NIQA

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA

Plaintiffs		
UNDER SEAL	:	**CIVIL ACTION**
	:	**No. 16 6547**
v.	:	
Defendant		
UNDER SEAL	:	**FILED UNDER SEAL**

QUI TAM FALSE CLAIMS ACT COMPLAINT

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IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA

Plaintiffs		
ROBERT C. ROATH	:	**CIVIL ACTION** 16 6547
RICHARD FAUCHER		
THOMAS SHAFFER	:	**No.**
v.	:	
Defendant		
THE BOEING COMPANY	:	**FILED UNDER SEAL**

PLAINTIFFS' COMPLAINT PURSUANT TO 31 U.S.C §§ 3729-3732
FOR VIOLATIONS OF THE FEDERAL FALSE CLAIMS ACT

The Plaintiffs, Relators Robert C. Roath, Richard Faucher, and Thomas Shaffer, jointly bring this action under the Civil False Claims Act, 31 U.S.C §3729, et seq., as amended (hereinafter, "Act"), to recover on behalf of the United States and themselves all damages, penalties and other remedies provided by the Act.

I. Background

1. This is an action against The Boeing Company (hereinafter, "Boeing"), to recover treble damages and civil penalties on behalf of the United States of America, arising from false and/or fraudulent records, statements, and/or claims made, used and caused to be made, used, or presented by Boeing and/or its agents and employees, in violation of the Act.

2. False Claims Act liability attaches to any person who knowingly presents or causes a false or fraudulent claim to be presented for payment, or a false record or statement made to get a false or fraudulent claim paid by the government. 31 U.S.C. §3729(a)(1)&(2).

3. The Act is violated not only by a person who makes a false statement or a false record to get the government to pay a claim, but also by one who engages in a course of conduct that causes the government to pay a false or fraudulent claim for money. No proof of specific intent to defraud is required in order to prove a violation of the Act. 31 U.S.C. §3729(b).

4. As detailed below, Boeing has engaged in a pattern and practice of intentionally submitting false and fraudulent claims for manufacturing work performed under contracts with the United States Department of Defense, Naval Systems Command (hereinafter, "DOD"), to produce, maintain, repair, and/or modify V-22 Osprey aircraft. Boeing has falsely represented that V-22 aircraft conformed to contract requirements and manufacturing specifications, and has failed to disclose their non-compliant manufacture to the DOD.

5. As a direct result of the Boeing's unlawful acts, the DOD has paid false claims.

6. The Act was enacted during the Civil War to provide the United States government with a way of recovering losses sustained as a result of contractors' frauds. It was substantially amended in 1986 in response to Congressional findings that fraud in federal programs was pervasive, and that the Act, which

Congress characterized as the primary tool for combating government fraud, was in need of modernization. Congress intended that the amendments create incentives for individuals with knowledge of fraud against the government to disclose the information without fear of reprisals or Government inaction, and to encourage the private bar to commit legal resources to prosecuting fraud on the Government's behalf.

7. The Act provides that any person who knowingly submits, or causes the submission of, a false or fraudulent claim to the U.S. Government for payment or approval is liable for a civil penalty of up to $11,000 for each such claim, plus three times the amount of the damages sustained by the Government.

8. The Act allows any person having information about a false or fraudulent claim against the Government to bring an action for himself and the Government, and to share in any recovery. The Act requires that the Complaint be filed under seal for a minimum of 60 days (without service on the defendant during that time), to give the Government the opportunity to conduct its own investigation and determine whether to intervene in the action.

9. Through this action the Plaintiffs/Relators jointly seek to recover, on behalf of the United States, damages and civil penalties arising from the Defendant's making or causing to be made false or fraudulent claims, statements, and/or records in connection with the submission of claims for manufacturing work performed in the creation of composite components of V-22 aircraft.

II. Jurisdiction and Venue

10. This Court has jurisdiction pursuant to 28 U.S.C. §1331 and 31 U.S.C. §3732, the latter of which specifically confers jurisdiction on this Court for actions brought pursuant to 31 U.S.C. §§3729 and 3730.

11. There have been no statutorily relevant public disclosures of the "allegations or transactions" that are set forth in this Complaint which would bar jurisdiction under 31 U.S.C. §3730(e). Moreover, the Relators would jointly and severally qualify as "original sources" of the allegations that are set forth in this Complaint even had any such public disclosures occurred.

12. This Court has personal jurisdiction over the Defendant pursuant to 31 U.S.C. §3732(a) because the Defendant maintains a manufacturing facility and transacts business in Ridley Park, Pennsylvania.

13. Venue is proper in the United States District Court for the Eastern District of Pennsylvania pursuant to 28 U.S.C. §1391(b) and 31 U.S.C. § 3732(a), because the Defendant's manufacturing facility is located in Ridley Park, Pennsylvania. At all material times the Defendant regularly conducted substantial business within the Eastern District of Pennsylvania; maintained offices and manufacturing facilities in Pennsylvania, and employed Pennsylvania residents.

III. Parties & Subject Contracts

a. Relators

14. Relator Robert C. Roath is an adult individual 56 years old, who worked for Defendant Boeing for 35 years as a Composites Fabricator and Autoclave Operator. In that capacity he personally conducted the Autoclave manufacturing process that is required to produce the carbon fiber, Kevlar, and fiberglass parts that comprise 90% of the fuselage of every V-22 aircraft.

