Richard C. Eymann, WSBA #7470
EYMANN ALLISON HUNTER JONES P.S.
2208 W. Second Avenue
Spokane, Washington 99201
Telephone: (509) 747-0101
Facsimile: (509) 458-5977
E-mail: eymann@eahjlaw.com

Emily C. Jeffcott (*Pro Hac Vice* application anticipated)
Mikal C. Watts (*Pro Hac Vice* application anticipated)
WATTS GUERRA CRAFT, LLP
811 Barton Springs Road, Ste. 725
Austin, Texas 78704
Telephone: (512) 479-0500
Facsimile: (512) 479-0502
E-mail: ejeffcott@wgclawfirm.com
mcwatts@wgclawfirm.com

Hugh P. Lambert (*Pro Hac Vice* application anticipated)
Cayce C. Peterson (*Pro Hac Vice* application anticipated)
THE LAMBERT FIRM, APLC
701 Magazine Street
New Orleans, Louisiana 70130
Telephone: (504) 581-1750
Facsimile: (504) 529-2931
E-mail: hlambert@thelambertfirm.com
cpeterson@thelambertfirm.com

Attorneys for Relators

UNITED STATES DISTRICT COURT

EASTERN DISTRICT OF WASHINGTON

UNITED STATES OF AMERICA *EX REL.* GARY BRUNSON, DONNA BUSCHE, AND WALTER TAMOSAITIS, PH.D. RELATORS, VS. BECHTEL NATIONAL INC., BECHTEL CORPORATION, URS CORPORATION, AND URS ENERGY & CONSTRUCTION, INC. DEFENDANTS.	CIVIL ACTION NUMBER: CV-13-5013-EFS SECTION: DISTRICT JUDGE: **ORIGINAL COMPLAINT** **FILED UNDER SEAL** DEMAND FOR JURY TRIAL

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I. INTRODUCTION AND SUMMARY OF ALLEGATIONS

1. This is an action to recover damages, civil penalties, and other relief from Bechtel Corporation, Bechtel National Inc., URS Corporation, and URS Energy and Construction, Inc. for causing great harm to the United States by perpetuating a conspiracy by and between themselves and even certain members of the Department of Energy (DOE) to defraud the government of hundreds of millions of dollars in supposed design, testing and development of the Hanford Waste Treatment Plant (WTP). The WTP is intended to treat and ultimately vitrify hundreds of tanks of high-level radioactive and chemical wastes, referred to as mixed waste, currently stored at the Hanford Site, a one-time nuclear production complex that is in the process of being decommissioned. The Hanford Site is located on the Columbia River in the mid-south area of Washington state.

2. Since 2000, Defendants have designed and constructed the Hanford WTP in ways it knew failed to conform to requirements and specifications of government contracts in myriad ways, most of which constitute systemic failures of Bechtel's design, procurement, construction, testing, and installation processes. These include, by way of example, the following:

a. Failure to flowdown design requirements;

b. Inadequate specifications;

c. Material control deficiencies;

d. Failure to promulgate required quality assurance procedures;

e. Inadequate quality controls systems;

f. Inadequate quality inspection documents;

g. Inadequate receiving inspection of materials;

h. Failing to conduct required audits of vendors;

i. Falsely certifying compliance with Nuclear Quality Assurance-1 (NQA-1);

j. Inadequate reporting of nonconformances;

k. Denial of the existence of technical issues;

l. Inadequate corrective action program; and

m. Failing to address internal corrective action findings.

3. Defendants certify to the United States that the testing, designing, and constructing of the Hanford WTP, including the procurement of structures, systems, and components, conform to drawings, specifications, contract requirements, and quality procedures when they do not.

II. PARTIES

4. Defendant Bechtel Corporation is a foreign corporation doing business in Washington and the United States. Defendant Bechtel Corporation is the owner and operator of a worldwide vertically integrated business providing engineering, procurement, and construction services to civil infrastructure, communications, transportation, mining and metals, oil and gas, chemicals, power, and government industries in the United States. Bechtel Corporation conducts such businesses in Washington and the United States through a number of subsidiaries including Defendant Bechtel National Inc. Bechtel Corporation is the alter ego of Bechtel National Inc., or in the alternative, Bechtel Corporation is using subsidiary Bechtel National Inc. as its agent, or Bechtel Corporation and Bechtel National Inc. are one single integrated enterprise. Defendant Bechtel Corporation is incorporated under the laws of the state of Nevada, with its home office at 50 Beale Street, San Francisco, California 94105. Defendant Bechtel Corporation may be served with process through its registered agent for service, C T Corporation, at 818 West Seventh Street, Los Angeles, California 90017.

5. Defendant Bechtel National Inc. is a foreign corporation doing business in Washington and the United States. Defendant Bechtel National

Inc. is a wholly owned subsidiary of Bechtel Corporation. Defendant Bechtel National Inc. is a contractor for the DOE's Office of River Protection (ORP) at the Hanford Nuclear Site, and is charged with the design, construction, commissioning, and startup of the Waste Treatment Plant at the Site. Defendant Bechtel National Inc. is a subsidiary of Bechtel Corporation, and Bechtel Corporation is the alter ego of Bechtel National Inc. or in the alternative, Bechtel Corporation is using Bechtel National Inc. as its agent with respect to engineering, construction and technical services provided to the United States government, or Bechtel Corporation and Bechtel National Inc. are one single integrated enterprise. Defendant Bechtel National Inc. is incorporated under the laws of the state of Nevada with its home office at 50 Beale Street, San Francisco, California 94105. Defendant Bechtel National Inc. may be served with process through its registered agent, The Corporation Company, at 555 Capitol Mall, Ste. 1000, Sacramento, California 95814.

6. Bechtel Corporation and Bechtel National Inc. are collectively referred to herein as "Bechtel."

7. Defendant URS Corporation is a foreign corporation doing business in Washington and the United States. Defendant URS Corporation is the owner and operator of a worldwide vertically integrated business providing engineering, construction and technical services for

public agencies and private sector companies around the world. URS Corporation conducts such businesses in Washington and the United States through a number of subsidiaries including Defendant URS Energy & Construction, Inc. URS Corporation is the alter ego of URS Energy & Construction, Inc., or in the alternative, URS Corporation is using subsidiary URS Energy & Construction, Inc. as its agent, or URS Corporation and URS Energy & Construction, Inc. are one single integrated enterprise. Defendant URS Corporation is incorporated under the laws of the state of Delaware with its home office at 600 Montgomery Street, 26th Floor, San Francisco, California 94111. Defendant URS Corporation may be served with process through its registered agent, C T Corporation System, at 818 W. Seventh Street, Los Angeles, California 90017.

8. Defendant URS Energy & Construction, Inc. is a foreign corporation doing business in Washington and the United States. Defendant URS Energy & Construction, Inc. is a subsidiary of URS Corporation, and URS Corporation is the alter ego of URS Energy & Construction, Inc. or in the alternative, URS Corporation is using URS Energy & Construction, Inc. as its agent with respect to engineering, construction and technical services provided to the United States government, or URS Corporation and URS Energy & Construction, Inc. are one single integrated enterprise. Defendant URS Energy & Construction

Inc. is incorporated under the laws of the state of Ohio with its home office at 720 E. Park Blvd, Boise, Idaho 83712. Defendant URS Energy & Construction, Inc. may be served with process through its registered agent, C T Corporation System, at 111 W. Jefferson Street, Boise, Idaho 83702.

9. URS Corporation and URS Energy & Construction, Inc. are collectively referred to herein as "URS."

III. RELEVANT NON-PARTIES

1. Frank Russo is Bechtel's Project Director for the Hanford WTP. In that position, Russo had actual knowledge of Bechtel's submission of false claims and Bechtel's unsafe practices at the WTP. All of his knowledge of Bechtel's practices leading to False Claims Act violations is attributable directly to Bechtel.

2. Russo was part of a "core group" of Bechtel, URS, and ORP upper management, including Greg Ashley, William Gay, Ines Triay, Shirley Olinger, Dae Chung, Dale Knutson, and Thomas Brown, who were aware of the myriad of unsafe practices at the WTP and the False Claims Act.

3. Greg Ashley was Bechtel's Technical Director for the Hanford WTP until 2011. Ashley is currently the President of the Nuclear Power section of Bechtel and recently participated in the DOE directed safety evaluation of the Hanford WTP.

4. Ashley was part of a "core group" of Bechtel, URS, and ORP upper management, including Frank Russo, William Gay, Ines Triay, Shirley Olinger, Dae Chung, Dale Knutson, and Thomas Brown, who were aware of the myriad of unsafe practices at the WTP and the False Claims Act.

5. William "Bill" Gay is a URS Vice President at the Hanford WTP.

6. Gay was part of a "core group" of Bechtel, URS, and ORP upper management, including Frank Russo, Greg Ashley, Ines Triay, Shirley Olinger, Dae Chung, Dale Knutson, and Thomas Brown, who were aware of the myriad of unsafe practices at the WTP and the False Claims Act.

7. Dale Knutson served as the Deputy Project Director for the Capability Replacement Laboratory at the Pacific Northwest National Laboratory (PNNL). In this position, he was responsible for ensuring the Pacific Northwest safely and cost-efficiently built modern laboratories in 2010. Nearly 50% of this lab space is at the Hanford site. Knutson also served as the Federal Project Director for the Hanford WTP from approximately June of 2010 to June of 2012, as an interagency transfer from PNNL. In this assignment, Knutson was fully integrated into DOE.

8. Knutson was part of a "core group" of Bechtel, URS, and ORP upper management, including Frank Russo, Greg Ashley, Bill Gay, Ines Triay, Shirley Olinger, Dae Chung, and Thomas Brown, who were aware of the myriad of unsafe practices at the WTP and the False Claims Act.

9. Shirley Olinger served as the ORP Site Manager for Hanford WTP from 2007 to 2010. In 2010, at the behest of Dale Knuston, Olinger was forced out of her Manager's position and retired two years later from federal service after reaching retirement eligibility. In the interim two years she was reassigned by Ines Triay, identified below, to a DOE headquarters position, but remained in Richland, officing from her home and the Federal Building where her husband, a DOE employee, also maintained an office. Subsequently, in 2012, Olinger started a consulting firm, Independent Strategic Management Solutions, Inc. (ISMS). Upon information and belief, her consulting firm has secured lucrative contracts with Bechtel and URS. In the week of January 21, 2013, Olinger visited the Hanford WTP and met with Frank Russo and other Bechtel and URS management. In this meeting, Frank Russo commented that he planned to utilize Olinger's consulting services for "many aspects" of the Hanford WTP.

10. Olinger was part of a "core group" of Bechtel, URS, and ORP upper management, including Frank Russo, Greg Ashley, Bill Gay, Ines

Triay, Dae Chung, Dale Knutson, and Thomas Brown, who were aware of the myriad of unsafe practices at the WTP and the False Claims Act.

11. Ines Triay served as assistant DOE secretary of DOE Environment Management from 2008 to 2011. In previous DOE assignments, Triay had worked closely with Frank Russo. Triay is currently a consultant of ISMS, the consulting firm started by Shirley Olinger. Upon information and belief, Triay is a silent partner of ISMS.

12. Triay was part of a "core group" of Bechtel, URS, and ORP upper management, including Frank Russo, Greg Ashley, Bill Gay, Shirley Olinger, Dae Chung, Dale Knutson, and Thomas Brown, who were aware of the myriad of unsafe practices at the WTP and the False Claims Act.

13. Dae Chung was the Principal Deputy Assistant Secretary of Environmental Management at DOE. Chung is currently the DOE Principal Deputy Assistant Secretary.

14. Chung was part of a "core group" of Bechtel, URS, and DOE upper management, including Frank Russo, Greg Ashley, Bill Gay, Ines Triay, Shirley Olinger, Dale Knutson, and Thomas Brown, who were aware of the myriad of unsafe practices at the WTP and the False Claims Act.

15. Thomas Brown is the Deputy Federal Project Director for ORP. Prior to becoming a federal employee, Brown led a 20 year executive career at Bechtel.

16. Brown was part of a "core group" of Bechtel, URS, and DOE upper management, including Frank Russo, Greg Ashley, Bill Gay, Ines Triay, Shirley Olinger, Dale Knutson, and Dae Chung who were aware of the myriad of unsafe practices at the WTP and the False Claims Act.

IV. JURISDICTION AND VENUE

17. This action arises under the United States False Claims Act, 31 U.S.C. § 3729 et seq.

18. This Court has jurisdiction pursuant to 31 U.S.C. § 3732(a) and 28 U.S.C. § 1331.

19. There was not, prior to filing the Original Complaint in this case, any "public disclosure" of the false claims identified herein as that term is used in the False Claims Act, 31 U.S.C. § 3730(e)(4)(A). However, even if a "public disclosure" has occurred, Relators' claims are not barred pursuant to 31 U.S.C. § 3730(e)(4)(B) because Relators are "original sources" of the information underlying and becoming Relator's false claims identified herein.

20. Gary Brunson was the ORP Engineering Director responsible for the WTP until his involuntary retirement in January of 2013. Relator Brunson has direct and independent knowledge of the information underlying his claims as set forth in this Original Complaint, and he voluntarily provided all such information to the United States government

before the filing of this Original Complaint. Even if certain allegations or transactions described herein have been publically disclosed, the information possessed by Relator Brunson and provided to the United States government materially adds to publically disclosed allegations and transactions, if any. He, therefore, is an "original source" as that term is used in the False Claims Act, 31 U.S.C. § 3730 (e)(4)(B).

21. Donna Busche is the WTP Environmental and Safety Manager and designated as key personnel in the WTP contract. Relator Busche is employed by URS. Relator Busche has direct and independent knowledge of the information underlying her claims as set forth in this Original Complaint, and she voluntarily provided all such information, together with supporting documentation to various agencies of the United States before the filing of this Original Complaint. Even if certain allegations or transactions described herein have been publically disclosed, the information possessed by Relator Busche and provided to the United States government materially adds to publically disclosed allegations and transactions, if any. She, therefore, is an "original source" as that term is used in the False Claims Act, 31 U.S.C. § 3730 (e)(4)(B).

22. Walter Tamosaitis, Ph.D. was the WTP Research & Technology Manager and Deputy Chief Process Engineer prior to his forced departure from the WTP in June of 2010. Relator Tamosaitis has direct and

independent knowledge of the information underlying his claims as set forth in this Original Complaint, and he has voluntarily provided all such information to the United States government before the filing of this Original Complaint. Even if certain allegations or transactions described herein have been publically disclosed, the information possessed by Relator Tamosaitis and provided to the United States government materially adds to publically disclosed allegations and transactions, if any. He, therefore, is an "original source" as that term is used in the False Claims Act, 31 U.S.C. § 3730 (e)(4)(B).

23. Venue is proper with respect to all parties in the United States District Court for the Eastern District of Washington pursuant to 28 U.S.C. § 1391(b), (c) and 31 U.S.C. § 3732(a) because all Defendants transact business in this District and because Relators, during all times material to this matter, were employed in this District.

V. FACTUAL ALLEGATIONS

A. BACKGROUND: A CENTURY OF HANFORD

24. Nuclear operations began at the Hanford Site in approximately 1943. At least a century will pass before the WTP is capable of immobilizing mixed waste resulting from past nuclear operations.

1. Beginnings: A Nuclear Facility at Hanford

25. The Hanford Site was established as part of the Manhattan Project and was home to the first full-scale plutonium reactor in the world—the B Reactor. The bomb dropped on Nagasaki, Japan contained plutonium manufactured at Hanford.

26. Over 45 years, a total of nine plutonium production reactors and six large processing facilities were built with the Hanford Site producing the plutonium for the majority of weapons in the U.S. nuclear stockpile. The weapons production reactors have been in the decommissioning process since the Cold War.

2. Storing the Chemical Nuclear Waste Left Behind from Plutonium Production.

27. The decades of plutonium manufacturing resulted in 53 million gallons of high-level radioactive and chemical wastes, referred to as "mixed" waste. Over time, 177 large tanks, ranging in capacity from 55,000 gallons to more than 1,000,000 gallons, were constructed to house the waste. One hundred and forty-nine of these tanks are single shell and were built at Hanford between 1943 and 1964. The remaining 28 were built between 1968 and 1986 with double shells. All of the tanks have outlived their life span.

28. Collectively referred to as the "Tank Farm," the 177 tanks have struggled to maintain structural soundness, resulting in many confirmed leaks. It is estimated that 67 of the 147 single shell tanks are leaking and at least one of these double shell tanks is leaking. The environmental hazards posed by the leaking Tank Farm are extreme. The radioactive and chemical wastes are toxic to the environment and deadly to humans.

29. Seeking to correct and prevent further damage from the mixed waste contaminating the Hanford Site, the United States Environmental Protection Agency (EPA), DOE, and the State of Washington Department of Ecology signed a comprehensive cleanup and compliance agreement in 1989. The agreement, known as the "Tri-Party Agreement," eventually became a Consent Decree following litigation. The Consent Decree requires and serves the purpose of bringing the Hanford site, including the Tank Farm into compliance with existing federal and state environmental laws that govern the management and cleanup of hazardous wastes and hazardous waste sites. The Tri-Party Agreement includes numerous mandatory milestones that the DOE must achieve in order to remain compliant with the legally binding agreement. One such category of milestones pertains to the removal and immobilization of the mixed waste from the Tank Farm. To accomplish this, DOE decided to vitrify the waste,

just as has been done at other nuclear waste treatment facilities across the world.

