3)

141. On the same day, CO Pierce was copied on an email from a product quality manager (PQM) involved in the contract to his boss, Ms. Miner. The email was sent in response to Ms. Miner's inquiry about whether it was important for her to attend an integrated product team (IPT)[21] meeting concerning the MK 124. (R4, tab 290; tr. 4/116) In his response, the PQM stated:

> From the QA [quality assurance] perspective our recommendation is for the IPT to take necessary steps to terminate our contract with PSI. We will support the IPT and PCO in any direction necessary to protect Government rights in that process. To that effect we have been told that accepting PSI latest response and moving forward will give us the strongest case if the LAT scheduled for the first week of August fails.
>
> If PSI happens to pass an LAT, the test requirements are stringent enough to assess the quality of each lot.

The PQM also noted that there was "no time for additional testing not connected to production." (R4, tab 290) There is no indication in the record that CO Pierce ever responded to the PQM's email.

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[20] The proposed size of Lot 2 was 17,128 signals (R4, tab 156 at 4). Specification 13697N states that the maximum allowable size of a production lot is 10,000 signals (*see* findings 22, 35).

[21] An integrated product team (IPT) is a team of various government representatives from different functional areas that can be formed in relation to a particular government program. The team, if formed, will meet to discuss contract performance issues relating to that program. The MK 124 program had an IPT. (Tr. 4/24-25)

142. PSI provided supplemental clarifications and a new proposed schedule on 14 July 2011. The government agreed to PSI's revised schedule via email on 18 July 2011. (R4, tab 159 at 1-2, 5) The agreed upon schedule is as follows:

	Quantity	Production Complete	LAT Date	Accept Date
Lot 1	5,400	8/5/2011	8/9/11-8/11/2011	8/17/2011
Lot 2	9,416	8/19/2011	8/23/11-8/25/2011	8/31/2011
Lot 3	7,712	9/2/2011	9/6/11-9/8/2011	9/14/2011
Lot 4	10,000	1/13/2012	1/17/12-1/19/2012	1/25/2012
Lot 5	10,000	3/2/2012	3/6/12-3/8/2012	3/14/2012
Lot 6	5,397	4/13/2012	4/10/12-4/12/2012	4/18/2012

(*Id.* at 5) PSI provided a breakdown of the schedule by CLIN on 18 July 2011 (R4, tab 162).

143. The CO approved PSI's restart of production of the MK 124 under the contract by letter dated 19 July 2011 (R4, tab 163).

144. The parties bilaterally executed Modification No. PT0035, effective 25 July 2011 (R4, tab 165 at 1). The modification accepted PSI's responses to the cure notice. It also revised the delivery schedule. The incorporated schedule was the schedule proposed by PSI on 14 July 2011 broken down by CLIN. (R4, tab 165 at 3-12; *see* finding 142) The modification also provided instructions for the FAT/LAT combination test. It provided:

> THE GOVERNMENT AGREES TO A FAT/LAT COMBINATION FOR LOT 1 WHICH IS SCHEDULED TO BE DELIVERED 17 AUGUST 2011 UNDER CLIN 0003AA. SAMPLING REQUIREMENTS FOR THE COMBINED FAT/LAT WILL BE IN ACCORDANCE WITH WS-13697N REQUIREMENTS, MINUS THE 40 FOOT DROP TEST REQUIREMENT.

(R4, tab 165 at 3)

145. The delivery dates established by Modification No. PT0035 were in effect when the contract was later terminated.

1. Lot 4-1

146. The first lot produced following the restart of production was designated Lot 4-1.[22] The lot underwent the FAT/LAT test during the week of 8 August 2011. (R4, tabs 167-68) Lot 4-1 failed the FAT/LAT due to long display times from the smoke end of the MK 124. Seven out of the sample of 30 signals produced displays longer than the maximum display time of 25 seconds during low temperature function testing. (R4, tabs 170, 284 at 7) The longest smoke display time was 30.40 seconds (R4, tab 284 at 11).

147. PSI submitted RFD No. 30606-8476-D025 (RFD 25) on 25 August 2011 requesting to extend the maximum smoke display time to 30 seconds for Lot 4-1 for low temperature testing (R4, tab 170 at 2). CO Pierce required PSI to update the RFD to reflect that four units failed the TV function test due to long smoke display times. Via email on 17 August 2011 the CO stated:

> [PSI] did not address the failures in the Transportation and Vibration (T&V) units. 4 units failed for exceeding the maximum burn time of 19 seconds as required by paragraph 4.5.2.3 in WS 13697N. The accept/reject criteria is accept on 3/reject on 4.
>
> I believe PSI assumes that the older RFD (RO7U7055) [RFD 13] pertains to the T&V portion of the testing. RFD RO7U055 only pertains to the Sealing Function (paragraph 4.5.2.7).... It does not change the requirements for any T&V times.

(*Id.* at 1; *see* finding 17) According to the individual test data sheets, the longest smoke display time during the TV function test was 23.20 seconds (R4, tab 284 at 14). The CO instructed PSI as to how to revise the RFD, including providing guidance as to the language to include in the RFD (R4, tab 170 at 1).

148. CO Pierce's 17 August 2011 email marks a change in the government's interpretation of RFD 13 and the extent to which it altered the test reference table at

[22] In some documents it is designated as Lot 4A-1, and in some documents it is referred to as Lot 4-1 (R4, tabs 168, 170). One of the FAT sample lots was also designated Lot 4A-1 (finding 121). We will refer to the lot submitted for testing in August 2011 as Lot 4-1.

¶ 3.5.1.1 of Specification 13697N (*see* finding 17). During Interfixes 1, 2 and 3, the parties mutually treated RFD 13 as changing the maximum smoke display times for all signals, regardless of preconditioning environment, to 25 seconds (*see* finding 43). The practical effect of this interpretation was to change the last column of the test reference table at ¶ 3.5.1.1 to read:

TEST REFERENCE OF TABLE I	FLARE Min	(SEC) Max	SMOKE Min	(SEC) Max
Five Ft Drop (4.5.2.1)	16	23	12	25
Transportation Vibration (4.5.2.3)	16	23	12	25
Temperature and Humidity (4.5.2.4)	16	23	12	25
High Temperature (4.5.2.5)	16	23	11	25
Low Temperature (4.5.2.6)	16	23	15	25
Sealing Function (4.5.2.7)	16	23	12	25

(*See* findings 17, 43) Beginning with CO Pierce's email, the government treated the effect of RFD 13 on the last column of the test reference table at ¶ 3.5.1.1 to be as follows:

TEST REFERENCE OF TABLE I	FLARE Min	(SEC) Max	SMOKE Min	(SEC) Max
Five Ft Drop (4.5.2.1)	16	23	12	19
Transportation Vibration (4.5.2.3)	16	23	12	19
Temperature and Humidity (4.5.2.4)	16	23	12	22
High Temperature (4.5.2.5)	16	23	11	18
Low Temperature (4.5.2.6)	16	23	15	25
Sealing Function (4.5.2.7)	16	23	12	25

During Interfix 4 testing, the QARs required PSI to mark signals not meeting the maximum smoke display time requirements of Specification 13697N, adjusted as indicated above, as failures (tr. 2/80-81, 3/26). The QARs and CO also required any RFDs submitted for consideration to list the maximum smoke display times in accordance with the times listed in Specification 13697N, with the exception of the sealing function which the government understood to be 25 seconds (R4, tab 170; tr. 2/80-81, 3/26-27).

149. PSI revised RFD 25 in accordance with the CO's guidance and resubmitted it to the CO (R4, tabs 170, 177 at 4-5). By letter dated 25 August 2011, the CO approved the revised RFD (R4, tab 177 at 2). Lot 4-1 was accepted on deviation (ex. A-5).

150. On 19 August 2011, PSI proposed a revised delivery schedule. It proposed reducing the size of Lot 2 by approximately 4,000 signals and producing

only 4,985 signals for the LAT scheduled for 23 August 2011. The schedule proposed increasing the number of signals produced for Lots 3 and 6 to make up for the reduction in the size of Lot 2. (R4, tab 172) PSI later pushed the test schedule back for Lot 2; PSI requested the LAT be performed from 30 August 2011 through 1 September 2011 (R4, tab 174).

151. By letter dated 24 August 2011, CO Pierce stated that "[t]he Government is amenable to modifying the current contractual schedule, subject to the following terms and conditions, which will be memorialized in a modification to PSI's referenced contract." In discussing the government's conditions, the CO noted that under the revised schedule, 2,150 signals were designated to be completed after the date the funds backing the signals would expire. In order to modify the schedule, the CO required PSI to agree to "hold the Government harmless from any costs related to any work done and/or preparations made for the terminated portion of the contract.... In other words, the 2,150 each signals will be terminated for convenience at no cost to the Government." (R4, tab 175)

152. On 29 August 2011, PSI proposed a second revised delivery schedule (R4, tab 179). It proposed reducing the size of Lots 3 and 6 and postponed the LAT for Lot 3 until 13 September 2011 (*id.* at 3). The proposed schedule resulted in a shortfall of 5,015 signals. The proposal stated: "It is my understanding that the 5,015 rounds will be Terminated for Convenience from the contract." (*Id.* at 2) PSI later clarified that it understood that if the parties modified the schedule any termination for convenience would be at no cost to the government (R4, tab 180[23]).

153. While discussed, the contract was never modified to incorporate either of PSI's proposed revised delivery schedules (tr. 4/74). CO Pierce testified that the contract was never modified to include a revised delivery schedule nor was it changed to incorporate an agreement to terminate the contract for convenience at no cost to the government because subsequently "there was a Lot failure that placed the Contract in delinquent status which essentially made this conversation kind of overcome by events" (tr. 4/123-24). He testified that his offer to terminate the contract for convenience at no cost to the government was based on the assumption that PSI would continue to produce acceptable lots (tr. 4/70).

2. Lot 4-2

154. PSI submitted Lot 4-2 for the LAT on 29 August 2011 (R4, tab 180 at 3). The LAT tests were performed at PSI's facilities in Byron, Georgia (*id.* at 3; *see also*

[23] Tab 180 as originally provided in the government's Rule 4 file included subtabs a, b and c. The subtabs were ordered removed during the hearing (tr. 4/76).

finding 76 n.15). Discussed below are the defective signals reported in PSI's LAT report, dated 6 September 2011.[24]

155. Only signal number 40, from a sample size of 135 signals, failed the sealing test (R4, tab 180 at 6). The acceptance criteria was accept on 0 reject on 1 (finding 24). Mr. Hirst testified that after signal number 40 failed the sealing test, PSI decided to continue to test the sample for "informational purposes." According to Mr. Hirst's testimony, the government witnessed the "informational tests" performed on signal number 40. (Tr. 2/143) According to the LAT report, signal number 40 was designated as part of the 5-foot drop test sample group (R4, tab 180 at 6, 15).[25] After signal number 40 was subjected to the 5-foot drop test, it passed the subsequent sealing test (*id.* at 6). We find that it was PSI's decision to continue testing signal number 40.

156. One signal, sample number 109, from a sample size of 20 signals, failed the sealing test following the TV test "due to a hole in the sealing disc on the Flare End" (R4, tab 180 at 6). According to Mr. Hirst's testimony, this defect was caused by mishandling during testing rather than a manufacturing defect. Mr. Hirst testified that "we [PSI] made an error in how we tested it." PSI's test technicians failed to resecure the end caps on the MK 124 before the TV test, which caused a sealing disk to tear during the test. (Tr. 2/144-45) Mr. Cowart sent an email, dated 2 September 2011, to CO Pierce and other government personnel about the testing of this lot. It stated, in relevant part:

> Several disparities discussed, PSI left test area with round serial #109 to take pictures. "Product presented to the government for acceptance is the property of the government and under our control." We lost control of that one round for a short time when the round left for the photography session. PSI inadvertently repeated the horizontal drop test twice. PSI removed the TV rounds

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[24] The LAT report does not discuss the results of the modified torque test, with the government-proposed line drawing methodology.

[25] It is unclear from the record whether signal number 40 could have been replaced by a different sample signal for subsequent testing after it failed the sealing test. The Board notes that the sample lot pulled for the LAT totaled 135 signals; however, according to Specification 13697N's Table 1, only 115 signals are required for the tests performed subsequent to the sealing test under testing Plan A. This leaves 20 signals within Lot 4-2's sample lot potentially available to serve as a replacement for signal number 40. (R4, tab 180 at 6; finding 24) The government granted a request to replace test samples during Lot 4-1's FAT/LAT (R4, tab 168).

