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Analysis of Disclosures, Agency Investigation and Report, and Whistleblower Comments

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Summary

Richard Conrad, Electronic Mechanic Journeyman, Naval Air Depot (NADEP), North Island (NI), California, disclosed to OSC that artisans in the GCU Shop assembled generator conversion units (GCUs) for F/A-18 fighter aircraft incorrectly. Specifically, he alleged that, from March 2005 until July 2005, the artisans did not have the necessary torque tools required to properly torque the screws used inside the GCUs. Although GCU Shop artisans finally received torque tools in July 2005, Mr. Conrad stated that the GCU screws on hundreds of F/A-18s currently deployed by the U.S. military and several foreign militaries still have not been properly torqued. Mr. Conrad also alleged that the GCU Shop does not perform mandatory quality assurance (QA) inspections on all GCU components.

The Naval Office of Inspector General (OIG) investigated Mr. Conrad's allegations. The investigation substantiated Mr. Conrad's allegation that the GCU Shop artisans did not use proper torque tools to assemble GCUs for F/A-18 fighter aircraft. Nevertheless, the agency did not find that this situation posed any "safety of flight" issues. The Navy has taken corrective action to ensure that all GCU Shop artisans are currently using proper torque tools on GCU screws; however, the agency has decided against pursuing disciplinary action against any individuals for the violations. For the reasons discussed below, OSC finds that the agency's decision to refrain from disciplining any of the GCU Shop managers is unreasonable.

The Whistleblower's Disclosures

Mr. Conrad, who consented to the release of his name, has worked at NADEP, NI since February 1981, and has been an Electronic Mechanic Journeyman since 1982. He worked in GCU Shop of the Components Department from March 2005 until November 2005. Prior to working at NADEP, NI, Mr. Conrad served on active duty in the Navy for 20 years.

Mr. Conrad alleged that, from March 2005 until July 2005, NADEP, NI did not provide the artisans in GCU Shop with necessary torque tools.[1] He explained that torque tools are

[1] Although Mr. Conrad only has first-hand knowledge regarding events that occurred in the shop between March 2005 and November 2005, he stated that other shop mechanics informed him that the shop has lacked necessary torque tools for many years.

required to properly attach GCUs to F/A-18 fighter jets.[2] According to Mr. Conrad, each F/A-18 is equipped with two GCUs – one on each wing. The GCUs supply all of the aircraft's electrical power. Military specifications set forth in Technical Manual A1-211AC-420-000, Work Package 5, require mechanics to use torque tools on the screws used to assemble GCUs. The torque tools enable the artisans to tighten the screws on the GCUs to the exact torque settings specified in the manual. Mr. Conrad alleged that the artisans repeatedly requested torque tools; however, management did not provide the torque tools until July 2005. Mr. Conrad stated that, prior to July 2005, the shop supervisors merely instructed the mechanics to use wrenches to tighten the screws to the point of being "snug, but not too tight."

According to Mr. Conrad, once the artisans finally obtained the proper torque tools, they used the tools to properly attach GCUs to those F/A-18s that came into the shop for routine maintenance and repair. Nevertheless, he alleged that there still remain hundreds of other F/A-18s currently deployed by the U.S. military that have GCUs that were never properly torqued.[3] In addition, he advised that several foreign militaries have contracted with NADEP, NI to repair and maintain their F/A-18s; therefore, he maintained that there also are several hundred foreign-owned F/A-18s with this defect.

Mr. Conrad asserted that this situation poses a substantial and specific danger to public safety. He explained that the two GCUs provide all electrical power to the F/A-18 jet, including the aircraft's controls. Therefore, Mr. Conrad maintained that a malfunctioning GCU could cause an F/A-18 to lose electrical power, which could lead to catastrophic failure of the aircraft. In spite of the serious risks posed by faulty GCUs, Mr. Conrad advised that NADEP, NI has neither devised nor implemented a plan for inspecting and properly torquing the GCUs on all U.S. and foreign-owned F/A-18s.