3. Immobilizing the Mixed Waste Through Vitrification

30. Vitrification has been recognized as the solution to managing radioactive wastes for roughly 60 years and is the preferred method of immobilizing radioactive waste for disposal.

31. Since the 1970s, facilities across the world have constructed melters to vitrify radioactive wastes and the melter technologies employed by these various facilities are recognized as mature and standard.

a) Vitrification of Chemical Nuclear Waste Has Been Successfully Achieved Worldwide.

32. Vitrification facilities have been built at LaHague in France, Kalpakkam in India, Lanzhou in China, Mayak in Russia, Sellafield in the United Kingdom, Rokkasho in Japan, Tarapur in India, Tokai in Japan, Trombay in India, the Savannah River Site in South Carolina, and also the West Valley Demonstration Project in New York.

33. To date, vitrification facilities across the world have produced tens of thousands of metric tons of vitrified nuclear waste.

34. One of the largest radioactive waste vitrification plants in the world is the Defense Waste Processing Facility located at the Savannah

River Site in South Carolina. Construction of this facility took 13 years, starting in late 1983 with operations beginning in March 1996. Until 1989, Bechtel was the design/construction contractor for this facility. By 2019, the facility will have produced 6,000 canisters of vitrified waste that are each ten feet tall and two feet in diameter, weighing over 5,000 pounds.

35. Another United States facility, the West Valley Demonstration Project, which had accumulated approximately 2 million gallons of radioactive sludge including 600,000 gallons of high level waste, took approximately 9 years to build (1986-1995). The facility began vitrification of high level wastes in 1996 and completed vitrification of all wastes in 2002, producing over 9 million pounds of glass. URS was the prime operator of this facility.

36. France is recognized as the grandfather of nuclear waste vitrification. The vitrification facility at La Hague, France is the oldest of the vitrification plants. In 1952, France launched a research and development program to study vitrification of nuclear waste, and by 1957, France had commissioned a laboratory scaled vitrification unit. Shortly thereafter, France had commissioned the first vitrification pilot unit. This first facility was called "PIVER" and operated successfully from 1969-1973, producing 12 tons of glass containing radioactive waste. PIVER resumed operation in 1979 and continued vitrification of nuclear waste

until it was decommissioned around 1990. France developed a second vitrification facility in parallel to PIVER called the "Atelier de Vitrification de Marcoule" or "AVM". The AVM started active operation in June 1978 and operated until 1997, producing 2,731 glass canisters corresponding to 2,189 cubic meters of fission products and 977 tons of glass. France has continued to open other vitrification facilities, which as of 2010 have produced a combined 17,200 canisters of vitrified nuclear waste.

37. England, utilizing the melter technology developed in France, began construction of the Sellafield Waste Vitrification Plant in 1983. This facility, located in Cambria, England, opened eight years later, on February 26, 1991. Many aspects of the Hanford WTP are based and attributable to the Sellafield design.

38. Bechtel and URS have past experience in the design, construction, and operation of DOE vitrification facilities. Bechtel was a major participant in the design and construction Defense Waste Processing Facility located at the Savannah River Site. URS is the current operator of this facility. URS was also the operator of the West Valley Plant in New York.

b) <u>Vitrification at Hanford</u>

39. The Hanford WTP is targeted to be the largest vitrification facility capable of handling mixed waste. The baseline plan for Hanford

WTP is to receive mixed waste from the Tank Farm, and through Pretreatment (PT), separate the waste into two streams, one made up of low-activity waste (LAW) and the other of high-level waste (HLW), and separately immobilize the LAW and HLW through vitrification. Low-activity waste has low levels of radioactive materials and controlled contact is permitted with little harm to humans. High-level waste contains high levels of radiative materials and all maintenance must be done remotely to minimize exposure to humans.

40. The vitrification process primarily takes place in three facilities: PT facility, HLW facility, and LAW facility.

41. Vitrification at the Hanford Waste Treatment Plant is designed to begin at the Pretreatment facility, the largest facility in the complex. The high and low solids PT feed will be separately pumped through an underground piping system from the Tank Farm to interior receipt vessels located in the PT facility.

42. The wastes are then processed in batches to meet specific rheological and chemical conditions. PT will then separate the waste into two streams, the LAW, which is mainly liquid with moderate danger level, and HLW, which are concentrated solids with highly dangerous materials, including plutonium and uranium.

43. These physical and chemical separation processes will primarily take place in a hot cell located on the main level of the PT facility. The hot cell will contain ultra-filtration equipment (or more commonly referred to as cross-flow filtration) and cesium-ion exchange columns in addition to ancillary equipment. This cross-flow technology is an established process utilized at other vitrification facilities, including the West Valley Demonstration Project in New York.

44. Using ultra-filtration technology, the solids will then be filtered out to provide HLW high solids feed, and an ion exchange process will remove the remaining soluble, highly radioactive cesium from the liquid LAW feed stream. The cesium is then eluted from the exchange columns and combined with the high solids HLW feed stream.

45. For final processing, the low-activity liquid will proceed to the LAW facility and the high-level liquid and solids will continue to the HLW facility.

46. The LAW facility will have two melters located in a single gallery. The LAW facility will employ standard melter technology to vitrify the wastes. Glass forming materials, like silica, will be added to the waste to achieve a 20% waste to 80% glass ratio.

47. The LAW mixture will then be turned into molten glass and poured into stainless steel containers that are seven feet tall and four feet in

diameter. Once full, the seven-ton canisters containing the LAW will undergo mechanical lidding and decontamination and will be transported to the integrated disposal facility on the Hanford site for storage.

48. The HLW facility will immobilize the most dangerous waste at Hanford by applying standard melter technology. The facility will house two 40-ton melters. High-level waste requires a 70% glass to 30% waste ratio for safe storage. When the 15 feet tall, two feet in diameter, four ton canisters are full of the glass mixture, the lids will be welded shut and the canisters will be immersed in a solution that dissolves a thin layer of the canister's surface to ensure that any harmful radioactive contamination is removed. The decontaminated canisters will then be placed inside shielded containers before being transported to a national geological suppository for permanent disposal.

49. To ensure the safety of the public and the environment, the PT, HLW, and LAW facilities are required to maintain safety systems and redundant safety systems. Any system, service, or component in these facilities deemed to be important to safety is held to a higher standard. This ensures the utmost protection in an event caused by malfunction in the design (referred to as design basis event) or a natural disaster caused by volcanic ash, earthquake, flooding, etc.

50. The crisis at Fukushima demonstrates the basis for a higher standard for safety systems, services, and components.

51. Although the Hanford WTP is unique in its size, the vast majority of the Hanford WTP design is based on standard technologies employed by other vitrification and treatment facilities and applicable regardless of the size of a facility. For example, using pulse-jet mixers in the vessels and sealing off wastes in black cells have been successfully employed at Sellafield, and aspects of the PT facility are based on the Sellafield design. While Bechtel may not apply certain technologies in the exact same manner as other facilities, the fundamentals of these technologies are unchanging.

4. Transfer of Design and Construction from BNFL to Bechtel

52. In 1994, DOE decided to pursue a privatization program for cleaning up the agency's contaminated nuclear sites, including the development of Hanford's vitrification facility. The privatization program was intended to reduce costs by allowing contractors to procure financing from commercial markets.

53. On September 25, 1996, upon an initial estimate that building the plant would cost $3.2 billion, BNFL Inc. was awarded the contract to

design, build, and operate the vitrification facility to treat and immobilize radioactive liquid wastes stored in the 177 underground tanks at Hanford.

54. On September 25, 1996, the same day BNFL Inc. was awarded the contract, Bechtel announced through a press release that it would be joining the BNFL team to provide detailed design, procurement, and construction services.

55. Chris Judd, Bechtel's program manager for the privatization effort, said that during the project's initial 16 month "Proof of Concept" phase, Bechtel and other subcontractors would develop a conceptual design and prepare permit applications, scope and pricing documents, regulatory framework development, and a safety program for the waste treatment facility.

56. In 1998, BNFL Inc. more than doubled the cost estimate it made two years earlier, claiming that the facility would cost $6.9 billion.

57. Despite the cost increases, the project moved forward with BNFL's schedule proceeding for design, construction, and commissioning in a series fashion typical for most construction projects. Activities were to be serially executed, including: design development, safety documentation development, procurements, construction, acceptance testing, and commissioning.

58. In 2000, BNFL Inc. once again more than doubled the cost estimate it made two years earlier and claimed the facility would cost approximately $15 billion. In response to the price hike, DOE cancelled its contract with BNFL Inc. and decided to pursue a cost-plus-incentive fee contract instead of continuing with the privatization program adopted in 1994.

59. Mike Lawrence, a former ORP site manager, asserted that the WTP could not be completed for less than approximately $6.5 billion.

60. In 2000, Bechtel, a former member of the BNFL Inc. team, was awarded the job through a competitive contract bid, receiving a $4.3 billion deal when it assured the DOE that it could do the work for less than BNFL's price.

61. Upon information and belief, Bechtel knew that it could likely not complete the work for the $4.3 billion bid price.

62. This contract between Bechtel and DOE is identified as Contract No. DE-AC27-01RV14136 (Bechtel-DOE Contract).

63. Pursuant to this contract, a modified execution strategy referred to as "close-coupling" was adopted, allowing Bechtel to break the project up into parts such that portions of the project could proceed faster than the traditional process.

64. As a result, the WTP is being designed and built in five facility segments—PT facility, LAW facility, HLW facility, LAB, and the balance of facilities—which makes each part a discrete and smaller project. As the design and safety documentation of each segment are completed, the Bechtel-DOE Contract permits the procurement, and construction to proceed on that portion of the design.

5. Bechtel's Contract to Design and Construct the Hanford Waste Treatment Plant

65. The Bechtel-DOE Contract is a cost-plus award-fee Contract. Under this type of contract, DOE reimburses the contractor for costs expended and pays the contractor for meeting defined incentives and milestones.

66. The Bechtel-DOE Contract provides Bechtel three sources of revenue.

67. First, Bechtel earns a baseline fee as the contractor for the WTP project. This fee is earned regardless of the adequacy of the work performed by Bechtel and is known as the fee for "just being there."

68. Second, Bechtel earns revenue from the 20-40% added by Bechtel to every hour of labor billed to the United States.

69. Third, Bechtel earns fee by completing incentive fee activities, milestones, and performance measures.

70. Bechtel submits bi-monthly invoices to both the ORP Contracting Officer and the Contracting Officer Representative, who is a representative of the ORP Manager.

71. In all of Bechtel's billings, it must include supporting documentation with each invoice. Supporting documentation includes a summary of charges, payroll schedule, overhead schedule, general and administrative schedule, other direct cost schedule, payroll details, subcontractor invoices with supporting documents and any other specialized schedules required by a specific project within the contract. A proper invoice must also include the description, quantity, unit of measure, unit price, and extended price of supplies delivered or services performed.

72. In addition to the earnings made as a percentage of labor costs, Bechtel earns revenue from incentive fees, including awards for completing activity and facility milestones and bi-annual awards for Project Management and Cost Incentives.

73. The Project Management incentive evaluates subjective and objective aspects of Bechtel's performance during the previous period. The Cost Incentive fee is earned when the actual costs of the prior period is equal to or less than the estimated contract costs.

74. Except for the bi-annual awards for Project Management and Cost Incentives, when Bechtel believes an incentive fee activity has been

met, it notifies the ORP Contracting Officer in writing who 1) makes a determination whether the requirements of the Contract have been met, 2) makes a determination of whether fee is earned, and 3) notifies Bechtel of its determinations within thirty (30) calendar days after receipt by the ORP Contracting Officer of Bechtel's notification. If the ORP Contracting Officer determines a fee has been earned, then Bechtel includes it on its next bi-monthly invoice.

75. The deliverables identified in the Bechtel-DOE Contract are rooted in the functional requirements found in the Bechtel-DOE Contract. The requirements include, among others:

a. Have a forty (40)-year operating life for the operating facilities (PT, HLW, LAW), Analytical Laboratory, and BOF exclusive of ancillary facilities.

b. Separately receive and store LAW and HLW streams from the Tank Farm in appropriately designed vessels.

c. Treat and immobilize LAW stream.

d. Implement the processes for solids washing, caustic leaching, and oxidative leaching of the HLW stream and immobilize the HLW feed and radionuclides separated from the LAW feed.

e. Comply with applicable Federal, State, and local requirements, including environmental permits and other regulatory approvals and authorizations.

76. Bechtel's contract with DOE is an "EPCC" project or "engineering, procurement, construction, and commission" project. As the prime contractor, Bechtel is responsible for all aspects of the project including the initial startup. By having this contractually enumerated responsibility, Bechtel is the design authority and the design agent.

77. The design authority is the organization responsible for establishing and approving the design basis as defined by the contract, safety documents, applicable laws, codes, and standards.

78. In this role, the organization is responsible for design control and the ultimate technical adequacy of the design process. These responsibilities are applicable whether the process is conducted fully in-house, partially contracted to outside organizations, or fully contracted to outside organizations.

79. The design authority may delegate design work, but not its responsibilities.

80. The design agent is the organization responsible for development of the design, including the analysis and calculations to support the design, and for establishing engineering deliverables for

design implementation. The design agent determines how and when a design will be done, and the design agent performs design activities at the direction of and under the responsibility of the design authority.

81. Design interfaces between the design authority and design agent must be identified and controlled, and design efforts coordinated among and within participating organizations. Interface controls between the design authority and the design agent are necessary, even where the design agent is within the same organization as the design authority. The level of control necessary is dependent on the size of the organization; the larger the organization, the greater the need for procedural controls. In large matrixed organizations, support from other groups should be handled formally through specifications, requisitions, and work control—i.e., the design authority treats these matrixed organizations as outside vendors.

82. By being both the design authority and design agent, Bechtel determines what needs to be done and how and when it will be done.

83. The Bechtel-DOE Contract identifies Bechtel as the design authority and design agent, providing that Bechtel:

> shall have authority and responsibility to ensure that: (i) the design of the WTP facilities comply with all requirements in the contract, and design requirements identified in approved

deliverables and work products specified in C.6 through C.9 of this contract. (ii) The planned operation of the WTP can achieve the capacity requirements specified in section C.6, Standard 5, Commissioning. (iii) The Contractor shall identify, quantify, and manage process and facility equipment sizing, technical operation performance, environmental permitting and the safety authorization basis to achieve the Contract Specified requirement of the WTP.

84. To fulfill its responsibility as design authority and agent, Bechtel has established various EPCC project departments. The main project departments are Research & Technology; Design Engineering; Construction, Procurement & Acceptance; Environmental and Nuclear Safety; Operations; Project Controls; and Project Management.

a. The Research & Technology (R&T) group is responsible for demonstrating the performance of selected designs and resolving technical design issues. The Bechtel-DOE Contract requires testing by R&T to (1) characterize the LAW and HLW feeds; (2) validate the capability of Pretreatment to meet contract requirements, operating requirements, operating limits, and plant throughput requirements; (3) determine the appropriate operating conditions for the LAW and HLW melters; (4) demonstrate that

immobilized LAW and HLW glasses meet contract requirements; (5) design and provide operational processes for oxidative leaching; and, among other things, (6) confirm vessel mixing. R&T is also required to develop and use analytical modes to predict and evaluate WTP performance.

b. The Design Engineering group is responsible for the design of the Hanford WTP, including the basis of design. Separate sub-groups within the design engineering group focus on specific areas of the plant: Pretreatment, LAW vitrification, HLW vitrification, the laboratory, and the support systems. The Bechtel-DOE Contract establishes numerous requirements for the development of the WTP design and the design itself.

c. The Construction, Procurement & Acceptance group is charged with procuring all required materials; constructing or managing the construction of the required systems, components, equipment, etc., inspecting and testing, and "ensur[ing] that work performed under the Contract conforms to the Contract."

d. The Environmental & Nuclear Safety group (E&NS) is responsible for establishing and maintaining the required regulatory permits and safety documents, evaluating the WTP design and design changes, and project procedures for compliance with

environmental and safety regulations and regulatory requirements and notifying the project management group when designs or project procedures are noncompliant.

e. The Project Management group includes top managers from the other departments who are responsible for the major decisions and project direction.

f. The Project Controls group is responsible for maintaining cost and schedule performance records and overall project status.

g. The Operations group is responsible for the transition from construction to commissioning and ultimately the transition from an EPCC project to the operations contractor.

85. Under the Bechtel-DOE Contract, DOE is identified as the "Owner" and "Regulator" of the WTP. ORP takes on these roles for DOE. In its capacity as the owner, DOE establishes the requirements, administers the Contract, and confirms that the Contractor meets Contract requirements. As the regulator, "DOE will regulate radiological, nuclear, and process safety, as well as non-radiological worker safety and health."

86. The Bechtel-DOE Contract requires Bechtel to design and construct the WTP in precise and complete conformance with all of the requirements of the contract.

87. Specifically, pursuant to Section C of the Bechtel-DOE Contract, Bechtel is required to conform the Authorization Basis absent express, written approval from ORP. The Authorization Basis describes the safety and environmental requirements for the WTP and is the benchmark against which a proposed change to the facility—e.g. procedures, programs, plans, or management processes—is evaluated for potential safety and regulatory implications.