> from the cans without government oversight and they also removed the TV soaker rounds from the soak after we instructed them not to without Government oversight.

(R4, tab 180 at 20)

157. Nineteen signals in a sample of 20 signals produced smoke displays times longer than 25 seconds during the low temperature function test (R4, tab 180 at 7). The longest display time was 41.48 seconds (*id.* at 11).

158. Three signals from a sample size of 20 signals were reported as producing long display times from the smoke end of the MK 124 during high temperature function testing. The reported display times of the nonconforming signals were 21.36 seconds, 19.05 seconds, and 18.31 seconds respectively. (R4, tab 180 at 7, 10)

159. Four signals, from a sample of five signals, displayed long smoke display times following the 5-foot drop test. The reported display times of the nonconforming signals were 21.53 seconds, 23.19 seconds, 27.50 seconds, and 21.15 seconds respectively. (R4, tab 180 at 7, 15)

160. The government rejected Lot 4-2 on 2 September 2011 based upon the lot's failure to meet the requirements of Specification 13697N. A QAR summarized the reasons for the government's rejection in an email, dated 2 September 2011, and noted that the "Lot failed all tests except the Sealing Function (Ambient function) portion." (R4, tab 180 at 20) The LAT Report and the QAR summary reported that Lot 4-2 failed the sealing test, the low temperature function test, the high temperature function test, the 5-foot drop function test, and the TV sealing test (*id.* at 6-7, 10-11, 15, 20).

161. PSI submitted RFD No. 30606-8476-D026 (RFD 26), dated 7 September 2011, requesting that the government accept Lot 4-2 on deviation. The request sought a deviation for all test samples that were a basis for the government's rejection of the lot. In Box 23, Need for Deviation/Waiver, it stated:

> 1. Sample number 40 failed the initial sealing test, but it passed a subsequent informational sealing test, the sealing test after 5 Ft. Drop, and the functioning test after 5 Ft. Drop with a 17.06 second Display Time.
>
> 2. During Low Temperature functioning, nineteen (19) Display Times were in excess of 25 seconds, but the average Display Time of all 20 signals was still less than 30 seconds.

> 3. During High Temperature Functioning, three (3) Display Times were in excess of 18 seconds, but 2 of the 3 were less than 20 seconds, and the average Display Time for all 20 signals was less than 16 seconds.
>
> 4. During 5 Ft. Drop functioning, four (4) Display Times were in excess of 19 seconds, but the average Display Time of all 5 samples was still less than 23 seconds.
>
> 5. During Sealing testing after Transportation Vibration, one (1) sample leaked due to a hole in the sealing disc on the Flare End. This also resulted in a dud on the Flare End during Functioning. This hole appeared to be due to improper handling of the signal.

In Box 24, Corrective Action Taken, it stated:

> Since the majority of issues relate to excessive Display Times on the Smoke End, PSI is in the process of analyzing the Smoke Candle process and performing in-process Display Time testing in an effort to reduce the average Smoke End Display Time in all phases and to control the amount of variation in these times. PSI will also review the procedure for performing the Transportation Vibration Test to look for ways to minimize the possibility of damage occurring during handling/testing.

(R4, tab 180 at 25)

162. The CO issued a show cause notice, dated 9 September 2011, to PSI based upon its "fail[ure] to deliver acceptable product in accordance with the delivery schedule for [the contract]" requiring 9,416 MK 124s by 31 August 2011. The show cause notice informed PSI of its opportunity to present, in writing, any facts bearing upon the question of whether PSI's failure to timely perform arose out of causes beyond PSI's control and without fault or negligence on the part of the contractor. The response was due within 10 days after PSI's receipt of the notice. (R4, tab 181)

3. Lot 4-3

163. PSI submitted Lot 4-3 for the LAT on 12 September 2011 (R4, tab 284 at 22).[26] During the visual examination audit of the sample lot, the QAR found a critical defect with the alignment pin. The alignment pin of the igniter was not in the alignment pin hole of the smoke primer and holder, a failure of the requirement appearing at Note 13 of Drawing 3139733. (*Id.* at 24; *see* finding 28) The entire lot was subsequently screened for this defect and two additional defects were found (R4, tab 284 at 24).

164. Lot 4-3 also failed the sealing test. One leaker out of a sample of 135 signals was observed during the sealing test. (R4, tab 284 at 25)

165. The LAT report for Lot 4-3 also reported multiple long display times from the smoke end of the MK 124. PSI reported that 4 signals out of a sample of 20 signals produced displays longer than 19 seconds during the TV function test. The longest smoke display time was 24.20 seconds. (R4, tab 284 at 25-26) Ten out of a sample of 20 signals produced smoke displays longer than the maximum display time of 25 seconds during the low temperature function test. The longest smoke display time was 36.18 seconds. (*Id.* at 26)

166. PSI recommended that Lot 4-3 be accepted on deviation.[27]

167. DCMA issued CAR No. 30606-20110017 following Lot 4-3's failure of the LAT (R4, tab 182 at 2). PSI responded to the CAR to address the alignment pin defect. It stated that the root cause of the defect was that "[d]uring the crimping process, the igniter on the smoke end probably came out of the casing and was re-inserted into the casing with the alignment pin pressed into the adjacent vent hole instead of in the alignment pin hole of the smoke primer holder." PSI proposed changing its Production Work Instructions relating to the transportation of MK 124s to the crimping station and requiring visual inspection of the alignment pin during the torque test in order to prevent the defect from occurring in the future. (*Id.* at 2)

IV. Termination for Default of the Contract

168. PSI submitted a response, dated 14 September 2011, to the government's 9 September 2011 show cause letter (*see* finding 162). The contractor initially

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[26] In accordance with the direction of the CO, PSI had produced Lot 4-3 concurrent with the testing of Lot 4-2 (R4, tab 157 at 3).

[27] The LAT report does not discuss the results of the modified torque test, with the government proposed line drawing methodology. Mr. Hirst testified that he remembered Lot 4-3 passing the relative movement test (tr. 2/78).

responded by communicating its surprise at the issuance of the show cause notice and at the rejection of Lot 4-2. PSI stated that it was led to believe by government personnel present during Lot 4-2's LAT that the lot would be accepted on deviation. It also indicated that it thought any shortfall of production of MK 124s designated for the Air Force would be terminated for convenience at no cost to the government. (R4, tab 183 at 3)

169. PSI's response also offered the following excuses for the delays of the delivery schedule.

> 1. The root cause of delinquency on the contract is clearly due to the problem with the 3M 363 L sealing disk in the TDP....
>
> 2. PSI successfully resolved the problem with the sealing disk [through a contract with SAIC]. The 3M 433L foil disk...was determined to be a suitable sealing disk. It was introduced into production when we restarted the contract in July 2011. The new disk has performed perfectly. The problem with separation has been solved....
>
> 3. It took PSI until March of 2011 to complete work on qualifying the new disk. Therefore, the earliest PSI could have resumed work [on] the contract was April of this year. The government imposed a FAT requirement prior to production. Realistically, this created a window of opportunity to complete the Air Force CLINs of about 90 days. Therefore, the delay in the schedule is primarily attributable to the time it took to find a suitable replacement for the faulty 3M 363L sealing disk in the TDP.

PSI's response did not provide any excuses for the delays that occurred after the delivery schedule was modified in July 2011. (R4, tab 183 at 3-4)

170. In accordance with the requirements of FAR 49.402-5 and 49.402-3(f) and (g), CO Pierce drafted a memorandum, dated 21 September 2011, in support of his decision on termination. The memorandum outlines the facts leading to the decision to terminate the contract for default and discusses the various considerations taken into account by CO Pierce. (R4, tab 185)

171. Among other factors, the CO considered the rationale and excuses provided by PSI in response to the 9 September 2011 show cause notice and found

them to be "unavailing and insufficient to justify the contractor's failures under the contract" (R4, tab 185 at 5). The CO testified that he was not satisfied by PSI's excuses because these failed to focus on the "specific failures of the most recent lot" or to address the "delinquency towards the schedule that was most recently incorporated into the contract" (tr. 4/84).

172. At the time CO Pierce made his decision to terminate the contract, the government was developing a new version of the MK 124 (Mod 1) and anticipated awarding a contract for production of Mod 1 signals (R4, tab 185 at 6). The Mod 1 is the functional equivalent of the MK 124 produced by PSI under the contract. However, the candle composition of the Mod 1 was altered to reduce the presence of hazardous components such as red lead and xylene. (Tr. 3/198) According to CO Pierce's 21 September 2011 memorandum, it was uncertain whether any defaulted signals under PSI's contract could be added to the expected Mod 1 contract (R4, tab 185 at 6).

173. CO Pierce's 21 September 2011 memorandum addressed the following additional considerations:

> **c. The availability of the supplies from other sources.**
>
> At least one potential alternate supplier exists, but it is not clear at this time if they would be willing to produce the remaining quantity. There is a new version of the MK124 being developed (Mod 1); it is also possible that the remaining quantity of the current version (Mod 0) could be produced under the resultant Mod 1 contract.... There is no impact to Army or USCG readiness. The USAF remaining inventory should hold the Services over until Mod 1 contract deliveries commence in August 2013. USAF FMS orders are being denied at this time.
>
> ....
>
> **e. The degree of essentiality of the contractor in the Government acquisition program and the effect of a termination for default upon the contractor's capability as a supplier under other contracts.**
>
> (1) Termination for Default of this contract will adversely impact Pyrotechnic Specialties Inc.'s ability to compete on future acquisitions for the MK124 Signal.

> (2) Past Performance information, to include this termination action, will be entered into the CPARs program for use for evaluations in future Government contracts which may have some effect on Pyrotechnic Specialties' ability to compete on other programs they are involved in.
>
> (3) The PCO has considered the degree of essentiality of the Contractor in the Government acquisition program and does not find that this is a reason to forego termination of the current contract.

The memorandum ultimately concluded:

> The Contracting Officer has determined that failure of Pyrotechnic Specialties to perform is NOT beyond the control and without the fault of [sic] negligence of Pyrotechnic Specialties Inc. Default is not as a result of defaults of subcontractors at any tier.
>
> 6. Therefore, based upon the above rationale, in conjunction with proper legal counsel, it is hereby determined to be in the best interest to the Government to terminate for Default Contract W52P1J-04-C-0098 for a quantity of 48,719 MK124 Signals for a total dollar amount of $1,850,496.52.

(R4, tab 185 at 5-6)

174. The CO testified that he considered the input of the various services and then used his independent judgment in making the decision to terminate the contract for default (tr. 4/94).

175. The Navy did not agree with the CO's decision to terminate the contract. In the Navy's 22 September 2011 email voicing its disagreement, it further stated that "[i]f the PCO decides to pursue termination for default, the USN requests to make the option available to accept the two (2) most recent production lots at a negotiated cost as part of the termination settlement"[28] (R4, tab 288). The CO testified that the other services involved with the contract concurred with the decision to terminate for default (tr. 4/94).

[28] The record does not reflect whether the government entered into such an arrangement.