15. Relator Richard Faucher is an adult individual 58 years old, who worked for Defendant Boeing for 37 years as a Composites Fabricator and Autoclave Operator. In that capacity he personally carried out the Autoclave manufacturing process that is required to produce the carbon fiber, Kevlar, and fiberglass parts that comprise 90% of the fuselage of every V-22 aircraft. Additionally, Relator Faucher was a primary member of the engineering team that developed and documented the cure procedures used to create V-22 parts using the Free Air Cure process which is detailed below.

16. Relator Thomas Shaffer is an adult individual 61 years old, who has worked for Defendant Boeing for 31 years, most recently as a First Level Composites Manager. In that capacity he personally oversaw the Autoclave manufacturing process that is required to produce the carbon fiber, Kevlar, and fiberglass parts that comprise 90% of the fuselage of every V-22 aircraft.

b. Boeing

17. Boeing is a Delaware Corporation with its headquarters in Chicago, Illinois.

18. Boeing is one of the world's largest aerospace firms. It is organized based upon the product and services it offers and operates in five principal segments:

- Commercial Airplanes;
- three segments that comprise Boeing's Integrated Defense Systems ("IDS") business;
- Boeing Military Aircraft;
- Network and Space Systems; and
- Global Services and Support.

19. Boeing's IDS business is involved in the research, development, production, modification, and support of the following products and related systems and services: military; aircraft; unmanned systems; missiles; space systems; missile defense systems; satellites; and communication, information, and battle management systems. IDS's primary customer is the DOD.

20. Boeing's IDS business produced $32 billion in revenue in 2008. Approximately 80% of IDS revenues were paid to Boeing by the DOD.

21. The Boeing Military Aircraft segment of the IDS business is involved in the research, development, production, and modification of military aircraft, precision engagement, and mobility products and services.

22. The Boeing Military Aircraft segment employs approximately 25,000 workers at ten primary locations, including Ridley Park, Pennsylvania.

23. Boeing Military Aircraft has four divisions:

- Airborne Anti-Submarine Warfare and Intelligence;
- Surveillance and Reconnaissance;
- Global Mobility Systems; and
- Rotorcraft Systems.

24. Boeing Rotorcraft Systems is a world leader in designing, developing, and manufacturing transport and combat helicopters and tilt rotor aircraft, including the V-22 Osprey (hereinafter, "V-22").

25. Boeing produces V-22 components at its plant located at Route 291 and Stewart Avenue, Ridley Park, Pennsylvania 19078.

26. Boeing's Ridley Park plant has approximately 5,000 employees and contractors.

27. The V-22 is a revolutionary multi-role combat aircraft that utilizes tilt-rotor technology to combine the vertical performance of a helicopter with the speed and range of a fixed-wing aircraft. With its rotors in vertical position, it can take off, land, and hover like a helicopter. Once airborne, it can convert to a turboprop airplane capable of high-speed, high altitude flight. This combination allows the V-22 to be used for a wide range of military purposes, including combat,

personnel insertions and evacuations, transport, and special operations in hostile environments.

28. The V-22 originated from a 1981 DOD research project known as the JVX program. In 1982, Boeing and Bell Helicopter, a Textron, Inc. Company ("Bell"), an industry-leading producer of commercial and military vertical flight aircraft, were jointly awarded a development contract by the DOD to develop the experimental tilt-rotor aircraft.

c. DOD V-22 Production Contract

29 After many years of V-22 design, testing, and refinement, the DOD entered into a contract with the joint team of Boeing and Bell to produce the aircraft, and it has continually extended that production contract through the present. The current iteration of the contract is nominated the "V-22 Fixed-Price-Incentive-Fee Lot 17-21 Multiyear Contract", identified as number N00019-12-C-2001 (hereinafter, "Contract").

29. The first V-22 was produced in 1988, and the DOD first put it into active service in 2007.

30. The V-22 comes in two main variants. The MV-22 is designed to meet amphibious/vertical assault needs of the U.S. Marine Corps; the strike rescue needs of the U.S. Navy; and various needs of the long-range special operations forces. The CV-22 is designed to support missions of the U.S. Special

Operations Command. As of February 26, 2016, 329 V-22s had been delivered to the DOD.

31. The total V-22 procurement objective of the DOD is approximately 460 aircraft.

32. The total V-22 program cost has been estimated to be $54.83 billion.

33. The present unit cost of a V-22 aircraft is approximately $73 million.

34. Under their joint agreement to produce the V-22 in accordance with the Contract, Boeing in Ridley Park, Pennsylvania, and Bell, in Amarillo, Texas, each manufactures component parts. Boeing manufactures and integrates the fuselage, landing gear, empennage and all subsystems, digital avionics and fly-by-wire flight control systems at its plant in Ridley Park, Pennsylvania, and Bell manufactures and assembles the remaining components at its facility in Amarillo, Texas.

d. V-22 Fabrication

35. The Contract requires that structural, fuselage, and other components of the airframe of the V-22 be constructed of composite materials because they are lighter than metal yet have high strength and other desirable characteristics.

36. Approximately 50% of the components of the V-22 are composite materials.

37. Fabrication of composite parts is performed using a variety of resin impregnation systems and materials including graphite fiber, carbon fiber, poly carbon, and Kevlar.

38. The composite fabrication process involves impregnating a lightweight porous material such as carbon fiber with a resin, applying it to a mandrel to shape it into the desired part, then curing it in an Autoclave, which is a large, precisely-controlled oven/pressure vessel that subjects the material to computer-controlled temperatures and pressures over an extended period of time, generally more than ten hours.