88. This duty to conform to the Contract and Authorization Basis is non-delegable.

89. If Bechtel chooses to hire subcontractors to perform any part of its contract with the United States, the Bechtel-DOE Contract requires Bechtel to "flowdown" those quality requirements to subcontractors.

90. Bechtel nonetheless remains obligated to the United States to provide an end item which conforms in all respects to the requirements of the contract.

B. TESTING IN RESPONSE TO ISSUES RAISED BY THE 2006 EXTERNAL FLOWSHEET REVIEW TEAM VIOLATED REQUIREMENTS

91. In 2005, the then Secretary of Energy, Samuel Bodman, chartered two studies to address concerns that technical issues in the design of the Hanford WTP would raise costs and delay operations. The

first study analyzed these technical issues, and the second study evaluated and determined cost and schedule estimates, relying on the data gathered in the first study.

92. Relator Tamosaitis led the first study, titled "External Flowsheet Review." The main consultant team for this study, known as the External Flowsheet Review Team (EFRT), was comprised of three sub-teams and over 51 consultants. Because of the participation of world-renowned experts and professors, the EFRT became colloquially known as the "Best and Brightest" team.

93. The general focus of the EFRT was WTP throughput—the ability of the WTP design to process the chemical nuclear wastes. This required determining: (1) the existence of major issues that would prevent operations; (2) the existence of major issues that would prevent the contractually specified process rates for immobilizing the chemical nuclear waste; (3) the existence of potential issues that would adversely affect these contractually specified process rates.

94. In a February of 2006 report, the EFRT identified 28 technical issues that they believed had to be addressed to achieve operations. The EFRT classified 17 of the issues as major, identified as M1 – M17, and 11 as potential, similarly identified as P1 – P11. The numbering scheme on these issues does not correspond to an order of importance.

95. For each issue, after multiple prompts from ORP, Bechtel subsequently developed an Issue Response Plan, which described the planned measures for resolution and the required criteria for formal closure of the issue.

96. The Issue Response Plans were reviewed and concurred with by ORP, Bechtel technical and project management, and a lead EFRT member.

97. Closure of the EFRT issues was determined by a team identified as the Technology Steering Group. Eight members comprised this team: the WTP Project Managers from ORP and Bechtel, three ORP officials, and three Bechtel upper-management.

98. To obtain issue closure required approval by WTP Project Managers from ORP and Bechtel and concurrence from the remaining six members.

99. During the Technical Steering Group's tenure, the WTP Project Manager for ORP changed from John Eschenberg to Guy Girard to lastly Dale Knutson in May of 2010.

100. Likewise, the WTP Project Manager for Bechtel changed from Bill Elkins to Ted Feigenbaum to Frank Russo in December of 2009.

101. Upon information and belief, Feigenbaum was removed because Ines Triay did not like him on a personal basis and preferred Frank Russo based on their prior close working relationships.

102. The remaining six members did not change: Relator Gary Brunson (ORP), Don Alexander (ORP), Langdon Holton (ORP), Richard Edwards (Bechtel), Craig Myler (Bechtel), and Greg Ashley (Bechtel).

103. Resolution of all EFRT issues was required to be completed by December 31, 2010 pursuant to the Tri-Party Consent Decree.

104. Ines Triay, Assistant Secretary to DOE, and Shirley Olinger, ORP Site Manager, expressed that failing to resolve these issues within the allotted timeframe would threaten their position and cause a reduction in federal funding.

105. To incentivize closure, ORP tied closure of the EFRT issues to 80% of the 2010-A cost incentive award. Only if Bechtel closed all EFRT issues by June 30, 2010 would Bechtel receive 80% of the award. In addition, ORP tied closure of a specific issue, M12, to a milestone award of $ 3.75 million.

106. Bechtel manipulated testing criteria and intimidated those who disagreed in order to claim closure of EFRT issues and to obtain incentive and milestone payments from the government.

107. In falsely closing EFRT issues, Bechtel likewise knowingly billed the government for testing and simulants that did not meet contractual requirements.

1. Inadequate Mixing in Vessels (M3)

108. The waste to be treated by the Hanford WTP is not a homogeneous liquid. The Hanford waste is slurry: a mixture of Newtonian and non-Newtonian liquids and insoluble solid particles of wide ranging sizes and densities. Both the solid particles and liquids have unique physical and chemical properties that affect the speed at which the solid particles settle in the pipes and vessels.

109. The characteristics of the liquids and solids contained in the waste, including solubility, are functions of their content, chemical constituents, viscosity, shear stress, particle size distribution and density, among others. These characteristics are not constant throughout the treatment process.

110. The viscosity of Newtonian fluids, common examples include water or oil, is constant and only affected by temperature while the viscosity of non-Newtonian fluids, such as ketchup, is dependent on some mechanical variable, such as shear stress (movement), time, and temperature.

111. Added to the complications of dealing with non-Newtonian fluids is the fact that the slurries contain many solid particles of various shapes, sizes and composition.

112. The slurries must be adequately mixed on a constant basis to ensure appropriate sampling results, release of hydrogen, and to prevent solids from accumulating on the bottom of tanks and pipes.

113. Any accumulation of solids can trap explosive hydrogen gas or cause unsafe accumulation of fissile material (e.g. plutonium), which could lead to a criticality event.

114. These complications and difficult issues are not new or unique to Hanford, have been resolved successfully at other vitrification and nuclear processing facilities, and were known to Bechtel prior to contracting with DOE to design and build the WTP.

115. The problems with mixing were known to both ORP and Bechtel back in the mid 1990s prior to executing the contract in 2000 for Bechtel to design and build the WTP. Prior to Bechtel, BNFL's design of the WTP included extensive use of fluidic devices to mix, transfer and sample waste.

116. In early to mid 2000, BNFL produced several reports providing rheological data for much of the tank waste to be treated by the WTP. This

data was based on testing performed by Pacific Northwest National Laboratory (PNNL).

117. The Bechtel-DOE Contract, executed later that year, references these rheological reports, indicating Bechtel's knowledge of the non-Newtonian characteristics of the waste slurries, as well as the wide ranging particle sizes contained therein.

118. Despite this knowledge, Bechtel waited until the following year before reporting the inadequacy of the mixing design, which Bechtel adopted from BNFL.

119. In 2002, Bechtel requested an increase in the target cost and cost performance fee due to the need for additional mixing testing for the fluidic devices, called pulse jet mixers (PJMs).

120. The PJM is used to mix process fluids in selected process vessels located in pretreatment and high level waste facilities' black cells. The PJM concept was based on previous applications at the Sellafield site in the United Kingdom. The PJM itself is a long cylindrical vessel that draws in fluid by a vacuum and then pressurizes to eject the fluid to cause mixing, much like a baster draws in and expels fluid.

121. In June 2003, Bechtel authorized work on an integrated strategy for scaled testing to validate PJM mixing of non-Newtonian fluids in WTP vessels. This integrated strategy employed non-Newtonian simulants in

both full scale and part scale PJM-equipped vessel configurations to empirically determine and validate the PJM design.

122. Despite realizing the need for this type of testing at the time of signing the contract with DOE, Bechtel considered the new testing a change in contract scope and requested an equitable adjustment to the contract.

123. DOE denied Bechtel's request.

124. By November 2003, Bechtel determined that design changes to the PJMs could optimize their performance, including changes to PJM vessel configuration, nozzle design, and air supply. Bechtel subsequently determined that the PJM could not mix slurry as is and that changes to the rheology of the incoming slurry and air sparging were required to achieve the necessary mixing.

125. In 2006, the EFRT identified vessel mixing, known as M3, as a major issue. Specifically, EFRT raised concerns about the mixing of Newtonian and non-Newtonian fluids in the vessels.

126. Resolving M3 meant that Bechtel would have to provide the technical basis to underpin the pulsed jet mixers, including vessel operating mode, mixing requirements, feed limits, and physical design.

127. Through a combination of testing and analysis, resolution of M3 required the demonstration of the adequacy of the final design and operating envelope to an acceptable level of technical maturity.

128. To achieve formal closure of M3 required Bechtel to meet established criteria, including:

a. Conducting computational fluid dynamics analysis and validation/benchmarking for PJM mixing;

b. Specification of testing simulant compositions and characteristics based on engineering definition of waste feeds to be simulated;

c. Procuring and executing testing activities based on technical test plans, and ensuring that the technical testing activities comply with testing requirements and achieve testing objectives; and

d. Assessment of the PJM vessel design against the mixing requirements.

129. The first version of the M3 Issue Response Plan was issued in August 2006. As early as January 2007, Bechtel performed pulse jet mixer computational fluid dynamics (CFD) testing. The CFD testing showed failure of mixing in most vessels due to the rheological properties of the waste slurry previously identified in the 2000 PNNL testing.

130. In March 2007, testing performed by British Hydraulic Research Group Methodology predicted inadequacies and marginal performance of vessel mixing with accumulation of high solid concentrations, again, due to

the rheological properties of the waste slurry previously identified in the 2000 PNNL testing.

131. This testing was not performed in accordance with NQA-1 standard.

132. Despite these problems, Bechtel's April 2007 progress report found that M3 was well thought out and likely to be successful.

133. A month after the "successful" EFRT report, Bechtel requested additional funds from the United States to increase pulse jet mixer nozzle size and pulse jet velocity in several of the vessels. Bechtel had not tested the design changes prior to requesting the additional funds.

134. ORP approved the request, but the design changes were never implemented and the money was spent elsewhere.

135. In June 2007, Bechtel issued Revision 2 of the M3 Issue Response Plan and requested additional funds for M3 testing. Bechtel's justification was the poor results from Bechtel's CFD testing and testing by British Hydraulic, both of which were due to the rheological properties of the waste slurry identified by PNNL in 2000.

136. After receiving additional funds to increase PJM nozzle size and PJM velocity, Bechtel decided to test whether increasing nozzle size and velocity would provide significant improvement.

137. In late 2007 due to problems with procurements, PNNL was unable to conduct M3 Phase 1 scaled testing. Bechtel instructed PNNL to test using an ad hoc test stand; however, procurement delays prevented PNNL from testing.

138. In March of 2008, Bechtel was able to ease the mixing requirements for most of the vessels through the Technical Maturation Plan. Bechtel instructed PNNL to begin testing using the lowered criteria, an ad hoc test stand, and five-part water simulant unrepresentative of the rheological properties of the waste.

139. Upon information and belief, testing using the ad hoc test stand, including the simulant used by PNNL during the testing, failed to conform to NQA-1.

140. In early 2008, Bechtel requested an equitable adjustment to remove the requirement to increase PJM nozzle size and PJM velocity, justifying that the requirement was too expensive despite having been paid to add both features.

141. After numerous delays, proposed changes to M3 closure criteria and arguments over appropriate testing, the Phase 1 test report on M3 was issued by PNNL in May 2009.

142. Even with the reduced mixing requirements, these and other prototypic test results issued through October 2009 proved to be non-confirmatory.

143. Even if the test results had been confirmatory, the results would be indeterminate because the testing performed failed to conform to NQA-1 requirements.

144. Bechtel then endorsed a Phase II mixing program, which was conducted at Washington State University and a local contractor, Mid Columbia Engineering. This phase II program did not meet NQA-1 requirements.

145. In or about June 2009, Relator Tamosaitis asked his supervisor, Richard Edwards, to assign the M3 program to R&T so it could be completed with the assistance and support of PNNL.

146. Edwards told Relator Tamosaitis that this would not be done due to costs, paper work, and the NQA-1 requirements associated with doing test programs under R&T and through PNNL.

147. In September of 2009, Bechtel decided M3 closure strategy needed to be re-planned to add significant new resources to the M3 team. Relator Tamosaitis was designated the program lead.

148. In November 2009, the Defense Nuclear Facilities Safety Board (DNFSB), an independent body responsible for nuclear safety oversight

authority of DOE and its activities related to the WTP, issued a report regarding the status of Bechtel's efforts to bring M3 to closure.

149. The DNFSB identified potential safety concerns with WTP mixing, including (1) the potential for a credible inadvertent criticality scenario; (2) retention of flammable gasses trapped in the sediment layer in an amount beyond that assumed in the safety basis; and (3) degradation in level-detection performance, which could result in an excessive number of pulse jet mixer overblows that could lead to the structural failure of vessel components.

150. In this report, the DNFSB also found that Bechtel's issue response plan for M3 had "undergone multiple revisions driven by technical challenges" and that one reason for the difficulty in addressing the issue was "that the mixing and transport systems were designed for average rather than bounding values of particle density in the Hanford waste inventory."

151. Despite knowing the rheological properties of the slurry waste since the 2000 PNNL report, and despite knowing that "pulse jet mixers lack the required power to sufficiently suspend and transport a significant fraction of the most rapidly settling particles through the plant," Bechtel planned to close M3 using scaled-down experiments and CFD testing that had previously proven unsuccessful.

152. By January of 2010, it was evident to Bechtel that mixing would not be resolved if Bechtel were to use a simulant that accurately represented the WTP waste stream.

153. During this time, Frank Russo arrived and replaced Ted Feigenbaum as Bechtel Project Director for the WTP. Russo, with input from Greg Ashley, determined that the plan proposed by Relator Tamosaitis would increase costs and highlight design shortfalls.

154. Russo also changed the organization structure so that both M3 team and Engineering reported to him, giving Russo complete control over the resolution of M3.

155. Bechtel continued to perform scaled testing using simulants Bechtel knew to be insufficient and noncompliant with contractual requirements.

156. The simulants selected by Bechtel failed to represent the rheological and chemical characteristics of the slurry waste.

157. Despite knowing the simulants to be inadequate representations of actual waste, Bechtel selected the simulants to save money, maintain schedule, and ensure the testing confirmed the design basis.

158. Relator Tamosaitis agreed that the simulant used in M3 testing was not representative of actual slurry waste.

159. In or about March of 2010, ORP decided to tie 80% of the performance incentive fee to completion of the EFRT issues, namely, completion of M3, by June 30, 2010.

160. In addition to the incentive fee, Frank Russo was motivated to close M3 in order to obtain an additional $50 million in funding.

161. Because Bechtel knew it could not achieve successful results with non-representative simulant, much less a simulant that mimicked the rheological properties of the slurry waste, Frank Russo decided to rely on a previously unconsidered strategy to address mixing issues, called heel removal, which the Savannah River National Laboratory (SRNL) recognized as "not a good idea."

162. Heel removal is the process of removing settled particles that collect on the bottom of a vessel. This process is in lieu of trying to continuously keep the particles suspended off the bottom of the vessel.

163. In a meeting on April 14, 2010, Russo told Greg Ashley and other Bechtel and ORP employees, including Relator Brunson, something to the effect that the failure to close M3 could shut down the project, and the senators from Washington State were "our friends" and losing the $50 million would cost them political clout. Russo inquired of the group whether M3 could be closed by June 30, 2010, to which Relator Brunson replied that closure was dependent on the quality of the evidence

presented. Russo snapped back that "everyone in this room's reputation is on the line."

164. Following this meeting, Russo intimidated those that did not agree with his new heel removal strategy with no additional testing, and Ines Triay, assistant Secretary of DOE Environmental Management, encouraged such behavior.

165. In an email between Russo and Ines Triay, assistant Secretary of DOE Environmental Management, Triay asked whether Russo was able to convince others at WTP of the heel removal strategy. Russo responded:

> It was like herding cats. Scientists that were diametrically opposed at the beginning of the meeting were in lock step harmony when we told them the science is ending. They all hated it … **I told them and the entire room that their job now is to give me/Guy and then you [Triay] a well developed and balanced business case that talks to tank by tank capability** … Tomorrow I will remind ORP and my folks and will do the same Thursday. **Guy will keep ORP and DOE consultants in line, I will help and I will send anyone on my team home if they demonstrate an unwillingness or inability to fulfill my direction** … Re the non Newtonian tanks…no new tests. The

> recommended position which the majority already agrees is non Newtonian tanks is acceptable as is.

166. Frank Russo summarized his unilateral plan to close M3 using heel removal in an email dated April 22, 2010:

> Bechtel is confident that the heel removal will close this issue, because there is no concern that it won't work. This is proven technology. While we are backing up the heel removal with testing, we believe that it will take months to agree on test simulant and test process. **Any change in non Newtonian arrays will challenge all previous non Newtonian testing**. So add another series of non Newtonian tests. If not heel removal, I continue to believe that we will lose many more months than are available. No way would I commit to July of 2010. This is very sad news as I am at a loss for a solution other than heel removal.

167. Despite being sure that "heel removal will close" M3, Bechtel continued to test, using simulants unrepresentative of the wastes, in violation of NQA-1.

168. To ensure closure of M3, Russo pressured PNNL and SRNL to endorse heel removal as a resolution to the mixing problems.

169. Frank Russo noted in emails that he would have the confidence of SRNL because Paul Deason, the director at SRNL, had previously reported to Russo at another project. Out of precaution, Russo demanded to "put Rich or Russ on a plane to SRNL to help them get in alignment."

170. SRNL issued a report stating that no additional testing was needed. William Wilmarth, Ph.D. of SRNL subsequently admitted that he was afraid "[he] would lose [his] fingers and toes" had he stated testing was needed.

171. PNNL refused to approve of heel removal.

172. Dae Chung of DOE recognized PNNL's lack of approval as a serious concern and repeatedly inquired of Frank Russo regarding whether PNNL would approve M3 closure, stating "[h]ave you made the case for M3 with sufficient endorsement from PNNL?"