176. On 26 September 2011, the CO issued a final decision providing a notification of termination for default to PSI. The CO determined that termination for default was proper due to the contractor's failure to deliver acceptable lots of the MK 124 in accordance with the contract's revised delivery schedule. (R4, tab 186) The determination states in pertinent part:

> The Government has reviewed all the information and matters relevant to the Cure Notice and Show Cause letters and PSI's response to the same.... As a result of this review, it is the determination of the Contracting Officer that [the contract] is hereby terminated for default, pursuant to the Default Clause FAR 52.249-8 of the contract. The reasons therefore and further instructions...are set forth below.
>
> ....
>
> f. The Government has reviewed the facts provided in PSI letter dated 14 September 2011 and have found that PSI did not provide a detailed response sufficient to demonstrate that your failure to perform arouse [sic] out of causes beyond your control and without fault or negligence on your part.
>
> The following is the Government's response to the assertions in [PSI's response dated 14 September 2011]:
>
> PSI's claim that the delinquency is "clearly" due to the sealing disk is unfounded/irrelevant, particularly as it pertains to the CURRENT contractual schedule, which was revised on 25 July 2011.... As PSI states...the sealing disk issue has apparently been successfully resolved since the new disk was introduced into production in July 2011.... If the sealing disk issue has been solved since July, then the most recent quality issues/failures cannot be blamed on a defective TDP.... The delinquency against the CURRENT schedule is due to the aforementioned contractor quality-related failures and not a defective TDP, regardless of what may have happened in the past under this contract.
>
> PSI's numbered paragraph 3 discusses the window of opportunity to complete Air Force CLINs, which

> implies that the Show Cause notice was issued primarily because PSI could not finish the expiring CLINs quickly enough, which is not the case. The Show Cause notice was issued due to quality workmanship/procedural problems exhibited by PSI on every single FAT/LAT conducted in recent history....
>
> While it is true that Lot 1 was accepted on deviation for ONE long display time on the smoke end of the signal, that was the extent of the quality problems on that lot. Lot 2, however, encountered significantly more problems.... Further, during the quality production surveillance for Lot 3 LAT, a critical escape was discovered by the DCMA QAR. The smoke end striker did not line up with the primer holder.... Even after this issue was resolved the lot failed the test in two categories.... Multiple signals (on the smoke side) from the low temperature subgroup and the ambient subgroup exceeded the burn time requirement of 25 seconds which results in a failure to meet the LAT requirements.... Again, Lot 1 was accepted on RFD because there was only one long display time, whereas Lots 2 and 3 were rejected by DCMA due to several failure modes. There is no evidence that a Government employee with authority to bind the Government, i.e. a Contracting Officer, ever said that Lots 2 or 3 would be accepted....
>
> II. Government Termination Decision
>
> Based upon Pyrotechnic Specialties failure to show the Government reasonable cause not to terminate their contract for default, this letter is a Notice of Termination of [the contract] for the remaining quantity of 48,719 MK124 Signals for a total dollar amount of $1,850,496.52. The Government exercises its right under contract clause 52.249-8 Default (Fixed-Priced Supply and Service) of the [contract].

(R4, tab 187 at 1-4) The letter further states that PSI's failure to deliver acceptable product in accordance with the delivery schedule violated the terms of the contract and thereby constituted default. It also advises PSI of its appeal rights. (*Id.* at 4-5) The government modified the contract by Modification No. P00036, effective 28 September 2011, to incorporate the contracting officer's determination to terminate for default and decrease the contract value (R4, tab 188 at 2).

177. On 29 September 2011, the CO issued a demand letter to PSI for repayment of unliquidated progress payments under the contract in the amount of $1,433,315. The CO demanded repayment within 30 days.[29] (R4, tab 189)

V. ASBCA No. 57890

178. By letter dated 15 December 2011, PSI filed a timely notice of appeal from the contracting officer's determination to terminate the contract for default. The Board docketed the appeal as ASBCA No. 57890 on 16 December 2011.

VI. ASBCA No. 58335

179. By letter dated 10 January 2012, PSI submitted a certified claim to the CO demanding $802,589 in compensation for the allegedly improper rejection of Lot 3-3A (R4, tab 204 at 6). The claim discussed PSI's experience with leakers during Interfix 1 and PSI's decision to change the sealing disk used to manufacture the MK 124 (R4, tab 204 at 2-3; *see* findings 52-57). It then discussed the separation issues experienced over the course of the contract. The claim provided, in pertinent part:

> During the LATs for Lots 02-001, 02-002, 03-002,...several flare trigger assemblies dropped off. All of these occurrences were witnessed by Mr. Bowen and QAR, Dean Cowart and in each instance the defect was not considered to be a critical defect. All lots were accepted and shipped, without a waiver being required. This acceptance was given without waiver despite the fact that the trigger assembly separation was technically a defect under Specification WS 13697N, § 3.5.1.1.e. Therefore, as a result, the Government had established, through its continuing course of conduct, that the defect experienced during the above referenced LATs was not a critical defect and therefore cannot be the basis for rejection of a lot. However, this same defect became a major issue during the subsequent LAT of Lot 03-003A, which resulted in the wrongful rejection of the Lot.
>
> ....

[29] The contractor filed a notice of appeal from the demand letter, which the Board docketed as ASBCA No. 58234 on 16 July 2012. Appellant submitted a request to withdraw the appeal in February 2013, and the Board dismissed ASBCA No. 58234 on 20 February 2013.

> Prior to the scheduling of the retest of the corrected Lot (now Lot 03-003A) PSI was notified by Mr. Bowen that any type of trigger assembly separation would now be considered as a critical defect. This notification of the change in the acceptance criteria was made despite the fact that the relevant specification did not delineate that the type of separation experienced under Lots 02-001, 02-002 and 03-002 were to be considered as a critical defect....
>
> ....
>
> [D]uring the retest a flare side trigger assembly dropped off only one of the samples. As a result, based upon the newly and improperly asserted inspection criterion, the Lot was again rejected. This defect was...identical to the defect that had occurred in Lots 02-001, 02-002, and 03-002, which had been accepted by the Government without waiver.

(R4, tab 204 at 4-6; *see* findings 87, 91, 94-96) PSI's claim asserted that rejection of the lot on the basis of the one separation was improper and provided cost data to support the quantum amount of its claim. The claim did not address the leaker observed during the sealing test. (R4, tab 204; *see* finding 94)

180. The CO issued a contracting officer's final decision (COFD), dated 25 July 2012, denying PSI's claim. The COFD provided the basis for the CO's denial of the claim. The CO disagreed with PSI's assertion that the separation issue experienced during the LAT for Lot 3-3A was the same as the separation issues experienced in the LATs for earlier accepted lots. The CO also asserted that the government had not utilized an unstated inspection criterion and disagreed with the allegation that the root cause of the separation issues was that the TDP was defective. The COFD further provided:

> Table I – Inspection Plans...defines the Sealing test Acceptance Criteria as "Accept on 0, Reject on 1". One unit failed the stated sealing test requirements above; therefore, the Government had proper justification for rejecting Lot 003-003A.

(R4, tab 206 at 3)

181. PSI filed a timely notice of appeal from the 25 July 2012 COFD with the Board by letter dated 21 September 2012. The Board docketed the appeal as ASBCA No. 58335 and consolidated the appeal with ASBCA No. 57890 on 26 September 2012.

VII. ASBCA No. 59103

182. By letter dated 20 September 2013 PSI submitted an "Amended and/or Supplemental Claim" to the CO. PSI explained the reasoning for its submission of the amended/supplemental claim as follows:

> On or about January 10, 201[2] PSI submitted a certified Claim for Equitable Adjustment.... In addition to making the general allegation that the lot was improperly rejected, it also included a detailed argument regarding one of the grounds for the Lot rejection, specifically the trigger assembly separation. Government Counsel advised that the original Claim failed to address the other ground for the rejection of the lot.... While PSI alleges that the original Claim was sufficient,...this amended/supplemental claim is being submitted for the purpose of providing additional justification for its original Claim.

(R4, tab 211 at 2) The claim sought the same equitable adjustment, in the amount of $802,589 as a result of the allegedly improper rejection of Lot 3-3A, as was asserted in the 12 January 2012 claim (*id.* at 5). Certification for the claim was provided by separate correspondence dated 20 September 2013 (R4, tab 212).

183. The supplemental/amended claim asserted two bases for its reasoning that the rejection of Lot 3-3A based upon the one leaker was improper:

> a) ...[T]he leakage was caused by a hole in the units o-ring, which was a manufacturing defect of the supplier and was not caused by any failure of PSI's processes.... Since the failure was beyond the control of PSI and resulted in a corrective action being taken that would preclude any other such failures, the rejection of this Lot was improper....
>
> b) The Government, on two other occasions, had accepted lots under deviation when minimal leak failures occurred (Lot 01-007A and 03-002). On both these occasions, the lots were accepted on deviation after they were screened for additional defects.... [G]iven the fact that there was

only one leak failure, which was traced to a supplier manufacturing anomaly, the Government should have ordered the screening of the Lot to insure that there were no other failures, instead of using this isolated failure as grounds for the lot rejection.

(R4, tab 211 at 4-5)

184. The CO issued a COFD, dated 19 November 2013, denying PSI's amended/supplemental claim for equitable adjustment. The COFD asserted much of the same reasoning for denial of PSI's supplemental claim as was asserted in the 25 July 2012 COFD. It provided the following, in pertinent part, in response to the new arguments raised in PSI's supplemental/amended claim:

> *PSI alleges that this leak test failure was due to a defective o-ring. PSI further stated that a Supplier Corrective Action was issued and that the response would be made available to the Government upon receipt. To date, the Government has yet to receive any such documentation.... Regardless, as the Prime contractor, PSI is responsible for the quality of the final end product. For example, PSI Purchasing Procedure 7003, para 4.5 states, "upon receipt, PSI QA will perform a receiving inspection to ensure that the purchased product meets specified purchase requirements...." [I]t is evident that PSI did not follow its own written procedure....*
>
> *In the amended claim, PSI also noted two prior lots that were purportedly accepted under deviation by the Government when leak failures had occurred (Lots 01-007A and 003-002). According to Government records, only one of these two lots, Lot 003-002, was accepted on deviation where leakers were concerned.... When the Government accepted Lot 003-002 after being 100% Leak Tested (with Government witnessing), part of the corrective action taken by PSI was to ensure 100% compliance with that requirement. It appears as though this corrective action was not properly implemented on the production floor.*
>
> *Again, PSI alleges that the rejection of Lot 003-003A on the basis of the isolated leaker was improper. With an acceptance criterion of Accept on 0/Reject on 1,*

all it takes is one sealing test failure to reject the lot. The Government is not obligated to "order" or allow 100% rescreening (a process which is estimated to take 80-100 hours of Government witness), as alleged by PSI. Further, the failure of Lot 03-003A was not limited to an "isolated" sealing test failure/leaker; as previously discussed, there was also a repeat critical defect on the very lot in question.

(R4, tab 213 at 4)

185. PSI filed a timely notice of appeal from the 19 November 2013 COFD with the Board by letter dated 20 December 2013. The Board docketed the appeal as ASBCA No. 59103 and consolidated the appeal with ASBCA Nos. 57890 and 58335 on 30 December 2013.

DECISION

PSI produced four interfixes of the MK 124s before the contract was terminated for default (findings 36, 60, 74, 120). During Interfix 1, PSI manufactured the MK 124s using the 433L sealing disk and produced eleven lots. Interfix 1 ended after the last two lots failed the LATs due to leakers, which are defective units that failed the sealing test. (Findings 19, 36, 52-53) During Interfix 2, PSI manufactured the MK 124s using the 363L sealing disk and produced three lots. Interfix 2 ended after PSI lost calibration control on its press operation, which resulted in short burn times, and the government issued a stop work order. (Findings 60-61, 71-72) During Interfix 3, PSI manufactured the MK 124s using the 363L disk. PSI produced three lots during Interfix 3 with the last lot being reworked and resubmitted. Interfix 3 ended after the last lot, both as originally submitted and as reworked, had problems with trigger assemblies separating from the MK 124 canister, described as a separation defect. (Findings 74-76, 81, 91, 94) PSI addressed the separation defect by changing the sealing disk again (finding 107-08). During Interfix 4, PSI manufactured the MK 124s using the 433 sealing disk and produced two first article sample lots and three production lots (findings 120-21, 134, 146, 154, 163). All production lots during Interfix 4 experienced problems with long smoke display times (findings 146, 157, 159, 165). The last two production lots also reported sealing test failures, and the last production lot had alignment pins out of place (findings 155-56, 163-64).

I. ASBCA No. 57890

Following the failure of the last two lots in Interfix 4, the government terminated the contract for default (finding 176). Appellant filed a notice of appeal from the COFD, which the Board docketed as ASBCA No. 57890 (finding 178).

Appellant makes three arguments about why the government's termination for default is improper and should be converted to a termination for convenience. First, PSI argues that its default is excused due to the government's breach of the warranty of adequacy of its drawings and specifications. Second, appellant argues that the decision to terminate the contract for default was arbitrary and capricious. Finally, the contractor argues that the government breached the contract through its bad faith actions surrounding the administration and termination of the contract. (App. br. at 64-65) Before addressing appellant's arguments, we first consider whether the government has demonstrated a justification for the termination for default.

