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16 October 2002

2002 OCT 22 AM 10:58

Ms. Elaine Kaplan
Special Counsel
U.S. Office of Special Counsel
1730 M Street, N.W., Suite 300
Washington, D.C. 20036-4505

Re: OSC File No. DI-00-0139; ALLEGED SAFETY VIOLATIONS
AND MISMANAGEMENT AT NAVAL AIR DEPOT, NORTH ISLAND, CA

Dear Ms. Kaplan:

Thank you for your letter requesting an inquiry into subject allegations. The investigation substantiated most of the allegations raised by the Complainant. It exposed serious shortcomings in the quality assurance program at the Naval Air Depot, North Island that senior managers were not aware of before the investigation.

The Department of the Navy (DON) has repaired or replaced most of the non-conforming welds revealed by the investigation; the remaining work should be completed by the end of October 2002. Personnel training and qualification testing necessary to conform to applicable standards is well underway and should be completed before the end of the year. A continuous program of follow-up audits, designed to preclude the recurrence of the problems identified during the investigation, will commence before the end of this year.

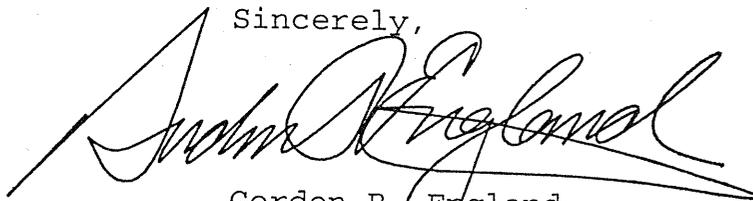
As with the report related to the Trident Refit Facility, Kings Bay, Georgia, I am enclosing two copies of the report of investigation of the Naval Air Depot, North Island. The first copy contains the names of witnesses and is for your official use. I understand you will provide a copy of that version to the Complainant, the President, and Congress. As further explained below, the DON objects to the public release of the names of individuals in the report. Therefore, the second copy has been edited by removing the names of witnesses and is suitable for general release to the public in such manner, as you deem appropriate.

In the Kings Bay matter, DON General Counsel Alberto Mora explained why we believe you have the discretion to withhold from the public the names of the witnesses in a report of investigation. From my perspective, protecting the privacy interests of DON personnel is an important concern. In addition, the physical security of our personnel is of utmost importance given the terrorist attacks of September 11, 2001.

Carrier Battle Groups are our frontline of national defense. The events described in the report of investigation establish how easy it would be to render these assets ineffective. Likewise, the skilled artisans who maintain mission critical systems in these ships constitute a valuable national asset. The maintenance and repairs they make invariably are on the critical path to timely deployment. Now, more than ever, they also deserve protection from influence or attack by those who threaten us.

Once again, thank you for bringing this matter to the DON's attention. If I can be of any further assistance, please let me know.

Sincerely,

A handwritten signature in black ink, appearing to read "Gordon R. England". The signature is fluid and cursive, with a long horizontal stroke at the end.

Gordon R. England
Secretary of the Navy

Enclosures:

1. Report of Investigation dated 25 Sept 2002
2. Edited version as stated

Office of the Naval Inspector General

NAVINGEN Case Number 20020058

OSC Case Number DI-00-0139

Report of Investigation

25 SEP 2002

Subj: ALLEGED SAFETY VIOLATIONS AND MISMANAGEMENT AT NAVAL AIR
DEPOT, NORTH ISLAND, CALIFORNIA

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Office of the Naval Inspector General

NAVINGEN Case Number 20020058
OSC Case Number DI-00-0139

Report of Investigation

25 SEP 2002

Subj: Office of Special Counsel Case Number DI-00-0139: Alleged Safety Violations And Mismanagement At Naval Air Depot, North Island, California

Preliminary Statement

1. This investigation commenced in January 2002, upon receipt of an Office of Special Counsel (OSC) letter tasking the Secretary of the Navy to conduct an investigation pursuant to 5 USC 1213.¹
2. OSC is an independent federal agency whose primary mission is to safeguard the merit system by protecting federal employees and applicants from prohibited personnel practices. OSC also serves as a channel for federal workers to make allegations of: violations of law; gross mismanagement or waste of funds; abuse of authority; and a substantial and specific danger to the public health and safety.
3. Reports of investigations conducted pursuant to 5 USC 1213 must include: (1) a summary of the information with respect to which the investigation was initiated; (2) a description of the conduct of the investigation; (3) a summary of any evidence obtained from the investigation; (4) a listing of any violation or apparent violation of any law, rule, or regulation; and (5) a description of any action taken or planned as a result of the investigation, such as changes in agency rules, regulations or practices, the restoration of any aggrieved employee, disciplinary action, and referrals to the Attorney General of evidence of criminal violations.

Information Leading to the OSC Tasking

4. The Voyage Repair Team (VRT), as established by Naval Air Systems Command (NAVAIR), is a small group of highly trained Naval Air² Depot (NADEP), North Island (NI), shipyard marine trade journeymen, planners, and engineers experienced in depot level maintenance and repair of Aircraft Launch and Recovery Equipment (ALRE), Visual Landing Aids (VLA) equipment, and air capable ship aeronautical equipment. VRT operations are a joint endeavor involving the NADEP, NI and those commands and field activities that interface with

¹ Dated 7 November 2001, the letter was lost in the mail, probably because of the anthrax attack on the Brentwood Mail Handling Facility, which served the Pentagon. OSC faxed Navy a copy of the letter on 15 January 2002.

² Naval Aviation Depots recently changed their names to Naval Air Depots.

them. In general, the VRT was established to repair systems under NAVAIR cognizance. Consequently, the artisans are qualified or certified³ in accordance with NAVAIR standards.

5. OSC identified Ms. Kristin Shott, welder (WG-3703-10), as the person who provided OSC the information that led it to task this investigation. OSC said Ms. Shott, hereafter referred to as Complainant, has consented to the release of her name. Complainant alleges that a significant portion of the work performed at the VRT, NADEP, NI does not meet applicable Federal and industry standards. In general, Complainant alleges that personnel at the VRT are not certified in accordance with applicable Naval Sea Systems Command (NAVSEA) regulations. She asserts such certification is required before the artisans can make repairs onboard U.S. Naval vessels.

6. Specifically, Complainant alleges that: many of the welders performing shipboard welding are not shipboard certified;⁴ the welding inspectors are not shipboard certified, nor are they licensed and bonded; management sometimes orders welders to perform unauthorized tasks; and nondestructive testing (NDT) and quality assurance (QA) inspections are conducted in an inconsistent and inadequate manner.

7. More specific information contained in the OSC letter, as augmented by our investigative findings, leads to the formulation of four specific allegations for investigation:

a. Allegation 1: Many of the welders that weld systems and equipment for ships are not qualified to perform this work.

b. Allegation 2: The welding inspectors are not certified to inspect welds in systems and equipment for ships, nor are they licensed and bonded.

c. Allegation 3: Management sometimes orders welders to perform unauthorized tasks, and nondestructive testing (NDT).

d. Allegation 4: QA inspections are conducted in an inconsistent and inadequate manner.

Description of Conduct of Investigation

8. The Secretary of the Navy referred the OSC tasking letter to the Office of the Naval Inspector General (NAVINSGEN) for investigation. The investigation was conducted by a staff investigator, a Lieutenant Commander (O-4) with 20 years of active duty in the US Navy.

9. The investigator interviewed 26 people during the on-site investigation in February 2002. They included Complainant, four of the seven welders, and two of the three NDT inspectors working at the VRT, NADEP, NI; 10 NADEP, NI supervisors or managers; two engineers; an

³ See background section for a discussion of these terms.

⁴ There is no general "certification" to perform "shipboard" welding. The welds at issue are in systems and equipment that are subject to NAVSEA, not NAVAIR standards, even when the welds are done in a shop. NAVSEA sets standards for these welds, including welder qualification testing and certification. We investigated Ms. Shott's allegations in this context.

estimator, and three safety and occupational health specialists. The investigator also interviewed three members of the Ship Intermediate Maintenance Activity (SIMA), San Diego, which provided welder training and testing for some NADEP, NI personnel. The testimony concerning specific events that underlie Complainant's concerns was generally consistent; although some witnesses did not recall events Complainant described, there was little conflicting testimony. The investigator was assisted by Counsel, NAVINSGEN, who took responsibility for tracking follow-up action (action planned or taken on each substantiated allegation) and obtaining expert opinion on the significance of the investigator's findings after the investigator retired from active duty.

10. NAVSEA Expert #1, at Supervisor of Shipbuilding, Conversion and Repair (SUPSHIP) San Diego, CA, participated in the complainant's interview and conducted a cursory audit of welder and NDT qualification records and work procedures. His report is provided as enclosure (1).

11. After completion of the on-site investigation, NADEP NI senior management personnel provided information to complete the "action planned or taken" sections of the report. Technical experts at the Naval Sea Systems Command (NAVSEA), and NAVAIR provided assistance in explaining the significance of the investigative findings. In particular, NAVSEA Expert #2 provided invaluable assistance to assure the technical accuracy and acceptability of this report. The Complainant also reviewed a near-final draft of the report; some of her comments are addressed in the last section of this report.

12. The investigator also reviewed many documents, which are listed at the end of this report. For convenience, the titles of these documents appear in footnotes when mentioned in the text of the report.

13. As discussed below, NAVINSGEN concludes that each of the four allegations is substantiated. Most critical are the findings in allegation one, which led to the discovery of nonconforming welds made during the incorporation of Service Change 624 into the high-pressure hydraulic piping system that supports launch and recovery systems onboard four aircraft carriers (technically, the "launch valve critical piping," more often referred to hereafter as the catapult hydraulic piping system⁵). The welds on three carriers have been repaired; the fourth carrier is being repaired now (September 2002).

Summary of Evidence Obtained During Investigation

Background

14. Commander, NAVSEA establishes the standards for welding and NDT inspections for systems under his command's cognizance. Most systems on board the ship and the ship's

⁵ The catapults themselves are powered by steam. The hydraulic piping system at issue is used to power various control devices, actuators, and motors related to the operation of the catapults and related systems. The investigation also revealed non-conforming welds on the jet blast deflector cylinder vent piping of a fifth carrier. Although this work was not part of Catapult Service Change 624, repairs are underway now (September 2002).

structure are under NAVSEA cognizance. A series of technical manuals details workmanship and qualification standards.

15. Commander, Naval Air Systems Command (NAVAIR) establishes the welding and NDT inspection standards for systems under his command's cognizance. Aircraft and shipboard systems directly related to the launch and recovery of aircraft are under NAVAIR cognizance. Technical manuals also detail their workmanship and qualification standards. In the case of the catapult hydraulic piping discussed in this report, NAVAIR has design responsibility for the system, but NAVSEA standards for welding and inspection govern its fabrication.

16. In a letter to NAVAIR dated 25 May 1983, reference (e), NAVSEA acknowledged that the NAVAIR NADEP organizations (then called Naval Air Rework Facilities (NARFs)), including the VRTs within them, have the responsibility to install and modify shipboard aircraft launch and recovery equipment. The NAVSEA letter then establishes certain conditions for work related to this equipment where NAVSEA welding and inspection standards apply. These conditions include:

a. That NAVSEA will permit the NADEPs, and the VRTs within them, to use existing NAVSEA shipyard welding and NDT procedures instead of developing and/or qualifying their own procedures, as NAVSEA technical standards require. NAVSEA conditioned this relaxation of development and/or qualification requirements upon welders and NDT inspectors being trained and certified at NAVSEA shipyards or, if trained in-house, being certified at NAVSEA shipyards.

b. That the NADEPs will have a Level III NDT test examiner in each NDT test method used that was certified by a NAVSEA shipyard.

17. Throughout this investigation, witnesses often used variations of the terms qualification and certification loosely and interchangeably. When speaking in terms of compliance with specification requirements, it is more precise to say welders and welding procedures are "qualified" based on the results of test welds, which are inspected by people trained in non-destructive testing procedures. Confusion sometimes results because when a welder passes the qualification tests, a responsible person at the welder's activity documents the successful tests by "certifying" the results on the welding documents. Thus, when someone says a welder is "certified," they mean the welder passed the testing necessary for qualification and that the welder's qualification is current.⁶ NDT inspectors also go through a process of qualification testing and certification, and there is similar confusion in the use of these terms when applied to them.

⁶ Likewise, if a welder never took the qualification test for a particular weld someone might say the welder was not certified to make it, whether or not the welder might have the necessary skill. Moreover, when a welder's qualification to make a particular weld expired through lack of using the welding process over time, people might say the welder was no longer certified. In both of these cases, per the governing specifications, the welder is, simply, not qualified to weld.

18. Complainant was a production welder who reports she was qualified to perform shipboard welding processes while working at the Mare Island Naval Shipyard (MINSY). When MINSY closed in 1995, NADEP, NI hired her as a welder and assigned her to the VRT. While at the VRT, Complainant was assigned welding jobs on various U.S. Navy surface ships. In February 1999, she transferred out of the VRT and was assigned welder duties in various other work centers at the NADEP, NI.

19. The investigator was unable to determine when and to whom Complainant first made her complaints regarding qualifications. She provided various hand-written journal records dating to 1997 that describe specific incidents where she disagreed with her supervisors concerning NDT requirements, welding techniques, and other maintenance practices. These were apparently the substance of EEO complaints filed by Complainant and acted upon by NADEP, NI. She told the investigator that she had informed the chain of command that the welders were not certified to perform the welding onboard ship⁷. For the most part, this report deals with the welds in piping systems onboard the ships. Other concerns Complainant raised are addressed in allegation three.

20. NADEP NI Supervisor #6 was hired by the NADEP, NI in January 1997, and became the VRT Superintendent in March 1998. He stated that due to his experience at the Ship Repair Facility, Guam, he quickly realized that the welders did not have the documentation necessary to establish that they had qualified on the welds governed by NAVSEA specifications, or that someone had properly certified their qualification testing. Nor did they have documentation to demonstrate they had satisfied the NAVSEA requirements for periodic re-certification.

21. NADEP NI Supervisor #6 informed his supervisor but never told him that the welders should stop welding operations on surface ships. Moreover, NADEP NI Supervisor #6 continued to allow the welders to weld on surface ships despite the lack of certification. However, NADEP Supervisor #6 stated he assigned work governed by the NAVSEA specifications only to welders who had previously worked at NAVSEA shipyards. NADEP Supervisor #6 told the investigator that, despite the lack of documentation, he verified that the welders had taken the appropriate initial qualification testing required for shipboard welding. The discrepancy that NADEP Supervisor #6 noted was that NADEP, NI had had not maintained the required proficiency certification and qualification records for the welders.

22. To correct this, NADEP Supervisor #6 coordinated with the SIMA to obtain written and practical welding tests to re-certify the VRT welders. This process started in 1998. NADEP Supervisor #6 emailed the SIMA Executive Officer (XO), outlined the training needed and proposed a Memorandum of Agreement. The re-qualification and training started in November 2000, and was completed in February 2001. However, in 1999, before the re-qualification started, the VRT welders worked on the catapult hydraulic piping systems onboard three aircraft carriers.

⁷ Some witnesses referred to "welding onboard ship" and "shipboard welding". These references should not be read to exclude welding done in a shop if the welds were part of a system that would be installed onboard a ship. The proper understanding of this terminology is "welding of systems and equipment for Navy ships" without regard to where the welding actually takes place. There is an analogous use and understanding relating to nondestructive test (NDT) inspections.