173. Russo responded, "PNNL is not on the team. I have met with Knudson [sic] on this obvious absence and I have a meeting scheduled with Mike Kluse [PNNL] today to ensure that PNNL understands that **we now need to benefit of the 10 years of study and $200 million of intellectual investment that we have made with this local national lab**."

174. In another email dated May 24, 2010, Russo similarly stated "PNNL is running to the hills after 200 million to Battelle and PNNL for research," and that he needed to "calibrate" the head of Battelle.

175. As a member of the Technology Steering Group, Relator Brunson refused to close M3, especially the non-Newtonian vessels, without execution of testing.

176. When Relator Brunson rejected Frank Russo's proposed solution of the untested heel removal and additional non-Newtonian testing with heavy particles, Dae Chung (DOE), in a meeting on May 6, 2010, told Relator Brunson that he should be fired for failing to close M3.

177. In this same meeting, Greg Ashley informed Chung that Bechtel would sign as the design authority in order to close the non-Newtonian vessels, to which Chung replied "the fact that the design authority would sign meant a great deal to him."

178. Brunson stated that he could not concur and discussion ensued about removing him as a signatory for the Technical Steering Group.

179. Subsequently, Gary Brunson and other ORP employees were criticized by Shirley Olinger for issuing too many comments on Bechtel designs. She stated that comments would not be viewed as "official" and Bechtel would not have to respond to each comment.

180. On May 25, 2010, Olinger approached Relator Brunson in his office to discuss, among other things, changing the M3 closure criteria to eliminate ORP sign off. Relator Brunson did not respond.

181. M3 was declared closed on June 30, 2010 without PNNL approval and without resolution or resolution of the non-Newtonian vessels. Although the TSG approved closure of Newtonian vessels, Bechtel justified the closure to DOE by incorporating an unproven, untested method of removing settled particles through heel removal.

182. Bechtel later determined heel removal to be impossible and redefined "heel removal" to "heel management" which would allow an amount of heel to be left in the vessels. Heel management is not authorized by the Bechtel-DOE Contract.

183. On June 30, 2010, having deemed M3 and resolution of the mixing issue a success, Russo proudly emailed WTP employees "Now on to the next phase … let's get it designed and built and into operation." However, in Bechtel's August 2010 monthly status report to ORP, Bechtel claimed the WTP to be approximately 82% designed and 53% constructed.

184. The next day, in an email to Bechtel management, Russo noted that he had argued to Dale Knutson and Shirely Olinger that, if M3 was not closed, federal funding, including the $50 million "accelerated" funds, would be in "major peril":

> I already made the argument to Dale and Shirley that they would be absolutely crazy to not accept that we are finished with M-3. **Congress is just looking for a reason to put**

> **Hanford money in other States .... our $50 million is still in play. Declare failure and high probability that the $50 mil goes away. $50 mil goes away ..... 12.263 and 2019 are in major peril ..... major peril** … This all said, I repeat, they are DOE ……. and they often do things that make no basic sense. (original ellipses).

185. Also on July 1, 2010, Robert French, the Bechtel M3 closure manager, emailed the M3 technical group, stating that the words "M3 testing" should no longer be used in any communications going forward.

186. By August of 2010, the non-Newtonian mixing issues were still open, and on August 13, 2010, Dale Knutson told Relator Brunson that he wanted closure by August 20, 2010.

187. Following significant ORP pressure, the non-Newtonian mixing issue was formally concurred on by the Technology Steering Group (with one ORP member dissenting) and closed by Bechtel on August 22, 2010. Closure was contingent on major remedial actions required of Bechtel subsequent to closure.

188. After M3 issue was "closed," the Bechtel contract was amended to include resolution of the still existent mixing problems, including large scale integrated testing. Bechtel received additional funds to conduct this testing.

189. As a result of M3 testing, Bechtel made substantial design modifications to vessels, pulse jet mixers, venting systems, and other systems, structures, and components (SSCs).

190. Despite the clear existence of mixing issues after June 30, 2010, Bechtel pressured PNNL and other WTP employees to support closure of M3 so Bechtel could obtain incentive payment. As a result, Bechtel knowingly falsely certified closure of M3 and obtained incentive fee payment of approximately $3.8 million and $45 million in accelerated funding.

191. Further, in failing to comply with NQA-1 testing requirements, the resulting testing data is indeterminate and cannot be used to support design. As a result, Bechtel knowingly, or with reckless disregard, submitted false statements and records material to claim for payment of costs associated with M3.

192. Bechtel has claimed over $150 million in costs associated with M3; further, the cost to the United States to retest and reevaluate design modifications, and if necessary, undo modifications, would be massive and would have a detrimental impact on the ability of DOE to meet its obligations under the Tri-Party Consent Decree.

2. Undemonstrated Leaching Process (M12)

193. The EFRT identified two major concerns with the combined ultrafiltration and leaching process performance related directly to the limited WTP project experience and experimental data on the performance of this key unit operation.

194. The EFRT was concerned that PT would not achieve its design basis permeate flux rates due to the significantly lower rates measured in certain waste samples. Furthermore, EFRT questioned the adequacy of the mixing system to blend the leaching/washing solutions with the bulk of the wastes.

195. To resolve these issues, the EFRT recommended the following:

a. Increasing the ultrafiltration surface area, evaluating the use of asymmetrical type filter tubes, and additional testing of the filter back-pulsing frequency to better optimize the overall performance; and

b. Conducting a combined ultrafiltration/leaching system test of all leaching, washing and filtration scenarios at sufficient scale to demonstrate the effectiveness of the design and the adequacy of the mixing system.

196. M12 addresses the second of these recommendations, which involves conducting large scale testing of the combined

ultrafiltration/leaching system to demonstrate its expected performance as well as further evaluate filter back-pulsing and cleaning operations.

197. The criteria required to be completed to close M12 included the following:

a. Develop and validate initial single component simulants for boehmite, gibbsite, chrome, phosphate, sodium, sulfate and filtration that can be used in laboratory and integrated demonstration;

b. Test laboratory scale systems to obtain actual waste sample data and validate simulant composition and provide additional laboratory scale simulant studies to expand operating basis; and

c. Perform integrated demonstration to confirm ultrafiltration process system design and sludge treatment process.

198. The testing performed under M12 failed to comply with NQA-1 requirements. For example, the simulant developed failed to maintain traceability requirements and the developed testing platform failed to apply all aspects of NQA-1 during construction.

199. Bechtel performed scaled testing using simulants Bechtel knew to be insufficient and noncompliant with contractual requirements.

200. The simulants selected by Bechtel failed to represent the rheological and chemical characteristics of the slurry waste.

201. Despite knowing the simulants to be inadequate representations of actual waste, Bechtel selected the simulants to save money, maintain schedule, and ensure the testing confirmed the design basis.

202. Relator Tamosaitis agreed that the simulant used in M12 testing was not representative of actual slurry waste.

203. Bechtel management told Relator Tamosaitis that testing performed offsite did not need to comply with NQA-1 requirements.

204. This is not true; all testing is required to comply with NQA-1 requirements.

205. Further, in a conversation between Relator Busche and Suzanne Heaston, WTP communications manager for Bechtel, on or about January 11, 2013, Heaston confirmed that M12 testing failed to comply with NQA-1 requirements. Relator Busche and Heaston were discussing Relator Busche's inability to use entrainment coefficient data from M12 testing due to noncompliance with NQA-1. Heaston noted that Bechtel had decided to forego NQA-1 compliance in M12 testing to save money.

206. Despite failing to comply with NQA-1 requirements, Bechtel falsely certified closure of M12 and obtained an milestone fee payment of approximately $3.4 million.

207. Further, in failing to comply with NQA-1 testing requirements, the resulting testing data is indeterminate and cannot be used to support design. As a result, Bechtel knowingly, or with reckless disregard, submitted false statements and records material to claim payment of costs associated with M12.

208. Bechtel has claimed over $110 million in costs associated with M12; further, the cost to the United States to retest and reevaluate the applications of the data gathered from the noncompliant testing would be massive and would have a detrimental impact on the ability of DOE to meet its obligations under the Tri-Party Consent Decree.

3. Plugging in Process Piping (M1)

209. Another issue identified by the EFRT was the plugging of pipes transporting the slurry waste.

210. Slurry mobility is key to process throughput and is thus one of the most important attributes for WTP operations. At the time of the EFRT's analysis, a large amount of 2, 3, and 4-inch piping had already been installed between the various WTP unit operations in construction. The EFRT concluded that "any line containing both solids and liquids can be

expected to plug and should be designed to prevent plugging for both rapidly settling and hindered-settling slurries."

211. The EFRT determined that Bechtel had not "consistently" designed the WTP to avoid the risk of line plugging, and although EFRT could not "quantify how severely process line plugging would affect Plant throughput," the EFRT anticipated that "some piping could plug within days to a few weeks."

212. To resolve M1, Bechtel assigned Scott Saunders to lead the M1 team, and closure of M1 would be obtained upon the performance of the following activites:

a. Issuance of a report documenting the design basis for particulate size and density with support from Hanford waste characteristic experts.

b. Issuance of an interim Design Guide that specifies minimum slurry flow velocity, pipe flushing velocity, and preferred piping configuration.

c. Evaluation of the WTP piping against the interim Design Guide to identify necessary modifications.

d. Issuance of a final Design Guide upon confirmation by final particulate characterization and R&T test results.

213. To close M1, Bechtel confirmed this Design Guide by using simulants Bechtel knew to be insufficient and noncompliant with contractual requirements. Bechtel likewise used results from testing that did not conform to NQA-1.

214. The simulants selected by Bechtel failed to represent the rheological and chemical characteristics of the slurry waste.

215. Bechtel utilized a five-part water-based simulant containing particles of limited size and density. Despite knowing the simulants to be inadequate representations of actual waste, Bechtel selected the simulants to save money, maintain schedule, and ensure the testing confirmed the design basis.

216. Bechtel likewise refused to issue findings from Adam Poloski of PNNL that disagreed with Bechtel's analysis and solution to obtaining adequate pipeflows.

217. Bechtel confirmed the interim Design Guide and issued a final Design Guide based on the noncompliant testing.

218. Despite failing to comply with contractual requirements for simulants and NQA-1 requirements for testing, Bechtel falsely certified closure of M1.

219. Further, in failing to comply with NQA-1 requirements for testing, the resulting testing data is indeterminate and cannot be used to

support design. As a result, Bechtel knowingly, or with reckless disregard, submitted made false statements and records material to claims for payment of costs associated with M1.

220. Bechtel has claimed over $14 million in costs associated with M1; further, the cost to the United States to retest and reevaluate the Design Guide and modify impacted designs and SSCs would be massive and would have a detrimental impact on the ability of DOE to meet its obligations under the Tri-Party Consent Decree.

4. Process Operating Limits Not Completely Defined & Gelation/Precipitation During Leaching (M6/P4)

221. The EFRT concluded that many of the process operating limits of the WTP unit operations had not yet been determined. Process operating limits are the thresholds of parameters such as temperature, flowrate, pH, pressure, viscosity and other important factors that affect the performance of each process operation.

222. The EFRT determined that WTP needed to prepare documentation that described the operating behavior of the WTP as a function of feed characteristics, system operating strategies and the above process operating limits.

223. The EFRT determined that some of the feeds to the leaching operation would contain significant amounts of aluminum and other

materials that could precipitate, and if conditions proved unfavorable, there existed the possibility that the aluminum could gel.

224. The EFRT recommended the performance of additional testing to expand the understanding of plant process capability and to define practical process operating limits for each unit operation.

225. The EFRT also recommended that Bechtel conduct scale-up testing of the leaching processes to ensure problematic gels/precipitates do not form and post-filtration precipitation does not occur.

226. To obtain closure over M6/P4, Bechtel was required to complete over ten activities in two distinct phases, including: "the evaluation and identification of the potential causes of chemical line plugging and gelation/precipitation in process lines" using R&T testing to "evaluate process chemistry associated with potential line plugging.

227. The testing performed under M6/P4 failed to comply with NQA-1 requirements. Bechtel performed testing using simulants Bechtel knew to be insufficient and noncompliant with contractual requirements.

228. The simulants selected by Bechtel failed to represent the rheological and chemical characteristics of the slurry waste.

229. Despite knowing the simulants to be inadequate representations of actual waste, Bechtel selected the simulants to save

money, maintain schedule, and ensure the testing confirmed the design basis.

230. Despite failing to comply with NQA-1 requirements, Bechtel falsely certified closure of M6/P4.

231. Further, in failing to comply with NQA-1 testing requirements, the resulting testing data is indeterminate and cannot be used to support design. As a result, Bechtel knowingly, or with reckless disregard, made false statements and records material to claims for payment of costs associated with M6/P4.

232. Bechtel has claimed over $15 million in costs associated with M6/P4; further, the cost to the United States to retest and reevaluate the applications of the data gathered from the noncompliant M6/P4 testing would be massive and would have a detrimental impact on the ability of DOE to meet its obligations under the Tri-Party Consent Decree.

C. GOVERNMENT DOLLARS SPENT ON LOBBYING

233. The Bechtel-DOE Contract prohibits Bechtel from using funds to influence Congress:

> The Contractor agrees that none of the funds obligated on this award shall be expended, directly or indirectly, to influence Congressional action on any legislation or appropriation matters pending before Congress, other than to communicate to

Members of Congress as described in 18 United States Code (U.S.C.) 1913. This restriction is in addition to those prescribed elsewhere in statute and regulation.

234. Bechtel ignored this contract restriction, soliciting Congressional support, influencing budget appropriations, and increasing funding for the WTP project at Hanford.

235. E-mail communications between Bechtel employees, Congressional staffers, Senators, Representatives, and lobbyists dated from 2009 to 2010 illustrate systemic violations of the Bechtel-DOE Contract.

236. On January 8, 2010, a report issued by the DNFSB was made public. The report raised significant safety issues in the design and construction of the Hanford WTP.

237. Following the report's publication, Bechtel and certain high level ORP officials began planning how best to minimize the impact of the letter to prevent it from negatively affecting future federal budget allocations for the WTP. Much focus was placed on the House Armed Services Committee, a standing committee responsible for funding and oversight of the Department of Defense and substantial portions of the DOE.

238. In an email chain dated January 8, 2010, a suggestion was made to Frank Russo, Bechtel Project Director for WTP, Daniel E. Kennedy Jr.,

Bechtel registered lobbyist, and Suzanne Heaston, Bechtel WTP communications manager, to contact Doug Clapp, the Democratic Majority clerk for the Senate Appropriations Subcommittee on Energy and Water Development, to take pre-emptive action against the Board's report.

239. Shirley Olinger, ORP site manager for the WTP, Theodore "Erik" Olds, ORP communications director, Greg Ashley, Bechtel management, and others were subsequently requested for their input.

240. It was recommended that Olinger, who had already planned to be in Washington D.C., meet with congressmen, especially those on appropriations committees, to deflect negative attention.

241. Olinger agreed to meet with more "critical" congressmen, and further recommended that "[Bechtel] get to the right members on the hill before this is taken out of context."

242. Olds likewise agreed, stating "I'm really interested in closing with House and Senate Appropriations given the rumors about the 2011 budget."

243. A few days later, Bechtel employees began enacting their crisis management strategy, attempting to influence the mental impressions of certain congressional and professional staffers in Washington, D.C. by arranging one-on-one meetings and providing Bechtel's response to DNFSB's report.

244. On Monday, January 11, 2010, Suzanne Heaston sent Daniel Kennedy, a Bechtel registered lobbyist, a letter to provide to "selected congressional and professional staff," to "determine their 'anxiety' level about the issue" and requested that Kennedy, "assist in making appointments with those who would like one-on-one meetings with Shirley Olinger and/or Guy Girard, and Greg Ashley."

245. After circulating the letter to professional staff on both the House and Senate Armed Services Committees and certain staff of the Energy and Water Appropriation subcommittees, Kennedy spoke with Daryl Owen and Adam Ingols, lobbyists with the government relations and strategy consulting firm Daryl Owen Associates, Inc.

246. Kennedy updated Owen and Ingols on the status of neutralizing the effect of the DNFSB letter on federal lawmakers.

247. Kennedy also requested Owen's interpretation of Douglas Clapp's and other committee staff members' reaction to the letter and requested to arrange meetings with any concerned policymakers to diminish their worries over the efficacy of the WTP.

248. The following day, January 12, 2010, Daniel Kennedy reported that he had spoken with Madelyn R. Creedon, then-counsel to the staff of the Senate Committee for Armed Services, who seemed supportive of

Bechtel's response to the DNFSB report and would not need to be personally visited by Shirley Olinger, Guy Girard, or Greg Ashley.

249. Kennedy also placed calls to Carrie Desmond at Senator Murray's office and Jessica Gleason at Congressman Hastings office to gauge their reactions and the status of their support for the WTP project at the Hanford Site.

250. Bechtel employees also provided talking points and other information on the Mixer at Hanford to Douglas Clapp prior to a meeting he had with the DNFSB regarding the efficacy of the jet propulsion mixer installed at Hanford.

251. In an e-mail from Daryl Owen to Frank Russo on January 26, 2010, Owen stressed the importance of Clapp's support stating, "Doug is about the best, and often only, friend this project has. Our ability to stick to a funding level of $690m, much less accelerate funding, rests almost exclusively on his good will. Perhaps we can get together on a conference call to discuss."