39. At all material times Boeing had three Autoclaves at its production facility in Ridley Park, Pennsylvania, numbered 1, 2, and 3, the smallest of which measured 50 feet long by ten feet wide.

40. If the composite fabrication process is correctly performed, a resin-induced exothermic reaction takes place that creates a molecular-level bond between the subject fibers, resulting in the creation of an extremely strong, lightweight material.

41. If the composite fabrication process is not performed in exact accordance with the specifications applicable to the materials and resins being used, complete and uniform molecular bonding will not take place, whereupon the components will contain resin voids, linear porosity, and other defects that are not visible to

the eye; which compromise the strength and other characteristics of the material, and which can cause catastrophic structural failures and delaminations.

42. Unlike metals, composite materials do not display any signs of fatigue before failing, and their failure results in complete rupture and splintering.

43. In contracting with Boeing for the creation of V-22 aircraft, the DOD imposed precise specifications to assure that the highest standards of production, control, and testing be used in the process of creating the aircraft's composite parts.

44. Every composite part used in the V-22 has a precisely-engineered creation process which is specified by the DOD, called a "Cure Cycle", or "recipe".

45. Prior to approximately 2002, the precise computer-controlled application and confirmation of the heat necessary to create the composite parts of the V-22 aircraft was accomplished by physically attaching to each part a specified number of sensitive electronic measuring devices called parts thermocouples, before placing the parts in Autoclaves to be cured.

46. The physically-attached parts thermocouples measure the heat of every critical part surface throughout the entire fabrication cycle, and the data they record is documented in a record commonly called a "Heat Chart", which is an element of the comprehensive, permanent production "Process Record" that the DOD requires manufacturers to collect and maintain for each component of all military equipment such as the V-22 (hereinafter, "Process Record").

47. In addition to the Heat Chart generated by any parts thermocouples used in the fabrication process, each Autoclave also generates an Autoclave Heat Chart which documents the Cure Cycle that created any given part, and which also becomes a record in every Process Record.

48. The process of attaching multiple thermocouples to every composite part, as mandated by DOD specifications, was extremely labor-intensive and expensive, so Boeing eventually sought an alternative method of fabrication.

49. In approximately 2002 a Boeing engineer designed a method of fabricating composite parts which Boeing called "Free Air Cure", which did not involve attaching multiple thermocouples to each part, and which allowed for parts that previously required different fabrication times to be made in a single Autoclave cycle.

50. Because the Free Air Cure method promised significant cost reductions and production efficiencies, Boeing management sought permission from the DOD to use it to produce V-22 components at Boeing's Philadelphia manufacturing facility.

51. The vast majority of Boeing engineers, designers, and technicians involved in composite fabrication for the V-22 opposed management's proposed use of the Free Air Cure process because it completely eliminated the ability to confirm that all areas of all parts had actually reached their critical temperatures at the required times and that those temperatures had been sustained for the required

durations, and it did not allow engineers to assess the significance of any anomalies found in a part by reviewing the part's Heat Chart to see if it had reached the necessary temperatures for the required times.

52. Because the Free Air Cure production method does not use parts thermocouples, the creation of V-22 parts that meet DOD specifications is critically dependent upon confirming that precise, controlled, and uniform heat is delivered within each Autoclave at all times.

53. Following a protracted period of meetings and negotiations, the DOD agreed to permit Boeing to manufacture V-22 parts using the Free Air Cure method, subject to rigid Autoclave calibration and testing procedures called Temperature Uniformity Surveys, which are set forth in the following contract specifications:

- D6-49327, entitled, "Certification of Autoclaves and Ovens for Metal Bonding and Curing Composite Structure";
- MOI 8-1951-02-04, entitled, "Manufacturing Operating Instruction Free Air Cure Operating Plan";
- D210-12062-1, entitled, "Boeing Helicopters Document for Advanced Composites, General Requirements, 350ºF (177ºC) Cure";
- BAC5621, entitled, "Equipment Classifications and Instrumentation Types for Processes Requiring Controlled Temperatures"; and
* Process Departure Document 8-60, entitled "Boeing Helicopters Document for Advanced Composites, General Requirements, 350ºF (177ºC) Cure", which modified D210-12062-1.

(Hereinafter, collectively, "TUS Specifications").

54. The Contract requires absolute adherence to TUS and other manufacturing specifications.

55. The TUS Specifications require that each Autoclave that is used in the Free Air Cure process be tested and calibrated for temperature uniformity not less than once a month, using designed arrays of Special-Limit thermocouples that are shielded and certified to be accurate to plus or minus 2° Fahrenheit (hereinafter, "Survey Trees"), and that the Autoclaves be tested and calibrated more often under certain circumstances including after any alterations or repairs.

56. The TUS Specifications mandate that Boeing verify that the required TUS surveys are performed on each Autoclave "at least once per month in each approved autoclave and for each approved recipe at the locations identified in D6-49327"; that "[d]ata shall be collected and evaluated by Manufacturing and Quality to verify autoclave performance has not changed from month-to-month": and that Boeing maintain records of those monthly surveys.

57. The TUS Specifications state that in the event a TUS shows that an Autoclave does not meet the calibration requirements, "all autoclave loads processed from the prior inspection date to the date at which a discrepancy is noted shall be placed on rejection when required. The rejection shall specify that specific

autoclave loads are not in compliance with this MOI (process control document) and the specific section of D210-12062-1."