Mr. Conrad also alleged that GCU Shop employees do not perform adequate quality assurance (QA) inspections on the GCUs. He stated that employees currently perform QA inspections on some GCU components, but they do not inspect the torque of the screws on the generator nor do they inspect the screws on the generator housing that secure the GCUs to the wings of the aircraft. Mr. Conrad advised that QA inspections on these components are required by Technical Manual A1-211AC-420-000, Work Package 5.

Department of the Navy Investigation and Report

The Naval OIG investigated Mr. Conrad's allegations. The agency report states that the investigators conducted an on-site investigation in March 2006. They interviewed Mr. Conrad, supervisors, artisans, QA personnel, and engineering personnel. The investigators also reviewed pertinent documents. According to the agency report, the investigation substantiated Mr. Conrad's allegations. Specifically, the investigators found that (1) GCU Shop artisans did not perform proper, required torquing on all GCUs for F/A fighter aircraft from 1981 to July

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[2] The F/A-18 "Hornet" is a twin-engine, mid-wing, multi-mission tactical aircraft.

[3] Mr. Conrad noted that his allegations do not pertain to the F/A-18 E/F "Super Hornet," which has a different type of GCU.

2005, in violation of requirements set forth in Technical Manual A1-211AC-420-000, Work Package 5, and (2) GCU Shop artisans did not use proper torque tools to assemble GCUs for the F/A-18 fighter aircraft, in violation of requirements set forth in Technical Manual A1-211AC-420-000.

Witness Testimony

The agency report states that William Hickman, an Electronics Mechanic, testified that the GCU artisans have not used proper torque tools since the early 1980s, when the shop was first created. He advised that, instead, the artisans have used cordless electric screwdrivers to install screws on GCUs. Mr. Hickman explained that no one ever approved the use of electric screwdrivers to torque GCU screws, and the electric screwdrivers were never calibrated.

Mr. Conrad stated that he received on-the-job-training from other artisans when he first arrived in the GCU Shop in March 2005, but he was not given a copy of the Technical Manual or other relevant publications. In July 2005, Mr. Conrad read the Technical Manual in preparation for certification, and discovered that the Manual sets forth torque and QA requirements for GCUs. After making this discovery, Mr. Conrad asked Dennis Weddle, Deputy Production Manager for Avionics and former second-line supervisor in the GCU Shop, for a manual on torque values, but Mr. Weddle denied his request. Mr. Conrad contended that, whenever he raised the issue of torque tools with his supervisors, the supervisors ordered him and the other artisans to continue working on the GCUs in spite of the fact that they did not have the necessary tools.

Robert Oxley, Electronics Mechanic and Senior GCU Artisan, advised that he first became aware that the GCU Shop was required to use specialty torque tools when he attended training on F/A-18 GCUs in the Spring of 2004. Mr. Oxley subsequently informed his supervisors that the GCU Shop needed to acquire torque tools. He stated that he raised the issue with the GCU supervisors Jessie Padilla, Dave Statham, and Dave Cross. Mr. Oxley finally initiated requisition of the torque tools in April 2005. However, according to the agency report, the GCU artisans did not actually begin using the torque tools until November 2005. The report explains that, after Mr. Oxley requested the tools, "it still took about seven months to procure the tools, get them calibrated, deliver them to buildings 66 and 378, and get the artisans qualified and certified on the use of the tools." In the interim, the GCU artisans borrowed calibrated tools from other shops in order to comply with the torque requirements set forth in the Technical Manual.

Two GCU managers contradicted the testimony of the other witnesses. Mr. Weddle, Deputy Production Manager for Avionics and former second-line supervisor in the GCU Shop, testified that the GCU Shop was always stocked with torque tools and the artisans have always torqued screws in compliance with the Technical Manual. Mr. Weddle asserted that he did not have any knowledge regarding the use of electric screwdrivers in place of torque tools. David Statham, Electronic Integrated Systems Supervisor and former GCU Shop Foreman, also denied that the artisans ever used electric screwdrivers to torque screws. The investigators ultimately found that Mr. Weddle's and Mr. Statham's testimony lacked credibility.