A. Standard of Review of a Termination for Default

Termination for default is a drastic sanction that should be imposed only for "good grounds and on solid evidence." *J.D. Hedin Construction Co. v. United States*, 408 F.2d 424, 431 (Ct. Cl. 1969). The government bears the burden of proving the propriety of the default termination. *Lisbon Contractors, Inc. v. United States*, 828 F.2d 759, 765 (Fed. Cir. 1987). If the government satisfies its burden of proving that the termination for default was justified, then appellant must prove that its default was excusable, caused by the government's material breach, or that the CO's termination decision was arbitrary, capricious or an abuse of discretion. *U.S. Coating Specialties & Supplies, LLC*, ASBCA No. 58245, 15-1 BCA ¶ 35,957 at 175,707; *see also United Healthcare Partners, Inc.*, ASBCA No. 58123, 16-1 BCA ¶ 36,374 at 177,312; and *Lan-Cay, Inc.*, ASBCA No. 56140, 12-1 BCA ¶ 34,935 at 171,761.

B. Propriety of the Default Determination

The default clause of the contract establishes the possible grounds for a termination for default. *AEON Group, LLC*, ASBCA Nos. 56142, 56251, 14-1 BCA ¶ 35,692 at 174,751. The contract incorporates FAR clause 52.249-8 which provides that the government has the authority to terminate the contract if the contractor fails to "[d]eliver the supplies or to perform the services within the time specified in this contract or any extension" (finding 8). "A contractor's failure to make timely delivery of agreed-upon goods establishes a prima facie case of default." *DayDanyon Corp.*, ASBCA No. 57611 *et al.*, 14-1 BCA ¶ 35,507 at 174,039 (citing *Nuclear Research Corp. v. United States*, 814 F.2d 647, 650 (Fed. Cir. 1987)). Modification No. PT0035 established the modified delivery schedule for Interfix 4 (finding 145). Under the schedule, Lot 4-2 was due by 31 August 2011, and Lot 4-3 was due by 14 September 2011 (finding 142). Under the terms of the contract, rejection of a lot constitutes a failure to make timely delivery (finding 6). The government rejected Lot 4-2 on 2 September 2011 (finding 160). Accordingly, when the CO issued the show cause notice on 9 September 2011, PSI had failed to deliver Lot 4-2 in accordance with the delivery schedule (findings 160, 162). At the time of the CO's decision to terminate

the contract, PSI had also failed to deliver Lot 4-3 by the established delivery date (findings 167, 170, 176).

Appellant asserts that prior to the scheduled delivery date for Lot 4-2, the government agreed to alter the delivery schedule. Appellant relies on the discussions that occurred between the parties in late August 2011 to support its assertion that delivery of less than 9,416 MK 124s on 31 August 2011 was excusable. (App. reply br. at 8-9) We found that on 19 August 2011, PSI proposed revising the delivery schedule and reducing the size of Lot 4-2 (finding 150). We also found that, initially, CO Pierce responded that the government would be amenable to modifying the contract's delivery schedule, subject to conditions. One of the conditions was that the parties reach an agreement to terminate for convenience, at no cost to the government, a portion of the contract, specifically 2,150 signals, that under the contractor's proposed modified schedule would be completed after the funds backing the signals were set to expire.[30] (Finding 151) PSI responded by proposing that 5,015 signals be terminated for convenience at no cost to the government (finding 152).

However, the contract was never modified to incorporate a new delivery schedule. CO Pierce testified that Lot 4-2's failure of the LAT ended any conversation about the possibility of modifying the delivery schedule. (Finding 153) The Board notes that the parties' discussion in August of 2011 concerned reducing the size of Lot 4-2, but there is no evidence that the parties ever discussed wholly excusing delivery of Lot 4-2 (*see* findings 150-53). CO Pierce even testified that his offer regarding termination of a portion of the contract at no cost to the government was based on the assumption that the contractor would continue to produce acceptable lots (finding 153). PSI failed to deliver Lot 4-2 when the lot was rejected (*see* findings 6, 160). There is no evidence of an agreement between the parties to revise the delivery schedule or to excuse PSI's failure to deliver of Lot 4-2 or Lot 4-3. Accordingly, the government has made a prima facie showing of default.

The government having made a prima facie showing of default, we next address appellant's arguments that the termination for default should be converted to a termination for convenience.

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[30] This marked the second time that the government had proposed terminating for convenience, at no cost to the government, a portion of the contract. In March 2011, PSI specifically requested the removal of language from Modification P00034 that provided: "Both parties agree that any Air Force CLINs/Quantities that have not been produced/invoiced by 09 Sep 2011 will be removed from the contract at no cost to the government" (finding 119).

C. Defective Specifications

1. The Parties' Contentions

PSI alleges that its default is "excusable as a result of the defective TDP and design drawings incorporated into the Contract" (app. br. at 86). Appellant alleges that the contract's specifications were defective both as a basis for excuse of the termination for default and as a basis for entitlement to an equitable adjustment relating to the rejection of Lot 3-3A (*see* app. br. at 86, 96-97). Appellant's affirmative claims, which underlie ASBCA Nos. 58335 and 59103, concern Interfix 3, while the termination occurred during Interfix 4. The change from Interfix 3 to Interfix 4 occurred because PSI changed the sealing disk it was using to produce the MK 124 following the testing of Lot 3-3 and Lot 3-3A[31] (findings 35, 108, 120). Appellant's defective specifications arguments specifically concern the sealing disk specifications (app. br. at 88-89). Accordingly, since appellant's defective specifications arguments specifically concern the sealing disk and since the sealing disk used and thereby the respective sealing disk characteristics changed between Interfix 3 and Interfix 4, we address the defective specifications claim concerning Lot 3-3A separately.

At this time we address only appellant's allegation of defective specifications as it relates to Interfix 4 and the assertion that the government-provided defective specifications are a basis for finding the default excusable. Appellant argues that compliance with design drawing specifications, specifically the sealing disk specifications, precluded the units from consistently passing the LATs (app. br. at 88-89). Particularly, appellant contends that the sealing disk specifications are the cause of the long smoke display times[32] and PSI's problems with leakers during Interfix 4 (app. br. at 89). Appellant asserts that it substantially complied with the contract's

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[31] The suggested source of supply is the 433L disk, which was used to produce MK 124s during Interfix 1 (findings 13, 36). PSI switched to the 363L disk for Interfixes 2 and 3 before changing to the 433 disk used during Interfix 4 (findings 60, 74, 120).

[32] The contract specifications required that smoke display times during function testing fall within a stated maximum and minimum display time (finding 17). The purpose of the maximum smoke display time cap is to ensure that the smoke expelled from the MK 124 is robust and thick enough that it can be seen from a reconnaissance craft even if disbursed by wind (finding 44). During Interfix 4 long smoke display times were established in accordance with the original maximum smoke display times listed in Specification 13697N, with the exception of the sealing function test, which the government understood to have a maximum smoke display time of 25 seconds due the incorporation of RFD 13 into the contract (finding 148).

specifications, and attempts to immediately shift the burden to the government to prove that PSI performed improperly (app. reply br. at 9-10). The government stated that appellant has failed to establish that "it assembled the signals in the lots at issue in compliance with the drawing and specifications" and further asserts that PSI's problems during production were a result of PSI's poor quality control (gov't br. at 55-56).

2. Defective Specifications Discussion

The law is well settled that the government has a right to obtain "precisely what is specified in the contract" including strict compliance with any contract specifications. *American Mechanical, Inc.*, ASBCA No. 52033, 03-1 BCA ¶ 32,134 at 158,886. It is also well established that when the government requires goods to be manufactured "in accordance with Government specifications, there is an implied warranty that if the specifications are followed, a satisfactory product will result." *Hol-Gar Manufacturing Corp. v. United States*, 360 F.2d 634 (Ct. Cl. 1966) (citing *United States v. Spearin*, 248 U.S. 132 (1918)). "Because the implied warranty protects contractors who fully comply with the design specifications, the contractors are not responsible for the consequences of defects in the specified design." *White v. Edsall Construction Co.*, 296 F.3d 1081, 1084-85 (Fed. Cir. 2002) (citing *Spearin*, 248 U.S. at 136). Accordingly, if the contractor can prove that government-provided drawings or specifications are defective, the defective specifications may excuse the contractor's default. *Magna Enterprises, Inc.*, ASBCA No. 51188, 02-1 BCA ¶ 31,660 at 156,421; *see also Astro Dynamics, Inc.*, ASBCA No. 28381, 88-3 BCA ¶ 20,832 at 105,363 (citing *Switlick Parachute Co. v. United States*, 573 F.2d 1228 (Ct. Cl. 1978) ("[I]f an appellant shows that its failure to make timely delivery arose out of causes 'beyond the control and without the fault or negligence of the contractor', including impossibility of performance or reliance on defective specifications, it is held that such causes are excusable under the provision of the DEFAULT clause of the contract.").

To establish that the government-provided specifications are defective, a contactor must prove that it "substantially complied with the government's plans and specifications, and reached an unsatisfactory result." *Hanley Industries, Inc.*, ASBCA Nos. 54315, 56383, 08-2 BCA ¶ 33,932 at 167,917; *see also SPS Mechanical Co.*, ASBCA No. 48643, 01-1 BCA ¶ 31,318 at 154,692 (quoting *C.L. Fairley Construction Co.*, ASBCA No. 32581, 90-2 BCA ¶ 22,665). Appellant has the burden of proving that its nonperformance was excusable. *DCX, Inc. v. Perry*, 79 F.3d 132, 134 (Fed. Cir. 1996); *see also AEON Group*, 14-1 BCA ¶ 35,692 at 174,755 ("Appellant has the burden of proving that its default was actually caused by its alleged excuses.").

PSI offers little evidence to support its assertion that it substantially complied with the specifications. PSI has established that the 433 sealing disk used during

Interfix 4 substantially complied with Drawing 2113661. At the time of the termination, PSI was using this disk. The 433 disk substantially complies with the average physical properties for an appropriate sealing as detailed in Drawing 2113661 and has very similar characteristics to the suggested source of supply for the sealing disk. (Findings 13, 56, 109, 120) PSI offers little evidence to prove that it substantially complied with the other specification requirements.

The contractor alleges the 433 disk inherently causes long smoke display times.[33] Appellant's brief focuses only on demonstrating that the sealing disk specifications are the cause of the long smoke display times. To this end, appellant solely relies upon the correlation that long smoke display times occurred while PSI was using the 433L disk and the 433 disk, both of which are thinner than the 363L disk used during Interfixes 2 and 3.[34] (App. br. at 90) The Board agrees that there is no evidence of long smoke display times during either Interfix 2 or Interfix 3 (*see* findings 62-64, 71, 75-76, 81, 94). However, the absence of long smoke display times during Interfix 2 and Interfix 3 is not sufficient to prove that the 433 sealing disk inherently causes long smoke display times. During Interfix 4, PSI identified the cause of the long smoke display times as either flaws in the smoke candle inventory or possibly improper brushing of the bore of the smoke candle during assembly (findings 138-39). No evidence was offered by PSI to prove that its process of installing the smoke candle was substantially compliant with the TDP or to otherwise rule out the smoke candle subassemblies as the cause of the long smoke display times. PSI offered no evidence to demonstrate that that its own manufacturing process was not the root cause of the long smoke display times. The evidence of the timing of the smoke display times is insufficient to demonstrate the sealing disk as the cause of long smoke display times where appellant has failed to address and rule out alternative assertions of the root cause stemming from the contractor's actions.

Similarly, the contractor has failed to establish that the leakers were caused by defective specifications. Appellant presented testimony during the hearing that the prior producer of the MK 124 experienced problems with leakers during manufacturing (finding 29). With respect to the sealing test failures, testimonial evidence demonstrated that the prior producer of the MK 124 experienced problems with leakers but no evidence that the prior producer was unable to pass Specification 13697N's sealing test. The Board was also presented with testimonial evidence that

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[33] The contract specifications required that smoke display times during function testing fall within a stated maximum and minimum display time (finding 17). The purpose of the maximum smoke display time cap is to ensure that the smoke expelled from the MK 124 is robust and thick enough that it can be seen from a reconnaissance craft even if disbursed by wind (finding 44).

[34] The 433L disk and 433 disk are approximately half as thick as the 363L disk (findings 56, 109).

the prior producer was able to successfully produce more than one million MK 124s. (Finding 29) Little evidence was presented about PSI's own performance of the instant contract and how it complied with the contract's specifications. Throughout performance of the contract at issue in this appeal, leakers were variously attributed by PSI to one of three causes: (1) a problem with the sealing disk; (2) a defect in the O-ring; and/or (3) an improper crimp of the MK 124 canister (finding 20). As already established above, the 433 disk, which was used during Interfix 4, substantially complied with the contract's specifications. There is no evidence from PSI's FAT or LAT reports that defective O-rings were present in the signals tested during Interfix 4 (findings 123, 134, 147, 161).