23. According to NADEP Supervisor #6, the majority of the welds performed by VRT welders were not pipe welds. They routinely installed landing lights on the aircraft carrier flight deck, filled holes when the catapult rails were realigned, and made other welds classified as non-critical. According to NADEP Supervisor #6, none of these welds required welders qualified to NAVSEA standards or NDT by inspectors who met NAVSEA requirements. As discussed in allegation three, Complainant questions whether some of this work should have been done to NAVSEA standards.

24. References (l) and (m)⁸ are drawings that apply to the catapult hydraulic piping system VRT began working on in 1999. The drawings invoke MIL-STD-278, a NAVSEA welding and inspection standard, of which the current version is reference (a)⁹. The requirements of ref (a) applicable to this hydraulic piping, whether welded shipboard or in a shop, include:

a. Welders and welding procedures to be qualified in accordance with the reference (b)¹⁰ NAVSEA welding qualification standard.

b. Conduct of NDT to be in accordance with the reference (f)¹¹ NAVSEA NDT standard, which specifies requirements for NDT procedures and NDT personnel.

c. Performance of a series of nondestructive inspections for weld joints on high-pressure piping, such as the launch and recovery system's hydraulic piping. The first inspection is on the first weld layer (or "root" layer) of the weld joint. This is normally accomplished by visual inspection using a 5X magnifying glass. After the weld is complete, it requires a visual inspection (VT) and either a liquid penetrant (PT),¹² or magnetic particle (MT)¹³ inspection.

⁸ Naval Air Warfare Center (NAWC) Lakehurst Drawing Number 615179, Piping Installation Constant Receiver Pressure Low-Loss Launch Valve; no rev, final approval 10/21/85; NAWC Lakehurst Drawing Number 524437, Fitting Assembly Data Socket Weld O Ring Seal; no rev, final approval 8/22/96

⁹ NAVSEA Technical Publication S9074-AR-GIB010/278, Requirements for Fabrication, Welding, and Inspection, and Casting Inspection and Repair for Machinery, Piping and Pressure Vessels, dated 1 August 1995

¹⁰ NAVSEA Technical Publication S9074-AQ-GIB010/248, Requirements For Welding and Brazing Procedure and Performance Qualification, dated 1 August 1995

¹¹ NAVSEA Technical Publication T9074-AS-GIB-010-271, Requirements for Nondestructive Testing Methods, dated 30 April 1997

¹² PT inspection is a process for finding defects where a penetrating dye (often red) is applied to the weld and allowed to stand for a short while. The dye seeps into any small openings of weld defects that are open to the surface. The dye is then cleaned off in a manner that leaves any dye trapped in the defects. A developer (often white) is then applied to the weld surface. It acts to draw the dye out of the defects. The contrasting color of the dye to the developer reveals the presence of weld defects to a trained inspector.

¹³ MT inspection is another process for finding defects in magnetic metals such as steels. In one method an electrical current is applied to the weld area. This creates a magnetic field in the weld. While the current is on, fine iron powder is applied to the weld area. Since defects are voids in the metal, these voids will result in a small local magnetic field around the defect. If the defects are at or near the weld surface, the iron powder will be drawn to the magnetic field, thereby revealing the presence of the defect to a trained inspector.

25. To meet these inspection requirements, the VRT requested the services of the NADEP, NI NDT inspectors. The NDT inspectors were certified in accordance with NAVAIR technical requirements. As in the VRT, some of the artisans had prior shipboard NDT inspection experience, but they had not maintained the proficiency re-certifications required by NAVSEA for shipboard inspections. These persons were used to perform the shipboard inspections. As early as 1999, NADEP Supervisor #5, then the NDT Shop Supervisor, requested formal training for his inspectors. This was based primarily on input from NADEP Inspector #1, one of the shipboard NDT inspectors. The requested training never occurred.

26. In an attempt to document compliance with the NAVSEA NDT qualification requirements, NADEP Engineer #1, a Nondestructive Test Inspector and Program Manager at NADEP, NI staffed a memorandum, dated 27 December 2000, outlining the similarities of the NAVAIR and NAVSEA requirements and thus felt he could formally certify the shipboard inspectors. NADEP Engineer #1 certified the NDT inspectors to perform two shipboard tests: the Liquid Penetrant Test (PT) and the Magnetic Particle Test (MT). They were not qualified to perform the Visual Test (VT) for shipboard welds.

Allegation One

Many of the welders that weld systems and equipment for ships are not qualified to perform this work.¹⁴

Findings

27. There are 7 welders assigned to VRT. OSC's referral letter indicates that there were 15 welders at the VRT. However, during her interview, Complainant stated that there were about 7 welders when she was at the VRT. The number of welders is immaterial; the discrepancy was not pursued once the complainant verified the correct number of VRT welders.

28. No records could be produced to confirm that welders took qualification tests prior to February 2001.

29. NADEP Supervisor #6 stated that when he assumed the duties of VRT Superintendent in March 1998, the welders' qualifications were not in accordance with NAVSEA standards. He was not able to arrange training for the welders until November 2000. The welders that attended the training and passed the testing were qualified for the Shielded Metal Arc Welding (SMAW)

¹⁴ Complainant alleged welders were not "shipboard certified." As noted, we changed the allegation because the term "certified" properly refers to the process of certifying results of the qualification testing welders must complete before they perform production welding. Also, the term "shipboard" has no meaning in this connection since welders must be qualified to weld equipment and systems for naval ships whether the welding is done in a shop environment or onboard the ship itself. Although many welds performed by these welders were apparently performed onboard ship, where the welding was performed is, by itself, not significant to this investigation. During the investigation, it became clear that Complainant's concerns arose because welders had not taken the tests necessary to qualify them for welding naval ship systems and equipment.

process.¹⁵ Consequently, none of the welders at VRT were qualified to perform welds governed by NAVSEA standards before February 2001.

30. NADEP Supervisor #6 stated that VRT welders used socket weld type joints when welding on catapult hydraulic piping systems. The catapult hydraulic system piping is designated P-1, due to its high design operating pressure, in accordance with reference (a)¹⁶.

31. NADEP Supervisor #7, Mechanical Devices Supervisor, VRT, stated that when NADEP Supervisor #6 arrived as VRT Superintendent, he questioned the certification of the VRT welders. NADEP Supervisor #7 told NADEP Supervisor #6 that the welders had received training at the NADEP, NI weld school to NAVAIR welding standards. NADEP Supervisor #6 told NADEP Supervisor #7 that the NAVSEA certification would be better.

32. VRT Welder #1 stated that Complainant also raised concerns regarding welder qualification, training, and techniques.

33. Reference (b)¹⁷ states:

5.2.10 Transferal of qualification. Transfer of performance qualification from one activity to another is not permitted without specific approval by the authorized representative.

5.2.11 Maintenance of qualification. Each activity shall establish that an active qualification status is maintained for each qualified welder or welding operator. This requirement pertains only to process qualification without regard to the initial qualification limitations of 5.2.5 and 5.2.6. Evidence of maintenance of qualification, consisting of at least one verification of process use (that is, fabricator certification of use of "manual metal arc," "gas metal arc," and so forth) during each three-month period or calendar quarter, shall be maintained. ...

5.2.11.1 Renewal of qualification. Renewal of qualification due to 3-month or calendar quarter lapse, as noted in 5.2.11, shall be made for the welding process (for which qualification has lapsed) by making only one test joint (plate or pipe) with all the essential elements used on any one of the welder's or welding operator's previous qualification test joints. ...

5.2.11.1.1 Each welder and welding operator shall be re-tested every 3 years in accordance with 5.2.3(a).

5.3.5.1 ... (for) socket welds in piping with nominal wall thicknesses less than 3/16 inch ... shall require welding, inspecting and evaluating mock-ups of the production weld in accordance with 4.4.7
...

¹⁵ a. SMAW is a manual welding process where a flux-covered electrode (1/8" diameter, 14" length being typical in size) is used to fuse a weld joint together. Molten metal flows from the electrode to the weld joint via an electric arc. The flux also melts and covers the molten metal thereby protecting it from the atmosphere as it solidifies. One electrode is used after another until the weld joint is complete.

¹⁶ NAVSEA Tec Pub S9074-AQ-GIB010/278, Requirements for Fabrication, Welding, and Inspection, and Casting Inspection and Repair for Machinery, Piping and Pressure Vessels

¹⁷ NAVSEA Tech Pub S9074-AQ-GIB010/248, Requirements For Welding and Brazing Procedure and Performance Qualification

5.3.1 (d) For the socket weld test, the smallest pipe size to be welded in production shall be used, except that ½ NPS schedule 10 shall qualify all sizes and thicknesses of 0.058 inch or greater. This test shall be designated as number 3S.

34. Reference (c)¹⁸ states:

1.5 NAVAL AVIATION DEPOT.

a. The Naval Aviation Depots maintain and operate facilities to perform:

- (1) A complete range of industrial level rework operations on designated weapon systems, accessories, and equipments.
- (2) Manufacturing of parts and assemblies as required.
- (3) Engineering services in the development of change hardware design.
- (4) Technical and other professional services for Aircraft Carrier maintenance and logistic problems.
- (5) Other levels of Aircraft Carrier maintenance for eligible activities upon specific request or assignment.
- (6) Other functions as directed by NAVAIR.

b. In order to meet the material support needs of the operating forces, by accomplishment of the above mission, the following specific functions are assigned:

- (1) Perform depot maintenance functions for aircraft, engines, and their components and accessories. Ground Support Equipment trainers, and training equipment as specified in appropriate Aircraft Maintenance Program directives.
- (2) Provide engineering, technical, and professional services in support of rework of specific aircraft, engines, aeronautical components, Peculiar Ground Support Equipment, trainers, and training equipment.
- (3) Perform shipwork designated as Ship Installations Equipment and systems with the same priority as aircraft rework.
- (4) Serve as the major maintenance, repair, and modification point for assigned missiles.
- (5) Provide calibration services as assigned by higher authority.
- (6) Perform as the NAVAIR Weapons System Support Officer for the overall management of the NAVAIR Engineering Support Office, Weapon Systems Management Office for assigned weapons, and Integrated Logistic Support Office.
- (7) Perform as a Cognizant Field Activity for assigned aircraft, equipment, and Peculiar Ground Support Equipment.

1.6 NAVAL AVIATION DEPOT VOYAGE REPAIR TEAM.

a. Naval Aviation Depot Operations Instruction 13800.1 denotes organizational relationships between the TYCOM and the VRT and defines the TYCOM's responsibility, authority for workloading, and operational control of the VRT. Control is exercised through the TYCOM (N433/N435).

b. To provide industrial level support for Ship Installation Equipment (ALRE) the VRT is used to support the following:

¹⁸ CINCLANTFLT/CINCPACFLTINST 4790.3, JFMM Volume IV, Part II

- (1) Casualty Reports.
- (2) Enroute maintenance/Underway repairs.
- (3) Miscellaneous repairs beyond Ship's Force capability.
- (4) Rotatable spare overhaul.
- (5) Special reports.
- (6) Preparation for Overseas Movement repairs.
- (7) Service Change installations.
- (8) Modernization/repair of components in conjunction with Chief of Naval Operations Maintenance Availabilities, Planned Maintenance System or Restricted Availabilities.

c. The capabilities of the VRT are such that almost any task related to launch and recovery equipment is feasible, assuming adequate support from Ship's Force is available. The following ship's support for the VRT is required:

- (1) Timely Current Ship's Maintenance Project deferral submission for the Maintenance Manager and TYCOM screening/programming.
- (2) Providing sufficient V-2 Division personnel to assist the team, in such areas as providing forklifts, obtaining necessary parts, gaining machine shop assist and space access, etc.

35. Reference (d)¹⁹ states:

3. Information:

a. Qualification requirements for welding and brazing processes are under the cognizance of the Material Office and are specified in MIL-STD-1595A "Qualification of Aircraft, Missile and Aerospace Fusion Welders," MIL-STD-248D "Welding and Brazing Procedures and Performance Qualifications," and NA 01-1A-34 "Aeronautical and Support Equipment Welding."

36. NADEP, NI could not produce any records that demonstrate VRT welders were qualified prior to February 2001 (see Encl (1)), which is consistent with the testimony of NADEP Supervisor #6 and others, indicating that the qualification training and testing occurred between November 2000 and February 2001.

37. During this qualification period, the VRT welders were tested to weld butt joints and socket joints on pipe. NADEP Supervisor #6 stated that the only piping welds performed by VRT welders are on socket joints, and Complainant has not raised butt joint welds in piping systems as a matter of concern.

38. For the socket joints, the VRT welders were tested and qualified to weld pipe with a wall thickness of 0.187" (3/16 inch) or larger, per reference (b).²⁰ They were not tested and qualified to weld socket joints on pipe whose walls were less thick (see the extra requirements in reference (b) for those welds, as set forth in paragraph 33 above, at 5.3.5.1, and enclosure (1) at paragraphs

¹⁹ VRT Quality Programs Manual, at enclosure 8, "Welding and Brazing"

²⁰ NAVSEA Tech Pub S9074-AQ-GIB010/248, Requirements For Welding and Brazing Procedure and Performance Qualification, 1 August 1995

3a, 4b, and 6). NADEP Supervisor #6 apparently did not realize that even after welder qualifications were completed in February, 2001, the VRT welders remained unqualified to weld catapult hydraulic system piping whose walls were less than 3/16" thick.

39. The VRT conducted welding operations on shipboard systems, specifically catapult hydraulic system piping, to include 1-inch pipes, which required the welders to be qualified in accordance with references (a) and (b) NAVSEA standards. As noted in paragraph 38 above, even after the February 2001 qualifications, VRT welders remained unqualified to make socket joint welds for pipe with a wall thickness of less than 3/16" (0.187"). Thus, when they worked on the USS NIMITZ (CVN-68) catapult hydraulic piping systems in late 2001 and early 2002, they remained unqualified to weld socket joints on some of the pipes.

40. VRT personnel provided the investigator with some welding records that demonstrate work for which they were not qualified:

a. USS JOHN C STENNIS (CVN-74): On 24 June 1999, a VRT Welder welded 15 pipe joints. His qualification records indicate qualification for pipe welds on 23 February 2001. The investigator found no documents indicating he was qualified before this date.

b. USS CARL VINSON (CVN-70): On 7 April 2000, VRT Welder #4 welded 35 pipe joints. His qualification records indicate qualification for pipe welds on 23 February 2001. The investigator found no documents indicating he was qualified before this date.

c. USS NIMITZ (CVN-68): On various days in December 2001, VRT Welder #4 welded 25 joints. Seventeen joints were on 2-inch pipe with a standard wall thickness 0.344 inches and 8 were 1-inch schedule 80 pipe with a standard wall thickness of 0.179 inches. His qualification records indicate qualification for pipe welds on 23 February 2001. Per paragraph 37, he was not qualified to weld the 8 socket joints with a wall thickness below 3/16" (0.187").

41. Welders at the VRT were not familiar with NAVSEA, or their own, welding qualification requirements, set forth in references (a), (b) and (d).²¹ They also did not understand the limits of their qualification. For example, they did not realize that they were not qualified to conduct the 5X visual inspection and did not know that they were not qualified to weld socket joints on pipe with a wall thickness below 3/16".

42. NADEP Supervisor #6 stated that the welders performed pipe welds prior to their qualification in February 2001. While he knew that his welders were not certified to conduct the welds on NAVSEA systems, he did not stop production welding to obtain this certification. He stated that he used welders that had trained at NAVSEA shipyards, but had not maintained their certifications. Because of this prior training, he felt that they had the ability to perform the work. As previously noted, he too did not understand that the welders had not received training on workmanship and visual inspections and were not qualified to weld socket joints in pipe with a wall thickness below 3/16". He, too, did not understand the limits of his welder's qualification.