58. In the event any TUS shows a deviation from specified temperatures, the TUS Specifications require that Boeing immediately evaluate whether the deviation could have resulted in the processing of parts outside of the required temperatures; that it take and document appropriate corrective action; and that it completely resurvey the subject Autoclave after any adjustments were made to correct its discrepant performance.

59. Autoclave-generated Heat Charts are totally invalid unless a TUS was previously performed, within the required time period, which confirmed that the Autoclave was operating within the specified heat parameters.

60. Following the inception of the Free Air Cure Process, Relators Roath and Faucher regularly set up the specified Survey Trees; personally conducted the required monthly Temperature Uniformity Surveys; and delivered the records generated by each Survey to Boeing's Quality Assurance Department.

61. At some point in or about the first half of 2013, Boeing ceased performing the Autoclave Temperature Uniformity Surveys required by the Contract.

IV. False Claims

a. Boeing Knowingly Produced and Delivered V-22 Aircraft Containing Non-Conforming Components.

62. From at least June 24, 2013 to at least September, 2016, Boeing knowingly manufactured V-22 components, using the Free Air Cure process, without having performed the Temperature Uniformity Surveys required by the TUS Specifications.

63. From June 2013 to September, 2016, Boeing manufactured and delivered approximately 80 V-22 aircraft to the DOD, and received payment for them.

64. In detailed PowerPoint charts dated June 24, 2013, which were shown and circulated to all Boeing engineers, managers, and technicians involved in the manufacturing of V-22 components, Nicole Tantala, the Engineer in charge of Boeing's Manufacturing Processes and Services Engineering, admitted that "[m]aintenance requirements for free air cure per MOI8-1951-02-04 RevA Free Air Cure Operating Plan dated 5/3/7 are not presently being performed... [r]estoration of maintenance activities for Free Air Cures on existing autoclaves 2 & 3 needs to occur prior to implementation of Free Air Cure on autoclave 1."

65. Boeing had failed to perform the required Autoclave Temperature Uniformity Surveys for many months prior to June, 2013, but the non-compliance issue surfaced at that time because a new Autoclave #1 had just been installed, and it could not be used for Free Air Cure production until it was TUS-tested and

initially proven to conform to the Contract specifications. In the above-described PowerPoint presentation, Ms. Tantala noted that "management" had requested that the new Autoclave "be qualified to cure parts without thermocouples (Free Air Cure)."

66. Ms. Tantala was the Boeing engineer who was responsible for reviewing and approving the TUS records required to certify the Autoclaves for the Free Air Cure process in the first instance, and had previously done so.

67. Citing the need for a "commitment to perform these activities", Ms. Tantala established a "Tentative Time line and Key Deliverables" for designated "Team Members" identified as: "BR&T 3-07 Support" [BR&T = Boeing Research & Technology; 3-07 is the building in which the Autoclaves are housed], "QA & QE" [Quality Assurance & Quality Engineering], "Ops" [Operations], & "Facilities", which set target deadlines for taking the actions required to make Boeing's Free Air Cure meet the Contract specifications:

"• Complete D6-49327 & D210-12062-7 qualification 8/2/2013

- Collect 6 months of autoclave data of parts cured with thermocouples 8/2/2013 - 2/2/2014
- Perform statistical analysis on collected data 4/2/2014
- Identify lagging parts that will require T/C's to remain 4/2/2014
- Modify existing cure cycles to ensure all parts cured free air meet the cure requirements of D210-1 2062-1 5/2/2014
- Approve cure cycles and quality cards 5/2/20l4

- Modify process specifications and operatng [sic] instructions 6/2/2014"

68. At all material times the Relators worked in the Operations division.

69. Ms. Tantala assigned specific actions needed to make Boeing's Free Air Cure meet the Contract specifications to the various "Team Members", as follows:

"• Perform daily/weekly/monthly maintenance: Facilities
- Perform monthly temperature uniformity surveys (TUS): Ops
- Verify monthly TUS: Ops
- Review monthly TUS data: QE
- Contact Facilities if TUS notes discrepancies: QE
- Perform random surveillance: QA
- Inspect each load for compliance to MOI & D210-12062-1: QA
- Reject in MES for parts requiring thermocouples: QA"

70. As of June 24, 2013, none of the above Contract-specified actions were being performed by Boeing.

71. Despite the above-described assignment of actions required to bring Boeing's Free Air Cure process into compliance with Contract specifications, valid Temperature Uniformity Surveys were never performed on Autoclaves 2 and 3 from June 24, 2013 through at least September 1, 2016 – the date Relators Roath & Faucher were forced to resign for specious and retaliatory reasons, as detailed below – and they were never performed at all on Autoclave 1, which as of that date had still not become certified to run the Free Air Cure process.

b. Boeing Knowingly Failed to Disclose the Non-Compliant Free Air Cure Process and Products to the DOD.

72. Despite internally acknowledging that the Free Air Cure process was not compliant with Contract specifications, as detailed above, Boeing knowingly never reported its non-compliance to the DOD and knowingly never disclosed that it had manufactured and delivered V-22 components which did not conform to Contract Specifications.

73. At all material times Boeing management, engineers, technicians, and manufacturing personnel knew that the failure to perform the testing and calibration required by the TUS Specifications rendered any components manufactured by the Free Air Cure Process non-conforming and incalculably dangerous.