However, appellant has failed to carry its burden of proving that its crimps were proper and were not the cause of the failure. The record in the current appeal provides scant information about the contract's specifications with respect to crimping or PSI's compliance with those requirements. The record before the Board establishes that a proper crimp, when combined with an O-ring and a compliant sealing disk, creates a hermetic seal on the MK 124 (findings 12, 14). The record also includes Drawing 3139733 on which appears Note 10 providing that "[a]fter crimping, [both igniters] shall not be damaged and shall be capable of withstanding a torque of 20 inch-pounds min with [the outer container] without relative movement" (finding 28). We found that during Interfix 4, PSI drew a line on the MK 124 canister and performed PSI's torque test to check compliance with the no relative movement requirement of Drawing 3139733, and the method of drawing a line on the canister was developed with the government (findings 28, 114-16).

It is unclear whether these are the only two crimping requirements in the TDP. Furthermore, it is unclear if compliance with the requirement at Note 10 is the only crimping standard that must be met in order to determine that the crimp is sufficient to hermetically seal the unit. Crimping of the MK 124 appears to serve two primary purposes in the MK 124 design. First, in combination with the sealing disk and the O-ring, it creates the hermetic seal on the MK 124 (finding 14).

Second, crimping secures the trigger assembly to the MK 124 canister and keeps the trigger assembly from blowing off the MK 124 canister during functioning. Hence, after PSI experienced problems with separation defects, the government became interested in reviewing PSI's torque test process. (Findings 91, 116) No evidence was presented about the efficacy of the torque test to prove proper crimps for both purposes, and the record raises serious questions about the torque test's ability to demonstrate that a MK 124 is crimped sufficiently to hermetically seal the signal. For instance, based upon PSI's own report concerning Lot 4A-1, we know that over crimping of the MK 124s could result in signals passing the torque test but failing the sealing test (findings 121, 123). Appellant does not furnish proof that it complied with all relevant TDP requirements for crimping. Nor did PSI advise the Board regarding

what crimping procedures the contractor utilized during Interfix 4, particularly during production of Lots 4-2 and 4-3, and the record does not contain PSI's operational instruction sheets or crimping procedures.[35] Furthermore, even if Note 10 of Drawing 3139733 was the only crimping specification stated in the TDP, no substantial evidence was presented by PSI about whether or not Lot 4-2 and Lot 4-3 passed torque tests performed during the LATs.[36]

The minimal evidence presented by appellant in this appeal is markedly different than the evidence before the Board in *ABS Baumaschinenvertrieb GmbH*, ASBCA No. 48207, 00-2 BCA ¶ 31,090 (*ABS*), a decision upon which appellant heavily relies in its post-hearing brief. In that appeal, the Board considered the termination for default of a contract for production of a coal crushing machine to be built in accordance with a combination of design and performance specifications provided with the government's invitation for bids (IFB). Evidence there before the Board established that (1) the specification in the IFB did not include a drawing, prepared by the developer of the specifications, that depicted the arrangement and assembly of the machine components; (2) the dimensions of components were based on brand name proprietary items that were not identified in the specifications; and (3) in one instance the wrong proprietary item was mistakenly used to create component dimensions. *Id.* at 153,507-08. The Board was also presented with standard industry formulae evidence demonstrating that a machine manufactured in strict compliance with the design specifications contained in the IFB would not have met the performance requirements specified in those specifications. *Id.* Based upon this body of evidence, the Board found that the specifications in that appeal were defective. *Id.* at 153,517.

The Board also notes that unlike the present appeal, where PSI maintains that it complied with the design specifications, the contractor in *ABS* did not attempt to produce a machine that complied with the design specifications in the contract at issue in the appeal. Rather, having determined that the design specifications conflicted with the performance requirements, ABS developed its own design to meet the performance requirements. *Id.* at 153,500. Consequently, *ABS* does not articulate the burden of proof before the Board in the present appeal, because the facts of that appeal were such that the contractor never attempted to prove that it had complied with the government's design specifications. The Board in *ABS* made its determination based

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[35] The only approved production process in the record are the procedures for the rework of Lot 3-3. The procedures are dated 18 January 2010. There is no indication of how these procedures relate to those utilized by PSI during the production of any other lot during contract performance. (Finding 128)

[36] Mr. Hirst testified that he remembered Lot 4-3 passing the relative movement test (finding 166 n.27). Appellant adduced no testimony concerning Lot 4-2 (finding 154 n.24).

upon evidence about the preparation of the specifications and conflicts between the performance requirements and design specifications, which were apparent from the government-provided specifications.

In the present appeal, where the contractor alleges that it complied with the contract's specification, the contractor bears the burden of proving its compliance with the contract's specifications. PSI did not meet this burden. PSI's assertion that the contract's TDP was defective is not supported by the weight of the evidence. Appellant presents no evidence that it substantially complied with the contract's plans and specifications during Interfix 4. To the contrary, the record includes evidence of problems with PSI's crimping process at least during the production of Lot 4-3; PSI identified the crimping process as the cause of the misaligned alignment pins found in Lot 4-3 (finding 167). The contractor's opinions that the sealing disk specifications caused long smoke display times or leakers is unsupported by any detailed or credible analysis demonstrating a sound technical basis for the opinion. Furthermore, we found that PSI was able to successfully produce at least three lots of MK 124s capable of passing the contract's inspection requirements without need for deviation (findings 40, 45, 49). Accordingly, we find that appellant has failed to prove that the contract's specifications were defective. PSI has failed to demonstrate that its default is excusable on the basis of a defective TDP.

D. Appellant's Allegations that the Decision to Terminate was Arbitrary and Capricious

PSI contends there are multiple reasons why CO Pierce's decision to terminate the contract for default was arbitrary and capricious. It argues that Lot 4-2 was not properly assessed. Appellant also alleges that the CO failed to exercise independent judgment and that the CO failed to consider the appropriate factors in making his determination.

"The default article of [a] contract does not require the Government to terminate on a finding of default, but merely gives the procuring agency the discretion to do so, and that discretion must be reasonably exercised." *Darwin Construction Co. v. United States*, 811 F.2d 593, 596 (Fed. Cir. 1987). "[A] termination for default will be set aside if it is arbitrary or capricious, or constitutes an abuse of the contracting officer's discretion." *McDonnell Douglas Corp. v. United States*, 182 F.3d 1319, 1326 (Fed. Cir. 1999) (holding that the government may not use default as a pretext for terminating a contract for reasons unrelated to contract performance). Furthermore, the decision to terminate must be based on the CO's independent judgment. *Fraya, S.E.*, ASBCA No. 52222, 02-2 BCA ¶ 31,975 at 157,951. In reaching a decision as to the propriety of the termination for default, we consider "the totality of the circumstances existing at the time of the termination." *AEON Group*, 14-1 BCA ¶ 35,692 at 174,752.

1. Allegations that the Decision to Terminate for Default was Based on Factual Inaccuracies Concerning Testing Results

We begin by examining appellant's allegations that the government inappropriately tightened its acceptance requirements for Lots 4-2 and 4-3 and that the misassessment of the lots caused the bases for the default determination to be materially inaccurate (app. br. at 79).

(a) Alleged that Long Smoke Display Times were Considered a Quality Issue Only during Interfix 4

PSI alleges that the government changed its position on long smoke display times, making them a quality issue for the first time during Interfix 4 and that prior to Interfix 4, "long smoke display times were not undesirable" (app. br. at 79). While there is disputed testimony about whether the government preferred longer smoke display times (*see* finding 44), there is no evidence to support appellant's claim that long smoke display times became a quality concern only during Interfix 4. Under the terms of the contract, smoke display times are classified as a Major characteristic and acceptable display times are prescribed (finding 17). Throughout contract performance, signals displaying long smoke display times were reported as failures/nonconformances. In accordance with the acceptance criteria in Table I of Specification 13697N, lots that exhibited too many long smoke display times during their respective FAT or LAT were rejected by the government. These lots were only accepted once a request for deviation was submitted and approved. (Findings 24, 39, 41, 46, 48, 134, 146, 157, 165)

While the government may have repeatedly chosen to accept lots with long smoke display times on deviation, there is no evidence that this was not treated as a quality issue. As late as July 2011, PSI was attempting to correct the long smoke display times (findings 138-39). This attempt to address long smoke display times occurred prior to the government's first determination to disapprove a deviation for a lot with long smoke display times (*see* findings 138, 176). Throughout all interfixes, the government treated long smoke display times as a quality issue and treated failure to conform to smoke display time specifications as a basis for rejection of a lot.

The primary difference with respect to Lot 4-2 and Lot 4-3 was that the government opted not to approve PSI's requests for deviation (finding 176). PSI alleges that the CO's failure to consider PSI's requests for deviation prior to making his default determination renders the CO's decision to terminate arbitrary and capricious (app. br. at 81). The CO was not required to consider the request for deviation prior to making his termination decision. *See Kurz-Kasch, Inc.*, ASBCA No. 32486, 88-3 BCA ¶ 21,053 at 106,334 ("The Government is not obligated to wait and see if the deviation should be allowed before terminating a tardy contractor for

default."). However, in this instance, the CO's final decision that terminated the contract for default details the CO's consideration of PSI's requests for deviation and lists the CO's reasons for determining that Lots 4-2 and 4-3 would not be accepted on deviation (finding 176). His decision stated that the basis for denial of the deviation was that unlike Lot 4-1, which failed only the low temperature function test, Lots 4-2 and 4-3 failed multiple tests (*see* findings 146, 155-59, 163-65, 176). "The decision to grant or deny a deviation is within the sound discretion of the CO." *M.A. Mortenson Co.*, ASBCA No. 53062 *et al.*, 01-2 BCA ¶ 31,573 at 155,908 (citing *Kurz-Kasch*, 88-3 BCA ¶ 21,053). There is no evidence that the CO abused his discretion when he decided not to grant a deviation due to the lots' multiple test failures.

(b) Alleged that the Government Changed the Acceptance Criteria

PSI also alleges that the government changed the testing acceptance criteria for Interfix 4, specifically that the government changed the requirements for the maximum smoke display times (app. br. at 68-69). During Interfix 1, the parties bilaterally modified the contract to incorporate the approval of RFD 13 requesting "a [d]eviation from the requirement maximum of 19 seconds to a maximum of 25 seconds for the smoke burn" on the contract (finding 42). We found that during Interfixes 1, 2 and 3, the parties treated this modification as having raised the maximum smoke display times for all function tests to 25 seconds (finding 43). However, during Interfix 4, the new CO interpreted RFD 13 to pertain to only the sealing function test (findings 147-48). This changed the government's working interpretation of RFD 13.[37] During Interfix 4 testing, QARs required test failures to be determined according to the requirements originally established in Specification 13697N, with the exception that the maximum smoke display time for the sealing function test was adjusted to 25 seconds (findings 17, 148).

This change in interpretation resulted in more MK 124 samples being recorded as failures during the testing of Lot 4-2 and 4-3 (findings 148, 158-59, 165). For instance, during testing of Lot 4-2 four signals were recorded as displaying long smoke display times during the 5-foot drop function test. The display times were 21.53 seconds, 23.19 seconds, 27.50 seconds and 21.15 seconds. (Finding 159) The maximum smoke display time according to Specification 13697N for the 5-foot drop function test is 19 seconds (finding 17). Accordingly, when the QARs utilized the table in Specification 13697N, all four signals were marked as long display times. However, under the parties' original working interpretation of RFD 13, only the signal with a display time of 27.50 seconds would have been recorded as a failure (*see* findings 43, 148, 159). The 5-foot drop function test has an acceptance criteria of accept on 1, reject on 2 (finding 24). If the parties had continued with their earlier interpretation, Lot 4-2 would have passed the 5-foot drop function test.

[37] We make no determination as to the proper interpretation of RFD 13.

Under the government's changed interpretation of RFD 13, Lot 4-2 failed five tests during the LAT (findings 155-59). Under the parties' earlier interpretation of RFD 13, Lot 4-2 would have failed only three tests. One signal failed the sealing test; the acceptance criteria is accept on 0, reject on 1 (findings 24, 155). One signal failed the TV sealing test, the acceptance criteria is accept on 0, reject on 1 (findings 24, 156). Additionally, 19 signals had smoke display times longer than 25 seconds during low temperature function testing; all are failures under either interpretation of RFD 13 (findings 148, 157). The acceptance criterion is accept on 2, reject on 3 (finding 24). PSI further alleges that neither sealing test failure was due to leakers and, therefore, should not have been treated as test failures and a basis for rejection of Lot 4-2 by the government (app. reply br. at 6-7). Even if PSI were correct in this argument, the low temperature function test failure, on its own, creates sufficient grounds for rejection of Lot 4-2.