The investigators also confirmed Mr. Conrad's allegation that, prior to 2005, the GCUs were not subjected to mandatory QA inspections. The Technical Manual requires qualified artisans to perform QA checks on GCUs during the reassembly process, yet the investigators found that the artisans were not performing these inspections. Instead, the QA personnel performed QA verifications on GCUs in the test cell. The investigators also found that, prior to 2005, the QA Branch engaged in minimal oversight of the GCU process. After Mr. Conrad submitted his complaint, the QA Branch initiated a Quality Characteristics List (QCL) to verify that artisans were properly torquing GCU screws.

Engineering Safety Analysis

According to the agency report, NAVAIR engineers conducted an engineering analysis that concluded that the GCU Shop's failure to use torque tools to assemble GCUs did not pose a "significant safety of flight issue." William Taylor, F/A-18 Fleet Support Deputy Program Manager, explained that each F/A-18 possesses two GCUs that provide electrical power to the aircraft. Should one GCU fail, all electrical supply functions will default to the aircraft's other GCU. Mr. Taylor further advised that, in the unlikely event of a dual-generator failure, the aircraft is equipped with an emergency backup battery system that will provide electrical power for approximately 10-20 minutes, during which time the pilot must return to base. Alan Lewis, Staff Executive Director, Naval Safety Center, reported that nine F/A-18 aircraft had crashed in FY'05 and FY'06 (through March 2006), resulting in the death of three aircrew. However, none of these losses were attributed to GCU failure.

In January 2007, OSC requested an update from the Navy to learn whether any additional F/A-18 mishaps had occurred during the remainder of FY'06. OSC also requested further details regarding the cause of all FY'05 and FY'06 mishaps. The Navy supplied the requested information, which showed that five additional flight mishaps occurred in FY'06, resulting in the loss of five aircraft and one aircrew. According to the information provided by the agency, none of the losses in FY'05 or FY'06 were attributed to "maintenance error" and the majority were attributed to either "aircrew error" or a "material error" of an aircraft system unrelated to the GCUs.

The agency report states that the Navy decided that it was unnecessary to order a product recall of all GCUs in the Fleet. The report states that the Engineering Department assured investigators that "there were no catastrophic, or significant failure modes that could occur related to this torque issue that would adversely affect either safety of flight or mission accomplishment." The Engineering Department further noted that there are no records indicating that the Fleet has ever reported problems related to improperly torqued GCU screws, despite the Navy's long history of repairing these items. The investigators did locate an Engineering Investigation report indicating that some GCU screws had been under-torqued; however, the engineers explained that "under-torque could have a life cycle, but not catastrophic, effect." They further explained that over-torque could cause a crack in a thermal barrier, but is not considered a flight safety problem. For the foregoing reasons, the agency has not ordered a

product recall of GCUs currently in the Fleet, although it has taken other corrective actions to ensure that GCUs scheduled for maintenance are now properly torqued.

OSC asked the Navy whether it had considered, or would consider, issuing a Naval Air Training and Operating Procedures Standardization (NATOPS) manual or a bulletin to maintenance personnel, in order to ensure the immediate repair of GCUs on all F/A-18s in the field. The agency responded that neither of these actions would be appropriate under the circumstances. First, the agency advised that a NATOPS manual is essentially an aircraft flight manual and, therefore, it does not address maintenance issues, such as torquing GCU screws. Next, the agency explained that bulletins are issued when it is necessary to notify the Fleet and aircraft maintenance crews of a major problem, such as a safety of flight issue, affecting a class of aircraft. The agency stated that it is not necessary to issue a bulletin on the GCU screws because Navy engineers determined that this problem did not create a safety of flight issue. In addition, the Navy explained that the work required to retorque the screws should ideally be performed at the Depot level, rather than by maintenance personnel in the field. The agency further explained that, "[o]perational level maintenance personnel do not have the expertise or authorization to break down a GCU, and they do not have the equipment required to perform required tests of the unit upon reassembly."