252. As the year progressed, Bechtel employees began to explicitly lobby professional staff for an additional $50 million beyond the $690 million requested for the WTP project for fiscal year 2011.

253. In an e-mail from Daniel Kennedy dated February 28, 2010, Kennedy described meetings between Frank Russo and Senator Murray's

and Congressman Doc Hastings' staff where he was accompanied by Shirley Olinger and Erik Olds, among others.

254. Kennedy reported that in these meeting, despite the fact that professional committee staff were focused on the $50 million in additional funds requested for 2011, he believed some headway was made in terms of addressing concerns, and later sent attachments to the committee professional staff detailing why Bechtel needed an extra $50 million for 2011, how those funds would be used, and the value of spending contingency dollars earlier than originally planned.

255. As the deadline for determining federal appropriations for fiscal year 2011 approached, Bechtel attempted to influence the language of the forthcoming House Armed Services Committee appropriations bill.

256. In an e-mail chain dated May 6, 2010, Jay Ferrar wrote to Daniel Kennedy, Frank Russo, Suzanne Heaston, Daryl Owen and Adam Ingols, suggesting they influence Madelyn R. Creedon's drafting of the appropriations bill to prevent decreasing or stalling the WTP project funding, stating:

> I think an option here is for Madelyn to put language in the Bill calling for a quarterly report to the Committee's of jurisdiction on the progress being made to address the Board's concerns. Word it broadly to preclude anything that portends stopping

the project, but tightly enough the DOE knows it's serious and will be held accountable.

257. Kennedy voiced his assent to this plan in a subsequent reply e-mail, stating, "I think this approach is worth pursuing - may give Madelyn just enough to satisfy her concerns, but just short of delaying activities on the project. This way she wouldn't be ignoring the DNFSB's concerns."

258. Kennedy went on to suggest drafting the language of the bill themselves, "[i]f we don't suggest a path forward for Madelyn - she may find one on her own. Suggest we draft some language that you think you could live with - and then discuss."

259. Daryl Owen further urged Douglas Clapp to contact Madelyn Creedon to discuss the appropriations bill and to open up conversation between the two policymakers and supporters of Bechtel's handling of the WTP project at Hanford.

260. Bechtel management and employees, who are paid through taxpayer funds, have engaged in a prolonged and consistent pattern of lobbying in order to persuade lawmakers to maintain and accelerate funding for the WTP project at Hanford over the course of 2010 in contravention of the DOE-Bechtel contract.

261. Each time Daryl Owen Associates, Inc. submitted an invoice to Bechtel, which Bechtel then submitted for reimbursement under the

Bechtel-DOE Contract, Bechtel was required to certify compliance with the Byrd Amendment. Each such certification was false and constituted a false claim.

262. Upon information and belief, the salaries of Daniel Kennedy Jr. and Suzanne Heaston have at all times been paid with appropriated funds. While the amount of Kennedy's and Heaston's salaries attributable to their work with their illegal lobbying, is not known at this time, each time Bechtel submitted, under the Bechtel-DOE Contract, a request for reimbursement that included Kennedy's and Heaston's salaries, Bechtel was required to certify compliance with the Byrd Amendment. Each such certification was false to the extent that Kennedy and Heaston received salary for lobbying during the relevant period.

D. FALSE CLAIM FOR ACCELERATED PAYMENT.

263. For the 2011 congressional year, Bechtel sought an additional $50 million in congressional funding.

264. Bechtel claimed to DOE and Congress that the money was going to be used to "accelerate" the design and construction of the WTP.

265. The money was not intended to be used to accelerate the design and construction of the WTP.

266. In a February 26, 2010 email, Michael Rocha, Bechtel Manager of Project Controls at the WTP, described to Frank Russo, "what work is in

jeopardy if we are not allowed to carryover funds from FY10 to FY11 as planned, and we do not receive the additional $50m of BA in FY11 as currently planned."

267. Rocha admitted to Russo that "[a]s we discussed, not much of this work is 'accelerated,' the driver for the additional funding needed through FY11 is the 'skim' from DOE of $17m in FY09, and the $15m planned for in FY's 10 and 11."

268. Rocha then identified activities that would "add up to more than we want to show."

269. Rocha further noted that "key to note is that in reality if we did not receive the additional $50m, or carryover was taken from us, most of these activities would still likely happen as they are critical/near critical path."

270. Bechtel knowingly made a claim for $50 million from the United States to "accelerate" aspects of the WTP design and construction. This claim was false; Bechtel did not intend to use the funds for acceleration. Based on Bechtel's false claim of "acceleration," Bechtel received approximately $45 million.

E. FAILURE TO COMPLY WITH DOE-STD-3009 AND NQA-1 IN DEVELOPING THE QRA PROBABILISTIC TOOL

271. Treating chemical nuclear wastes naturally generates large amounts of hydrogen gas. Because of its reactive nature, safety control measures must be in place to limit the accumulation to a quantity that does not detonate or jeopardize operability.

272. HPAV, or hydrogen in piping and ancillary vessels, is the understanding of how hydrogen performs in a pipe and ancillary vessel. HPAV studies the progression and effects of varying levels of hydrogen detonation and deflagration such as the stresses placed on piping, heat exchangers, and jumpers.

273. The Bechtel-DOE Contract requires the WTP safety basis documents be developed and implemented to comply with nuclear safety requirements established in 10 C.F.R. 830. The Safety Basis Requirements mandate the application of DOE-STD-3009, which provides the DOE established methodology for evaluating hazards and selecting safety controls.

274. To ensure that DOE nuclear facilities are designed and operated to rigorous standard, the DOE requires the application of a conservative and deterministic analysis in evaluating hazards.

275. DOE-STD-3009 expressly prohibits the use of frequency

analyses, or a probabilistic approach, for the selection of control measures.

276. In 2006, Bechtel and ORP re-baselined the Hanford WTP to add approximately $8 billion to the WTP budget and extend schedule requirements.

277. Despite HPAV controls being a requirement prior to re-baselining, all funding for HPAV controls was removed.

278. Shirley Olinger, then ORP Site Manager, accepted a $150 million risk for the lack of HPAV controls.

279. Olinger and Greg Ashley, Bechtel management, colluded to find a less expensive approach to HPAV controls.

280. In a March 30, 2009 email, Olinger identified various mechanisms to reduce costs related to safety controls, including changing the calculations used in the Authorization Basis and Material at Risk report. In deciding whether to expend money on safety equipment, Olinger also requested in that same email that Ashley categorize all opportunities reduce HPAV controls by the level of contention that would be associated with the change:

> What would be helpful to me is to break the changes that can be done by following categories:
>
> 1) MAR and AB analysis changes (eg, dispersion calc) that result in downgrading facility categorization and SSC

classification.

2) HPAV changes due to test results to date, change in MAR and some of the less contentious changes in HPAV calcs (eg, event duration, actual temperatures, etc).

3) HPAV changes we know will be contentious (eg, allowing only mitigation for the safety case, taking less conservative prevention assumptions for mission case).

So if we get all we need for HLW, LBL from #1 these discussions can take place now w/higher confidence of success. Then for PT if we gain a majority of the SSC changes by 1 and 2 we may want to evaluate the benefits of fighting for #3 differently. For example, we may procure the eqmt but allow time to work out the details before we install the eqmt. This would allow more time to dialogue and demonstrate the benefit from a construction and commissioning complexity stand point.

281. Soon thereafter, Olinger formally authorized Ashley to research "alternative" methods to determining the controls that needed to be applied.

282. Bechtel devised the Quantitative Risk Analysis (QRA) tool to document: (1) the methodology used to quantify the expected hydrogen

event type, frequency, and severity; and (2) how the results of the frequency and severity analysis are used to perform structural analyses and develop code-based structural acceptance criteria from which design margin is determined.

283. The E&NS group, which was tasked with ensuring compliance with regulatory safety requirements, was not involved in QRA development.

284. QRA testing performed by Dominion Engineering Inc. and potentially others to determine alternative methods was not performed in accordance with NQA-1. Specifically, NQA-1-2000, Part I, consists of 18 requirements; 15 of these contain detailed requirements in addition to a basic initial introductory-level expectation paragraph. Bechtel only required Dominion Engineering, Inc. and other QRA potential subcontractors to meet the basic paragraph for each of the applicable Part I.

285. Application of the QRA tool would reduce HPAV control measures, reducing overall costs and associated DOE risk.

286. The QRA, however, violated DOE-STD-3009, as required by 10 C.F.R 830.

287. The QRA was not acceptable by the very nature of its design. The tool provided a probabilistic analysis for hydrogen hazards in violation of DOE-STD-3009 and used frequency distributions that

truncated high hazard, low probability events. In addition, DOE directed Bechtel to use bounding hydrogen generation rates and an ignition probability of 1 to ensure the robustness of hydrogen controls in pipes and ancillary vessels. The QRA did not account for these DOE requirements.

288. Having found a less expensive way to implement HPAV controls, Bechtel and certain DOE/ORP officials, Shirley Olinger and Ines Triay, further colluded to ensure use of the QRA at the WTP.

289. Ashley and other Bechtel employees and Olinger and Triay recognized that QRA did not comply with DOE-STD-3009 but decreed that the QRA would be used nonetheless.

290. In a 2010 hearing before the DNFSB, Relator Busche, as the E&NS manager, explained that she could not use the QRA tool to determine HPAV control measures because of its probabilistic methodology, a method prohibited by DOE-STD-3009.

291. Olinger and Triay were upset with Relator Busche's testimony.

292. Leo Sain, Bill Gay, and Frank Russo asked Relator Busche to change her testimony to reflect approval of the QRA tool.

293. Relator Busche refused.

294. The DNFSB later issued a report validating Relator Busche's treatment following the hearing:

The testimony of several witnesses confirms that the expert

> witness [Relator Busche] was verbally admonished by the highest level of DOE line management [Triay and Olinger] at DOE's debriefing meeting following this session of the hearing. Although testimony varies on the exact details of the verbal interchange, it is clear that strong hostility was expressed toward the expert witness whose testimony strayed from DOE management's policy while that individual was attempting to adhere to accepted professional standards. Testimony by a senior DOE official confirmed the validity of the expert witness' concerns. In addition, the expert witness testified that they felt pressure to change their testimony, but refused to do so.

295. After the DNFSB hearing and following extensive discussions with Bechtel, ORP modified the planned use for the QRA from a tool to determine necessary HPAV controls to a tool to assess compliance with ASME-B31.3 code for pipe loads and fatigue failure due to hydrogen detonation.

296. Federal safety regulations and Bechtel-DOE contract requirements do not impose ASME-B31.3 criteria for load weight on the WTP. Instead, the regulations and requirements mandate that WTP be designed to be bounding against worst case scenarios, which would implicitly meet ASME-B31.3.

297. Thus, the QRA tool was again deemed not usable by E&NS.

298. Before a subsequent DNFSB hearing discussing WTP safety issues, Relator Busche was questioned regarding QRA and other aspects of safety control processes.

299. As permitted by DNFSB hearing rules, Relator Busche, while testifying, received notecards containing information that she could choose to use in responding to a question.

300. Shirley Olinger was not pleased with the testimony Relator Busche was providing on the QRA topic.

301. Olinger interceded notecards and prevented Relator Busche from providing all of the information during her testimony.

302. The following day, Leo Sain, URS management, testified before the DNFSB. Although unclear as to recipient, Olinger wrote on a notecard that "Leo better clear up QRA and SB statement."

303. DOE Headquarters subsequently concurred with Relator Busche's position concerning the QRA.

304. Olinger and Bechtel requested that Relator Busche relieve the DOE-STD-3009 requirement. Relator Busche refused; the only way to obtain relief from the standard is to request such from the federal regulatory board. Olinger replied that they would never be granted such relief.

305. Bechtel, from 2010 to the present, continued to develop the QRA tool despite knowing of its noncompliance with DOE-STD-3009.

306. Bechtel knowingly, or with reckless disregard, developed and falsely certified a QRA tool that does not conform to the federal safety requirements, based on NQA-1 noncompliant tests, and is of no value to the United States.

307. To date, Bechtel claimed approximately $140 million in costs related to testing and development of the QRA tool, and Bechtel continues to develop the tool and submit claims for QRA costs despite its indeterminate use.

F. FAILURE TO COMPLY WITH SAFETY REQUIREMENTS IN DESIGNING AND FABRICATING THE PVV/PVP SYSTEM.

308. To prevent the accumulation of hydrogen off-gassed from the pretreatment process, an exhaust system must remove the hydrogen from the head space of the vessels and filter gas through "scrubbers" and a dedicated filtration system.

309. This system, known as Process Vessel Vent Process (PVP) and Process Vessel Vent Exhaust (PVV) system, is designed to protect the public, the environment, and the operating staff, and compliance with environmental treatment requirements must be achieved prior to release from the PVV exhaust stack.

310. Design verification of the PVP/PVV system occurred on October of 2003; however, at that time, only one item had been completed. An entry was made in the WTP Action Tracking System to complete verification by 2006. Bechtel did not meet the 2006 deadline; instead, Bechtel rescheduled the design verification many times with little justification.

311. Since at least 2002, the Preliminary Documented Safety Analysis Report (PDSA), which is an Authorization Basis document requiring strict compliance, has required the PVV/PVP system to be designed to mitigate potential dangers associated with multiple pressurized releases of hydrogen gas, otherwise known as overblows, in the PT facility.

312. Bechtel subcontracted the design of the PVV/PVP system to Duratek, Inc. and potentially others unknown at this time.

313. Bechtel failed to flowdown the PDSA overblows requirement to subcontractors designing and fabricating all SSCs of the PVV/PVP system.

314. In or about July of 2010, Greg Ashley misrepresented to ORP officials, including Relator Brunson, that E&NS had actively participated and approved moving forward with the design of the PVV/PVP system.

315. On July 15, 2010, unaware of Ashley's misrepresentations, Relator Busche, the manager of E&NS, responded to direct questions from

Relator Brunson and other ORP employees concerning the E&NS involvement:

> I communicated that ENS had been involved at a cursory level, and reiterated our trend input that realigns the PDSA starting with a hazop. They were under the impression that we had a more active involvement and had concurred/approved of the path forward. Gary [Brunson] indicated his frustration and indicated he would call.

316. Contrary to Ashley's statements, Bechtel management ignored reports from E&NS that the PVV/PVP system failed to meet the Authorization Basis and refused to flowdown the requirement.

317. Upon hearing of Relator Busche's statements to Relator Brunson, Frank Russo remarked to Dale Knutson and Greg Ashley that "[w]ith all due respect, fishing for issues (and Donna helping create one) will not help anyone. Ashley is the voice of the entire Technical organization and if a critical question isn't asked or vetted by him, then it just doesn't count." Russo then accused Relator Busche of saying "the most inciting thing," and that he would "fix that part."

318. Bechtel never fixed the PVV/PVP system design to allow for multiple overblows. As a result, major elements of the PVV/PVP system

have been designed, fabricated, and installed and are unable to sustain multiple overblows.

319. As a result, Bechtel knowingly, or with reckless disregard, subcontracted, accepted and falsely certified a PVV/PVP system that does not conform to the Authorization Basis.

G. PROCUREMENTS THAT FAILED TO MEET BASIC SAFETY REQUIREMENTS.

320. The Bechtel-DOE Contract requires Bechtel to implement specific quality-control provisions.

321. Structures, systems, and components (SSCs) designated as Safety Class or Safety Significant must be designed and qualified to function as intended in specified environments.

322. Electrical safety equipment must be qualified in accordance with IEEE-323-1983, which requires documentary evidence of suitability and aging consideration based on analysis, experience, testing or a combination of the three methods.

323. Mechanical safety equipment must be qualified by a certificate of conformance to the equipment specifications that includes the environmental conditions and hazards and the effects of aging.

324. Upper level safety systems must be qualified by design as established by documented compliance with the Quality Assurance

Manual, an Authorization Basis document, for safety in engineering, procurement, and construction. Safety components contained within the system must be qualified in accordance with the applicable electrical and mechanical safety equipment requirements.

325. Prior to procurement or construction, all designs containing Safety Class or Safety Significant SSCs must go through a design verification process to provide assurance that SSCs reflect the safety requirements, are adequately designed, and that all designs are properly integrated.

326. Where time constraints preclude verification of an entire design, Bechtel is required to identify and control the unverified design elements. Bechtel must complete design verification prior to the SSC performing its function and before installation becomes irreversible, i.e. requires significant rework.

327. Bechtel design control procedures are clear that design media, such as drawings and technical specifications, may not be issued for procurement or construction until the design is fully compliant with the contractual Authorization Basis.

328. Since as early as 2004, Bechtel has knowingly, or with reckless disregard, falsely certified SSCs as compliant with quality requirements.

329. Bechtel failed to flowdown quality requirements to subcontractors.

330. Bechtel permitted subcontractors to deviate from quality requirements in order to save cost and time. Bechtel routinely granted submitted supplier deviation disposition requests (SDDRs) to reduce quality requirements without obtaining the contractually required approval from E&NS, the Bechtel group charged with nuclear safety compliance.

331. Bechtel failed to implement required quality control measures to ensure that procured Safety Class and Safety Significant SSCs conformed to requirements.

332. Bechtel knowingly, or with reckless disregard, accepted and falsely qualified, or permitted the false qualification by a subcontractor or supplier, of Safety Class or Safety Significant SSCs that did not meet quality standards. This included using false certificates of conformances and other documentation certifying complaince.