74. In the above-described PowerPoint presentation, Engineer Nicole Tantala emphasized that the "[r]isks of not performing free air cure maintenance activities" included:

- Non-uniform cure profile within parts
- Unknown residual stress effect
- Acceptance of discrepant parts
- Potential audit finding
- Potential Customer CAR ["Corrective Action Request" - contractual right of DOD to demand that Boeing take immediate corrective action]

- Customer [DOD] mandate to stop free air cures immediately and put parts on NCR ["Non-Compliance Report"] due to failure to comply with documented procedures arising from non-compliant and non-uniform cure profiles.

75. On multiple occasions between June 2013 and September 1, 2016, the Relators conveyed to Boeing superiors their concerns about Boeing's failure to conduct the monthly Temperature Uniformity Surveys required by the Contract.

76. On April, 9, 2015, Relator Thomas Shaffer sent an email to five senior Managers in the Composites division in which he emphatically stated, "[w]e are currently out of spec to run V22 parts in [Autoclaves] 2 & 3. We have to do more than just hang up a sheet of paper hoping someone will notice".

77. In response to Relator Shaffer's above email, Arthur Maull, the Senior Manager of Composites, Second Shift, wrote an email that same day to the same group of recipients in which he stated, "Team, this is a show stopper. We need to push this to the top of the list tomorrow."

78. That same day, Thomas Jablonski, the Support Cell Senior Manager for the Autoclave building, wrote to the same group of recipients: "I have spoken with Chad, Tom Shaffer, and Brian. We will not run V 22 90s or 45s in [Auto]claves 2 or 3 until tomorrow at the earliest. In the meantime, ACRB and leading edges can be run in either clave without issue. Any hot V 22 parts should be run in clave 1 provided they have thermocouples. Bob and I will get together in the morning to

figure out why a month went by without any action. Tom Shaffer and Richie [Relator Richard Faucher], thanks for noticing and raising the issue. Good show."

79. Despite the above emails, Boeing did not resume performing the required Autoclave Temperature Uniformity Surveys, and it thereafter continued to manufacture V-22 components using the non-compliant Free Air Cure process.

80. In or about February, 2016, a Boeing Electrical Technician became very concerned about Boeing's failure to perform Autoclave Temperature Uniformity Surveys as the Contract specified, and sent an email to a Frank Kurek, Senior Boeing Quality Manager, copied to two of Boeing's First Level Facilities Managers, in which he questioned the non-compliance, stating, "[h]ow can we be failing for over 15 months and it goes unnoticed? As of last week, per the operator [Relator Richard Faucher], the [TUS] test was past due 45 days and counting and still goes unnoticed?"

81. Three days later Frank Kurek, responding by email, confirmed that Boeing management knew that the Autoclave Temperature Surveys were not being performed, and stated that "the last 45psi free air cure uniformity survey for claves 2 and 3 was completed in November of last year…We are aware that the latest surveys have not been performed".

82. Mr. Kurek copied the above email to seven other Boeing senior level managers charged with quality control and production, stating that he was doing so

because: "[w]e have moved some of our leadership around so I have cc'd others in case they are not aware of the current clave status".

83. The Electrical Technician wrote back to Frank Kurek that same day, copying virtually every Boeing manager, engineer, and technician involved with the Free Air Cure manufacturing of V-22 components and stated, *inter alia:* "Frank, my Autoclave concerns started over three months ago. It started as an EI [Employee Involvement Program] suggestion from Rich [Relator Richard Faucher] (see attached EITMS email)...By now we all know that we have not been complying with Free Air Cure Plan, MOI-8-1951-02-04. The test has been failing monthly and has gone unnoticed...I have a bad feeling and I hope that I am wrong, but I believe we have not complied to any type of uniformity survey (ex. D6-49327). I don't know for sure. However, by talking to our operator [Relator Richard Faucher] and seeing what has transpired over the last three months leads me to this conclusion."

84. That same day Frank Kurek sent an email to Nicole Tantala, the MP&S Engineer described above, asking her to review some attached "clave runs" [Temperature Uniformity Surveys], and then call him.

85. Ms. Tantala responded by email that same day, stating, *inter alia,* "I was able to open the files you forwarded through Message Courier. After reviewing those runs, I would say that activity of performing the monthly survey was completed but the data was meaningless. I think as a minimum with that many TCs

recording 0.0 and several other TCs reading erratically and disabling, another survey should have been performed".

86. In the that email Ms. Tantala also stated, "[y]our email noted that the monthly surveys were on hold because '...the existing armored T/C wire required for the autoclave heat surveys needing to be replaced with accurately calibrated armored T/C wire.' I've looked through these documents and do not see a requirement for armored T/C wire...MOI 8-1951-02-004 Section 10.00 Quality Control states: Quality shall verify that monthly surveys are performed by Manufacturing in accordance with D210-12062-1...The requirement for TCs [thermocouples] is...Thermocouples shall have a certified accuracy of +-2F over the temperature range of 100 to 365F or the minimum and maximum temperature allowed by the referencing cure documentation, whichever has a larger temperature range. Insulation shall be non-porous and pressure resistant. Thermocouples made from special limits of error wire are acceptable...I will get something over to you providing more details about the monthly surveys for free air maintenance."

c. Boeing Knowingly Created False and Fraudulent TUS Survey Compliance Reports and Submitted Them to the DOD.