²¹ NAVSEA Tech Pubs S9074-AR-GIB010/278, Requirements for Fabrication, Welding, and Inspection, and Casting Inspection and Repair for Machinery, Piping and Pressure Vessels and S9074-AQ-GIB010/248, Requirements For Welding and Brazing Procedure and Performance Qualification; VRT Quality Program Manual

43. Welding technique sheets/procedures the VRT was using at the time of the on-site investigation were not authorized by references (b) or (e). NADEP, NI was authorized to use Naval Shipyard Procedures. Instead, the VRT weld shop was using SIMA's welding technique sheets/procedures developed from Naval Shipyard Procedures, which places the VRT at a third tier level. The use of a SIMA's procedures was not included in NAVSEA's reference (e) letter (see enclosure (1)).

Conclusions

44. The allegation that many of the welders were not qualified for welding of ship systems and components is substantiated. Until February 2001, none of the VRT welders were qualified to weld catapult hydraulic piping. Thereafter, they remained unqualified to weld socket joints in pipe with a wall thickness less than 3/16".

Listing of Actual/Apparent Violations

45. By utilizing unqualified welders to effect repairs, VRT, NADEP, NI, violated references (a), (b), and (e).²²

Action Planned or Taken

46. On 15 February 2002, when informed of the preliminary results of this investigation, NADEP, NI senior management immediately suspended all welding operations on ships until welders could be qualified.²³ Also in February 2002, NADEP NI determined that in 1999, the VRT had performed welds on catapult hydraulic piping associated with Catapult Service Change 624 on three carriers: USS CONSTELLATION (CN-64); USS ABRAHAM LINCOLN (CVN-72), and USS JOHN C STENNIS (CVN-74). The VRT started the same work onboard the USS NIMITZ (CVN-68) as part of a routine maintenance cycle in late November 2001. In mid-February 2002, it had almost completed the Service Change 624 welds.

47. In February 2002, while USS NIMITZ was still at North Island, a team from the Puget Sound Naval Shipyard (PSNS), a component of NAVSEA, inspected the catapult hydraulic system pipe welds that VRT, NADEP, NI had just completed onboard USS NIMITZ. Of about 100 welds, approximately 99 percent failed visual inspection. For the most part, the welds were undersized, that is, they did not meet the specified, weld sizes and PSNS personnel began repairing these welds. This effort was completed in May 2002. PSNS charged approximately \$196,000 for this work.

48. In February 2002, the PSNS team inspected the catapult hydraulic system pipe welds welded by VRT, NADEP, NI onboard USS ABRAHAM LINCOLN (CVN-72). As in the case of USS NIMITZ, most of the welds were undersized. Of about 100 welds, only three passed visual inspection. The three joints that passed visual inspection were dye penetrant inspected and one

²² NAVSEA Tech Pubs S9074-AR-GIB010/278 and S9074-AQ-GIB010/248; NAVSEA letter of 25 May 83

²³ VRT was working on only the USS NIMITZ (CVN-68) at that time.

joint failed due to porosity. All nonconforming welds were repaired. This work was completed in April 2002. PSNS charged approximately \$192,000 for this work.

49. The Naval Air Warfare Center, Lakehurst (Lakehurst), has engineering design responsibility for the catapult hydraulic piping system. In March 2002, Lakehurst engineers evaluated the welds to determine whether the catapults could be operated pending repairs. They concluded that those carriers at sea could continue using the catapults until their current operations were completed and they returned to shore based on the following analysis:

a. Normal operating pressure for the system is 2,500 pounds per square inch (psi). When Catapult Service Change 624 was incorporated into the carriers by VRT, each catapult hydraulic piping system was successfully tested hydrostatically to 4,500 psi, one and one-half times design pressure.²⁴

b. The specified thickness, or size, of the welds in question is designed with a safety factor. The actual thickness, or size, of the non-conforming undersized welds discovered in 2002 is sufficient that it is highly unlikely a welded joint would suffer a catastrophic failure (separate or come apart) during operation. The much more likely scenario is that a joint would gradually begin to weep due to fatigue.²⁵ This form of progressive failure (increasing amount of leakage) would be discovered and corrected during routine maintenance. To date, there has been no evidence of leakage or other failure of any joint welded by NADEP NI VRT.

c. Analysis of the welds at their actual, versus specified, thickness, still results in a fatigue life of at least 47,000 cycles, or catapult shots (launches). Since Catapult Service Change 624, all of the carriers in question have operated safely, and none of their catapults have been shot more than 14,000 times. Therefore, it is reasonable to continue operations for a limited time.

50. In February 2002, NADEP, NI and PSNS began working on a Memorandum of Agreement (MOA) to establish a partnership between the two commands for work and resources to accommodate emergent workload. The MOA also establishes a plan for interim NAVSEA Authorized Representative support for VRT welding and inspection programs until the NADEP, NI VRT program is fully compliant with NAVSEA standards. The MOA, enclosure (2), was signed by NADEP, NI on 29 April 2002, and by PSNS on 9 May 2002.

51. Under the supervision of PSNS, VRT, NADEP NI repaired the welds on the USS CONSTELLATION. Consequently, the cost charged by PSNSA was only approximately

²⁴ Records obtained during the investigation indicate that some piping was tested to 3,750 psi, one and one half operating pressure. However, Lakehurst advises this would not have affected the engineers' conclusions.

²⁵ Complainant alleged that a catastrophic weld separation could cause the loss of an aircraft during launch. In fact, the system is designed to prevent a launch in the event the hydraulic piping system loses any degree of pressure. If a weld separated after a launch started, the plane could fail to reach launch speed; Lakehurst asserts the risk that this would occur is extremely low. The hydraulic fluid used in this system is non-combustible; in the 50 years it has been used, it has not ignited. Lakehurst agrees that if a weld separated while the system was pressurized, someone struck by the stream of fluid would be injured. Lakehurst maintains, however, that during catapult operations, very few people are likely to be in the area of this piping; only a few more would be present during maintenance.

Each NARF (Naval Air Rework Facility) shall have at least one Level III nondestructive test examiner for each method of nondestructive testing, certification for which is given only at NAVSHIPYD Mare Island or Portsmouth.

55. There are no NDT inspectors assigned to the VRT. Before the on-site investigation in February 2002, VRT personnel requested support services from the NADEP, NI NDT Department when VRT needed inspection support.

56. NADEP Supervisor #5, supervisor, Heat Treatment, Welding and Metal Repair Branch, and former supervisor, NDT Branch, stated that the NDT Branch started to receive requests for NDT services from the VRT in 1997 or 1998. At that time, he and NADEP Inspector #1 raised the question of certification.

None of my people in North Island had experience except the people that came from NAVSEA environments. I had talked to those people. And these people said, "Yeah. We have done that. We were certified to [do] that, but our certifications have expired.

57. Despite their lack of certification, NADEP Supervisor #5 acknowledged that the NDT inspectors conducted weld inspections. NADEP Supervisor #5 is not a NDT inspector. NADEP Engineer #1, NDT Program Manager and Level III NDT inspector, was informed of NADEP Supervisor #5's concerns, but never told him that his NDT inspectors could not perform shipboard inspections.

58. NADEP Supervisor #5 requested training for the NDT inspectors. It was his feeling that if this was a requirement NADEP, NI was taking on then his shop should be ready to support it. In emails sent on 15 September and 20 November 1999, NADEP Supervisor #5 requested a meeting with his supervisors to discuss the issue of NDT inspector training. In an email of 6 July 1999, NADEP Supervisor #5 recommended sending NADEP Inspector #1 for Level III NDT training. NADEP Supervisor #5 stated that although his supervisor, NADEP Supervisor #8, never formally denied his requests for training, he never took action on the requests either.

59. In his memorandum dated 27 December 2000, NADEP Engineer #1 defended NADEP's position that NDT inspectors previously trained in NAVSEA MT and PT NDT procedures were again certified to conduct these tests based on their original qualification and the NAVAIR certifications they had received at NADEP, NI.

60. Even after NADEP Engineer #1's memorandum certified the NADEP, NI inspectors, the inspectors were uncertain as to legitimacy of the certification. NADEP Supervisor #5 stated:

So even with this written letter that he had, it was three to five pages long, I specifically recall one day asking [NADEP Engineer #1] to call his counterpart in NAVSEA. And said, "Hey, [NADEP Engineer #1], will you call your counterpart in NAVSEA and ask him?"

61. NADEP, NI NDT inspectors conducted NDT inspections on P1 piping from approximately 1998 to present.

62. On 19 April 2001, NADEP Engineer #1 certified NADEP Inspector #1 qualified for shipboard MT and PT NDT inspections of P-1 pipewelds. On 11 January 2002, NADEP

Engineer #1 certified another person qualified for shipboard MT and PT NDT inspections of P-1 pipewelds.

63. NADEP Engineer #1, the NDT supervisors, and NADEP Inspector #1 all stated that the NADEP, NI NDT inspectors are not certified nor did they conduct visual inspections (VT) of shipboard P-1 pipewelds.

64. NADEP Supervisor #6 did not request the SIMA to provide the VRT welders training in visual inspection techniques, and SIMA Witness #2, a SIMA Welding Supervisor, stated that his welding school did not train the VRT welders on visual inspections. None of the welders' qualifications indicate that the welders are qualified to conduct visual inspections, including the visual inspection using a 5X magnifying glass of the root layer, on shipboard P-1 pipewelds.

65. Reference (f)²⁸ states:

1.6 Nondestructive test personnel certification. Alternatively, individuals certified as Level I, Level II, or Level III in accordance with MIL-STD 410 shall be considered equivalently certified in accordance with this document.

1.6.2 Certification of personnel. The employing activity is responsible for the adequacy of the program and is responsible for the certification of all levels of nondestructive test personnel.

1.6.3 Recertification. Nondestructive test personnel other than examiners shall be recertified by examination at intervals not greater than 3-years in accordance with the activity's written practice. This re-examination shall be as comprehensive as that employed in the initial certification. In addition, personnel who perform NDT shall be recertified by examination if they have not performed tests in the method in which they are certified for a period of 9 months; this re-examination need only consist of an approved operational examination administered by the activity's test examiner.

1.6.8 NDT certification transfer. Transfer of NDT certifications to other activities is prohibited except as authorized by NAVSEA.

66. Reference (g)²⁹ states:

5.e. (2) General. The general examination for all levels in the five basic methods shall be closed book and shall contain at least 40 questions covering the basic theory of the method. For the supplemental and secondary methods, at least 20 questions are required.

5.e. (3) Specific. The specific examinations for all levels shall be closed book and shall contain at least 30 questions on the directives, equipment and procedures specific to NAVAVNDEPOT workload.

67. Reference (h)³⁰ states:

²⁸ NAVSEA Tech Pub T9074-AS-GIB-010/271, Requirements for Nondestructive Testing Methods, 30 April 1997

²⁹ NAVAVDEPOTINST 12410.25B, Training and Qualification Requirements for Certification of Nondestructive Inspection Personnel

³⁰ MIL-STD-410E, Nondestructive Testing Personnel Qualification and Certification, January 1991

5.4.2 General. The general examination for all levels shall be a closed book examination consisting of questions that cover the cross-section of the applicable method at the appropriate level. A minimum of 40 questions shall be used for the general examination at each level.

5.4.3 Specific. The specific examination for all levels shall be a closed book examination and shall cover the specifications, codes, equipment, operating procedures, and test techniques the candidate may use for the specific examination at each level.

5.4.4 Practical. The practical examination shall consist of a demonstration of proficiency by the candidate in performing tasks that are typical of those to be accomplished in the performance of his duties. Test samples used in the examination may be actual hardware, if the candidate is required to demonstrate proficiency in the application of the process as well as interpretation of results, or may be images, such as radiographs, if the candidate is only required to interpret the results and not perform the process of generating the image.

68. The inspection requirements for shipboard P-1 socket pipe welds from Table IX of reference (a)³¹ are:

1. Visual Inspection of Final Weld (indicated by an "X" in the "VT" column).

2 MT/PT test of the weld root layer (indicated by an "X" in the "MT/PT test" column). Note 4 to this table allows substitution of 5X VT instead of MT/PT as follows:

Note 4: "...VT at 5X magnification may be substituted for MT/PT inspection except for boiler tube to drum joints and superheater tubes to header joints. Linear discontinuities shall be unacceptable...."

3. MT/PT test of the final weld (indicated by an "X" in the "MT/PT test" column).

69. At the time of the on-site investigation, the NDT Department did not have approved written NDT procedures for VT, MT, or PT or inspection personnel qualified to perform inspections in accordance with reference (f)³² (see Encl (1)).

70. Records of NDT inspections conducted on shipboard welds for the VRT weld shop were not on file in the NDT department (see Encl (1)).

71. Review of the two shipboard inspectors' qualification records revealed that they took a 55 question "General" test. There was no record of the "specific and practical" tests required by references (h) and (g)³³ (see Encl (1)).

72. VRT personnel provided the investigator with various welding records:

³¹ NAVSEA Tech Pub S9074-AR-GIB010/278, Requirements for Fabrication, Welding, and Inspection, and Casting Inspection and Repair for Machinery, Piping and Pressure Vessels, 1 August 1995

³² NAVSEA Technical Publication T9074-AS-GIB-010/271, Requirements for Nondestructive Testing Methods, 30 April 1997

³³ MIL-STD-410E, Nondestructive Testing Personnel Qualification and certification, January 1991; NAVAVDEPOTINST 12410.25B, Training and Qualification Requirements for Certification of Nondestructive Inspection Personnel

a. USS JOHN C STENNIS (CVN-74): On 24 June 1999, a VRT welder performed the 5X inspection of the root weld of 15 pipe welds. He was not qualified to conduct visual inspections. NADEP Inspector #1 conducted the final PT on the pipe welds. However, NADEP Engineer #1 did not certify NADEP Inspector #1 until 19 April 2001. The investigator found no documents indicating he was qualified or certified before this date.

b. USS CARL VINSON (CVN-70): On 7 April 2000 VRT Welder #4 made 35 pipewelds. He was not qualified or certified to conduct visual inspections.

c. USS NIMITZ (CVN-68): On various days in December 2001, VRT Welder #4 performed the 5X inspection of the root weld on 25 joints. He was not qualified or certified to conduct visual inspections.

73. None of the instructions reviewed required that NDT inspectors to be licensed or bonded. None of the witnesses knew of such a requirement and the NAVSEA and NAVAIR experts said there is no such requirement.

Conclusions

74. The allegation that the VRT NDT inspectors are not certified to inspect welds in ship systems and equipment is substantiated. In addition, the investigation revealed that uncertified inspectors conducted NDT of catapult hydraulic piping welds thus improperly certifying the results of the inspection of those welds. The investigation also revealed that complete documentation of the required inspections was lacking for many of the welds. The investigation did not establish that inspectors should have been licensed or bonded.

Listing of Actual/Apparent Violations

75. VRT, NADEP, NI, violated references (d), (f) and (h)³⁴ by utilizing uncertified inspectors to conduct NDT inspections of welds for ship systems and equipment.