(c) Alleged that the Government Should Not Have Relied on the Sealing Test Failures as a Basis for Rejection of Lot 4-2

Appellant argues that neither of the sealing test failures in Lot 4-2 were caused by defective signals and, therefore, should not have been relied upon by the government as bases for rejection of the lot (*see* app. reply br. at 6-7). The Board determines that there was no error in the government's treatment of these tests as failures.

PSI first argues that signal number 40 should not have been classified as a leaker because while "the unit exhibited signs of leaking during the initial seal test[,]...the same unit showed no signs of leaking in multiple subsequent seal tests" (app. reply br. at 6). We found that signal number 40 failed the sealing test (finding 155). We also found that PSI chose to then subject signal number 40 to the 5-foot drop test and a subsequent second sealing test after the 5-foot drop preconditioning. Mr. Hirst, an employee of PSI, described this test as an informational test. Signal number 40 passed this second sealing test. (Finding 155) There is no evidence of signal number 40 undergoing any other sealing tests besides the initial required sealing test and this second "informational" sealing test. The term "informational test" was also never defined or sufficiently explained to the Board.

Appellant's argument amounts to contending that the first test failure should be excused because another test was passed. Under the testing plan in the contract, samples designated for the 5-foot drop test are required to pass two sealing tests, one prior to the 5-foot drop test and one afterwards. The acceptance criteria for both sealing tests is accept on 0, reject on 1. (Finding 24) This means that a single failure of either test is a sufficient basis for rejection of the lot. Even if we assume *arguendo* that the second sealing test was a required test, there is nothing to suggest that a signal passing one sealing test forgives the signal failing a separate, required sealing test.

Rather, Specification 13697N requires that signals designated for the 5-foot drop test pass both sealing tests.

PSI also argues that signal number 109 should not have been classified as a leaker because the unit's leaking was due to the contractor's faulty testing technique rather than a manufacturing defect (app. reply br. at 6-7). We found that testing for Lot 4-2 was performed at PSI's facilities and that tests at PSI's facilities were performed by contractor personnel (findings 30, 154). Mr. Hirst testified that PSI made an error and failed to resecure end caps on signal number 109's canister, as required by Specification 13697N, before the signal was put through the TV test, allowing the sealing disk to tear during the TV test (findings 19, 156). After the TV test, PSI performed the sealing test on signal number 109 in accordance with Specification 13697N (findings 24, 156). The contractor admits that the testing error was caused by its own personnel's failure to follow contract required test procedures, and there is no evidence that failure to follow procedures was due to government action (*see* findings 19, 156). PSI furnishes no legal authority, and we are aware of none, to support appellant's position that the government must disregard failure of a test required by the contract because the contractor failed to conduct the test in accordance with contractually required procedures.

The classification of signal number 40 and signal number 109 as leakers was appropriate under the contract's testing requirements, and there is no error in the government's reliance on these test failures as alternative bases for rejection of Lot 4-2.

(d) Effect of the Proven Factual Inaccuracies Underlying the Termination Decision

While we agree that there was a change to the acceptance criteria for Interfix 4, there are other valid grounds that justify the government's rejection of both Lot 4-2 and Lot 4-3 that are consistent with the parties' earlier interpretation of RFD 13. For Lot 4-2, there were three test failures. First, the lot failed the sealing test (finding 155). Second, the lot failed the TV sealing test (finding 156). Finally, the lot failed the low temperature function test due to 19 signals that had smoke display times longer than 25 seconds; 25 seconds was the maximum smoke display time for low temperature function tests throughout contract performance, irrespective of RFD 13's interpretation (findings 46 n.10, 157). Each of these failures creates sufficient grounds for rejection of Lot 4-2 even if the maximum smoke display time stated in RFD 13 is applied to all function tests (*see* finding 24).

There were also three bases for rejection of Lot 4-3. First, an alignment pin was found not in the alignment pinhole; this was a critical defect (findings 28, 163). Next, the lot failed the sealing test (finding 164). Finally, the lot failed the low temperature function test due to 10 signals that had smoke display times of greater than 25 seconds (finding 165). Each failure on its own creates sufficient grounds for

rejection of Lot 4-3. The Board agrees that the government changed the acceptance criteria during Interfix 4 with respect to RFD 13. However, when the testing results are analyzed under the methodology from RFD 13 used during Interfixes 1, 2, and 3, there are additional bases for the government to reject the lots. Since there were additional contractual bases for the rejection of the lots, the alleged errors in recording other failures in the lots are not material.

2. Alleged Contracting Officer Failure to Exercise Independent Judgment

We next consider appellant's argument that the termination for default should be converted to a termination for convenience because the CO allegedly failed to exercise his independent judgment in deciding to terminate the contract (app. br. at 78). Appellant's assertion that the 13 July 2011 email from a PQM demonstrates that CO Pierce failed to exercise his independent judgment in deciding to terminate the contract for default is unpersuasive (*see* finding 141). Appellant characterizes this email as a set of instructions from the IPT to the CO directing the CO to terminate the contract and directing what steps the CO should take to do so (app. br. at 78-79).

We take issue with this characterization for a number of reasons. First, the email that appellant relies upon was not from the IPT and was not addressed to the CO. Instead, it is an email from a PQM to his boss, advising whether she needs to attend an upcoming IPT meeting. The CO is only copied on the email. (Finding 141) Second, while the email does recommend terminating the contract, we fail to see any directive to the CO to do so. The email appears to discuss how testing will proceed should the contract not immediately be terminated and the ability of testing to properly screen the lots from a quality assurance standpoint (*see* finding 141). We fail to see any evidence that the email was intended to provide a set of instructions to the CO or that upon being copied on the email, the CO abdicated all independent decision making in the administration of this contract. At the same time, the record does provide evidence that CO Pierce exercised his independent judgment in deciding to terminate the contract for default. We found that the armed services disagreed about whether the contract should be terminated for default, and the CO testified that he used his independent judgment in deciding to terminate the contract for default over the Navy's objections (findings 174-75). The fact that the CO terminated the contract for default over the objections of one of the contract's customers (*see* finding 1), in conjunction with CO Pierce's testimony, is convincing evidence that CO Peirce exercised his independent judgment in determining to terminate the contract for default.

3. Alleged CO Failure to Consider FAR 49.402(f) Factors

Finally, we consider appellant argument that the CO's decision to terminate the contract for default was arbitrary and capricious because the CO failed to consider the

factors outlined in FAR 49.402-3(f) (app. br. at 82-83). FAR 49.402-3(f) requires a contracting officer to consider various factors "in determining whether to terminate a contract for default." However, the factors "are not a prerequisite to a valid termination," and "the regulation does not confer rights on a defaulting contractor." *DCX*, 79 F.3d at 135. PSI alleges that the CO's decision in the instant appeal is arbitrary and capricious because certain factors weighed against terminating the contract for default, such as the availability of the item elsewhere, the urgency of the need for the product, and the effect of the termination upon the contractor (app. br. at 83-84).

Appellant points to no case law which suggests that all factors must weigh in favor of termination in order for a decision to terminate for default to be considered reasonable, and furnishes no evidence of the legal relevancy of those to the CO's determination here. It is only required that before exercising his/her discretion to terminate under the Default clause, the CO should consider all relevant factors. *Kostmayer Construction, LLC*, ASBCA No. 55053, 08-2 BCA ¶ 33,869 at 167,655; *see also Walsky Construction Co.*, ASBCA No. 41541, 94-2 BCA ¶ 26,698 at 132,786 (quoting *Jamco Constructors, Inc.*, VABCA Nos. 3271, 3516T, 94-1 BCA ¶ 26,405) (stating that it is expected that a CO will face contradictory information in reaching a decision to terminate for default).

4. Totality of the Circumstances at the Time of the CO's Decision to Terminate for Default

Taking into consideration appellant's particular arguments, the Board examines the totality of the circumstances existing at the time of the termination in reaching a decision on the propriety of the termination for default. The contract called for rejection of a lot upon the failure of a single test prescribed by Specification 13697N (finding 24). Throughout contract performance, the contractor continuously failed to produce acceptable lots (findings 39, 41, 46-48, 52-53, 62, 71, 76, 81, 146, 160, 163). Each failure to produce an acceptable lot placed the contractor in default status pursuant to the terms of the contract (*see* findings 6, 8).

Yet, the government repeatedly tried to work with PSI and allowed the contractor time to resolve the problems it encountered during production of the MK 124 (*see* findings 38, 42, 47, 57-58, 73, 78-79, 84-85, 106, 111). Ultimately, the contractor could not produce as required, and by Interfix 4 its problems had increased. Among the circumstances before the CO at the time of the termination were: (1) PSI's most recent lots had shown multiple failures and the longest smoke display times to date[38] (findings 41, 46, 48, 155-57, 163-65); (2) multiple services supported the decision

[38] The longest smoke display time for Lot 4-2 was 41.48 seconds (finding 157). Prior to Lot 4-2, the longest smoke display time recorded was 33.2 seconds (finding 46).

terminate (finding 175); and (3) PSI's response to the show cause notice failed to address the CO's concerns about PSI's failure to meet the current delivery schedule and instead focused on the problems with the 363L disk used during Interfix 3, prior to the establishment of the delivery schedule in effect at the time of the termination (findings 144-45, 169, 171). In light of these considerations, the CO's decision was neither arbitrary nor capricious but based upon PSI's failure to meet specification requirements.

E. Bad Faith

Appellant further argues that "not only were the Government's actions both arbitrary and capricious..., they reach the heightened level required for a bad faith determination" (app. br. at 65). PSI alleges that there was a specific intent to injure PSI and describes the bad faith administration and termination of the contract as a breach of the contract. The contractor points to action taken by the QARs and the CO as evidence of the government's bad faith. (App. br. at 66-75) The government asserts that the Board lacks jurisdiction over appellant's bad faith allegation because it constitutes a new claim that was not presented to a CO prior to the filing of these appeals (gov't reply br. at 26-27). We address the Board's jurisdiction first.

1. The Board's Jurisdiction over Appellant's Allegation of Bad Faith

The Board's jurisdiction is derived from the CDA. Accordingly, the scope of our jurisdiction is determined by the claims before us on appeal. *American General Trading & Contracting, WLL*, ASBCA No. 56758, 12-1 BCA ¶ 34,905 at 171,639. "The Board lacks jurisdiction over claims raised for the first time on appeal." *U.S. Coating Specialties*, 15-1 BCA ¶ 35,957 at 175,706 (citing *Optimum Services, Inc.*, ASBCA No. 57575, 13 BCA ¶ 35,412 at 173,726). However, the "assertion of a new legal theory of recovery, when based upon the same operative facts as the original claim, does not constitute a new claim." *Dawkins General Contractors & Supply, Inc.*, ASBCA No. 48535, 03-2 BCA ¶ 32,305 at 159,844 (citing *Trepte Construction Co.*, ASBCA No. 38555, 90-1 BCA ¶ 22,595 at 113,385-86). "If the Board 'will have to review the same or related evidence to make its decision, then only one claim exists.'" *Lael Al Sahab & Co.*, ASBCA Nos. 58344, 59009, 15-1 BCA ¶ 35,809 at 175,130 (quoting *Placeway Construction Corp. v. United States*, 920 F.2d 903, 907 (Fed. Cir. 1990)).

There are multiple claims, including the contractor's affirmative claims, before the Board in these consolidated appeals. For the bad faith allegation, appellant asks that we examine the change in the inspection criteria during Interfix 4, the QAR's issuance of CARs during Interfix 4, the allegation of fraud by government personnel relating to a separate contract, PSI's discussions with the CO about the possibility of termination for convenience, and an email between government personnel from August 2011 (app. br. at 68-75). Many of these facts are already before the Board in relation to appellant's

arguments that the CO's decision to terminate was arbitrary and capricious. Treating appellant's bad faith allegation as an affirmative claim[39] and assuming *arguendo* that this concerns the same operative facts as the claims underlying ASBCA Nos. 58335 and 59103, appellant's bad faith claim still fails for lack of proof.