87. The following day, February 23, 2016, Frank Kurek emailed Boeing's First Shift First Line Manager, Mark Robertson, and its Second Level Manager in charge of Autoclaves, Jeffrey Blaise, copying Mark Buranan, First Level Quality Manager;

Lisa Edwards, Second Level Senior Quality Manager; and Engineer Christopher Hsu, and stated: "I don't think we should wait for the TC's to come back from cal/cert. We need to wire up the trees with regular TCs and get survey runs completed ASAP".

88. Mr. Kurek's reference to "regular TCs" was to parts thermocouples, which are temperature measurement devices that do not meet TUS Specifications because they are far less accurate than the required "Special Limit" thermocouples.

89. Thereafter, Boeing personnel knowingly and intentionally wired Survey Trees with non-compliant parts thermocouples instead of the Special Limit thermocouples required by the TUS Specifications, and used them to generate monthly TUS Compliance Reports required by the Contract.

90. All of the Boeing TUS Compliance Reports that were generated with the use of non-complaint parts thermocouples instead of the Special Limit thermocouples required by the TUS Specifications are invalid, false, and fraudulent.

91. Upon learning that non-compliant parts thermocouples were being used to generate TUS Compliance Reports, Relator Richard Faucher attempted to notify James Curren, Boeing's Director of Composites and Senior Manager of Operations, but Mr. Curren refused to discuss the matter and told him to see the First Level Composite manager, [Relator] Thomas Shaffer.

92. Relator Richard Faucher then met with Relator Thomas Shaffer and informed him that Boeing was using non-compliant parts thermocouples on Survey Trees, and that the Autoclave TUS Survey Reports they generated were invalid.

93. Relator Thomas Shaffer was extremely concerned about the information Relator Faucher provided, and immediately made arrangements for him to see Nicole Tantala, the MP&S Engineer.

94. Relator Richard Faucher immediately went to Nicole Tantala's office and reported the same information, whereupon he was surprised to learn that she was not only already aware of it, but that she supported it, saying, "you're probably ok using parts thermocouples". Ms. Tantala added that "the intent was just to do it for a month or so until Boeing orders new Special-Limit armored probes" [the Special Limit Thermocouples required by the Contract].

95. Ms. Tantala then instructed Relator Richard Faucher to wire three Survey Trees himself, using non-compliant regular parts thermocouples and a drawing that she handed him, even though Mr. Faucher was not an electrical technician and the task was not within the scope of his duties. Mr. Faucher requested that she put that instruction in writing, but she refused to do so.

96. Thereafter Relator Faucher sent his supervisor, Relator Shaffer, an email documenting what Ms. Tantala had ordered him to do, then proceeded to wire three Survey Trees with non-compliant parts thermocouples in accordance with her instructions.

97. After observing that the non-compliant Survey Trees he had wired were thereafter used to perform several Temperature Uniformity Surveys and generate Heat Charts that falsely appeared to show compliance with the Contract specifications, Relator Faucher went back to Nicole Tantala's office; told her he refused to participate in that process; and said "give me an option or I'm going to shut the claves down" by informing Chip Smith, the highest head of Quality for Boeing.

98. Ms. Tantala refused Relator Faucher's request, whereupon he informed multiple other Boeing managers including Arthur Maull, who intervened and got James Curren, the Director of Composites, to agree to meet personally with Mr. Faucher.

99. Relator Faucher thereafter met with Mr. Curren, who expressed incredulity that "things could be that bad", and said he would have his technicians look into it.

100. Finding that nothing had been done about a month thereafter, Relator Faucher went back to James Curren, who told him that he had raised the issue with Frank Kurek, the Quality Manager, and that Mr. Kurek said he didn't believe that the TUS testing procedures that Boeing was using were non-compliant.

101. Shortly thereafter, Relator Faucher received an emailed question from a Boeing manager asking whether the Free Air Cure process was in compliance with Contract specifications. Mr. Faucher wrote a response in which he emphatically stated that the process was not compliant; detailed how it was non-complaint,

and noted that it had not been compliant for a very long time. He copied that response to virtually every manager, engineer, designer, and technician involved in composite fabrication for the V-22.

102. Approximately two weeks later, Relator Faucher received an email from Chip Smith, Boeing's Overall Quality Site Executive, which Mr. Smith copied to everyone to whom Mr. Faucher had sent his earlier email, stating in substance, "I trust your judgment…I want a Recovery Plan, and I expect full cooperation".

103. After Mr. Smith sent the above email, James Curren, the Director of Composites, called every manager, engineer, designer, and technician involved in composite fabrication for the V-22, including the Relators, to a "Recovery Meeting" which he opened by stating, "folks, we're dirty. Not pointing any fingers, just looking for a solution". Everyone at the meeting acknowledged that Boeing was not in compliance with the V-22 Contract specifications, but no one took responsibility; no plan of action was made; no written minutes, notes, or recordings were taken; and nothing was decided except that more "Recovery Meetings" would be held in the future.

104. Thereafter several more "Recovery Meetings" were held every few weeks, and had the same outcome.

105. The "Recovery Meetings" promptly ended on September 1, 2016, after Relators Faucher and Roath were forced to resign for specious and retaliatory reasons, as detailed below.

106. As of September 1, 2016, Boeing's production of V-22 components using the Free Air Cure process was still non-compliant with the Contract specifications.

d. Boeing Knowingly Failed to Generate and Maintain Required TUS Compliance Reports.