Action Planned or Taken

76. On 15 February 2002, NADEP, NI suspended all NDT inspections onboard ships.³⁵ Under the MOA between PSNS and NADEP, NI, PSNS will provide inspection services until NADEP, NI personnel are trained and certified. Welder inspectors from NADEP, NI were trained, tested, and recertified by PSNS; this effort was completed on 19 April 2002. NADEP, NI currently has two welders certified by PSNS to conduct VT inspections in accordance with NAVSEA standards and for high-pressure P-1 piping. Three more NADEP, NI VRT welders are scheduled

³⁴ NAVSEA letter of 25 May 83; NAVSEA Tech Pub T9074-AS-GIB-010/271, Requirements for Nondestructive Testing Methods, 30 April 1997; MIL-STD-410E, Nondestructive Testing Personnel Qualification and Certification, 25 January 1991

³⁵ VRT was working on only the USS NIMITZ (CVN-68) at that time.

P-1 Piping Welds

81. Allegation one demonstrates that management did use unqualified welders to perform welds subject to NAVSEA requirements, including those for P-1 piping systems. This included Complainant when she was assigned to the VRT. Of note, however, is the fact that, with the exception of Complainant, none of the VRT welders interviewed understood they were not qualified to perform any of the work VRT management directed them to do. Moreover, as discussed in allegation one, neither the welders nor management understood the qualifications required to weld on systems subject to NAVSEA requirements.

82. However, VRT Welder #1 did state that he refused to recertify to perform shipboard P-1 pipewelds because "they are not paying us WG-11 wages that other pipe welders get."

Asbestos Lagging Removal

83. Complainant stated that in 1997 and/or 1998, she was improperly required to remove asbestos lagging. She said she was not qualified to perform such work and was not provided with the appropriate personal protective gear to remove asbestos. She also alleged that NADEP NI safety personnel were not allowed onboard the ships to confirm the presence of asbestos:

Q: And the welders are still doing this unauthorized or are still pulling asbestos improperly?

A: Yes, as far as I know. When we worked the launch valve -- when I worked the launch valve on the [Kitty Hawk] and the [CONSTELLATION] both, asbestos was removed by myself and the ALAD, unaware that it was asbestos at the time. You know, when I came out coated in it, finally one of the shipboard officers said, "Why are you walking around with chunks of asbestos on you?" And that's when I became aware of it. ...

And that's another thing I had requested because they don't do that at Voyage Repair. We don't have somebody to come in and remove asbestos for us. We do it ourselves. And Safety, when I asked them to go aboard the ships to take some samples because one of our individuals, Mr. [F], had come down with scar tissue on his lungs and he's currently had to file a case.³⁶ I asked Safety to board the ship to ensure that we got proper gear and everything. They were told, no, they cannot go on the ship.

Safety is not allowed on the ship. That would be [NADEP Safety #3] and [NADEP Safety #3]. Those are our two safety and they're qualified shipboard. As far as I know, that they are not being allowed to be added to the access list. They told me a few weeks ago.

84. The investigator interviewed NADEP Safety #2 and NADEP Safety #3, who work in the NADEP, NI Occupational Health and Safety Office. Neither remembered receiving reports of improper asbestos removal or any other safety violations on board ship. They did not recall ever being prevented from gaining access to any shipboard worksite. They stated that the ship's force

³⁶ Mr. F is a NADEP, NI electrician. He opened a workers compensation medical claim file because of concerns that he may have been exposed to asbestos during his long career with the Navy. His file indicates he first started working onboard ships that may have contained asbestos in Philadelphia over 20 years ago. Mr. F does not allege he has been directed to work with asbestos while at NADEP, NI. While a medical report indicates Mr. F has a lung condition that is consistent with asbestosis, he has not submitted a claim for time lost from work or medical expenses.

is responsible for removing asbestos and making gas free checks before VRT personnel perform work onboard ship.

85. NADEP Safety #1 is the OSHA Liaison for the VRT. She stated that ship's force is responsible for asbestos and gas free checks for work conducted by VRT onboard ships. She said the ship's force also is responsible for placing the equipment into a safe condition for maintenance and tagging out a system before maintenance. She said that if NADEP, NI workers suspect a problem in any of these areas, they are supposed to notify the ship's force safety petty officer.

86. VRT supervisors also stated that ship's force is responsible for asbestos removal and tagging out equipment.

87. There is no evidence supporting the allegation that NADEP, NI safety personnel were improperly denied access to shipboard worksites other than Complainant's statement. Based on the contrary testimony of several others, we find that NADEP, NI safety personnel have not been denied access to ships.

88. Although Complainant asserts that welders are still being required to remove asbestos lagging from ships, she offered no evidence in support of this allegation, and none of the other welders indicated this was the case. Based on her own testimony, we find that Complainant performed work in an environment that contained asbestos without realizing it. She became aware of the situation only when someone else suggested she had chunks of asbestos on her. There is no evidence indicating that NADEP, NI management directed subordinate personnel to work with asbestos, and there is much evidence indicating that the ship's force or contractors, not VRT personnel, are responsible for removing asbestos when it is encountered onboard ships.

Collapsed Piping

89. Complainant also stated, as outlined in OSC's letter, that she was ordered to weld repair a section of hydraulic pipe that should have been replaced. OSC states:

She explains that, because it had collapsed, the pipe was obviously defective and needed to be replaced rather than welded back together. When she protested that the weld was illegal and unauthorized, [NADEP Supervisor #9] ordered her to perform it anyway. [Complainant] states that she complied with his order because she feared he would take disciplinary action against her if she refused.

90. During her interview, Complainant stated:

... I was sent to the U.S. LINCOLN in I believe '98. ... My supervisor told me, Hey, [Complainant], I need you to, " I think it was CAT 1 or 2, ... I was told that there was a socket weld that needed to be welded up, to go down to the engine space and take care of the pipe.

When I had got down there, it was before the piping was cut out and there was a knot the size of my fist in the center of the pipe. And [a pipefitter] was getting ready to cut the knot out. And I said, "What are you doing?"

And he goes, "You know, we have to repair this." I said, "No, no, no, no, no. That pipe's collapsed. What are you going to do?"

And basically what they wanted to do was cut it out and put a socket weld in there. And I said, "Absolutely not. What are you guys thinking here. That pipe is collapsed." I was concerned because if you see a knot like that, I've been trained that there is a problem with that system. And you've got to remove the whole section of piping. You don't just remove the area that is collapsed.

And with my training, I was always told, "Stop and desist. That's when you call engineering and say, 'Hey, you need to really look at this pipe and see what's the problem.'"

Because when you see crinkles in it, that's usually an indication that it's collapsed.

[NAVSEA Expert #1 asked] It had actually collapsed or had a bulge on it?

It actually -- you could see it wrinkled, but it was bulged, but you could see the wrinkle. So I knew that there had been a problem with previous, more than once. You could see it.

So I told my supervisor, I said, "I'm not, I'm not happy with this. Don't cut it out because this is a problem. ... I said, "You really need to go and get somebody from SUPSHIPS or something in here to look at this -- I don't think it's within our capacity to do it at this time. I did not bring any pipe with us. I don't have any of the specific equipment that I need to do this job properly.

I was told to go do the job and quit crying [by NADEP Supervisor #9]). And I said, "Look, you know, this is dangerous."

Well, long story short, by the time I was arguing with the supervisor over it ... The pipe was cut, the section was removed. That means it put the ship down. So my supervisor is saying, "You're doing it." I had no other choice. I had no other choice. So I went ahead and welded it up.

91. NADEP Supervisor #9, the VRT Supervisor Complainant identified, did not remember this incident at all. He did assert that if there a question about the condition of piping arose, he would seek engineering advice.

92. The VRT has no records documenting that Complainant was qualified as a welder for P-1 pipe welds such as the one she described in this incident, or for any other welds. Although Complainant may have qualified for this work while at MINSY, she stated in her interview that she did not take the appropriate tests to requalify her for this technique. Consequently, we find she was not qualified to make the weld she described at the time she did this work.

93. NAVSEA Expert #1 was unable to develop sufficient information to pursue this matter further. He stated that a bulged pipe is very dangerous; the pipe is stretching and becoming thin at the area of the bulge and could blow out. He agreed that an engineer should have been asked to look at the damaged piping before it was cut out and replaced because the damage may be symptomatic of other problems that need to be addressed.

94. Due to the age of the allegation, this discrepancy could not be resolved during the course of the on-site investigation. At our request, Complainant has provided additional information that may enable inspectors to locate and inspect this section of piping. However, an inquiry into the troubleshooting that should have taken place before replacing a section of deformed hydraulic pipe over five years ago would be better accomplished during the initial Carderock audit of NADEP, NI.

95. Regardless, Complainant was required to perform a repair, about which she voiced concern, without adequate explanation from her supervisors. Since management, which includes VRT supervisors, is responsible for job assignments, it follows that management is responsible for assigning (ordering) unqualified welders to make P-1 hydraulic system pipe welds. We also find

that management should have consulted with an engineer before removing and replacing the questionable section of pipe.

Carrier Deck Welds

96. The OSC letter states:

[Complainant] alleges that VRT welders are "contaminating" aircraft carrier flight decks by using unauthorized filler materials. She explains that the flight decks on aircraft carriers are comprised of HY-80, HY-100, or HY-120 steel, which is strong enough to support military aircraft during takeoff and landing. To preserve the strength of the flight decks, Federal guidelines provide that only HY-80/100/120 steel should be used as the filler material on the decks. See MIL-STD 1689A(SH) and MIL-STD-278F(SH) (Welding and Casting Standard"). Before using an alternate material, a welder must obtain a NAVSEA 09 waiver from a welding engineer. [Complainant] alleges that, without prior authorization, VRT welders often use stainless steel as a filler material, thereby contaminating the decks. She explains that contamination of an HY-80/100/120 flight deck can compromise the strength of the deck and cause the HY-80/100/120 steel to crystallize, crack, and break off.

97. During her interview, Complainant made only a general assertion that VRT personnel were using stainless steel to weld together high strength deck plates. Although she mentioned that several carriers, such as the USS Stennis (CVN-74), used high strength steel in the deck plates, she did not assert that VRT improperly welded deck plates on any specific carrier. Instead, Complainant discussed an effort to weld aircraft tiedowns on the USS DULUTH (LPD-6) in 1997 or 1998. USS DULUTH is an amphibious transport dock that can carry helicopters and landing craft. Complainant testified that:

THE WITNESS: Oh, '97/'98 time frame. I have the paperwork here. I've actually got the work package here. We were cutting out some of the tie-downs -- actually 52 of the tie-downs on the flight deck of the DULUTH and they would not provide us with the scissors lifts or, or the means to weld both sides of the tie-downs.

So, eventually, what had ended up happening is they welded the top half only of the tie-down even though it was removed all the way through.

They used a 78-team and they blasted them. They did not do any preheating to the deck. And if I remember rightly, that was a high 80 deck and they modified the [bowls]. They were explosively welded style [bowls] and they cut the tops off, welded in the [bowl], itself, and then welded the ring back in. Of course, you're only welding the top side of the ring.

No field tests were done to my knowledge, no NDI was done. A CASREP (phonetic) was filed at a later date because the bowls were being pulled out of the flight deck when the helicopters were hovering at a 45.

98. Several of the welders recalled welding cloverleaf tie-downs on USS DULUTH, and NADEP Supervisor #6 was familiar with them, although he said the DULUTH was done before he came to the VRT. VRT Welder #1 recalled that someone had complained that the decks were not being preheated, and Complainant had objected to the way in which the tie-downs were being welded. However, he said that the work did not involve welding to the deck itself, but only to the bowls in which the tie-downs were located. Therefore, there was no requirement to preheat the deck. VRT Welder #1 also said that engineers did examine and approve the manner

in which VRT was welding the tie-downs within the bowls. NADEP Supervisor #7 stated that the tie-downs underwent pull tests after the welding.

99. VRT Welders #3 and #4 stated that they do welding on carrier deck plates and use 11018 filler material. NAVSEA Expert #1 confirmed that this is the correct filler material to use on high strength steel.

100. NADEP Supervisor #6 and several of the welders said VRT welders did install lighting systems on the carrier decks. NADEP Supervisor #6 also stated that VRT personnel occasionally weld bulkhead sleeves for piping, electrical cable stuffing tubes, padeyes, and aircraft tie down cups. They also indicated that they sometimes weld up holes left in the catapult trough when catapult rails are realigned. However, no one indicated that these were "critical" welds subject to NAVSEA standards, or that they were being welded incorrectly by failing to preheat the deck, using improper filler materials, or any other reason. The NAVSEA letter of 2 July 2002, enclosure (3), does include aircraft tiedowns as a matter of special concern that Carderock will address during the audit process.

Stuffing Tubes

101. The OSC letter recounts that:

... in February 1997, [Complainant] informed [a] foreman and [a] planner and estimator that NAVSEA guidelines required that nondestructive testing (NDT) be conducted on a "stuffing tubes" weld on the destroyer USS JOHN PAUL JONES. She alleges that they nevertheless failed to conduct the mandatory NDT inspection. Instead of heeding her advice, [the planner/estimator] told her that her attitude "would close down the VRT."

102. During her interview, Complainant testified:

THE WITNESS: There was a problem on the Jones which I'd have to look back in here to give the actual pull number of the ship where I was sent over -- there was a [stuffing] tube that had penetrated through their weapons department. I was unaware at the time that it was a pressurized department. And I was told to go ahead and weld just the one side of the [stuffing] tube.

The repair officer had approached me and asked if an NDI was being done. I said, "No."

He asked me if I was aware that it was a pressurized compartment for weaponry. And I said, "No, I was unaware of that."

Long story short, I couldn't get to the back side. I don't know what happened. All I know is that it is supposed to be welded both sides, NDI is supposed to be done and Newport News was pulled in, the Ship Sup for Newport News approached me. He was very upset and I had to agree with him. You don't penetrate a department that's supposed to be pressurized. That causes a leak and alarms were going off. I do not know what happened with that ship.

[NAVSEA Expert #1]: You didn't weld both sides?

THE WITNESS: I couldn't get to the other side.

[NAVSEA Expert #1]: What was in the weapons (inaudible). Did they unload the weapons for you to weld?

THE WITNESS: It was a control center. It was a shielded control center is what I had gotten out of it. And since there was some non-compliance issues, I asked for them to take it through COMNAVAIRPAC and my supervisor because no one notified me or I would have never welded it to begin with.

They should have plug welded that back up because now they have a leak and the alarms inside were going off because there was air coming through it so they couldn't pressurize it.

103. Stuffing tubes are pipes that carry electrical wiring or cables in order to protect them from damage. NADEP Inspector #1, the NADEP Estimator and NADEP Supervisor #7 recalled that VRT did work on the Jones. They stated there is usually a requirement to do NDT when stuffing tubes pass through a deck. They did not indicate there was a general or standard requirement to NDT stuffing tubes that pass through pressurized compartments. NADEP Supervisor #7 stated the requirement varied, and would be indicated on the work order.

104. None of the three could recall the specific incident described by Complainant, and NADEP Supervisor #7 stated he did not recall doing NDT on any stuffing tubes. The NADEP Estimator did not recall making the statement Complainant attributes to him, but said "I wouldn't doubt it." He explained that Complainant irritated him sometimes, and it was "more than likely" that he might have made such a statement. He said, "whenever anything is brought up, we look into it. I mean, we just don't shove it off. But I don't recall this incident of her talking to me about this ..."

Conclusions

105. The overall allegation that management sometimes orders welders to perform unauthorized tasks is substantiated. It should be noted that since none of the welders, with the exception of Complainant, understood the limits of their qualification, there is not sufficient evidence to substantiate that the others were forced to perform welds that they felt they should not perform.