2. Merits of Appellant's Bad Faith Claim

"Government officials are presumed to act in good faith in discharging their contracting duties. The presumption can be overcome only by clear and convincing evidence of a specific intent on their part to injure the contractor." *R.L. Bates General Contractor Paving & Associates, Inc.*, ASBCA No. 53641, 10-1 BCA ¶ 34,328 at 169,542 (citing *Am-Pro Protective Agency, Inc. v. United States*, 281 F.3d 1234, 1240 (Fed. Cir. 2002)); *see Plum Run, Inc.*, ASBCA No. 46091 *et al.*, 97-2 BCA ¶ 29,193 at 145,230 ("The burden of proving bad faith by the Government is a very onerous one."). "The Court of Appeals for the Federal Circuit has defined clear and convincing evidence as 'evidence which produces in the mind of the trier of fact an abiding conviction that the truth of a factual contention is *highly probable*.'" *IMS Engineers-Architects, P.C.*, ASBCA No. 53471, 07-1 BCA ¶ 33,467 at 165,917 (citing *Am-Pro Protective Agency*, 281 F.3d at 1239-40).

Appellant has failed to present sufficient credible evidence to meet this heavy burden. There is no specific evidence that the change in the maximum smoke display time acceptance criteria during Interfix 4, which resulted from the government changing its interpretation of RFD 13, arose from an intent injure PSI. As already discussed above, the Board agrees that there was a change to the maximum smoke display time acceptance criteria. The Board also found that this change resulted in more MK 124 samples being recorded as test failures during the LATs for Lots 4-2 and 4-3 (findings 148, 156, 158-59). The change in interpretation of RFD 13 was instigated by the CO who was newly assigned to administer the contract; he was the first to indicate that PSI was to report failures in accordance with Table I of Specification 13697N for all preconditioning environments except for sealing (findings 105, 147-48). There is no evidence to suggest that CO Pierce's interpretation was the result of anything more than unfamiliarity with past performance and a differing interpretation of the RFD. Furthermore, the change in interpretation was ultimately immaterial. The decision to reject the lots for more than one test failure is still grounded in factual bases even when the controversial test failures for the length of smoke display times are removed from the test data (*see* findings 155-57, 163-65).

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[39] The government's argument that appellant's bad faith allegations are not based upon the same operative facts as other claims before the Board presents a complication as to whether to treat the allegations as an affirmative claim or an affirmative defense. Since there appears to be an overlap, we treat this as a claim.

Similarly, we have already disagreed with appellant's interpretation of the 13 July 2011 email from a PQM to his boss as evidence of a plan to terminate PSI before Interfix 4 even began (*see* finding 141). PSI would have the Board regard this email as evidence of a plan, made prior to the production of MK 124s during Interfix 4, amongst the IPT and the CO to terminate PSI for default. The Board, however, has already discussed that the email appears to be the recommendation of a single individual to terminate the contract for default. There is no evidence that the IPT at large or the CO concurred in this opinion. The email is not, as appellant contends, credible evidence of a government plan to induce PSI to produce MK 124s while harboring an intent to terminate the contract for default, regardless of how PSI performed during Interfix 4. Furthermore, the Board has already determined that during Interfix 4 PSI, in actuality, failed to meet multiple specifications requirements of the contract.

The contractor also alleges that CO Pierce's actions in August of 2011, when the parties discussed the possibility of amending the delivery schedule, is evidence of bad faith actions by the government. Appellant alleges that the parties had an agreement to terminate any shortfall units for convenience and that CO Pierce led PSI to believe that he had accepted PSI's proposed revised delivery schedules, dated 19 August 2011 and 29 August 2011. (App. br. at 71-72, 74) The Board has already determined that there is no evidence of an agreement between the parties to revise the delivery schedule. We found that in response to the contractor's proposal, dated 19 August 2011, to revise the delivery schedule, the CO opened a discussion about the possibility of amending the schedule subject to many conditions. At that time, CO Pierce stated that any amendment to the schedule would be memorialized by a modification to the contract, and proposed terminating for convenience at no cost to the government the option for 2,150 signals. (Findings 150-51) PSI responded on 29 August 2011 by providing a second proposed delivery schedule and proposing 5,015 signals be terminated from the contract for convenience (finding 152).

The Board already found that these discussions alone were not sufficient evidence of an agreement to amend the delivery schedule. We also find no evidence of an agreement to terminate for convenience any shortfall of signals by PSI. CO Pierce made an offer to terminate for convenience at no cost to the government the production of 2,150 signals (finding 151). PSI did not accept but rather countered by proposing that 5,015 signals be terminated for convenience (finding 152). There is no evidence that the government accepted PSI counteroffer or entered into an agreement to terminate for convenience at no cost to the government any shortfall in PSI production.

The Board also notes that PSI specifically rejected, in March of 2011, an offer from the government to remove Air Force quantities not invoiced by 9 September 2011 from the contract at no cost to the government (findings 119-20). As a result of PSI's actions, the parties never entered into an agreement to either modify the delivery schedule or to terminate the contract for convenience. On two occasions the government

made an offer to terminate for convenience at no cost to the government portions of the contract, and, in August 2011, the government offered to amend the schedule subject to conditions. PSI never accepted these offers. We find no evidence of bad faith in the government's attempts to work with the contractor to execute such agreements.

Furthermore, while PSI provided some admissible testimony with respect to the problems between the QARs and PSI on other contracts, insufficient proof was offered to show by clear and convincing evidence that there was a specific intent to injure PSI on this contract (*see* findings 30-34). Appellant established through testimony that one or more QARs made fraud allegations against PSI. However, the Board found that none of the allegations related to the contract at issue in this appeal. (Finding 31) Furthermore, there is evidence that one QAR involved in the allegedly problematic contracts was involved in this contract, but evidence of his actions on this contract fell short of a specific intent to injure (finding 33). There is no evidence that the CARs were issued for other than contract performance reasons; all appear to relate to failures of Major or Critical performance requirements under the contract (findings 82, 94, 134, 136, 167).

Having reviewed the evidence of the actions of the CO and the QAR, we find that PSI has failed to meet the burden of demonstrating by clear and convincing evidence that the government proceeded with the administration and termination of the contract with a specific intent to injure PSI.

II. ASBCA Nos. 58335, 59103

A. The Claims

Following the rejection of Lot 3-3 due to a critical defect, the parties entered into an agreement to allow PSI to rework the lot and resubmit it for testing (findings 81-82, 84-85, 87). The reworked lot was submitted as Lot 3-3A (finding 91). The lot was rejected because of two nonconformances found during the LAT. First, the lot failed the sealing test. Second, the government determined that a flare igniter assembly came off during functioning, the same nonconformance found during testing of Lot 3-3. (Finding 94)

Appellant filed two affirmative claims asserting that the government improperly rejected Lot 3-3A and that, as a result, PSI is entitled to all costs and damages relating to the wrongful rejection of the lot (findings 179, 182). Appellant first submitted a claim on 10 January 2012; this claim did not specifically address the leaker observed during the sealing test (finding 179). After the CO issued a COFD denying the claim and PSI's appeal from the COFD was docketed as ASBCA No. 58335, government counsel raised questions about the sufficiency of the claim due to PSI's failure to address the leaker as a cause for rejection of the lot (finding 182). In response, PSI filed an amended/supplemental claim on 20 September 2013 to specifically address the sealing test failure while maintaining that the original claim was sufficient (findings 182-83).

Both claims seek the same amount of $802,589 for the allegedly improper rejection of Lot 3-3A, and both claims were properly certified (findings 179, 182). The government argues that ASBCA No. 58335 should be dismissed for failure to state a claim upon which relief can be granted because the claim underlying the appeal did not address the leaker as a valid alternative basis for rejection of Lot 3-3A (gov't br. at 65). The Board, however, need not determine whether ASBCA No. 58335 states a claim concerning the government's rejection of Lot 3-3A upon which relief may be granted at this time. Appellant's 20 September 2013 amended/supplemental claim does specifically address why the leaker was not a valid basis for rejection of Lot 3-3A and is consolidated with ASBCA No. 58335 (findings 183-85).

B. The Parties' Contentions

The contractor asserts that the rejection of Lot 3-3A was improper on two bases. Appellant asserts that the rejection of Lot 3-3A was improper because the government's specifications were defective (app. br. at 99-100). Appellant also asserts that the rejection of Lot 3-3A was improper because the government erroneously changed the acceptance criteria under the contract for Lot 3-3A, which resulted in the lot's failure (*id.* at 102). PSI's allegations about the alleged changed acceptance criteria concern the government's treatment of both the separation defect and the leaker, the two alternative bases for the government's rejection of the lot. Appellant alleges that although "the separation experienced in Lot 003-003A was the exact same type of separation occurring throughout Interfix 2 and during Lot 003-002, all of which the Government previously accepted without waiver," the government changed the acceptance criteria in relation to trigger assembly separations prior to testing of Lot 3-3A (*id.* at 102-03). The contractor further alleges that "prior to Lot 003-003A, the parties had a joint understanding that the Government would allow PSI to rescreen lots in which a leaking unit was discovered" (app. reply br. at 14).

The government asserts that appellant's affirmative claims are barred by accord and satisfaction and, alternatively, because appellant released the claims (gov't br. at 61-64). Appellant contends that the government waived these defenses by failing to timely raise them and asserts that the government should have raised its defenses in response to PSI's claims (app. reply br. at 19, 23). However, Board Rule 6(b) states that the government's answer to the complaint "shall admit or deny the allegations of the complaint and shall set forth simple, concise, and direct statements of the Government's defenses to each claim asserted by the appellant, including any affirmative defenses." The government filed two separate answers relating to appellant's affirmative claims, one for ASBCA No. 58335 and one in ASBCA No. 59103. In both answers, the government raised the affirmative defenses of accord and satisfaction and release (ASBCA No. 58335, answer ¶¶ 132-54; ASBCA No. 59103, answer ¶¶ 141-62). The government's assertion of its affirmative defenses was in accordance with the Board's rules and timely. We will consider the

government's contention that Modification P00021 bars appellant's affirmative claims by accord and satisfaction and release (*see* finding 59).

C. Accord and Satisfaction and Release

Accord and satisfaction and release are separate affirmative defenses. *Holland v. United States*, 621 F.3d 1366, 1377 (Fed. Cir. 2010). An accord and satisfaction occurs "when some performance different from that which was claimed as due is rendered and such substituted performance is accepted by the claimant as full satisfaction of his claim." *Bell BCI Co. v. United States*, 570 F.3d 1337, 1340-41 (Fed. Cir. 2009) (quoting *Community Heating & Plumbing Co. v. Kelso*, 987 F.2d 1575, 1581 (Fed. Cir. 1993)). The Board explained:

> The accord is "an agreement by one party to give or perform and by the other party to accept, in settlement or satisfaction of any existing or matured claim, something other than that which is claimed to be due." The satisfaction is "the execution or performance of the agreement, or the actual giving and taking of some agreed thing."

Edward H. Foran, ASBCA No. 51596 *et al.*, 01-1 BCA ¶ 31,323 at 154,721 (citing *Chesapeake & Potomac Telephone Co. of Virginia v. United States*, 654 F.2d 711, 716 (Ct. Cl. 1981)). "To prove accord and satisfaction, the government must show '(1) proper subject; (2) competent parties; (3) a meeting of the minds of the parties; and (4) consideration.'" *Bell BCI*, 570 F.3d at 1341 (quoting *O'Connor v. United States*, 308 F.3d 1233, 1240 (Fed. Cir. 2002)).

In comparison, "[a] release is a contract whereby a party abandons a claim or relinquishes a right that could be asserted against another." *Holland*, 621 F.3d at 1377 (quoting *Koules v. Euro-American Arbitrage, Inc.*, 689 N.E.2d 411, 414 (Ill. App. Ct. 1998)). As a release is contractual in nature, it must be interpreted in the same manner as any other contract term or provision. *Korte-Fusco Joint Venture*, ASBCA No. 59767, 15-1 BCA ¶ 36,158 at 176,455 (citing *Bell BCI*, 570 F.3d at 1341). "The inquiry regarding releases should focus on the intent of the parties at the time the release is executed, and this intent should be sought from the whole and every part of the instrument." *Optex Systems, Inc.*, ASBCA No. 58220, 14-1 BCA ¶ 35,801 at 175,097 (quoting *Futuronics Corp.*, ASBCA No. 29324, 85-2 BCA ¶ 18,137 at 91,045). We first examine the plain language of the release. *Bell BCI*, 570 F.3d at 1341. If the provisions of the release "are clear and unambiguous, they must be given their plain and ordinary meaning." *Id.* (quoting *Alaska Lumber & Pulp Co. v. Madigan*, 2 F.3d 389, 392 (Fed. Cir. 1993)). "Only in the event of an ambiguity may

we examine extrinsic or parol evidence." *Id.* (citing *McAbee Construction Inc. v. United States*, 97 F.3d 1431, 1434 (Fed. Cir. 1996)).