107. As noted above, the TUS Specifications require Boeing to generate and maintain all test and calibration records produced by the required Temperature Uniformity Surveys, which records then become an element of each component's permanent Process Record.

108. For the majority of the months between June, 2013 and September, 2016, Boeing did not perform any of the required monthly Temperature Uniformity Surveys on the Autoclaves, and therefore never had, and does not presently maintain, TUS records for those months as required by the Contract.

109. For multiple months between June, 2013 and September, 2016, Boeing generated false and fraudulent TUS Compliance Reports, as detailed above, and therefore never had, and does not presently maintain, valid TUS records for those months as required by the Contract.

e. Boeing Unlawfully Retaliated Against Relators Robert Roath and Richard Faucher for Revealing the Autoclave Non-Compliance Issues and Pursuing Compliance, By Speciously Charging Them With Timekeeping Violations

and Then Disparately Threatening Them With Dismissal, Loss of Medical Coverage, & Loss of Retirement Benefits Unless They Resigned.

110. At all material times Relators Robert C. Roath and Richard Faucher were the most senior Autoclave operators at Boeing's plant in Ridley Park, Pennsylvania, and each possessed vastly more knowledge and experience than any other operators.

111. In or about mid-August, 2016, Relators Roath and Faucher were each abruptly summoned to separate but substantively-identical meetings with a Boeing "investigator from South Carolina", union representatives, where they were interrogated about alleged payroll timekeeping discrepancies.

112. Relators Roath and Faucher were each told that a Boeing investigation had uncovered evidence that they had improperly failed to "punch in" and "punch out" on time clocks on more than 100 occasions, and that they were improperly paid for time that they did not work.

113. Relators Roath and Faucher each informed the Boeing investigator that they had previously been instructed by Boeing's Accounting Department and their Manager not to punch any time clock, but rather to report their hours orally, because their "punch-ins" and "punch-outs" caused confusion to Boeing's timekeepers due to the unique 12-hour shifts that Relators Roath and Faucher had regularly worked for the prior 1.5 years as a result of Boeing's elimination of the third Autoclave shift.

114. Relators Roath and Faucher each acknowledged having possibly been paid for time that they did not work on no more than six occasions, and each flatly denied Boeing's allegations that there were more than 100 such occasions. Moreover, Relators Roath and Faucher both advised Boeing that on many more occasions, they had not been paid for hours that they worked.

115. At the time of the above meetings, there was a Grievance Procedure in effect, set forth in a Collective Bargaining Agreement, which specified steps that Boeing was required to take in order to seek the termination of an employee, which included suspending the employee pending investigation; determining the discipline sought to be imposed; and advising the Union in writing of the planned discipline and the reasons in support. The Grievance Procedure further provided employees the right to appeal any discipline imposed by Boeing in a hearing before a Discharge Board of Review, and gave a further potential right to Arbitration thereafter.

116. At the time of the above meetings, Boeing had a "Corrective Action" disciplinary system in effect, called the "Progressive Disciplinary System" which specified that in cases involving employees with unblemished records such as Relators Roath & Faucher, a verbal warning would be given for a first offense; a written warning for a second offense; a day of forced unpaid leave for a third offense; three days of forced unpaid leave for a fourth offense; and dismissal for any subsequent offense.

117. At the time of the above meetings Relators Roath and Faucher each had exemplary, unblemished performance records and extraordinary attendance records, for which each had received multiple Boeing awards and commendations over the years.

118. Despite the applicability of the Grievance Procedure and the Progressive Disciplinary System, prior to the above meetings Relators Roath and Faucher were each told by their Union representatives that they had no choice but to retire and were each threatened with the complete loss of their medical and retirement benefits if they chose to fight.

119. After they had each met with the investigator, Relators Roath & Faucher were told that they were being suspended pending investigation, but they were each instructed to return to work, and they did so, continuing to produce V-22 components using the non-compliant Free Air Cure process until August 31, 2016.

120. On August 31, 2016, Relators Roath and Faucher were each summoned by James Curren, who told them that their employment was terminated effective that day. Thereafter they were escorted off the premises by Boeing security and sent to their Union office, where they were handed resignation forms that they were advised to sign immediately or they would completely lose their medical and retirement benefits.

121. At the time Relator Faucher was undergoing medical treatments for cancer, and could not possibly consider taking any action that would jeopardize his lifetime medical benefits and his retirement benefits. Accordingly, he reluctantly signed the proffered resignation form.

122. At the time Relator Roath also had medical conditions that led him to conclude that he could not possibly consider taking any action that would jeopardize his lifetime medical benefits and his retirement benefits. Accordingly, he reluctantly signed the proffered resignation form.

123. Shortly after they were forced to resign as detailed above, Relators Roath and Faucher learned that Boeing had made similar inaccurate timekeeping allegations against more than 80 other employees, but that none of those other employees had been forced to resign or had not received any discipline at all.

124. After Relators Roath and Faucher were forced to resign as detailed above, Boeing charged Relator Thomas Shaffer with having permitted their alleged improper timekeeping, and imposed discipline which consisted of forced unpaid leave from September 2, 2016 until September 16, 2016. Relator Shaffer thereafter returned to work and remains employed by Boeing at the present time.