106. The allegation that VRT supervisors improperly ordered VRT personnel to remove asbestos lagging is not substantiated. At best, the evidence indicates individual welders such as Complainant may have come into contact with asbestos by accident, or knowingly removed it rather than go to the trouble of notifying their supervisors or the ship's forces.

107. The allegation that Complainant improperly was ordered to repair a section of piping is substantiated in that she was not at the time qualified to weld the piping in question; further, the damaged piping should have been examined by an engineer before it was cut out. The allegation that the method of repair itself was improper cannot be investigated until someone can determine the location of the work.

108. The allegation that VRT personnel use improper welding filler material when welding carrier deck plates is not substantiated. With the exception of Complainant, every witness stated they used the proper filler material or did not do work that required it.

109. The allegation that VRT supervisory personnel intentionally avoided conducting NDT on USS JOHN PAUL JONES stuffing tubes is not substantiated. At best, the evidence demonstrates that VRT personnel did not realize there was a NDT requirement. However, Complainant's own testimony indicates ship's forces were alerted to the concern and addressed it.

Listing of Actual/Apparent Violations

110. VRT, NADEP, NI, violated references (a), (b) and (e)³⁷ by utilizing unqualified and uncertified welders for work subject to NAVSEA requirements.

Action Planned or Taken

111. Same as Allegation one. As indicated in paragraphs 46 and 76 above, NADEP, NI suspended all shipboard welding and welding inspection until welders and inspectors could be qualified and certified in accordance with NAVSEA standards.³⁸ Individual Qualification Records are continuing to be updated to reflect tasks that welders and inspectors are required and certified to perform. Three welders remain to continue with certification training, scheduled for the October/November timeframe. Quarterly updates to maintain both visual (VT) inspections and welder process use have been completed and forwarded to PSNS for data base entry for the next quarter.

112. All of Complainant's allegations are referred to Carderock for further review and such action as may be appropriate during the initial NADEP, NI audit it will perform later this year.

Allegation Four

That nondestructive testing inspections and quality assurance inspections are conducted in an inconsistent and inadequate manner.

Findings

113. It has already been established that management utilized unqualified and uncertified inspectors to perform NDT inspections on P-1 pipe welds.

114. NADEP Supervisor #6 stated that the VRT does not have an assigned Quality Assurance Specialist (QAS) and that he relied on the Carrier Field Support Unit, (CAFSU) engineering representatives and the artisans themselves to conduct quality assurance checks and to ensure that the work was properly completed and documented.

115. NADEP Supervisor #6 stated that the VRT uses reference (c)³⁹ to document satisfactory completion of P-1 pipewelds.

³⁷ NAVSEA Tech Pub S9074-AQ-GIB010/278, Requirements for Fabrication, Welding, and Inspection, and Casting Inspection and Repair for Machinery, Piping and Pressure Vessels, 1 August 1995; NAVSEA Tech Pub S9074-AQ-GIB010/248, Requirements For Welding and Brazing Procedure and Performance Qualification, 1 August 1995; and the NAVSEA letter of 25 May 1983

³⁸ VRT was working on only the USS NIMITZ (CVN-68) at that time.

³⁹ CINCLANTFLT/CINCPACFLTINST 4790.3, Joint Fleet Maintenance Manual, 12 Dec 2000

116. NADEP Supervisor #3, Director of Quality, and NADEP Supervisor #2, Industrial Quality Team Leader, NADEP, NI, stated that the VRT utilizes Quality Assurance Collateral Duty Inspectors (CDI) to ensure quality.

117. These supervisors stated that the VRT did not have an assigned Quality Assurance Specialist. VRT utilizes Collateral Duty Inspectors (CDI) although neither knew who at the VRT were qualified. NADEP Supervisor #3 had never read the VRT Quality Program Manual, reference (d).

118. Reference (d) identifies OPNAVINST 4790.2, Naval Aviation Maintenance Program (NAMP), OPNAVINST 4790.15, The Aircraft Launch and Recovery Equipment Maintenance Program (ALREMP), and reference (c) as references.

119. Reference (i)⁴⁰ states, at Volume II Depot Level Maintenance, Chapter 4, Quality Programs:

4.1 Guidelines and Operational Procedures

a. This chapter establishes Quality Program policy guidelines and operational procedures for D-level requirements at all NAVAVNDEPOTs. The term DLQP identifies the collective requirements of this instruction. It does not mean that fulfillment of the requirements is the responsibility of any single organization, function, or person. The CO shall delineate specific organizational responsibilities for accomplishment of these requirements.

b. General. COMNAVAIRSYSCOM and NAVAVNDEPOTs embrace the intent and spirit of TQL and command-wide responsibility for product quality and reliability.

c. Requirements. NAVAVNDEPOT COs are ultimately responsible for the quality of products produced and services provided under their command. COs shall identify a quality focal point to coordinate the DLQP and advise the CO on all related matters. The CO will ensure all personnel performing QA functions have sufficient training and expertise, well-defined responsibility, authority, and organizational freedom to identify and evaluate quality problems and to initiate, recommend, or provide solutions.

d. The DLQP shall incorporate the functional requirements of this chapter. Organizational responsibilities, derived from functional requirements, shall be designated by local instructions.

120. Reference (j)⁴¹ states:

11.7 Collateral Duty Inspectors (CDIs)

11.7.1 CDIs assigned to the work centers are to inspect all work and comply with the QA inspections required during all maintenance actions performed by their respective work centers. They will be responsible to the QA supervisor when performing these functions. CDIs will check all work in progress, and will be familiar with the provisions and responsibilities in the various programs managed and monitored by QA.

NOTE

⁴⁰ OPNAVINST 4790.2, Naval Aviation Maintenance Program

⁴¹ OPNAVINST 4790.15, Aircraft Launch and Recovery Equipment Maintenance Program (ALREP)

No CDI may inspect his/her own work and sign as an inspector. No CDI may perform in a QA capacity and also sign as the W/C supervisor on the same job.

11.7.2 QA will establish minimum qualifications for personnel selected for CDI. Work center supervisors are responsible for ensuring that sufficient qualified personnel are nominated for CDI to comply with QA inspections required during all maintenance actions. Due to the critical role of the CDI, it is imperative that branch officers, group and work center supervisors carefully screen all candidates for these assignments. CDIs will be required to be PQS qualified and to demonstrate their knowledge and ability on the particular type equipment by successfully passing a test that is locally prepared and administered by QA.

11.7.3 CDIs shall be designated in writing by the air officer. The ALRE Quality Assurance Inspector Recommendation/Designation Form (figure 11-2) shall be used for this purpose.

121. Reference (d)⁴² states:

Responsibility

It is the responsibility of all Supervisors to assure proper and adequate task performance training is provided. Initiating an Individual Qualification Record (IQR) for each employee who performs any task that must be accounted for on work documents, initiating a certification stamp request form, and for assuring personnel attend initial and refresher training as scheduled. IQRs must be available upon request, and must be updated at least every two years to assure proper artisan qualification accountability.

It is the responsibility of the QAS (Quality Assurance Specialist) to develop a monitoring plan and audit schedule that will provide for continual evaluation of the Certification Program.

Work Definition and Documentation

Responsibility

It is the responsibility of the assigned QAS to review all work documents to assure proper annotation of quality verification points and proper sequencing of events as part of the shop's normal processing direction.

CHAPTER 1

3.i. IQR A standardized IQR, Form NAVAVNDEPOT NI 4855/175 (QA personnel use IQR Form, 4855/175A), must be maintained for each person having certification or verification authority. The IQR must specify the products, processes, systems, operations, and areas the individual is qualified to certify. The IQR is subject to review by Quality Verification (QV) personnel upon request.

3.l. Recertification/Requalification (Personnel)

(1) Recertification of certifiers must be accomplished every two years through documented attendance (class roster and certification quiz), in a Recertification Training class offered by the QA Certification Program Coordinator. Failure to attend class and become recertified will result in revocation of certification authority and retrieval of the certification stamp.

122. Reference (c)⁴³ states, at Volume V, Quality Maintenance:

Forward

⁴² VRT Quality Program Manual

⁴³ CINCLANTFLT/CINCPACFLTINST 4790.3, CH-4, Joint Fleet Maintenance Manual, 12 Dec 2000

1.2 SCOPE.

- a. The guidance contained in this volume is applicable to every ship and activity of the fleet. The requirements are applicable to Ship's Force when performing maintenance on their own ship, to each Fleet Maintenance Activity (FMA) when performing work on tended ships, and to outside organizations (shipyards, contractors, Fleet Technical Support Centers) performing work on ships. This volume does not currently apply to outside organizations (shipyards, contractors) when an availability is conducted in a depot facility and the contract specifies the use of other specifications.
- b. This volume is directive in nature and may be cited as authority for action as the need dictates. Where higher authority imposes more stringent requirements or conflicts exist with previously issued Fleet directives, such requirements shall have precedence. When such conflicts are identified, they should be reported immediately to the Fleet and Type Commanders (TYCOM).

Part 1, Chapter 2 states:

2.3.3.1.j. (4) Signature Requirements in FWP's and CWPs. Certain steps require positive assurance that the step was actually performed and/or completed in a prescribed manner. Signatures are also required for assurance of critical requirements, critical measurements, or requirements for OQE. If the step requires completion of a data form (e.g. inspection, NDT record, hydrostatic test data sheet), the signature block shall be on the data form, not the procedure step. The following is a list of typical steps/examples requiring signatures:

- (a) Steps which require performance of QA checks or NDT that are documented on a QA form in order to provide traceability of signatures. Personnel who sign QA forms or other OQE documents will print their name along with their signature and date. These types of steps must include a statement of satisfactory compliance adjacent to the signature block in the associated QA form.
- (b) Completion of a strength test.
- (c) Hull and backup valve blue checks of seat and disc and stack height measurements.
- (d) Completion of Controlled Assembly steps.
- (5) In order to provide traceability of signatures, personnel who sign QA forms, or other OQE documents will print their name along with their normal signature. This will positively identify the individual and allow traceability of the signature to appropriate authorization and qualification records.

2.3.7.7 Formal Work Package Closeout. FWPs are reviewed and approved for closing by the LPO/LWC supervisor and designated assist LPO/WCSs for satisfactory completion. Signatures will be accompanied by a legibly printed name and date. The closeout review verifies the below attributes:

- a. Maintenance was completed as specified in the FWP.
- b. Required signatures were made and names printed.
- c. Cleanliness requirements were satisfactorily met.
- d. Correct materials were used.
- e. Post-maintenance testing was properly completed.
- f. Equipment and systems were restored to normal conditions and configurations.
- g. Data was recorded properly and within specifications.

123. The pertinent extracts of reference (b)⁴⁴ regarding welder qualification are cited in Allegation One.

124. As shown in the analysis section of allegation one, VRT personnel who welded P-1 piping were not qualified in accordance with the VRT Quality Program Manual, reference (d). This fact went undetected until this investigation.

125. As shown in allegation two, uncertified personnel were performing NDT inspections. This fact went undetected until this investigation.

126. As shown in allegation three, many required inspection signatures were missing on the joint record cards presented to the inspector for review. This fact went undetected until this investigation.

127. NADEP, NI could not produce Individual Qualification Records (IQR) to document compliance with references (d) and (i) or the CDI qualifications requirement of reference (j)⁴⁵

128. NADEP, NI provided the investigator with Certification Stamp Action Requests for members of the VRT. All had exceeded the "Cert Training Good Thru" date of November 1998. The VRT Quality Program Manual, reference (d), requires recertification every two years.

129. There is no indication that the joint record cards received any review after the artisans completed their work. Also, none of the joint record cards reviewed had certification stamps for the completed welds.

130. NADEP NI provided evidence of only one audit of the VRT, which was completed in July 1999.

131. NADEP, NI did not have a full time QAS assigned to the VRT. While the investigator was conducting the investigation a full time QAS was being assigned.

Conclusions

132. The allegation that nondestructive testing inspections and quality assurance inspections are conducted in an inconsistent and inadequate manner is substantiated. More specifically, the VRT does not have a viable Quality Assurance program.

⁴⁴ NAVSEA Tech Pub S9074-AQ-GIB010/248, Requirements For Welding and Brazing Procedure and Performance Qualification, 1 August 1995

⁴⁵ VRT Quality Program Manual; OPNAVINST 4790.2, The Naval Aviation Maintenance Program, Volume II Depot Level Maintenance, Chapter 4, Quality Programs; OPNAVINST 4790.15, The Aircraft Launch and Recovery Equipment Maintenance Program (ALREMP).

Listing of Actual/Apparent Violations

133. Much of quality assurance relies on the command to implement what it feels is necessary to ensure quality products are produced. Consequently, a quality assurance program is found wanting when it fails to prevent or detect substandard work products or processes. This is the case here. NADEP, NI failed to meet the minimum requirements of reference (i) and its own quality control program, set forth in reference (d).⁴⁶

Action Planned or Taken

134. In February 2002, PSNS began providing NDT and QA inspections of all VRT ship related operations. Training has been completed and the certification process is in progress. PSNS will continue to provide NDT and QA support to NADEP, NI until all NADEP, NI VRT inspectors are certified in accordance with NAVSEA requirements.

135. In February 2002, NADEP, NI assigned a full time Quality Assurance Specialist to the VRT Program. An additional QA billet has been created to provide for QA oversight, including surveillance, auditing and developing a revised QA program for the VRT. NADEP NI is also adding an additional QA billet to the VRT program itself.

136. A NADEP, NI Business Process Re-Engineering (BPR) team comprised of supervisors, artisans, production control, quality assurance, safety, and industrial planning personnel conducted an assessment of VRT facilities, material handling, equipment, workflow and documentation. As a result a work order has been generated to realign/relocate the shop and equipment which will greatly improve the workflow and control of material and shop processes. Excess/obsolete equipment has been disposed of and material in stock is being verified. Existing tool requirements were addressed and a budget submitted to purchase and build individual trade toolboxes. The Tool Control Instruction Committee is rewriting the instruction to include VRT tool control checkpoints.

137. NADEP, NI has completed a review of all assigned artisans' IQR's and is in the process of updating task assignments. NADEP, NI is reviewing work documents for technical compliance upon release from the planner's desk and also after job completion. A Quality Assurance Competency Manager will visit PSNS in September to benchmark the PSNS Quality Program and incorporate PSNS best practices into the NADEP, NI program. NADEP, NI has completed certifying VRT IQR's. NADEP, NI Quality Program management, working with PSNS, has completed the identification of NAVSEA unique quality requirements for NDT and welding special process programs.

138. NADEP, NI is revising the NADEP, NI Quality Program Manual, reference (d), to include all appropriate NAVSEA certification and quality elements for the VRT. Five of the 18 existing chapters will be revised and a new VRT specific Quality chapter will be added. Publication is

⁴⁶ OPNAVINST 4790.2, Naval Aviation Maintenance Program, Volume II Depot Level Maintenance, Chapter 4, Quality Programs; VRT Quality Program Manual

scheduled for October 2002. Findings of the QA assessment identified in paragraph 136 are being incorporated into the manual.

Personnel Actions Taken

139. NADEP, NI conducted a fact-finding review to determine whether disciplinary action is warranted as a result of the findings in allegations one through four. Based upon this review, NADEP NI determined that four supervisor/managers and an Officer had performed their duties in a negligent manner in that they failed to ensure that proper procedures were established and that subordinates complied with the appropriate certification requirements.

140. NADEP, NI senior management admonished and counseled three of the supervisor/managers and the Officer, warning them that any future omissions or inattention to duty would result in disciplinary action. In addition, NADEP NI suspended the fourth supervisor/manager for three days. In reaching this decision, NADEP NI considered several factors, including the employee's many years of satisfactory Federal service without any disciplinary action.