333. Using the above described PVV/PVP system as an example of non-conformances, Bechtel procured and accepted PVP Caustic Scrubbers and PVV/PVP piping that failed to meet quality requirements.

334. PVP Caustic Scrubbers must maintain a service life of at least 40 years without maintenance. Bechtel procured PVP Caustic Scrubbers

from Premier Technology, Inc. that do not have a verified 40 year service life. Bechtel failed to flowdown the requirements and from Premier Technology, Inc. was unable to provide the required assurance, rendering the PVP Caustic Scrubbers quality indeterminate and of no use.

335. Bechtel likewise failed to flowdown to the subcontractor seismic requirements for PVV/PVP piping. In late 2007, Bechtel issued a Decision to Deviate document, changing the seismic requirements for piping from Seismic Category III, which denotes no seismic safety function, to Seismic Category, which denotes top seismic safety function.

336. This change required the majority of the PVV/PVP piping system to be hardened to withstand an earthquake.

337. The Bechtel design originator and design checker failed to incorporate this design input into the piping and instrument drawings, and PVV/PVP piping diagrams were not updated to reflect the additional hardening requirement.

338. Bechtel failed to flowdown the seismic requirements to the vendor.

339. At least nineteen piping lines were procured without the requisite hardness to withstand an earthquake. The non-conforming piping was installed in the PT facility.

340. In violation of quality requirements, Bechtel quality assurance permitted the acceptance of non-conforming piping and Bechtel engineering failed to verify the design prior to installation.

341. Bechtel knowingly, or with reckless disregard, accepted and qualified the PVV/PVP piping for use in the PT facility. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

342. The procurements identified below are additional examples of the SSCs that Bechtel falsely certified as compliant with quality requirements:

a. Bechtel procured from Peterson Inc. hatches, plates, pits, and related components pursuant to material requisition no. 24590-QL-MRA-ADDH-00003. These procured SSCs failed to meet required bounding environmental conditions for humidity, chemical exposure, temperature and/or a steam-break hazard. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the HLW Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

b. Bechtel procured important to safety piping from Shaw Naptech, Inc. pursuant to material requisition nos. 25490-QL-

POB-PS02-00009, 24590-POA-PS02-00009, among others. The procured piping failed to meet traceability and pedigree requirements. Bechtel accepted and qualified piping as Safety Class or Safety Significant. Bechtel knowingly, or with reckless disregard, falsely certified for this piping as compliant with quality requirements.

c. Bechtel procured from ABB, Inc. flow-indicator-rotameters and related components for the LAW and PTF facilities pursuant to material requisition no. 24590-QL-MRA-JF16-00001. These procured SSCs failed to meet required bounding environmental conditions for temperature. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the LAW and PTF Facilities at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

d. Bechtel procured from ABW Technologies, Inc. instrument racks, inbleed enclosures, clips and related components for the LAB, LAW, HLW and PTF facilities pursuant to material requisition no. 24590-QL-MRA-JC00-00005. These procured SSCs failed to meet required bounding environmental conditions for chemical exposure, humidity, temperature, and/or a steam-break

hazard. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the LAB, LAW, HLW and PTF Facilities at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

e. Bechtel procured from ABW Technologies, Inc. magnetic flow transmitters and related components for the HLW facility pursuant to material requisition no. 24590-QL-MRA-JF08-00003. These procured SSCs failed to meet required bounding environmental conditions for humidity. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the HLW Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

f. Bechtel procured from American Crane & Equipment hot cell monorail airlocks, monorail recovery systems, hot cell monorail hoists, and related components for the LAB facility pursuant to material requisition no. 24590-QL-MRA-MJKH-00002. These procured SSCs failed to meet required bounding environmental conditions for doses of radiation and temperature. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the LAB Facility at the WTP. Bechtel

knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

g. Bechtel procured from Ametek, Inc. transmitters and related components for the LAW facility pursuant to material requisition no. 24590-QL-MRA-JP02-00003. These procured SSCs failed to meet required bounding environmental conditions for temperature. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the LAW Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

h. Bechtel procured from Ametek, Inc. technical specs and related components for the HLW facility pursuant to material requisition no. 24590-QL-MRA-JS01-00001. These procured SSCs failed to meet required bounding environmental conditions for temperature, chemical exposure, and/or humidity. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the HLW Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

i. Bechtel procured from Beaird Industries, Inc. a plant wash and disposal system breakpot and related components for

the PTF facility pursuant to material requisition no. 24590-QL-MRA-MVA0-00009. These procured SSCs failed to meet required bounding environmental conditions for humidity. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the PTF Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

j. Bechtel procured from Chromalox, Inc. a HEPA preheater, sacrificial heater element assemblies, and related components for the LAW facility pursuant to material requisition no. 24590-QL-MRA-MEE0-00003. These procured SSCs failed to meet required bounding environmental conditions for temperature. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the LAW Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

k. Bechtel procured from Flanders CSC C5V, C2V, and C3V HEPA filter housings, exhausts, filters, a decon booth & glovebox HEPA housing, and related components for the PTF facility pursuant to material requisition no. 24590-QL-MRA-MKH0-00001. These procured SSCs failed to meet required bounding

environmental conditions for chemical exposure, humidity, and temperature. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the PTF Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

l. Bechtel procured from Flanders CSC an ultrafiltration feed lag pump b, ultrafiltration feed lag pump a, and related components for the PTF facility pursuant to material requisition no. 24590-QL-MRA-MPC0-00009. These procured SSCs failed to meet required bounding environmental conditions for doses of radiation. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the PTF Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

m. Bechtel procured from Flanders CSC pumps and related components for the PTF facility pursuant to material requisition no. 24590-QL-MRA-MPC0-00012. These procured SSCs failed to meet required bounding environmental conditions for doses of radiation and/or humidity. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the PTF

Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

n. Bechtel procured from Flanders CSC an ion-exchange feed pump, and related components for the PTF facility pursuant to material requisition no. 24590-QL-MRA-MPC0-00013. These procured SSCs failed to meet required bounding environmental conditions for doses of radiation and/or humidity. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the PTF Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

o. Bechtel procured from Flanders CSC vessels, ejectors, and related components for the PTF facility pursuant to material requisition no. 24590-QL-MRA-MPE0-00001. These procured SSCs failed to meet required bounding environmental conditions for humidity. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the PTF Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

p. Bechtel procured from Flowserve Corporation control valves and regulators, and related components for the LAW

and PTF facilities pursuant to material requisition no. 24590-QL-MRA-JV01-00002. These procured SSCs failed to meet required bounding environmental conditions for temperature, chemical exposure, a duplicate control tag, and/or humidity. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the LAW and PTF Facilities at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

q. Bechtel procured from Fluidic Techniques/FTI Industries venturi tubes and related components for the LAW facility pursuant to material requisition no. 24590-QL-MRA-JF07-00001. These procured SSCs failed to meet required bounding environmental conditions for temperature. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the LAW Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

r. Bechtel procured from Harris Thermal Transfer Products a PJV demister, anchor bolt locator templates, and related components for the PTF facility pursuant to material requisition no. 24590-QL-MRA-MVA0-00013. These procured SSCs failed to meet

required bounding environmental conditions for chemical exposure. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the PTF Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

s. Bechtel procured from Hot Cell Services Corp. shielded window housings, shielded window liner, installation and extraction carts, and related components for the LAB facility pursuant to material requisition no. 24590-QL-MRA-ADDP-00002. These procured SSCs failed to meet required bounding environmental conditions for temperature. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the LAB Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

t. Bechtel procured from Invensys Systems, Inc. control room and plant components, enclosures and related components for the LAW and PTF facilities pursuant to material requisition no. 24590-QL-MRA-JD03-00001. These procured SSCs failed to meet required bounding environmental conditions for environmental classification, steam-break hazards, chemical exposure

and/or temperature. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the LAW and PTF Facilities at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

u. Bechtel procured from Invensys Systems, Inc. a flow element-magnetic, flow transmitter- magnetic, and related components for the PTF facility pursuant to material requisition no. 24590-QL-MRA-JF08-00002. These procured SSCs failed to meet required bounding environmental conditions for humidity. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the PTF Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

v. Bechtel procured from Ionex Research Corporation fume hoods, partitions, crushers, compactors, shielded transfer imports/exports, and related components for the LAB facility pursuant to material requisition no. 24590-QL-MRA-MJW0-00006. These procured SSCs failed to meet required bounding environmental conditions for temperature. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the LAB Facility at the WTP. Bechtel knowingly, or with reckless

disregard, falsely certified these SSCs as compliant with quality requirements.

w. Bechtel procured from Kyungwon Century America Inc. extraction fans with motors, and related components for the PTF facility pursuant to material requisition no. 24590-QL-MRA-MACS-00004. These procured SSCs failed to meet required bounding environmental conditions for humidity. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the PTF Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

x. Bechtel procured from Laboratory Impex Systems, ltd. stack discharge monitoring instruments, and related components for the LAW and HLW facilities pursuant to material requisition no. 24590-QL-MRA-JA03-00001. These procured SSCs failed to meet required bounding environmental conditions for doses of radiation. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the LAW and HLW Facilities at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

y. Bechtel procured from Mid Columbia Engineering, Inc. plant service air racks, plant wash racks, and related components for the PTF facility pursuant to material requisition no. 24590-QL-MRA-PH02-00011. These procured SSCs failed to meet required bounding environmental conditions for chemical exposure. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the PTF Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

z. Bechtel procured from Mid Columbia Engineering, Inc. high pressure steam racks, plant service air racks, fluidics control racks, plant wash racks, and related components for the PTF facility pursuant to material requisition no. 24590-QL-MRA-PH02-00012. These procured SSCs failed to meet required bounding environmental conditions for chemical exposure. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the PTF Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

aa. Bechtel procured from Mott Corp. ultrafilters and related components for the PTF facility pursuant to material

requisition no. 24590-QL-MRA-MVEF-00003. These procured SSCs failed to meet required bounding environmental conditions for chemical exposure and/or humidity. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the PTF Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

bb. Bechtel procured from Northwest Copper Works, Inc. an ultrafiltration feed vessel, ring beam, and related components for the PTF facility pursuant to material requisition no. 24590-QL-MRC-MVA0-B0002. These procured SSCs failed to meet required bounding environmental conditions for humidity. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the PTF Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

cc. Bechtel procured from Northwest Copper Works, Inc. ultrafiltration pulse pots, plant wash breakpots, and related components for the PTF facility pursuant to material requisition no. 24590-QL-MRD-MVA0-00003. These procured SSCs failed to meet required bounding environmental conditions for chemical exposure

and/or humidity. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the PTF Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

dd. Bechtel procured from Nuclear Logistics Inc. transformers, distribution panels and related components for the LAW facility pursuant to material requisition no. 24590-QL-MRA-EAA0-00001. These procured SSCs failed to meet required bounding environmental conditions for environmental classification. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the LAW Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

ee. Bechtel procured from Nuclear Logistics Inc. 480V motor control centers and related components for the LAW facility pursuant to material requisition no. 24590-QL-MRA-EC00-00004. These procured SSCs failed to meet required bounding environmental conditions for chemical exposure. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the LAW Facility at the WTP. Bechtel knowingly, or with

reckless disregard, falsely certified these SSCs as compliant with quality requirements.

ff. Bechtel procured from Nuclear Logistics Inc. load interrupter switches, dry type transformers, secondary unit substation load centers, and related components for the HLW and PT facilities pursuant to material requisition no. 24590-QL-MRA-EK00-00001. These procured SSCs failed to meet required bounding environmental conditions for chemical exposure and/or temperature. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the HLW and PT Facilities at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

gg. Bechtel procured from Nuclear Logistics Inc. wafer check valves and related components for the LAW facility pursuant to material requisition no. 24590-QL-MRA-PV14-00004. These procured SSCs failed to meet required bounding environmental conditions for environmental classification, steam-break hazards, chemical exposure, and/or temperature. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the LAW Facility at the WTP. Bechtel knowingly, or with reckless

disregard, falsely certified these SSCs as compliant with quality requirements.

hh. Bechtel procured from Nuclear Systems Associates Inc. high pressure sodium lights, thru-wall lighting fixtures, maintenance shield plugs, and related components for the HLW facility pursuant to material requisition no. 24590-QL-MRA-EL00-00001. These procured SSCs failed to meet required bounding environmental conditions for steam-break hazards, chemical exposure, humidity, and/or temperature. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the HLW Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

ii. Bechtel procured from Numet Engineering Ltd. CS ion exchange feed coolers and related components for the PTF facility pursuant to material requisition no. 24590-QL-MRA-MEPS-00001. These procured SSCs failed to meet required bounding environmental conditions for chemical exposure and/or humidity. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the PTF Facility at the WTP. Bechtel

knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

jj. Bechtel procured from Nuthem International Inc. jumper valves, plug valves, and related components for the HLW facility pursuant to material requisition no. 24590-QL-MRA-JV09-00008. These procured SSCs failed to meet required bounding environmental conditions for doses of radiation, chemical exposure, humidity, and/or temperature. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the HLW Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

kk. Bechtel procured from Nutherm International Inc. UPS Systems, 480V AC, by-pass isolating transformers, batteries, and related components for the HLW facility pursuant to material requisition no. 24590-QL-MRA-EU00-00001. These procured SSCs failed to meet required bounding environmental conditions for chemical exposure. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the HLW Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

ll. Bechtel procured from NuVision Engineering Inc. progressive cavity pumps and related components for the PTF facility pursuant to material requisition no. 24590-QL-MRA-MPRP-00001. These procured SSCs failed to meet required bounding environmental conditions for doses of radiation, humidity, and/or chemical exposure. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the PTF Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

mm. Bechtel procured from Oregon Iron Works, Inc. shield doors, switch retrofit kits, and related components for the HLW and PTF facilities pursuant to material requisition no. 24590-QL-MRA-ADDH-00007. These procured SSCs failed to meet required bounding environmental conditions for humidity, environment classification, temperature, chemical exposure, and steam-break hazards. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the HLW and PTF Facilities at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

nn. Bechtel procured from Parsons Constructors & Fabricators, Inc. engineering documents the PTF facility pursuant to

material requisition no. 24590-QL-MRA-PF00-00044. These procured SSCs failed to meet required bounding environmental conditions for humidity, and/or chemical exposure. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the PTF Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

oo. Bechtel procured from Petersen Inc. drum transfer hatches, cave export hatches, cave import hatches, and related components for the HLW facility pursuant to material requisition no. 24590-QL-MRA-ADDH-00003. These procured SSCs failed to meet required bounding environmental conditions for humidity, chemical exposure, temperature and/or a steam-break hazard. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the HLW Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

pp. Bechtel procured from Premier Technology Inc. Pa doors and frames and related components for the HLW and PTF facilities pursuant to material requisition no. 24590-QL-MRA-ADDB-00001. These procured SSCs failed to meet required bounding

environmental conditions for steam-break hazards, humidity, and/or chemical exposure. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the HLW and PTF Facilities at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

qq. Bechtel procured from Premier Technology Inc. waste transfer ports and related components for the LAB facility pursuant to material requisition no. 24590-QL-MRA-HCHH-00003. These procured SSCs failed to meet required bounding environmental conditions for temperature. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the LAB Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

rr. Bechtel procured from Premier Technology Inc. posting ports and related components for the HLW and PTF facilities pursuant to material requisition no. 24590-QL-MRA-M000-00002. These procured SSCs failed to meet required bounding environmental conditions for chemical exposure, and/or humidity. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the HLW and PTF Facilities at the WTP.

Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

ss. Bechtel procured from Premier Technology Inc. offset assemblies for 36" and 48" thick slabs and related components for the PTF facility pursuant to material requisition no. 24590-QL-MRA-PY00-00005. These procured SSCs failed to meet required bounding environmental conditions for doses of radiation, humidity, and/or temperature. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the PTF Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

tt. Bechtel procured from Premier Technology Inc. vessel vents, heat exchange bulges, removable weirs, scrubbing liquid coolers, and related components for the PTF facility pursuant to material requisition no. 24590-QL-MRA-PY33-00004. These procured SSCs failed to meet required bounding environmental conditions for chemical exposure, humidity, and/or temperature. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the PTF Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

uu. Bechtel procured from RSCC Wire & Cable LLC power, control and instrumentation cables, and related components for the LAB, LAW, HLW, and PTF facilities pursuant to material requisition no. 24590-QL-MRA-EW00-00001. These procured SSCs failed to meet required bounding environmental conditions for humidity. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the LAB, LAW, HLW, and PTF Facilities at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

vv. Bechtel procured from S.A. Technology, Inc (formerly Special 7 6,706,278.31 Application Robotics - dba SA Robotics) LVP offgas exhausters and related components for the LAW facility pursuant to material requisition no. 24590-QL-MRA-MACS-00007. These procured SSCs failed to meet required bounding environmental conditions for doses of radiation. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the LAW Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

ww. Bechtel procured from S.A. Technology, Inc. racks and related components for the PTF facility pursuant to material

requisition no. 24590-QL-MRA-PH02-00004. These procured SSCs failed to meet required bounding environmental conditions for chemical exposure. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the PTF Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

xx. Bechtel procured from S.A. Technology, Inc. racks, and related components for the PTF facility pursuant to material requisition no. 24590-QL-MRA-PH02-00008. These procured SSCs failed to meet required bounding environmental conditions for chemical exposure and/or humidity. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the PTF Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

yy. Bechtel procured from Special Application Robotics, Inc. DBA S.A. Robotics HDH and RWH turntables, rails, tools, test equipment and assemblies, solid waste baskets, PIH decontamination basket, PFH and HFH filter baskets, and related components for the HLW facility pursuant to material requisition no. 24590-QL-MRA-HDYR-00001. These procured SSCs failed to meet required bounding

environmental conditions for humidity and/or chemical exposure. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the HLW Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

zz. Bechtel procured from Special Applications Technology, Inc. C1/C2/C3 supply systems, C2/C3/C5 exhaust systems, and related components for the HLW and PTF facilities pursuant to material requisition no. 24590-QL-SRA-MDHM-00001. These procured SSCs failed to meet required bounding environmental conditions for doses of radiation, humidity and/or temperature. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the HLW and PTF Facilities at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

aaa. Bechtel procured from Special Applications Technology, Inc. pressure reducing regulators, pressure gauges, panel nuts, and related components for the PTF facility pursuant to material requisition no. 24590-CD-FMR-JV05-00002. These procured SSCs failed to meet required bounding environmental conditions for humidity and/or chemical exposure. Bechtel accepted and qualified

these SSCs as Safety Class or Safety Significant SSCs for use in the PTF Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

bbb. Bechtel procured from Special Applications Technology, Inc. wash effluent breakpots, acidic waste transfer breakpots, and related components for the PTF facility pursuant to material requisition no. 24590-QL-MRC-MVA0-00003. These procured SSCs failed to meet required bounding environmental conditions for humidity. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the PTF Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

ccc. Bechtel procured from SSM Industries, Inc. exhaust fans and related components for the HLW and PTF facilities pursuant to material requisition no. 24590-QL-MRA-MACS-00005. These procured SSCs failed to meet required bounding environmental conditions for doses of radiation, humidity, and/or temperature. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the HLW and PTF Facilities at the WTP.

Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

ddd. Bechtel procured from Standard Calibrations, Inc. technical specifications for the HLW, LAW, and PTF facilities pursuant to material requisition no. 24590-QL-MRA-JP01-00002. These procured SSCs failed to meet required bounding environmental conditions for humidity, and/or temperature. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the HLW, LAW, and PTF Facilities at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

eee. Bechtel procured from Thermo Eberline, Inc. an RMS3 with external HP290, digital area monitors, cables, connectors, software, and related components for the LAB facility pursuant to material requisition no. 24590-CM-FMR-HAHH-00001. These procured SSCs failed to meet required bounding environmental conditions for temperature. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the LAB Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

fff. Bechtel procured from Thompson Mechanical Contractors, Inc. wall-to-header fit-up tests, process jumpers, jumper support, jumper headers, jumper horiz blanks, pneumatic jumpers, and related components for the PTF facility pursuant to material requisition no. 24590-QL-MRA-PF00-00016. These procured SSCs failed to meet required bounding environmental conditions for chemical exposure and/or humidity. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the PTF Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

ggg. Bechtel procured from Vanguard Distributors, Inc. master-slave manipulators and related components for the HLW and PTF facilities pursuant to material requisition no. 24590-QL-MRA-MJW0-00003. These procured SSCs failed to meet required bounding environmental conditions for humidity, temperature, chemical exposure, and steam-break hazards. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the HLW and PTF Facilities at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

hhh. Bechtel procured from Vanguard Distributors, Inc. steam injectors, emptying ejectors, transfer ejectors, and related components for the HLW facility pursuant to material requisition no. 24590-QL-MRA-MPE0-00001. These procured SSCs failed to meet required bounding environmental conditions for humidity. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the HLW Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

iii. Bechtel procured from Vanguard Distributors, Inc. melters and melter Rails, and related components for the HLW facility pursuant to material requisition no. 24590-QL-MRA-MQR0-00001. These procured SSCs failed to meet required bounding environmental conditions for humidity, temperature, and chemical exposure, and SSCs fail to meet required seismic bounding conditions . Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the HLW Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

jjj. Bechtel procured from Vanguard Distributors, Inc. bogies and related components for the HLW facility pursuant to

material requisition no. 24590-QL-MRA-MQTS-00001. These procured SSCs failed to meet required bounding environmental conditions for doses of radiation, humidity, and chemical exposure, and SSCs fail to meet required seismic bounding conditions . Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the HLW Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

kkk. Bechtel procured from Vanguard Distributors, Inc. bogies and related components for the HLW facility pursuant to material requisition no. 24590-QL-MRA-MQTS-00002. These procured SSCs failed to meet required bounding environmental conditions for chemical exposure, humidity, and/or temperature. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the HLW Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

lll. Bechtel procured from Vanguard Distributors, Inc. racks and related components for the HLW facility pursuant to material requisition no. 24590-QL-MRA-PH02-00007. These procured SSCs failed to meet required bounding environmental conditions for

environmental classification, humidity, and/or steam-break hazards. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the HLW Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

mmm. Bechtel procured from Vanguard Distributors, Inc. ITS in-line air filter-dryers, plant service air in-line particulate filters, and related components for the HLW facility pursuant to material requisition no. 24590-QL-MRA-PY02-00003. These procured SSCs failed to meet required bounding environmental conditions for temperature. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the HLW Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

nnn. Bechtel procured from Vanguard Distributors, Inc. wash effluent breakpots, acidic waste transfer breakpots, and related components for the HLW facility pursuant to material requisition no. 24590-QL-MRC-MVA0-00003. These procured SSCs failed to meet required bounding environmental conditions for humidity. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the HLW Facility at the WTP. Bechtel

knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

ooo. Bechtel procured from Vat Incorporated remote operated dampers and related components for the HLW and PTF facilities pursuant to material requisition no. 24590-QL-MRA-MDP0-00002. These procured SSCs failed to meet required bounding environmental conditions for doses of radiation. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the HLW and PTF Facilities at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

ppp. Bechtel procured from Vat Incorporated technical specifications for the HLW facility pursuant to material requisition no. 24590-QL-MRA-MEHX-00001. These procured SSCs failed to meet required bounding environmental conditions for doses of radiation, chemical exposure, and/or temperature. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the HLW Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

qqq. Bechtel procured from Vat Incorporated power manipulators and related components for the HLW facility pursuant to material requisition no. 24590-QL-MRA-MJW0-00002. These procured SSCs failed to meet required bounding environmental conditions for temperature. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the HLW Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

rrr. Bechtel procured from Velan Valve Corporation jumper valves, ball or plug valves, and related components for the PTF facility pursuant to material requisition no. 24590-QL-MRA-JV09-00008. These procured SSCs failed to meet required bounding environmental conditions for doses of radiation, chemical exposure, and/or humidity. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the PTF Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

sss. Bechtel purchased and dedicated 22,000 bulk manual valves that are indeterminate as the safety functional requirement of internal isolation function. The bulk valves were

procured Velan Valve Corporation, Bonney Forge, and Nuclear Logistics, Inc.

ttt. Bechtel procured from Wagstaff, Inc. heh cask lidding machines, liners, special tools, fixtures, and handling beams, and related components for the HLW facility pursuant to material requisition no. 24590-QL-MRA-HCTH-00002. These procured SSCs failed to meet required bounding environmental conditions for humidity, temperature, chemical exposure, and steam break, and SSCs fail to meeting requirement bounding conditions for seismic. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the HLW Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

uuu. Bechtel procured from Weir Valves & Controls USA valves, heat shields, and related components for the HLW and LAW facilities pursuant to material requisition no. 24590-QL-MRA-JV01-00003. These procured SSCs failed to meet required bounding environmental conditions for chemical exposure, humidity, and/or temperature. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the HLW and LAW

Facilities at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

vvv. Bechtel procured from West Metal Works Inc. breakpots and related components for the PTF facility pursuant to material requisition no. 24590-QL-MRA-MVA0-00015. These procured SSCs failed to meet required bounding environmental conditions for chemical exposure and/or humidity. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the PTF Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

www. Bechtel procured from Wright Industries, Inc. reflective metal insulations for encapsulating lines and related components for the PTF facility pursuant to material requisition no. 24590-QL-MRA-NNP0-00002. These procured SSCs failed to meet required bounding environmental conditions for duplicate control tags. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the PTF Facility at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

xxx. Bechtel procured from Wright Industries, Inc. plugs and related components for the LAB, HLW, and PTF facilities pursuant to material requisition no. 24590-QL-MRA-EMM3-00001. These procured SSCs failed to meet required bounding environmental conditions for doses of radiation, temperature, and/or humidity. Bechtel accepted and qualified these SSCs as Safety Class or Safety Significant SSCs for use in the LAB, HLW, and PTF Facilities at the WTP. Bechtel knowingly, or with reckless disregard, falsely certified these SSCs as compliant with quality requirements.

343. The costs associated with the above SCCs is not precisely known, but is estimated to be in the hundreds of millions of dollars; further, the cost to the United States to reevaluate SSCs, and if necessary, rework or procure again, would be massive and would have a detrimental impact on the ability of DOE to meet its obligations under the Tri-Party Consent Decree.

H. <u>WELDS THAT FAILED TO MEET REQUIREMENTS.</u>

344. Welds located in the black cells and hard to reach places are subject to stringent weld requirements to ensure that the SSCs are designed and fabricated to last for a design life of 40 years without in-service inspection.

345. In 2010, Bechtel performed welding and re-welding on pipe support without issuance of a work package specifying the requirements. The resulting welds were not subject to any acceptance criteira or inspection requirements and were either not documented or improperly accepted by Field Engineering.

346. As a result, Bechtel knowingly, or with reckless disregard, accepted and falsely qualified, or permitted the false certification of welds that did not meet quality requirements.

347. Welds in confinment vessels and welds that join primary confinement components are required to undergo non destructive examination. Specifically, the welds must be subject volumetric insepection by radiographic or ultrasonic methods in accordance with ASME requirements.

348. In 2012, Bechtel procured from Bendalls Inc. vessels under material requisition no. 24590-QL-POA-MVA0-00012 and 24590-QL-POA-RLD-00008. These procured vessels failed to meet welding requirements, including non destructive examination requirements, but were accepted by a Bechtel Supplier Representative.

349. Bechtel knowingly, or with reckless disregard, accepted and falsely qualified, or permitted the false qualification by a subcontractor or supplier, of welds that did not meet quality requirements.

350. The costs associated with the above SSCs containing welds is not precisely known, but is estimated to be in the millions of dollars; further, the cost to the United States to reevaluate the welds and if necessary, rework or procure again SSCs containing welds, would be massive and would have a detrimental impact on the ability of DOE to meet its obligations under the Tri-Party Consent Decree.

I. FIRE SAFETY SYSTEM FAILED TO MEET REQUIREMENTS.

351. The WTP Fire Safety System is required to install and maintain protection features as required by standards promulgated by the National Fire Protection Association (NFPA).

352. Bechtel installed a Fire Safety System that failed to meet NFPA standards and contractual/design requirements.

353. Numerous required hangers were not installed, system installation did not match locations identified in approved design drawings, seismic bracing was not installed in locations designated in design drawings, sprinklers were installed with obstructed spray patterns, hanger and supports were installed with deficiencies, and rooms/areas where required sprinkler protection were not provided.

354. As reported to Bechtel management by E&NS in 2012, substandard design/installation practices by subcontractors, including

Patriot, Inc., and a lack of engineering oversight, resulted in an installed sprinkler system with no uniformity. Specifically, there was no discernible logic to hanger placement, branch line configuration, fitting selection, or pipe sizing. As a result, system branch-line configurations were installed that form a haphazard combination of plugged tees and plugged armovers, reducers, unions, couplings, and random jogs that satisfy no system performance function.

355. In addition, Bechtel turned over to operations the Fire Service Water (FSW) Protection System without a complete design.

356. The FSW requires an uninterruptible power supply to power monitoring instrumentation and control system equipment.

357. The general PDSA specifically requires that the "[t]he uninterruptible power supply (UPS) provide[] power of acceptable quality, without delay or transients, when the normal power supply is not available."

358. Prior to being turned over for plant operation, the safety related design of the FSW Protection System was required to be completed.

359. The FSW Protection System, which includes two FSW storage tanks with in-service process monitoring instrumentation, control system equipment, and two diesel drive fire water pumps, was turned over to plant operation in January of 2008 and is currently in-service.

360. However, as noted in a Feburary 4, 2013 email from Curtis Hall, the FSW system was signed off an approved as complete and subsequently turned over to plant operations and placed in service when it was not designed to requirements. Hall further noted that because the FSW Protection System is not design complete to the PDSA and BOD, the FSW could "degrate at any time to a condition that, if not readily detected and corrected by WTP operations personnel, would not make it capable to perform its required safety related fire protection.

361. The cost to the United States to reevaluate, rework, redesign, refabricate, retest and/or reinstall the Fire Safety System, would be massive and would have a detrimental impact on the ability of DOE to meet its obligations under the Tri-Party Consent Decree.

J. MODIFICATIONS TO CATHODIC PROTECTION SYSTEM WITHOUT DESIGN BASIS.

362. The WTP plant employs cathodic protection to mitigate the effects of corrosion by forcing all areas of underground pipes, which will carry the mixed waste from the Tank Farm to the WTP, to become a cathode—i.e. corrosion resistant. Without the application of cathodic protection, the underground piping would be an anode and subject to a localized type corrosion as a result of the pipeline material, moisture content of the soil, and other sources.

363. Cathodic protection is accomplished by the flow of current from an anode located underground near the pipes, thru the earth, to the pipeline and back to the negative terminal of the rectifier, which is a device used to convert electrical current and is also the source of electrical current.

364. The rectifiers output current, which is passed to the anodes and then impressed, at a controlled level, to the underground piping. The rectifiers possess adjustable output controls. Adjustable controls are necessary to ensure that the underground piping meet NACE requirements and State of Washington regulations for negative polarized potential.

365. On May 14, 2009, Bechtel changed the cathodic protection design to allow for the installation of ten additional horizontal anodes. These additional anodes were installed to raise the potential to acceptable NACE values.

366. The design change was based on the interpretation of a trouble-shooting testing by Rod Snowhite and Doug Gilroy. They determined that 10 "hot spot" anodes should be installed in the vicitnity of the testing location to increase the potentials.

367. No calculation or evaluation was completed to address the basis for the design change.

368. The anode current demand and requirements were not evaluated prior to changing the design.

369. The anode spacing, type and length of the anode, and the distance from the protected piping were not evaluated prior to changing the design.

370. The circuit resistance and required rectified output voltage of the anodes were not evalauted prior to changing the design.

371. The efficacy of the "hot spot" anodes was to be determined during testing subsequent installation.

372. After the fact, Bechtel obtained a calculation to be used as a basis for the changes to the cathodic protection system.

373. Later testing determine that the additional ten anodes did not resolve the problem. The ten anodes lacked the sufficient current to maintain potentials as required under NACE.

374. In changing the cathodic protection system and installing ten additional anodes, Bechtel knowingly, or with reckless disregard, falsely certified that the modifications were within the required design basis.

375. The costs associated with the additonal anodes is not precisely known; however, the cost to the United States to reevaluate the design and installation of the cathodic protection system, and if necessary, rework or procure again a cathodic protection system, would be massive and would have a detrimental impact on the ability of DOE to meet its obligations under the Tri-Party Consent Decree.

K. GOVERNMENT DOLLARS SPENT TO DEVELOP A TOOL FOR PRIVATE GAIN.

376. In 2003, Bechtel's Research and Development group, which is an organization not under the WTP umbrella and is an organization separatly funded by Bechtel, introduced R&T to computational fluid dynamics (CFD) using FLUENT software as a computer modeling tool.

377. CFD was to be utlized to demonstrate the WTP mixing design.

378. Upon information and belief, prior to 2003, Bechtel developed CFD for commercial use and had not previously applied CFD to mixing design.

379. The results of CFD failed to accurately reflect the mixing design.

380. Bechtel knew that CFD would more likely than not be able to accurately reflect the mixing design.

381. Bechtel pushed the use of CFD despite wide recognition among ORP and Bechtel employees that it could not validate and verify the design.

382. Since 2003, Bechtel continued to use CFD, despite its marginal capability, while simultaneously developing CFD, including necessary reprogramming, to improve its accuracy.

383. Upon information and belief, Bechtel required the use of CFD in order to develop and advance CFD capabilities for commercial use knowing that CFD would be unable to function at the WTP as claimed.

L. FAILURE TO IMPLEMENT SAFETY REQUIREMENTS.

384. The WTP is a DOE capital project governed by DOE Order 413.3B, and all DOE capital projects require the integration of safety at the outset, including design development, for all functions and processes of the project. Safety integration must be maintained throughout the life of the project.

385. DOE capital project safety documents are governed by nuclear safety requirements as defined in 10 C.F.R. 830, and safety documents must follow the format and content requirements of DOE-STD-3009.

386. The Bechtel-DOE Contract and implementing procedures require that the design implement 10 C.F.R. 830 requirements for nuclear safety.

387. The Bechtel Safety Requirements Document Volume II, which exists to implement 10 C.F.R. 830, requires that "[t]he material [that are subject to safety requirements] shall be maintained current with respect to changes made to the facility design and administrative controls and in the light of significantly new safety information."