Corrective Action

In the course of conducting the investigation, the OIG found that Mr. Conrad had reported many of the same allegations to the Federal Aviation Administration (FAA), prior to disclosing them to OSC. The FAA then notified NADEP, NI of the allegations, and NADEP, NI initiated an audit of the GCU Shop in October 2005. The audit substantiated Mr. Conrad's allegations, and NADEP, NI immediately began taking action to correct the deficiencies. Consequently, NADEP, NI was already in the process of correcting many of the issues raised by Mr. Conrad at the time of the OIG investigation. The agency report enumerates several of the corrective actions that the Navy has taken or plans to take in response to both the October 2005 audit and the instant investigation, including the following:

1) In November 2005, the GCU Shop issued calibrated torque tools to the artisans, and, since then, the artisans have continually used these tools in compliance with the Technical Manual.

2) The agency trained and qualified all GCU Shop artisans on the use of specialty tools to properly set the torque value for GCU screws. The agency also recertified the artisans to perform QA checks on GCUs, and verified that their Individual Qualification Records properly documented their qualification to certify their own work as being in compliance with the Manual.

3) QA issued a QCL for mandatory verification of torque values on GCUs, which was later replaced by a QCL requiring random verification of these torque values.

The investigators also recommended that the agency take several follow-up actions in response to the investigative findings. Among other actions, the investigators recommended that NADEP NI:

(1) Procure and stock at least two spare sets of required torque tools in the central tool crib to allow rapid replacement in the event a tool is broken or needs to be recalibrated.

(2) Require new artisans and new supervisors to acquaint themselves with the specialty requirements for accomplishing tasks in their assigned shop.

(3) Update the artisan workbench toolbox inventory list and/or the Individual Material Requirement List to reflect the need for torque tools.

(4) Educate the artisans, supervisors, and QA Specialists regarding the findings of the report, and use this incident to illustrate the importance of adhering strictly to specified procedures.

On March 2, 2007, the OIG informed OSC that NADEP NI has successfully implemented all of the investigators' recommendations listed in the agency report.

Disciplinary Action

According to the agency report, NADEP, NI has refrained from pursuing disciplinary action against any of the managers or employees associated with the torque violation. The report explains that NADEP, NI arrived at this decision for the following reasons: 1) none of the personnel involved have a record of prior misconduct or poor performance, 2) disciplinary action would not serve any purpose or promote the efficiency of the service, and 3) the decision is consistent with the Table of Penalties. In addition, the agency decided that it was inappropriate to discipline recent and current supervisors for the torque violation, as the problem appears to have existed since the inception of the GCU Shop in 1981. The investigators surmised that the original artisans who opened the GCU Shop in 1981 did not use proper torque tools, and passed along their faulty methodology and practices to their successors. The investigators also concluded that the GCU Shop managers were not aware that the Manual required special torque tools for assembling GCUs, until the artisans brought this issue to their attention in early to mid-2004. The investigators attributed the managers' subsequent delay in obtaining torque tools to sloppiness and negligence resulting from "longtime practices in the GCU Shop, from its inception in 1981, and the lack of Quality Deficiency Reports," among other reasons.

On October 18, 2006, OSC requested further information from the agency regarding its decision not to pursue disciplinary action against any managers. In particular, OSC asked whether, in making this decision, the agency had taken into consideration the fact that Mr. Weddle and Mr. Statham appear to have misled investigators with false information. On November 8, 2006, the agency responded that the investigators believe that Mr. Weddle's and Mr. Statham's inaccurate statements "were indicative of their lack of knowledge of the requirement for specialty tools and torque values, not necessarily an attempt to deceive."

The Whistleblower's Comments

Mr. Conrad commented on the agency report. He expressed relief that the Navy has determined that, to date, no aircraft have been lost due to GCU failure. However, he stated that he is still concerned that the unrepaired GCUs remaining in the Fleet may pose an ongoing safety risk. Mr. Conrad reiterated his recommendation that the Navy remedy this situation by initiating a product recall to re-torque the screws on all GCUs. He claimed that, without a recall, "it will take several years for all of the affected GCU units to work their way through the system to the point in which a meaningful reliability baseline can be set."