Outstanding Issues and NAVINSGEN Recommendations

141. As noted in enclosure (3), NAVSEA and NAVAIR are working on the wording of a letter or memorandum of understanding that will bring the May 25, 1983 NAVSEA letter up to date. NAVINSGEN recommends this document be issued as soon as possible.

142. In the meantime, as noted earlier, NAVSEA and NAVAIR have agreed on a welding and NDT audit program consisting of an initial audit, now scheduled for this Fall, and follow-up audits every two years thereafter. This will verify that welding and NDT related quality and certification levels are permanently sustained. In the interim preceding the initial audit, NAVAIR will verify that qualifications of welders and NDT inspectors are in compliance with NAVSEA instructions and Military Standards (MIL-STDs). NAVINSGEN will provide the audit team a copy of this report and pertinent supporting documentation.

143. The Complainant reviewed a near-final draft of the report at the NADEP NI Command Evaluation Office and provided 23 pages of handwritten comments. Many of her comments offer additional details that NAVINSGEN decided are unnecessary to add to this report. Complainant also suggested rewording some of the allegations, but NAVINSGEN decided to stay with language that tracked more closely the allegations as set forth in the OSC tasking letter.

144. Complainant asserts that the allegations she presented to OSC and to the NAVINSGEN investigator are merely examples of numerous areas of noncompliance with technical requirements that results from the absence of quality assurance within the VRT; she asserts other matters need to be examined. For example, Complainant stated that while the proper welding material is being used for HY-80 steel, it is also being used on HY-100 steel, which is improper. NAVINSGEN agrees that NADEP, NI may have produced non-confirming work other than that described in this report; this is the reason the audits mentioned in paragraph 142 are critical. NAVINSGEN will provide the audit team with a copy of Complainant's comments and

recommends further review of these matters as part of the audit process. However, NAVINSGEN declines to extend the scope of the current investigation.

145. Finally, Complainant asserts that NAVINSGEN has completely overlooked her "main disclosure," relating to a serious accident that occurred while the jet blast deflectors (JBDs) on the USS JOHN C STENNIS (CVN-74) were undergoing routine overhaul and repair in April 1999. NAVINSGEN reviewed the transcript of her interview and did find a discussion of this matter, which ended with Complainant agreeing that the accident already had been investigated. Moreover, while Complainant said she had worked on the STENNIS around the time of the accident, she conceded that she did not work on the particular job that was related to the accident. In a recent conversation with Counsel, NAVINSGEN, the original investigator stated that since the issue had already been investigated and did not concern welding issues, he decided not to address it in the report.

146. After reviewing Complainant's comments to the draft report, NAVINSGEN obtained information from the accident investigation that demonstrates NADEP, NI personnel did not cause the accident. These documents indicate the accident was thoroughly investigated, accountability was properly assessed, and remedial action was taken to preclude a reoccurrence.

147. During construction, the shipbuilder incorrectly installed the hydraulic system for three of the four cylinders that raise and lower two JBD panels on catapult number four. It installed the hydraulic pipes that enter the splinter box (the JBD pit below the panels) backwards, then crossed the flexible hoses that connect the pipes to the hydraulic cylinders. The result was that the system appeared to operate correctly (the panels would raise upon pressing the "raise" button, and lower upon pressing the "lower" button). The improper installation went unnoticed during testing at the shipyard and subsequently during catapult operations while the STENNIS was deployed.

148. During the 1999 overhaul, the ship's force removed the hydraulic piping, flexible hoses and the panels so the VRT could repair cracks in the panels, and to facilitate other work. After this work was performed, the ship's force reinstalled the pipes and connected the hoses to them in accordance with the published drawing that showed the proper configuration for original construction, totally unaware that three of the four pipe sites to the JBD pit were installed backwards. Therefore, pushing the "raise" button would cause fluid to flow through the pipes connected to three cylinders in the direction that should lower the panels, and vice versa. Since piping for the fourth cylinder was installed correctly during construction, it continued to operate correctly after reinstallation, but this was now in the opposite direction of the other three cylinders.

149. The fourth cylinder was one of two operating the inboard panel. When the ship's force tried to move the panel, the two cylinders operating in opposite directions caused the panel to hydraulically "lock up" without moving. The crew stopped work on this panel and turned to the outboard panel, which was propped up by safety supports that are routinely used when the panels are undergoing maintenance.

150. Two crewmembers began striking the safety supports, a standard practice for removing them, while a third pressed the "raise" button to keep the panel from falling once the supports

were removed. In fact, the hydraulic fluid was flowing in the direction that would cause the panel to lower. After the crewmembers struck the support three times without dislodging it, they should have stopped; due to their inexperience, they did not. A more experienced crewmember's cry to stop came too late to prevent the blow that knocked the supports loose. Responding to the hydraulic pressure, and without the supports to prevent it from moving, the panel fell onto the two crewmembers striking the supports.

151. The JBD piping systems have been modified to preclude improper connection, and the support system also has been modified to reduce the risk of accidents. NAVINSGEN concludes no further investigation into this matter is required.

Reference Documents

- a. NAVSEA Technical Publication S9074-AR-GIB010/278, Requirements for Fabrication, Welding, and Inspection, and Casting Inspection and Repair for Machinery, Piping and Pressure Vessels, dated 1 August 1995
- b. NAVSEA Technical Publication S9074-AQ-GIB010/248, Requirements For Welding and Brazing Procedure and Performance Qualification, dated 1 August 1995
- c. CINCLANTFLT/CINCPACFLTINST 4790.3 Joint Fleet Maintenance Manual (JFMM) dated 12 December 2000
- d. VRT Quality Program Manual dated 24 March 1997
- e. NAVSEA letter 05M2/KJP Ser 51, dated 25 May 1983
- f. NAVSEA Technical Publication T9074-AS-GIB-010-271, Requirements for Nondestructive Testing Methods, dated 30 April 1997
- g. NAVAVDEPOTINST 12410.25B, Training and Qualification Requirements for Certification of Nondestructive Inspection Personnel
- h. MIL-STD-410E, Nondestructive Testing Personnel Qualification and certification
- i. OPNAVINST 4790.2, Naval Aviation Maintenance Program (NAMP),
- j. OPNAVINST 4790.15, The Aircraft Launch and Recovery Equipment Maintenance Program (ALREMP)
- k. NAVAIRINST 13800.14A, Procedures for Naval Aviation Depot Voyage Repair Teams, dated 4 November 1994.
- l. Naval Air Warfare Center (NAWC) Lakehurst Drawing Number 615179, Piping Installation Constant Receiver Pressure Low-Loss Launch Valve; no rev, final approval 10/21/85
- m. NAWC Lakehurst Drawing Number 524437, Fitting Assembly Data Socket Weld O Ring Seal; no rev, final approval 8/22/96

Witness List

NADEP NI Witness List

1. WELDER, (VRT); shipboard welding since 1982 (transcript reference k) (VRT Welder #1)
2. QUALITY ASSURANCE SPECIALIST, one of the quality assurance managers for the components and manufacturing area (not mentioned in report); (NADEP, NI Supervisor #1)
3. LOGISTICS MANAGEMENT SPECIALIST, Industrial Quality Team Leader, NADEP, NI (transcript reference t); (NADEP, NI Supervisor #2)
4. Quality, NADEP, NI (transcript reference t); (NADEP, NI Supervisor #3)
5. SHEET METAL MECHANIC SUPERVISOR, (not mentioned in report); (NADEP, NI Supervisor #4)
6. NONDESTRUCTIVE TESTING MECHANIC NADEP NI NDT Inspector, a metals inspector (transcript reference g); (NADEP, NI Inspector #1)
7. SAFETY & OCCUPATIONAL HEALTH SPECIALIST, (interview reference r); (NADEP, NI Safety #1)
8. PLANNER & ESTIMATOR (ELECTRONICS MECHANIC), (NADEP, NI Estimator)
9. METAL WORKING SHOPS SUPERVISOR, (transcript ref m); (NADEP, NI Supervisor #5)
10. SAFETY & OCCUPATIONAL HEALTH SPECIALIST, (transcript reference r); (NADEP, NI Safety #2)
11. NONDESTRUCTIVE TESTING MECHANIC, (NADEP, NI Inspector #2)
12. WELDER (VRT Welder #2)
13. WELDER, PERM CODE 94302 (VRT Welder #3)
14. VRT Superintendent, NADEP NI (transcript, ref e); (NADEP, NI Supervisor #6)
15. MATERIALS ENGINEER, NTI and Program Manager, materials engineer, NADEP NI, (transcript reference f); (NADEP, NI Engineer #1)
16. administers welding written exams and maintains records for personnel assigned to SIMA, (SIMA #1)
17. MECHANICAL ENGINEER, Mechanical Engineer at NADEP, working in support of the VRT effort on aircraft launching recover equipment (NADEP, NI Engineer #2)

18. **SAFETY & OCCUPATIONAL HEALTH SPECIALIST**, (interview reference r); (**NADEP, NI Safety #3**)
19. **FORMER NADEP EMPLOYEE, MECHANICAL SHOPS SUPERVISOR**; Mechanical Devices Supervisor, NADEP NI, (transcript reference j) at Repair Team, North Island; (**NADEP, NI Supervisor #7**)
20. **SUPERVISORY LOGISTICS MANAGEMENT SPECIALIST**; Program Manager for VRT, Calibration, & Overseas Lab (**NADEP, NI Supervisor #8**)
21. **WELDER**, complainant, (transcript, ref d); (**Complainant**)
22. **SIMA Welding Supervisor**, (transcript reference p) (**SIMA #2**)
23. **Weld Re-Qual School** (**SIMA #3**)
24. **NADEP EMPLOYEE, MECHANICAL SHOPS SUPERVISOR** (**NADEP, NI Supervisor #9**)
25. **WELDER**, (VRT); (**VRT Welder #4**)
26. **NONDESTRUCTIVE TESTING MECHANIC TRAINING LEADER**, Metals Inspector Training Leader (**NADEP, NI Supervisor #10**)

Experts Consulted

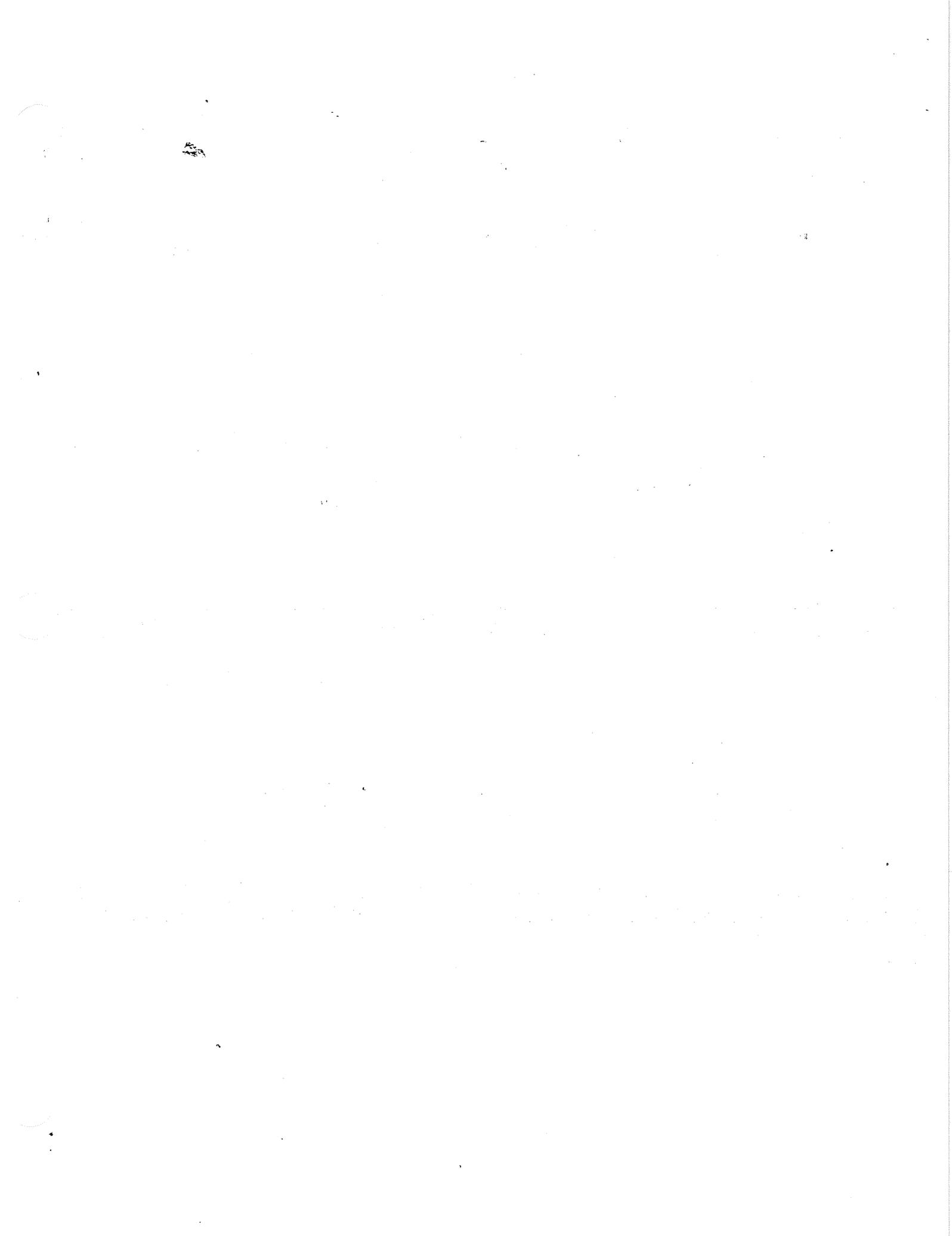
27. **SUPSHIP SD**, expert consultant identified in report (**NAVSEA Expert #1**)
28. **NAVSEA**, expert consultant identified in report (**NAVSEA Expert #2**)

Internal Reference Documents

- (a) OSC letter dated 7 November 2001
- (b) NAVAIRINST 13800.14A, Procedures for Naval Aviation Depot Voyage Repair Teams, dated 4 November 1994
- (c) NAVSEA letter 05M2/KJP Ser 51 dated 25 May 1983
- (d) Summary of interview conducted with Complainant
- (e) Summary of interview conducted with NADEP, NI Supervisor #6
- (f) Summary of interview conducted with NADEP, NI Engineer #1
- (g) Summary of interview conducted with NADEP, NI Inspector #1
- (h) NADEP, NI Engineer #1 memo titled Magnetic Particle and Penetrant NDI where MIL-STD-271, MIL-STD-278, and MIL-STD-2035A are Specified dated 27 December 2000
- (i) NAVSEA Technical Publication S9074-AQ-GIB010/278, Requirements for Fabrication, Welding, and Inspection, and Casting Inspection and Repair for Machinery, Piping and Pressure Vessels, dated 1 August 1995
- (j) Summary of interview conducted with NADEP, NI Supervisor #7
- (k) Summary of interview conducted with VRT Welder #1
- (l) Joint record cards provided by VRT
- (m) Summary of interview conducted with NADEP, NI Supervisor #5
- (n) NADEP, NI Supervisor #5 emails dated 6 July, 15 September, and 20 November 1999
- (o) Individual Qualification Records for NADEP, NI Inspector #1
- (p) Summary of interview with SIMA #s 1, 2, and 3
- (q) Summaries of interview with VRT Welder #s 2, 3, and 4
- (r) Summaries of interview with NADEP, NI Safety #s 1, 2, and 3
- (s) Summary of interview conducted with NADEP, NI Supervisor #9
- (t) Summary of interview conducted with NADEP Supervisor #s 2 and 3
- (u) NADEP, NI, VRT Certification Stamp Action Request

Enclosures

- (1) SUPSHIP letter 4855 Ser321/23 dated 25 February 2002.
- (2) Memorandum of Understanding Between NADEP. NI and PSNS signed 29 Apr and 9 May 2002
- (3) NAVSEA letter 9074 Ser05M2/075 dated 3 July 2002





DEPARTMENT OF THE NAVY
SUPERVISOR OF SHIPBUILDING, CONVERSION AND REPAIR, USN
3600 SURFACE NAVY BLVD
SAN DIEGO CA, 92136-5066

IN REPLY REFER TO:

4855
Scr321/23
25 February 2002

From: NAVSEA San Diego SUPSHIP
To: Naval Inspector General's Office

Subj: WELDING AND NONDESTRUCTIVE TESTING PROGRAM REVIEW AT NAVAL AVIATION DEPOT, NORTH ISLAND, VOYAGE REPAIR TEAM.