V. Causes of Action

Count I

Violation of False Claims Act

31 U.S.C. §3729(A(1)(A), (B)

125. The Relators incorporate by reference all of the above paragraphs.

126. As detailed above, Defendant Boeing, by and through its officers, agents and employees, knowingly made, submitted, and continues to make, submit, and/or caused and/or causes to be made and submitted, false or fraudulent claims, records, and/or statements to the United States Government in order to obtain payments from the United States Government and to avoid liabilities to the United States Government.

127. Each false claim that Boeing made, submitted, or caused to be submitted violates the Act, 31 U.S.C. §3729(A(1)(A).

128. All of Boeing's above-described conduct was knowing, as that term is defined in the Act.

129. Defendant Boeing, by and through its officers, agents and employees, authorized its various officers, agents and employees to take the unlawful actions set forth above.

130. Between June, 2013 and September 1, 2016, the date that Boeing forced Relators Robert Roath and Richard Faucher to resign, as detailed above, Boeing obtained payments from the DOD, through Boeing's submission of false and fraudulent documents including standard Department of Defense Material Inspection and Receiving Reports (DD Form 250), which falsely and fraudulently asserted that subject V-22 components and/or finished aircraft conformed to the Contract specifications.

131. On June 12, 2013, the DOD awarded Boeing-Bell an extension of the Contract, nominated the "Second Multi-Year Procurement Contract", which provided for the production and purchase of 99 V-22 aircraft.

132. On June 12, 2016, the DOD awarded Boeing-Bell another extension of the Contract, nominated the "Third Multi-Year Procurement Contract", which provided for the production and purchase of 99 more V-22 aircraft.

133. Between June, 2013 and September 1, 2016, approximately 80 V-22 aircraft were delivered to the government through Boeing's submission of false and fraudulent documents including standard Department of Defense Material Inspection and Receiving Reports (DD Form 250), which falsely and fraudulently asserted that subject V-22 components and/or finished aircraft conformed to the Contract specifications.

134. The United States government has been damaged, and continues to be damaged, as a result of Defendant Boeing's violations of the False Claims Act arising under 31 U.S.C. §§3729(a)(1), (2), and (7).

135. As detailed above, Defendant Boeing knowingly violated 31 U.S.C. §3729 and thereby damaged the United States Government by its actions, in an amount to be determined at trial.

WHEREFORE, Plaintiff United States of America, through Relators Robert C. Roath, Richard Faucher, and Thomas Shaffer, demands all relief provided by the Act, including:

a. judgment against Defendant Boeing for fines in an amount equal to three times the amount of damages the United States is found to have sustained because of its actions, plus a civil penalty of not less than $5,500 and not more than $11,000 for each violation of 31 U.S.C. §3729;

b. that Defendant Boeing be ordered to cease and desist from violating 31 U.S.C. §3729 et seq.;

c. that the Relators jointly be awarded the maximum amount allowed pursuant to §3730(d) of the Act;

d. that the Relators jointly be awarded all costs of this action, including attorneys' fees and expenses; and

g. that the Relators jointly be awarded such other relief as the Court deems just and proper.

Count II

Violation of False Claims Act - Unlawful Retaliation

31 U.S.C. §3730(h)

Relators Robert C. Roath and Richard Faucher v. Boeing

136. Relators Roath and Faucher incorporate by reference all of the above paragraphs.

137. As detailed above, the Relators engaged in protected activity by: 1) making extraordinary efforts to inform Boeing supervisors, managers, quality control officers, and engineers that Boeing's manufacturing of V-22 parts using the Free Air Process did not comply with Contract specifications, and to return the process to compliance; and 2) engaging in activity to prevent Boeing from committing fraud against the federal government.

138. Boeing effectively terminated the employment of Relators Roath and Faucher by forcing them to resign, as detailed above, by making specious claims and then presenting them with an unlawful, outrageous, and impossible-to-decline choice.

139. Boeing effectively terminated Relators Roath and Faucher in retaliation for their continual efforts to reveal that the Free Air Process was non-compliant and their continual requests to bring it into compliance.

140. Boeing's actions in effectively terminating Relators Roath and Faucher constitute discrimination against them because of lawful acts they undertook to stop Boeing's violations of the False Claims Act.

141. Boeing's disparate treatment of Relators Roath and Faucher for the same alleged timekeeping offenses as those of other employees who received only verbal warnings constitutes unlawful discrimination against them because of lawful acts they undertook to stop Boeing's violations of the False Claims Act.

WHEREFORE, Relators Robert C. Roath and Richard Faucher demand all relief provided by the Act, 31 U.S.C. §3730(h), including reinstatement with the same seniority status that they would each have had but for the discrimination; double back pay; interest on the applicable back pay; and all litigation costs, and reasonable attorneys' fees, and any other special damages incurred.

Jury Trial Demanded

The Relators demand trial by jury.

Respectfully Submitted:

FLAMM WALTON HEIMBACH & LAMM, PC
794 Penllyn Pike
Blue Bell PA 19422
267.419.1505
fef@flammlaw.com

CEDRONE & MANCANO LLC
123 South Broad Street
Philadelphia PA 19109
215.925.2500
jdm@cedrone-mancano.com

By: _____ _____
F. EMMETT FITZPATRICK, III JOSEPH D. MANCANO

Counsel for Relators

Certificate of Service

I certify that a copy of this Complaint, along with written and digital disclosures of substantially all material evidence and information the Relators possess have been served on the Government as provided by FRCP 4.

Date: 12-21-16

F. EMMETT FITZPATRICK, III