388. Bechtel developed safety documents, identified as the Preliminary Documented Safety Analsysis to Support Construction Authorization (PDSA), for the PT, LAW, HLW, and LAB facilities

389. The WTP PDSAs fail to contain safety requirements compliant 10 C.F.R. 830.

390. The noncompliant requirements contained in the WTP PDSAs were used by Bechtel, or flowed down to subcontractors, for design, fabrication, and testing.

391. As a result, WTP safety controls designed, fabricated, tested, and/or installed at the WTP fail to meet 10 C.F.R. 830 requirements.

392. The following are examples of Bechtel's systemic failure to integrate safety requirements into the design:

1. The PT PDSA Failed to Identify Known Safety Hazards in the Ultrafiltration Process System.

393. In 2008, Bechtel identified hazards associated with the design of the Ultrafiltration Process System steam spargers—namely, if the temperature of the fluid in the pulse jet mixer charge vessels exceed 130° F, the liquid would flash to water vapor.

394. Bechtel determine that this flashing could cause a more rapid than expected accumulation of particulate matter on filters in the Pulse Jet Ventilation System. The build up on these filters, known as high efficiency

particulate air filters (HEPA), could result in an overblow.

395. An overblow would render the HEPA filters unable to fulfill their safety function.

396. Despite formal recognition by Bechtel of the overblow potential, past and current versions of the PT PDSA neither addressed or proposed a resolution of the hazard. The PT PDSA did not recognize the overblow potential in Ultrafiltration Process System as an unresolved hazard.

397. As a result, Bechtel and/or a subcontractor, designed, fabricated, tested and installed SSCs related to the Ultrafiltration Process System that failed to address mandatory safety measures pursuant to 10 C.F.R. 830.

398. The cost to the United States to reevaluate, rework, redesign, refabricate, retest and/or reinstall the Ultrafiltration Process System would be massive and would have a detrimental impact on the ability of DOE to meet its obligations under the Tri-Party Consent Decree.

2. The PT PDSA Failed to Identify Safety Functions and Changes to the PVV/PVP System.

399. Bechtel is required to obtain DOE approval of nuclear safety design criteria to be used in preparing the PDSA unless Bechtel has used the design criteria identified in DOE Order 420.1.

400. DOE Order 420.1B and DOE-STD-3009 require that safety analyses be used to establish the safety controls and determine the functional requirements for Safety Class and Safety Significant SSCs.

401. The Bechtel Safety Requirements Document Volume II likewise defines Safety Class SSCs as those systems required to protect the public which include those SSCs that could inhibit another Safety Class SSCs from performing their intended function. In other words, if the failure of "SSC-1" could prevent Safety Class "SSC-2" from completing its safety function, SSC-1 must be designated as SSC.

402. In the PT PDSA, Bechtel failed to apply this designation to hot air in-bleeds in the PVV/PVP system.

403. Since 2006, Bechtel knew that the hot air in-bleeds protected the HEPA, but refused, even after notification from ORP, to update its PDSA.

404. As a result, Bechtel and/or a subcontractor, designed, fabricated, tested and/or installed SSCs related to the PVV/PVP System that failed to address mandatory safety measures pursuant to 10 C.F.R. 830.

405. In addition, in 2010 Bechtel changed WTP functional requirements by increasing the aerosol entrainment coefficient. This change significantly impacted the designed PVV/PVP filtration system due to aerosol loading during normal operations and a seismic event.

406. Bechtel failed to update the PT PDSA to reflect this change to

the PVV/PVP system.

407. As a result, Bechtel and/or a subcontractor, failed to re-design the impacted portions of the PVV/PVP system, continued to design the entire PVV/PVP system without considering the changed requirements, tested and/or installed SSCs related to the PVV/PVP system that failed to address mandatory safety measures pursuant to 10 C.F.R. 830.

408. The cost to the United States to reevaluate, rework, redesign, refabricate, retest and/or reinstall the PVV/PVP system would be massive and would have a detrimental impact on the ability of DOE to meet its obligations under the Tri-Party Consent Decree.

3. The PDSA Safety Classifications Related to the PT Facility Fire Barrier Design Were Not Based on Required Hazard Analyses.

409. WTP PDSAs must document safety analysis. The PDSA safety evaluation includes the identification of hazards, identification of potential/event sequences, identification of potential control strategies, and documentation of the hazard evaluation.

410. In the PT PDSA, Bechtel defined the safety criteria for the fire barrier design without performing safety or fire hazards analyses.

411. Bechtel issued for procurement and construction most of the fire barrier design without having performed safety or fire hazards

analyses.

412. Because Bechtel failed to perform safety or fire hazards analyses for the fire barrier design, Bechtel could not determine whether the PDSA requirements had been properly implemented in the design, and specifically, where the fire barrier design had proper safety class designations.

413. The cost to the United States to reevaluate, rework, redesign, refabricate, retest and/or reinstall SSCs related to the fire barrier design would be massive and would have a detrimental impact on the ability of DOE to meet its obligations under the Tri-Party Consent Decree.

4. Ability of Safety Class and Safety Singificant SSCs to Withstand Volcanic Ashfall Event.

414. Safety Class and Safety Significant SSCs must be designed to withstand the effects of natural phenomena hazards, such as volcanic ashfall, earthquakes, wind, and floods, without the SSCs losing their capability to perform intended safety functions.

415. Bechtel's strategy for controlling hazards during a volcanic ashfall event relies on the change-out of filters.

416. In February 2009, DOE questioned the approach, noting that it would be infeasible to exchange over 7000 filters in less than 24 hours.

417. Bechtel did not update to the PDSA of any facility to correct the

infeasible approach nor did Bechtel indicate in the PDSAs that a problem existed. Bechtel continued to design, fabricate, test and/or install Safety Class and Safety Significant SSCs without knowing whether the SCCs would perform intended safety functions following a volcanic ashfall event.

418. The cost to the United States to reevaluate, rework, redesign, refabricate, retest and/or reinstall SCCs related to the ability of Safety Class and Safety Significant SSCs to withstand volcanic ashfall would be massive and would have a detrimental impact on the ability of DOE to meet its obligations under the Tri-Party Consent Decree.

M. A NONCOMPLIANT QUALITY ASSURANCE SYSTEM.

419. Quality Assurance requirements for DOE contractors are mandated by 10 C.F.R. 830, Subpart A. As a result, DOE contractors are required to conform to the standards of NQA-1.

420. The Bechtel-DOE contract likewise requires Bechtel to comply with NQA-1, and Bechtel represents that it does DOE quality standards.

421. At all material times, Bechtel did not have an effective quality system. Rather, with the full knowledge and participation of its senior managers, Bechtel has for many years used its quality apparatus to create the superficial appearance of a functioning quality system while in fact

taking actions with the purpose and intent of hiding systemic flaws to expedite the design and construction of WTP.

422. Bechtel concealed SSC quality control issues by not tracking the issues as required or closing out the issues without resolving any quality issues.

423. Upon the identification of non-conforming SSCs, Bechtel is required to issue a non-conformance report (NCR), which documents Bechtel's approach to resolving the deficiency. A NCR may only be closed upon the determination of whether to accept the SSC "as-is", "re-work" or "repair" the SSC, or reject the SSC. Justification for the determination must be documented.

424. All outstanding NCRs must be reported to ORP monthly.

425. In 2006, Bechtel reported that it had procured Safety Class and Safety Significant SSCs that failed to meet quality requirements for seismic and environmental conditions. Instead of entering separate NCRs for each non-conforming SSC, Bechtel issued two NCRs; one for all SSCs that fail to meet seismic requirements and the other for all SSCs that fail to meet environmental requirements.

426. Since 2006, upon the identification of new non-conforming Safety Class or Safety Significant SSCs, Bechtel did not create a new NCR. Bechtel added the newly identified SSC to the NCR established in 2006.

427. Upon information and belief, Bechtel stopped creating NCRs to mask the number of non-conforming Safety Class and Safety Significant SSCs that would be reported to DOE on a monthly basis.

428. In the few instances where NCR reports have been issued for non-conforming Safety Class and Safety Significant SSCs, Bechtel accepted the product for use "as-is" without providing justification sufficient to meet quality requirements.

429. By way of example, in November of 2010, a series of NCRs were entered to document the receipt of piping of an indeterminate quality procured from Shaw Naptech. This piping was designated as Safety Class or Safety Significant and thus was required to meet stringent pedigree requirements. Bechtel determined the pipe could be used "as-is" in safety applications, justifying its decision through samples tested from "similar" piping spools. This justification did not resolve the traceability or pedigree problems of the piping spool at issue.

430. In addition, WTP employees may anonymously submit concerns to the Project Issues Evaluation Report (PIER) system. Concerns are evaluated by a group that assesses whether the concern is valid and worth investigating.

431. Since as early as 2004, and likely earlier, PIERs have been submitted by WTP employees regarding the failure to flowdown

requirements to subcontractors and the accepetance of safety class and safety significant SSCs that are of an indeterminate quality.

432. Bechtel closed PIERs without addressing or resolving the non-conforming Safety Class or Safety Significant SSC.

433. In addition, Bechtel maintained multiple lists of issues to create confusion and avoid detection of all WTP issues with their list but there is no singular overall list. The various lists include, among others, the managers list, the "empty the drawers list," and the list of reliablity validation project issues—the majority of issues contained on this latter list have been excluded from the PIER system and the direction of Ward Sproat and Joe St. Julian, both Bechtel management.

434. To avoid formal reporting, Bill Gay of URS instructed Jennifer Meehan to develop the VCT list, also known as the Meehan list, to track technical issues related to vessel, piping, mixing and other unresolved issues. Bechtel instructed Meehan to destroy the spreadsheet in November of 2012 in order to end tracking of the issues. Meehan archived the spreadsheet.

435. In the Fall of 2012, the DOE Office of Enforcement and Oversight identified deficiencies in the corrective action processes stemming from management problems and lack of identification and reporting of issues.

436. The cost of a government contractor's quality system is factored into the cost to the United States, and a properly-functioning quality system is part of the consideration a contractor provides the United States in exchange for contract payments.

437. Bechtel was not only required to maintain a fully-functioning quality systems, but was given taxpayer dollars to do so.

N. FALSE CLAIM FOR MONEY FOR DESCOPED WORK.

438. Capital line item projects are governed by DOE Order 413.3.

439. DOE Order 413.3 and the Bechtel-DOE Contract required the contract to achieve 4 "Critical Decisions," which are deliverables that must be met prior to transferring the WTP to another contractor, presumably URS, for operations.

440. In 2011, Bechtel realized that it could not meet the deliverables required by DOE Order 413.3 and the Bechtel-DOE Contract without spending approximately $310,000,000.

441. To avoid the expenditure, Bechtel strategized to obtain a phase Critical Decision-4 (CD-4), which would descope many elements of the deliverable and transfer the work to operations.

442. In a 2011 "Opportunity Assessment Sheet," Bechtel noted that "IF DOE directs a phased Critical Decision 4 (DOE O 413.3), THEN current

WTP contract scope that is beyond CD-4 could be performed using funding from the DOE Operations budget thus reducing line item cost."

443. Bechtel proposed that these descoped portions, most of which pertained to nuclear safety, be completed by the operations contractor out of non-capital line item funds.

444. Despite descoping much of the CD-4 deliverable, Bechtel asserted that it could keep the money that would have been spent on the CD-4 deliverable and use that money elsewhere.

445. URS, as the presumed contracter for WTP operations, pushed for this as well because it would provide additional sources of money for operations.

446. Bechtel submitted a baseline cost proposal in 2012, requesting the descope.

447. Bechtel and URS, utilizing Thomas Brown, a Deputy Federal Project Director and former 20 year Bechtel executive, pushed the Federal Project Director and the Contracting Officer to approve the baseline cost approval.

448. Bechtel and URS, having had prior expereince with the process of descoping work subject to DOE Order 413.3, knew, or should have known, that the descope could only be approved by a Secretarial Acquisition Executive. Namely, in 2006, prior to baseline change affective

DOE Order 413.3 work, Bechtel requested authorization from Secretarial Acquisition Executive.

449. Following ORP approval of the 2012 baseline cost propsal, DOE HQ question the validity of ORP and Bechtel's actions.

450. Bechtel ignored DOE HQ and continued to plan as if the money was not tied to the CD-4 deliverable.

451. As a result, Bechtel knowingly submitted a false claim for payment of funds for descoped work.

COUNT I

False Claims Act – Hanford Waste Treatment Plant

452. The allegations of paragraphs 1 through 451 are realleged as if fully set forth herein.

453. Defendants Bechtel National Inc., Bechtel Corporation, URS Corporation, and URS Energy & Construction, Inc. by and through their officers, agents, and employees, knowingly submitted or caused to be submitted, false or fraudulent claims for payment or approval to officers, employees, or agents of the United States Government in violation of 31 U.S.C. § 3729 (a)(1).

454. The claims were false because they claimed or certified to the United States or another contractor, within the terms of 31 U.S.C. § 3729(c), that a product was being delivered to the United States which conformed

to all contract requirements when that statement was false.

455. Defendants Bechtel National Inc., Bechtel Corporation, URS Corporation, and URS Energy & Construction, Inc. by and through their respective officers, agents, and employees, knowingly made, used, or caused to be made or used, false records or statements to obtain United States payment of false or fraudulent claims in violation of 31 U.S.C. § 3729 (a)(2).

456. Every request for progress payment by Bechtel and/or URS to DOE with respect to the design, procurement, and construction of structures, systems and components identified in paragraphs 1 to 451 intended for use in the Hanford WTP, which actually or impliedly certified that Bechtel procured, constructed, and/or installed such structures, systems, and components to drawing, quality, and DOE requirements when it failed to do so, constitutes a violation of the False Claims Act.

457. Every claim for payment submitted to the United States for respect to the design, procurement, and construction of structures, systems and components identified in paragraphs in which Bechtel and/or URS knew or should have known that either had falsely certified conformance constitutes a violation of the False Claims Act.

458. Each defendant acted with actual knowledge or reckless disregard for the truth or falsity of the claims submitted to them.

459. Each of the false statements made in each false claim to the United States or to another contractor had the potential to influence the United States' decision whether to pay the claim.

460. The amounts of the false or fraudulent claims to the United States were material.

461. Defendants violated the False Claims Act.

462. The United States has been damaged as result of Defendants' violations of the False Claims Act.

COUNT II

False Claims Act Conspiracy – Hanford Waste Treatment Plant

463. The allegations of paragraphs 1 through 451 are realleged as if fully set forth herein.

464. Defendants Bechtel National Inc., Bechtel Corporation URS Corporation, and URS Energy & Construction, Inc. entered into tacit and explicit agreements pursuant to which, *inter alia*, Bechtel supplied and DOE accepted, false certification documents and nonconforming product designs, builds, and reports for which Bechtel was paid as though they were conforming and so represented to the United States.

465. Defendants Bechtel National Inc., Bechtel Corporation, URS Corporation, URS Energy & Construction, Inc. conspired to defraud the United States in violation of the False Claims Act, 31 U.S.C. § 3729(c).

466. The United States of America has been damaged as a result of Defendants' violations of the False Claims Act.

VI. DAMAGES

467. Relators re-allege, and fully incorporate herein by reference, paragraphs 1 through 435 herein.

468. Defendants knowingly made false statements and submitted false records to secure approvals of its false claims and monies to which it is not entitled, and their violations warrant restitution of monies they fraudulently obtained or monies to repair problems resulting from Defendants' falsities.

469. Upon information and belief, the amount of monies fraudulently obtained is in excess of $500 million and the amount to repair is in excess of $1 billion.

470. The United States is likewise entitled to recover treble damages.

471. Additionally, Defendants are liable for civil penalties prescribed by 43 U.S.C. § 1350.

VII. JURY REQUEST

472. Plaintiffs request a trial by jury.

VIII. PRAYER FOR RELIEF

473. WHEREFORE, Plaintiff, United States of America, through Relators, request the Court enter the following relief:

a. That Defendants be ordered to cease and desist from violating 31 U.S.C. § 3729 *et seq.*;

b. That this Court enter judgment against Defendants in an amount equal to three times the amount of damages the United States has sustained because of Defendants' 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;

c. That Relators be awarded the maximum amount allowed pursuant to 31 U.S.C. § 3730(d) of the False Claims Act;

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

e. That Relators recover such other relief as the Court deems just and proper.

All of which is respectfully submitted,

s/Richard C. Eymann
Richard C. Eymann, WSBA #7470
EYMANN ALLISON HUNTER JONES P.S.
2208 W. Second Avenue
Spokane, Washington 99201
Telephone: (509) 747-0101
Facsimile: (509) 458-5977
E-mail: eymann@eahjlaw.com

Emily C. Jeffcott (*Pro Hac Vice* application anticipated)
Mikal C. Watts (*Pro Hac Vice* application anticipated)
WATTS GUERRA CRAFT, LLP
811 Barton Springs Road, Ste. 725
Austin, Texas 78704
Telephone: (512) 479-0500
Facsimile: (512) 479-0502
E-mail: ejeffcott@wgclawfirm.com
mcwatts@wgclawfirm.com

Hugh P. Lambert (*Pro Hac Vice* application anticipated)
Cayce C. Peterson (*Pro Hac Vice* application anticipated)
THE LAMBERT FIRM, APLC
701 Magazine Street
New Orleans, Louisiana 70130
Telephone: (504) 581-1750
Facsimile: (504) 529-2931
E-mail: hlambert@thelambertfirm.com
cpeterson@thelambertfirm.com

Attorneys for Relators