Ref: (a) NAVSEA Technical Publication S9074-AQ-GIB-010/248, Requirements For Welding and Brazing Procedure and Performance Qualification, dated 1 August 1995.

(b) NAVSEA Technical Publication S0974-AR-GIB-010/278, Requirements For Fabrication Welding and Inspection, and Casting Inspection and Repair For Machinery, Piping and Pressure Vessels, dated 1 August 1995.

(c) MIL-STD-22D, Welded Joint Design, dated 25 May 1979.

(d) NAVSEA Technical Publication F9074-AS-GIB-010-271, Requirements For Nondestructive Testing Methods, dated 30 April 1997.

(e) MIL-STD-1689A, Fabrication, Welding and Inspection of Ships Structure, dated 30 November 1990.

(f) MIL-STD-2035A, Nondestructive Testing Acceptance Criteria, dated 15 May 1995.

(g) NAVSEA Ltr 05M2/KJP Ser 51, dtd 25 May 1983.

(h) NSTM Chapter 074-Volume 1 Revision 4, Welding and Allied Processes, S9086-CH-STM-010/CH-074R, dated 23 August 1999.

1. Review of welders qualification records indicated that only 7 welders are currently assigned to the Voyage Repair Team (VRT) at the Naval Aviation Depot (NADEP), North Island.
2. No records could be produced to confirm welders qualifications prior to February 2001.
3. The Shore Intermediate Maintenance Activity (SIMA), Naval Station San Diego, trained the 7 welders in the workmanship requirements and conducted the weld test requested by VRT in accordance with reference (a), section 5.
 - a. The test requested involved welding 3/8" plates and a pipe with a wall thickness of 3/8" in either steel or stainless steel.
 - b. Welders were only tested in the Shielded Metal Arc (SMAW) welding process.

4. If the VRT welders, tested by SIMA, had accumulated all of the qualifications requested, this would give the VRT the ability to weld steel plate and pipe and stainless steel plate and pipe.

a. Pipe welders were tested to weld on shipboard piping systems, reference (b), using the SMAW welding process for butt type joint designs, reference (c), Fig 35, with a minimum pipe wall thickness restriction of .109" in accordance with reference (b), paragraph 6.2.2. The restriction was not documented in the pipe welder's records.

b. For socket type weld joints, reference (c), Fig 46, the pipe welder is restricted to a minimum pipe wall thickness of .187" in accordance with reference (a), paragraphs 5.3 and 5.3.5.1. The restriction was not documented in pipe welder's records.

c. The plate welders were tested to weld structural joints from .058" and greater or the maximum thickness limitation of the approved weld procedure.

5. The VRT weld shop supervisor, [redacted] stated that the weld shop only welds on Carrier Catapult Hydraulic Piping Systems using socket weld type joints. Occasionally the VRT welds bulkhead sleeves for piping, electrical cable stuffing tubes, padeyes, and aircraft tie down cups. It was also noted [redacted] that the VRT welders do not weld on any steam piping systems or structural welds to carrier flight decks and bulkheads.

a. No joint history records could be produced to verify that any welding had been done prior to February 2002 on either structural or piping systems, except for one socket weld joint in a catapult hydraulic system.

6. The one current socket weld joint history record showed that the welder was not tested or qualified to weld within that thickness range. The pipe welded was a 1" Schedule 80, with a wall thickness of .179". The welder was only tested to a minimum thickness range of .187", as noted in paragraph 4. above.

7. The hydraulic piping system is classified as a P-1 system due to the design operating pressure in accordance with reference (b), paragraph 3.3.2 (b) (1), and must be inspected to the acceptance requirements of reference (b), Class 1, Table XI, in accordance with reference (f), chapters 4, 6, or 7 at the fabrication stages specified by reference (b), Table IX for socket welds, by qualified NDT inspectors in accordance with reference (d), except where noted in paragraph 4.1.3.1 of reference (b).

8. When welding shipboard piping welds the VRT welders are visually inspecting their own welds from fit-up of the joint, tack welds, root welds and the final welds. Production personnel can only visually 5X the root layer only when trained and qualified to do so and it should be documented for verification. The final weld on catapult hydraulic piping systems can only be visually inspected by a qualified Nondestructive Testing (NDT) inspector.

9. The welder workmanship training conducted by SIMA San Diego did not qualify welders to inspect the root layer and final weld layers in accordance with reference (b), paragraph 4.1.3 and 4.1.3.1.

10. The SIMA training received did not include any training for fit-up inspections to enable the welders to verify the requirements of reference (c) for each type of joint design used in production.

11. No Visual Inspection (VT) Procedure, which is required by reference (b), (d), and (c), has been written by the VRT for inspecting shipboard piping or structural welds.

12. Weld Technique Sheets currently being used by the VRT weld shop for shipboard welding were developed by SIMA from Navy Shipyard Procedures. Reference (g) authorized the use of Naval Shipyard weld procedures for VRT's without requalification. Reference (h), paragraph 074-2.2.2, also authorizes the use of Naval Shipyard or Ship Repair Facilities (SRF) weld procedures.

13. The Nondestructive Testing (NDT) Department's written inspection procedures and inspector's qualifications were reviewed. NDT Engineer, stated that the NDT Department inspectors do not conduct visual inspections and that the department does not have a Visual Inspection Procedure, but they do conduct Magnetic Particle (MT) and Liquid Penetrant (PT) inspections for the VRT weld shop when requested. Magnetic Particle inspection is the Method of inspection currently used on the catapult hydraulic piping system socket welds.

14. The NDT Department does not have approved written NDT procedures for VT, MT or PT to perform the inspections in accordance with reference (d), Sections 1, 4, 5, and 8. NADEP does not have written NDT procedures, as required by paragraph 1.7.1 of reference (d), authorized for shipboard use. Reference (g) authorized the use of Naval Shipyard Nondestructive Test Procedures for VRT's with out requalification.

15. Records of NDT inspections conducted on shipboard welds for the VRT weld shop were not on file in the NDT department for review.

16. NDT inspectors that are qualified to the requirements of MIL-STD-410 are considered acceptable for shipboard inspection of piping and structural welds in accordance with reference (d), paragraph 1.6. The NDT Department has two inspectors assigned to inspect welds for the VRT. One inspector was tested in February 1999, the other inspector was tested in January 2002.

17. Review of the two inspector's qualification records revealed that only a 55 question "General" test was taken. There was no record of the "specific and practical" tests required in accordance with MIL-STD-410, Paragraphs 5.4.2, 5.4.3, 5.4.4 and the NDT Departments Written Practice, NAVANDEPOT Instruction 12410.25D dtd 25 January 1995. The records of other inspectors at the NADEP were not reviewed.

18. Findings during review of the NADEP, North Island's VRT welding and NDT program:

a. Welding technique sheets/procedures currently being used are unauthorized by references (a), (g), and (h). The VRT weld shop utilizes SIMA's welding technique sheets/procedures developed from Naval Shipyard Procedures which places the VRT at a third

tier level. All VRT's are authorized by NAVSEA, via references (g) and (h), the use of Naval Shipyard procedures. The use of a SIMA's procedures was not included in these references.

b. The welders are limited to only one welding process, SMAW, and restricted to a minimum thickness of .109" for shipboard pipe welding. Reference (b), paragraph 6.2.2, for socket type pipe joints, the minimum thickness currently tested to weld is .187" in accordance with reference (a), paragraph 5.3.5.2. Separate weld procedures and welders qualification are required for piping system socket welds below a .187" pipe wall thickness in accordance with reference (a), paragraphs 4.1.4.4, 4.4.7.1, and 5.3.5.1.

c. Without authorized/approved weld procedures the VRT welders cannot weld on shipboard systems.

d. The NDT Department has no inspection procedures or inspection personnel qualified to perform inspections of welds on board Navy Ships as required by reference (d).

19. Personnel involved in the VRT program are not fully aware of or understand the current qualification, fabrication, inspection and acceptance requirements, specified by references (a) through (f), to establish an acceptable shipboard repair program.

20. The Quality Assurance program should establish a system to monitor the processes for qualifications, task planning, and in process inspections during fabrication and the completed work package for the VRT program on a regularly scheduled basis to ensure compliance to current requirements.

21. Any questions regarding this correspondence should be addressed to :
NAVSEA San Diego SUPSHIP Quality Assurance Department at

03-02702 TEL 14700 FAX 3804700021

P S N S 1214

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**MEMORANDUM OF AGREEMENT
 BETWEEN
 PUGET SOUND NAVAL SHIPYARD (PSNS)
 AND
 NAVAL AIR DEPOT, NORTH ISLAND
 VOYAGE REPAIR TEAM (VRT)**

3. TRAINING/QUALIFICATIONS:

3.1 PSNS will provide training for VRT personnel as agreed to and arranged through PSNS, C/903, for shipboard industrial work including: subsafe, welding, record documentation, Foreign Material Exclusion, and other required training.

3.2 An apprenticeship program similar to the PSNS/Olympic College program will be evaluated for introduction in San Diego supporting the development of future work force.

4. RESPONSIBILITIES:

4.1 PSNS Shall:

4.1.1 Provide VRT as much notification as possible on required use of VRT resources, facilities, and equipment.

4.1.2 Designate a Point of Contact (POC) who will be responsible for logging, tracking, and coordinating use of resources, facilities and equipment.

4.1.3 Provide VRT personnel, upon request, access to facilities and equipment once they have satisfied OSH, environmental and security requirements.

4.1.4 Maintain all VRT facilities and equipment used under this agreement in accordance with standards of good shop practice, including cleanliness and operating condition.

4.1.5 Assume responsibility for damage to VRT facilities and equipment caused by misuse or negligence by PSNS personnel.

4.1.6 Provide Quality Assurance services/assistance as required to insure NAVSEA standards and procedures applicable to VRT are being met.

4.1.7 Work with VRT to assure any emergent work needs are fully supported.

4.1.8 Provide the services outlined in Enclosure (1) on an Interim basis until the VRT welding and inspection certification program is put in place.

4.1.9 NAVSEA Technical Information relating to VRT work will be made available as required.

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MEMORANDUM OF AGREEMENT
BETWEEN
PUGET SOUND NAVAL SHIPYARD (PSNS)
AND
NAVAL AIR DEPOT, NORTH ISLAND
VOYAGE REPAIR TEAM (VRT)

4.2 Voyage Repair Team Shall:

4.2.1 Provide PSNS as much notification as possible on required use of PSNS resources, facilities, and equipment.

4.2.2 Designate a Point Of Contact (POC) who will be responsible for logging, tracking, and coordinating use of resources, facilities and equipment.

4.2.3 Provide PSNS personnel, upon request, access to facilities and equipment once they have satisfied OSH, environmental and security requirements.

4.2.4 Maintain all PSNS facilities and equipment used under this agreement in accordance with standards of good shop practice, including cleanliness and operating condition.

4.2.5 Assume responsibility for damage to PSNS facilities and equipment caused by misuse or negligence by VRT personnel.

4.2.6 Stand up a welding and inspection program to NAVSEA requirements within one year of this agreement. In the interim, VRT will contract with PSNS for the services outlined in Enclosure (1).

5. GENERAL PROVISIONS

5.1 PSNS and VRT will share projected workload information in as much as it may affect the others ability to support commitments. Significant changes in workload requirements should be submitted in a manner that will permit timely modification of resource requirements.

5.2 COMNAVAIRPAC, N435, will be provided VRT resource information as required.

MEMORANDUM OF AGREEMENT
BETWEEN
PUGET SOUND NAVAL SHIPYARD (PSNS)
AND
NAVAL AIR DEPOT, NORTH ISLAND
VOYAGE REPAIR TEAM (VRT)

6. TERMS AND CONDITIONS

The terms and conditions of this agreement constitute specific guidance and procedures directing PSNS and VRT joint use of resources, facilities, and equipment. Terms and conditions of this agreement shall be in effect upon signing by Puget Sound Naval Shipyard and Naval Air Depot North Island. Changes to this agreement shall be agreed to by Puget Sound Naval Shipyard and Naval Air Depot North Island. Disputes between PSNS and VRT will be settled at the lowest level possible in the chains of command of each organization. Prior to performing any action, which does not comply with the provisions of this agreement or has not been agreed upon by both organizations, this MOA will be revised or a deviation allowed by the consent of both parties and documented by formal correspondence between organizations. This agreement may be cancelled at any time by mutual consent of the organizations concerned. This agreement may also be canceled by either party, upon providing at least 90 days written notice.

Signed this 9 day of MAY 2002

Puget Sound Naval Shipyard

Signed this 29th day of April 2002

Naval Air Depot North Island

00709/02 ABC 14:55 FAX 0004768821

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MEMORANDUM OF AGREEMENT
BETWEEN
PUGET SOUND NAVAL SHIPYARD (PSNS)
AND
NAVAL AIR DEPOT, NORTH ISLAND
VOYAGE REPAIR TEAM (VRT)

ENCLOSURE (1)

The following provides an interim plan to provide NAVSEA Authorized Representative Support for the VRT Welding and Inspection programs.

1. NAVSHIPYD Puget (PSNS) is delegated by NAVSEA as the authorized representative for welding and inspection to the requirements of S9074-AR-GIB-010/278, T9074-AD-GIB-010/1888, MIL-STD-1688A, MIL-STD-271, and S9074-AQ-GIB-010/248 in support of Naval Air Depot Voyage Repair Team (VRT) welding and inspection programs.

2. The items detailed below required immediate and interim NAVSEA Authorized Representative action regarding VRT welder certification and support services.

PSNS Shall:

A. Provide training, oversight and maintenance authority for welder workmanship and VT inspection programs until a NADEP, NI Level III Test Examiner can assume that responsibility.

B. Perform welder qualification of VRT personnel to the requirements of Tech Pub 248.

C. Perform qualification of welder workmanship personnel as required by Tech Pub 248, for NAVSEA Tech Pub 278, 1688, and 1689.

D. Monitor welder qualification maintenance for the following:

- 1. Quarterly weld process.
- 2. Annual J-1 vision examination.
- 3. Three year workmanship retraining.

E. Provide Non Destructive Test Inspection program personnel for the NDT Methods listed below, until a resident Level III Test Examiner can develop an NDT program and assume training, oversight, procedures and certification of NDT personnel IAW Tech Pub 271 requirements.

- 1. Visual Inspection (VT).
- 2. Dye Penetrant (PT).
- 3. Magnetic Particle (MT).