1. Accord and Satisfaction Discussion

Modification P00021 cannot serve as an accord and satisfaction of appellant's affirmative claims because there is no evidence that appellant knew of its potential improper rejection claims at the time the parties executed the modification or agreed to accept the government's actions pursuant to Modification P00021 terms in satisfaction of that claim. The doctrine of accord and satisfaction serves to bar claims where a party has already accepted some alternative performance as a remedy for that claim. Accord and satisfaction can only be effected where there is an agreement between the parties, and that agreement must involve a meeting of the minds between the parties about the claim or claims being satisfied by the proffered substituted performance. Modification P00021 was bilaterally executed by the parties in January 2008 (finding 59). The executed modification changed the terms of the contract to permit PSI to use a thicker sealing disk (findings 57, 59). The government argues that allowing PSI to utilize a different sealing disk was the substituted performance offered to satisfy the contractor's claims (gov't br. at 62-63). However, appellant's affirmative claims concern the rejection of Lot 3-3A in March 2010, more than two years after the government agreed to change the contract terms (findings 59, 94).

Performing in accordance with the changed contract terms did not create a substituted performance that satisfied appellant's claims. At the time the parties executed Modification P00021, PSI did not assert that it was due $802,589 from the government for the alleged improper rejection of Lot 3-3A (*see* finding 59).

The Board finds there is no basis to establish that the parties agreed, at the time of execution of the modification, that the appellant was accepting the government's agreement to change the sealing disk specifications of the contract as satisfaction of the contractor's assertion of a right to costs associated with an allegedly improperly rejected lot. Since the Board finds no evidence that the parties reached a meeting of the minds that the change to the sealing disk specifications was intended to satisfy future improper rejection claims, Modification P00021 cannot serve as a bar to appellant's claims based upon accord and satisfaction.

2. Release Discussion

However, the language of Modification P00021 is clear and unambiguous on its face, and qualifies as a release of all claims attributable to the change in thickness of the sealing disk. The modification provides that the change to the sealing disk[40] will

[40] The modification refers to the sealing disk as foil tape (finding 59).

be at no cost to the government (finding 59). Furthermore, the modification specifically attaches the 26 November 2007 letter signed by Mr. Trotter, PSI's engineer manager. The attached signed letter states, "Signature waives any and all claims for equitable adjustment attributed to such facts and circumstances resulting from the changes." (Findings 58-59) Both the letter and the reference to the letter in the description section of Modification P00021 refer to RFD 17, indicating that the waiver language is intended to apply to the change made by RFD 17 (*see id.*). The modification also encloses a copy of RFD 17 describing the deviation as a change to the average material thickness to the sealing disk (findings 57, 59). Based upon the unambiguous language of the release, PSI released any affirmative claim attributable to the change in the thickness of the sealing disk when it signed the 26 November 2007 letter and bilaterally executed Modification P00021 incorporating the change and the letter into the contract.

The release, however, only bars PSI's claim to the extent its claim is attributable to the variation in the thickness of the sealing disk. One of appellant's alternative legal theories for its claim states that "PSI is entitled to all costs incurred as a result of the Government's defective specifications" (app. br. at 100). In its brief, appellant asserts that the 363L disk was flawed and, specifically, that due to its thickness, the 363L disk caused trigger assembly separations during function and post function (*id.* at 100-01). The 363L disk was used during Interfixes 2 and 3 (findings 60, 74). PSI submitted RFD 17 for approval after determining that the 363L disk worked well in the production of MK 124 because the 363L disk was thicker than the average material thickness provided for in the contract's specifications (findings 55-57). We find that this aspect of appellant's claim is based upon the change attributable to RFD 17 and Modification P00021, and, therefore, appellant is barred from asserting it by its release of any claim to equitable adjustment attributable to the change in variable thickness. Appellant's allegation that the TDP, as modified by Modification P00021, was defective is barred by the doctrine of release, and the Board will not consider it.

We will, however, still consider appellant's alternative theory that the government changed the acceptance criteria for Lot 3-3A. The contractor's 10 January 2012 claim seeking an equitable adjustment due to the government's alleged improper rejection of Lot 3-3A asserted that the trigger assembly separation experienced during testing of Lot 3-3A was not a critical defect and, therefore, could not serve as the basis for rejection of the lot (finding 179). The question of how the government treated trigger assembly separations during the LATs over the course of the contract does not relate to the change in the thickness of the sealing disk. The release effected by Modification P00021 does not bar appellant's right to assert that the acceptance criteria changed. Similarly, appellant's assertion that the government should have allowed PSI to screen the entire lot for leakers rather than reject the lot, is not attributable to the changes made by the execution of Modification P00021 (*see* finding 183).

D. The Claim Underlying ASBCA Nos. 58335, 59103

"To receive an equitable adjustment from the Government, a contractor must show three necessary elements – liability, causation, and resultant injury." *Servidone Construction Corp. v. United States*, 931 F.2d 860, 861 (Fed. Cir. 1991) (citing *Wunderlich Contracting Co. v. United States*, 351 F.2d 956, 968 (Ct. Cl. 1965)). Having considered appellant's claim of improper rejection on the basis that the government changed the acceptance criteria, we find that appellant has failed to prove liability in that it has failed to prove that the government changed the acceptance standards for separation defects or for leakers for Lot 3-3A.

1. Separation Defects

Appellant alleges that the trigger assembly separation witnessed during the LAT for Lot 3-3A was the same as the separations experienced in Lots 2-1, 2-2, and 3-2 (app. br. at 102). The government, on the other hand, contends that the separation witnessed during Lot 3-3A was different than the separations in the referenced lots because the separation during Lot 3-3A occurred during functioning rather than after functioning (gov't br. at 59-60). The core of the dispute is a factual disagreement about the timing of the separations experienced in Lots 2-1, 2-2, and 3-2. One of the contract's function requirements is the safety function; it is marked as a critical characteristic. The safety function requires that "[d]uring function igniter shall not separate from the outer container." (Finding 17) While the government contends that all separations in Lots 2-1, 2-2, and 3-2 occurred after functioning, appellant contends that some separations occurred during functioning (app. br. at 102-03). The LAT reports for Lots 2-1 and 2-2 recorded igniter assembly separations. In both instances, the reports stated that "[i]gniter assemblies separated from the can, post function." (Findings 63-64) The summary LAT report for Lot 3-2 did not mention a trigger assembly separation. However, the individual test data sheets included notations stating that "housing fell off," which indicates a trigger assembly separation. There is no indication about the timing of the separation. (Finding 77)

Appellant has failed to prove that the government was aware of separations during functioning in the LATs for Lots 2-1, 2-2 or 3-2. While one witness, an employee of PSI, testified that he witnessed a trigger assembly separation during function in Interfix 2, we found that there was no evidence that the government was aware of a separation during functioning of an MK 124 during the LATs for either Lot 2-1 or Lot 2-2 (findings 66, 69). For Lot 3-2, the LAT report did not indicate the timing of the noted separations and no testimony was offered during the hearing to establish that the government witnessed a separation during functioning of those signals that were marked as trigger assembly separations. Appellant has failed to prove that prior to Lot 3-3A, the government knowingly failed to object to trigger assembly separations like the one witnessed during Lot 3-3A.

2. Rescreening for Leakers

Appellant also fails to prove that there was a joint understanding between the parties or that the government was otherwise required (based upon course of dealing) to allow PSI to rescreen Lot 3-3A for leakers. PSI contends that having allowed PSI to 100% rescreen Lot 3-2 for leakers following a failure of the sealing test, the government should have allowed it to similarly rescreen Lot 3-3A for leakers (app. br. at 103-04). During the LAT for Lot 3-2, one leaker was observed during the sealing test (finding 76). PSI notified the government that the leaker was due to a missing O-ring and requested that it be allowed to rescreen the entire lot for leakers (finding 78). The government agreed to the rescreen in exchange for additional units of the MK 124 (finding 79). We found that the rescreening took approximately 80 hours, and that government witnesses had to be present during this period of time (finding 80). This evidences an agreement to allow PSI to rescreen Lot 3-2, but we see no indication that the parties entered into a wider agreement that PSI would always be permitted to rescreen lots any time there was a sealing test failure. The government agreed to allow PSI to rescreen Lot 3-2 in exchange for additional MK 124s. After having done so, the government had the discretion to determine that the benefit of additional units was not worth the time of the government employees to witness the screening.

Furthermore, to the extent that appellant argues that based upon course of dealing the parties had a joint understanding that the government would allow PSI to rescreen lots in which a leaking unit was discovered, appellant has failed to meet its burden of proof. A prior course of dealing, if established, can extinguish an otherwise explicit contractual requirement. *Comptech Corp.*, ASBCA No. 55526, 08-2 BCA ¶ 33,982 at 168,085. A course of dealing requires "a sequence of previous conduct between the parties to an agreement which is fairly to be regarded as establishing a common basis of understanding for interpreting their expressions and other conduct." RESTATEMENT (SECOND) OF CONTRACTS § 223(1) (1981). To establish a course of dealing, nullifying the government's ability to reject a lot for failing the sealing test pursuant to the requirements of Specification 13697N and instead requiring that the contractor be permitted to rescreen any lot failing the sealing test, based upon conduct, appellant must show:

> [A]ctual knowledge by both parties of consistent conduct by one party in its contract dealings with the other over an extended period of time regarding a particular contract provision upon which the other is reasonably entitled to rely.

Comptech, 08-2 BCA ¶ 33,982 at 168,086.

Appellant attempts to establish a prior course of dealing by alleging that PSI was permitted to rescreen lots for leakers throughout Interfix 1 and that PSI was permitted to rescreen Lot 3-2 (app. reply br. at 14). There is clear evidence that the government approved PSI's request to rescreen Lot 3-2 for leakers, following the lot's failure of the sealing test, in exchange for additional units of the MK 124 (findings 78-79). With respect to appellant's allegations concerning Interfix 1, the Board made the following findings about the government's conduct during Interfix 1 with respect to leakers and the alleged rescreening of lots by the contractor. The Board found that Lot 1-1 failed the LAT due to leakers and was rejected. There is no evidence that the government permitted PSI to rescreen this lot. (Finding 37) The Board found that there was insufficient evidence to find that Lots 1-2 through 1-9 failed the sealing test (finding 51). As a result, there is no evidence upon which to conclude that rescreening would have been necessary even if the government may have been amenable to such a procedure. The only evidence of rescreening during Interfix 1 concerned Lot 1-10. While we found that rescreening occurred, we also found insufficient evidence to establish that the government approved the contractor's rescreening of this lot. (Finding 52)

Based upon the evidence presented to the Board, appellant has proven only two instances of rescreening, once during Lot 1-10 and once during Lot 3-2. These two instances are insufficient to establish consistent conduct by the government in its contract dealings with the contractor over an extended period of time. Not only is there evidence of only two instances of rescreening, the process preceding the two instances is markedly different. In one instance, there is no evidence that PSI formally requested permission to rescreen or that government witnesses were present during the rescreening (*see* finding 52). In the other instance, PSI formally requested a deviation and schedules were coordinated to ensure the screening occurred in the presence of government witnesses (*see* findings 78-80). We conclude that appellant has presented insufficient evidence to establish a prior course of dealing requiring the government to allow PSI to rescreen lots with leakers.

Appellant has failed to prove that the government changed the acceptance criteria for Lot 3-3A.

CONCLUSION

For the reasons explained above, the appeals are denied.

Dated: 13 March 2017

REBA PAGE
Administrative Judge
Armed Services Board
of Contract Appeals

(Signatures continued)

I concur

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

I concur

RICHARD SHACKLEFORD
Administrative Judge
Vice Chairman
Armed Services Board
of Contract Appeals

I certify that the foregoing is a true copy of the Opinion and Decision of the Armed Services Board of Contract Appeals in ASBCA Nos. 57890, 58335, and 59103, Appeals of Pyrotechnic Specialties, Inc., rendered in conformance with the Board's Charter.

Dated:

JEFFREY D. GARDIN
Recorder, Armed Services
Board of Contract Appeals