PSNS 1214

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MEMORANDUM OF AGREEMENT
BETWEEN
PUGET SOUND NAVAL SHIPYARD (PSNS)
AND
NAVAL AIR DEPOT, NORTH ISLAND
VOYAGE REPAIR TEAM (VRT)

F. Assist VRT in the development of an organizational structure, procedures and records that supports implementation and training of personnel on PSNS welding and NDT procedures and programs that support compliance to NAVSEA requirements.



DEPARTMENT OF THE NAVY

NAVAL SEA SYSTEMS COMMAND
1333 ISAAC HULL AVE SE
WASHINGTON NAVY YARD DC 20376-0001

IN REPLY TO

9074
Ser 05M2/075
2 July 2002

From: Commander, Naval Sea Systems Command
To: Commander, Naval Air Systems Command

Subj: WELDING OF SHIP SYSTEMS AND COMPONENTS BY NAVAIR

Ref: (a) NAVINSGEN Draft Report of Investigation Case Number
20020058
(b) NAVSEA S9074-AR-GIB-010/278
(c) NAWC Lakehurst DWG 524437
(d) NAVSEA S9074-AQ-GIB-010/248
(e) MIL-STD-1689

Encl: (1) NAVSEA ltr 05M2/KJP Ser 51 of 25 May 83

1. Naval Air Systems Command activities, Jacksonville, Norfolk, and North Island, are currently authorized by the Naval Sea Systems Command (NAVSEA) to perform welding and inspection of NAVSEA cognizant piping systems associated with launch and recovery components. The authorization is subject to the conditions of enclosure (1).

2. A Navy Inspector General evaluation of Naval Aviation Depot, North Island (NADEP NI) found deficiencies in welding and NDT practices employed for ship systems such as aircraft carrier catapult hydraulic piping, reference (a). Deficiencies included unqualified welders and NDT inspectors which violate the requirements of reference (b), which is invoked for catapult hydraulic piping system welding by reference (c). This evaluation also disclosed that the conditions cited in enclosure (1) were not met.

3. Corrective action has been taken to rework undersize welds and Puget Sound Naval Shipyard trained and qualified NADEP NI welders in accordance with references (b) and (d).

4. To ensure continued performance to NAVSEA standards, welding and NDT performed on any system (including aircraft tie down fittings, hull structure, etc.) for which NAVSEA has design or installation responsibility and for cases where naval shipyard welding and NDT procedures to references (b) and (e) are used without requalification, an audit is required for the authorization granted by enclosure (1) to remain in effect. At

Subj: WELDING OF SHIP SYSTEMS AND COMPONENTS BY NAVAIR

least once in every 24 month period, NAVAIR welding activities shall undergo a satisfactory welding and NDT audit by Naval Surface Warfare Center, Carderock Division; Code 62; point of contact is Ms. B. Eichinger, 215-897-1250. The initial audit must be performed within six months.

5. In order to weld and NDT inspect NAVSEA cognizant systems until the initial audit, it is requested that NAVAIR verify qualification of welders and NDT inspectors to be in compliance with references (b) and (e) and enclosure (1). A copy of this verification should be sent to NAVSEA.

6. NAVAIR should identify to NAVSEA all systems for which NAVSEA has design or installation responsibility, that have been welded by NAVAIR welding activities for which references (b) or (e) require NDT other than visual inspection. This would include aircraft tie down fittings. A risk evaluation of welding in these more critical systems would be conducted based on the deficiencies found. The results of the initial audit of other NAVAIR activities will determine if a similar request is made for those activities.

7. NAVAIR activities shall be responsible for maintaining a certified/qualified welding and NDT capability in accordance with references (b), (d), and (e), and enclosure (1).

8. Any funding required for the actions above will be the responsibility of NAVAIR.

9. We recommend that NAVAIR and NAVSEA jointly update the agreement of enclosure (1) within three months.

10. NAVSEA point of contact is

Copy to:

NAVSHIPYD Puget Sound (Codes 100, 200, 260, 130, 138)

NAVSHIPYD Norfolk (Codes 100, 200, 130, 138)

NSWCCD Philadelphia (Code 62)

COMNAVAIRPAC (N43)

COMNAVAIRLANT (N43)

NAVSAIRSYS COM (AIR-4.0, 4.8, 6.0)



**DEPARTMENT OF THE NAVY
OFFICE OF THE GENERAL COUNSEL
WASHINGTON, D.C. 20350-1000**

20020058
6 March 2002

MEMORANDUM FOR CHIEF, DISCLOSURE UNIT, OFFICE OF SPECIAL COUNSEL

FROM: COUNSEL TO THE NAVAL INSPECTOR GENERAL

SUBJECT: UPDATE INFORMATION FOR OSC Case Number DI-00-0139

This memorandum forwards information the Office of Special Counsel requested to update the report of investigation in subject case, concerning alleged safety violations and mismanagement at the Naval Air Depot, North Island, California, which was prepared in September 2002.

Attached please find two copies of a document entitled "March 2003 Update on Training and Welding Issues" and two copies of a document entitled "Explanation of Rationale for Disciplinary Actions Taken." One copy of each document is marked "FOUO" and the other copy is marked "Suitable for Public Release."

If you have any questions concerning these documents, please do not hesitate to contact me.

Lawrence J Lippolis
Counsel, NAVINSGEN

CENTRAL OFFICE
WASHINGTON, D.C.
U.S. OFFICE OF
SPECIAL COUNSEL
2003 MAR -6 PM 3:15

NAVINGEN Case Number 20020058
OSC Case Number DI-00-0139

March 2003 Update on Training and Welding Issues

51. Under the supervision of PSNS, VRT, NADEP NI repaired the welds on the USS CONSTELLATION. Consequently, the cost charged by PSNSA was only approximately \$80,000. As of the end of June 2002, the welds associated with Catapult Service Change 624 on all carriers except for USS JOHN C STENNIS had been repaired. The STENNIS began a six-month overhaul in July. As of September 2002, VRT NADEP, NI, has completed 50% of the weld repairs under PSNS supervision. NADEP, NI also determined that the VRT produced non-conforming welds, not associated with Catapult Service Change 624, on USS Vinson in the Spring of 2000. These welds also are being repaired now (September 2002).

UPDATE: The Voyage Repair Team completed welding repairs on the USS Stennis in November 2002. It completed repairs on the USS Vinson in December 2002, including replacing JBD vent lines with stainless piping on catapults 1, 2 and 3, vice carbon steel.

52. Also in February 2002, NADEP, NI VRT welders began to receive qualification and recertification training from PSNS. Six of the VRT welders completed the basic training necessary for qualification at PSNS in April 2002.¹ Two of the six welders have completed VT training that certifies them to conduct visual inspections to 5X root and final welds. Consequently, the VRT currently has welders that are qualified and certified by PSNS to conduct all shipboard welding operations in accordance with NAVSEA standards, including high-pressure P-1 piping. Additional VRT welder training (workmanship and VT training) is scheduled for October 2002. PSNS has provided all of the welding procedures VRT welders are using at this time.

UPDATE: The workmanship and VT training was completed at Puget Sounds Naval shipyard in November 2002. Additional training is scheduled for pipefitters (Silver-Braze) at PSNS. No ECD is available at this time. The training date is predicated upon certification of material by the vendor.

76. On 15 February 2002, NADEP, NI suspended all NDT inspections onboard ships.² Under the MOA between PSNS and NADEP, NI, PSNS will provide inspection services until NADEP, NI personnel are trained and certified. Welder inspectors from NADEP, NI were trained, tested, and recertified by PSNS; this effort was completed on 19 April 2002. NADEP, NI currently has two welders certified by PSNS to conduct VT inspections in accordance with NAVSEA standards and for high-pressure P-1 piping. Three more NADEP, NI VRT welders are scheduled for training, testing and recertification for VT inspections of high-pressure P-1 piping welds in October 2002.

¹ The seventh welder is currently on a medical restriction and cannot wear a respirator. Consequently, he has not been NAVSEA certified and will not perform welding on NAVSEA components.

² VRT was working on only the USS NIMITZ (CVN-68) at that time.

UPDATE: Three of VRT's six welders are certified to conduct VT inspections. All six are P-1 piping certified. Workload requirements do not support certification of the three remaining welders at this time and they will not be permitted to perform VT inspections. If workload requirements change, the remaining welders will be trained and certified as required.

77. In May, 2002, NADEP, NI sent two level II NDT weld inspectors to PSNS for on-the-job and classroom training. One of the employees will complete training shortly and should be certified for level II inspections by October. The other inspector and a third employee are scheduled for additional training in early November. They should be certified later that month. PSNS will continue to provide NDT and QA support until the NADEP NI inspectors are level II certified.

UPDATE: At this time three individuals at NADEP North Island VRT are certified in welding and Level II visual inspection (VT), and one North Island NADEP employee, is certified as a Level II in MT and PT.

78. To meet the Level III NDT inspection requirement for VT, MT, and PT inspection processes, NADEP, NI obtained technical documents required to study for NAVSEA L-III exams, submitted L-III testing applications and scheduled testing for first-round applicants. Training has been obtained in MT inspection with dry powder, and with prods. First-round applicants are preparing for written exam by independent study to be completed in October. Exams will be taken and NAVSEA certification obtained in MT, PT and VT in October. Second-round applicants will be tested and certified in January 2003.

UPDATE: In October two people were certified as Level III VT inspectors, and another was certified in MT and PT as a Level III. Another has been informed that he will need to obtain MT and PT Level III certification but has not been scheduled to take the required tests to obtain his certifications due to funding. The technical specifications for NAVSEA certification will be developed by the Materials Laboratory for VT, MT, and PT special processes. ECD for VT, MT, PT and Thermal Spray (Plasma Spray) drafts will be completed no later than 28 February 03.

134. In February 2002, PSNS began providing NDT and QA inspections of all VRT ship related operations. Training has been completed and the certification process is in progress. PSNS will continue to provide NDT and QA support to NADEP, NI until all NADEP, NI VRT inspectors are certified in accordance with NAVSEA requirements.

UPDATE: Training and certifications have been accomplished for welding, Level II VT, Level II MT and Level II PT special processes. NADEP NI is performing NDT and QA support for these processes. However, PSNS will continue oversight on Silver-Braze until VRT can become certified by PSNS. VRT will schedule this training when certified material is acquired.

138. NADEP, NI is revising the NADEP, NI Quality Program Manual, reference (d), to include all appropriate NAVSEA certification and quality elements for the VRT. Five of the 18 existing chapters will be revised and a new VRT specific Quality chapter will be added. Publication is

scheduled for October 2002. Findings of the QA assessment identified in paragraph 136 are being incorporated into the manual.

UPDATE: NADEP, NI is revising its NADEP, NI Quality Program Manual, reference (d), to include all appropriate NAVSEA certification, qualification and quality elements for VRT workload efforts. Five of the 18 existing chapters will be revised to document and authorize Depot VRT requirements. Draft revisions have been accomplished on four of the five chapters. Chapter 5, Special Process Skill Certification, is pending the NI Fleet Support Team's (FST's) release of applicable technical revisions to Welding, Thermal (Plasma-Flame) Spray, Non-Destructive Inspection, Liquid Penetrant, Magnetic Particle and Visual Test Local Process and Local Engineering Specifications. A complete draft change to the Quality Program Manual will be published approximately 30 days after the release of these specifications. This draft will be coordinated with PSNS personnel prior to publication and official release.

142. In the meantime, as noted earlier, NAVSEA and NAVAIR have agreed on a welding and NDT audit program consisting of an initial audit, now scheduled for this Fall, and follow-up audits every two years thereafter. This will verify that welding and NDT related quality and certification levels are permanently sustained. In the interim preceding the initial audit, NAVAIR will verify that qualifications of welders and NDT inspectors are in compliance with NAVSEA instructions and Military Standards (MIL-STDs). NAVINSGEN will provide the audit team a copy of this report and pertinent supporting documentation.

UPDATE: Audits of Norfolk, Mayport, and Lakehurst facilities are scheduled for the last week of March 2003. Audits for West Coast facilities await receipt of funds, and have not been scheduled yet.

NAVINGEN Case Number 20020058
OSC Case Number DI-00-0139

Explanation of Rationale for Disciplinary Actions Taken

In early 2002, the Department of the Navy, Office of the Inspector General, conducted an investigation into allegations of nonconforming welds on five aircraft carriers due to absence of an effective Quality Assurance (QA) Program within the Voyage Repair Team (VRT), Naval Air Depot, North Island (NADEP, NI). The investigation substantiated the allegations.

NADEP, NI senior management reviewed the IG Report findings and viewed the matter quite seriously. It took immediate action to correct the deficiencies in the VRT welding operations and QA Program. Senior management also met with the supervisors and managers with responsibility for the VRT and QA Program. Ultimately, a naval officer (QA Program) received a Non-Punitive Letter of Caution, one supervisor (VRT) received a three-day suspension and three other managers (VRT and QA Program) were counseled and orally admonished that any further lapses in their performance would result in a proposal of disciplinary action.

With respect to the two VRT managers, each held a second-level supervisory position for only a portion of the time covered by the investigation. However, both were counseled and orally admonished because they were both negligent in not ensuring that the VRT employees had the required certifications in place to perform shipboard welding. Both were warned that any future lapses in their performance would result in appropriate disciplinary action. Several factors were considered in determining the appropriate disciplinary action. Both employees are longstanding Depot employees with over 30 years of service without any disciplinary action whatsoever. Both managers are considered excellent employees that have provided consistent superior performance and leadership within the Depot. While their failure to uncover and act on deficiencies within the VRT was deemed very serious, their less than satisfactory performance did not amount to intentional or willful misconduct. In both cases the managers expressed regret that they had not been more proactive in uncovering the deficiencies within the VRT and

welding operations. Accordingly, the oral admonishment was deemed sufficient to deter any such conduct in the future.

The first-level supervisor of the VRT was given a three-day suspension. Several factors were considered in determining the appropriate disciplinary action in his case. The supervisor was directly in control of the VRT and was aware of the seriousness of the VRT employees' lack of proper certification. He failed to aggressively pursue the matter with his chain of command and convey the seriousness of the problem. Moreover, he continued to assign employees he knew not to be properly certified to perform welding operations on various ships.

With respect to the officer with responsibility for the QA Program, he was issued a Non-Punitive Letter of Caution by the Commanding Officer. Several factors were considered in determining the appropriate action to be taken against him. The officer was one of the U.S. Navy's top F/A-18 pilots with approximately 20 years of exceptional service to the U.S. Navy. He was highly regarded and respected throughout the Navy's aviation community. Although such a letter would not appear to be a severe sanction for civilians, for a military officer, such a letter usually has a negative and serious effect on an officer's career. In this case, the officer decided to retire. However, if he had not retired, the letter would have in all likelihood precluded any further promotions and, eventually, ended his career.

The other manager in the QA Program was also counseled and orally admonished regarding his performance. There were several factors considered in determining the appropriate action to be taken against him. He is an exceptional employee and manager that received a promotion into that QA position upon the incumbent's retirement in the latter part of the year 2000. He assumed his QA position in early 2001. He also has more than 20 years of service with no prior disciplinary action. While the manager was in his position for only a portion of the time covered by the investigation, he accepted responsibility for the deficiencies of the QA Program. However, his less than satisfactory performance did not amount to intentional or willful misconduct. Accordingly, he was counseled and orally admonished that any future lapses in his performance would lead to appropriate disciplinary action. Because he accepted responsibility for the deficiencies within the QA

Program, the oral admonishment and warning were deemed sufficient to deter any such conduct in the future.