Mr. Conrad disagreed with the Navy's conclusion that improperly torqued screws on GCUs do not pose a "safety of flight" issue due to the aircraft's redundant back-up systems. Mr. Conrad pointed out that, in the event of the failure of one of the aircraft's GCUs, the aircraft must derive all electrical power from the remaining GCU, which is itself an unreliable source, as it is subject to the same mechanical weaknesses as the first GCU. Mr. Conrad noted that the F/A-18's second back-up option, the emergency battery, only supplies approximately 20 minutes of electrical power – allowing only a short window of time for the pilot to complete an emergency landing. Thus, Mr. Conrad argued, "[i]t is inherently unreasonable to conclude that there is no potential safety problem when one unreliable component is backed up by another unreliable system."

Lastly, Mr. Conrad criticized the Navy's decision not to hold GCU Shop managers accountable "for their misstatements during the investigation and for years of negligence and mismanagement of the GCU program." He maintained that it was inexcusable for the supervisors to delay approximately two years before ordering the necessary torque tools, while the GCU artisans repeatedly requested torque tools in order to comply with the Technical Manual. Mr. Conrad also contended that the agency should have disciplined Mr. Weddle and Mr. Statham for providing "false testimony" to the investigators, as the investigators found that their testimony claiming that the GCU Shop always had torque tools was not credible.

The Special Counsel's Comments and Recommendations

I have reviewed the information presented by both the agency and the whistleblower in this case. Based on the information provided, I find that the agency's decision to refrain from taking disciplinary action against any GCU Shop managers is unreasonable. The agency concluded that the GCU managers did not enforce the torque requirements because they were unaware of them. However, the torque tool requirement and the accompanying torque values are clearly set forth in the Technical Manual, which all GCU supervisors and artisans are obligated to read and follow. Furthermore, several artisans testified that they repeatedly notified their supervisors that the Technical Manual required them to use torque tools to tighten GCU screws. Nevertheless, the investigation revealed that the managers stubbornly ignored the artisans' requests for torque tools for at least one year after learning of the requirement, before any attempt was made to order the tools. None of the testimony provided by any of the managers offers a convincing or satisfactory explanation for their failure to act.

In particular, I recommend that the agency reconsider its decision not to pursue disciplinary action against GCU Shop managers Mr. Weddle and Mr. Statham. According to the agency report, the investigators found that aspects of Mr. Weddle's and Mr. Statham's testimony were not credible. Specifically, the investigators did not believe Mr. Weddle's testimony that the GCU Shop was always stocked with torque tools or Mr. Statham's testimony that the artisans never used electric screwdrivers to torque screws. When OSC asked the OIG about these misstatements, the investigators expressed their opinion that Mr. Weddle and Mr. Statham did not intend to deceive investigators, rather, Mr. Weddle's and Mr. Statham's misstatements merely reflected their lack of knowledge on the subject of GCU Shop tools. Either way, it appears that Mr. Weddle and Mr. Statham should be disciplined. Either they purposefully misled investigators in an attempt to cover up the fact that the artisans did not have the proper tools, or, if they truly believed their own misstatements, they have demonstrated a lack of knowledge critical to their supervisory roles. Consequently, Mr. Weddle's and Mr. Statham's misstatements to investigators, coupled with their refusal to order torque tools in a timely fashion after learning that these tools were necessary, lead me to believe that, at a minimum, these two supervisors should be disciplined.

In light of the concerns Mr. Conrad has expressed for the safety of all F/A-18s in the Fleet, I have carefully reviewed and questioned the Navy's decision to refrain from ordering a product recall. Based on the information contained in the report, it appears that the Navy consulted several engineering experts and conducted a thorough engineering analysis before arriving at this conclusion. Mr. Conrad astutely observed that the back up systems for the GCUs are themselves somewhat problematic; nevertheless, the Navy determined that it is highly unlikely that both GCUs on an F/A-18 aircraft would ever fail simultaneously. Furthermore, the Navy has determined that, to date, no F/A-18s have been lost due to GCU failure. Based on the foregoing, I have decided that the agency's decision to forgo a product recall, while debatable, is not unreasonable.

Lastly, I am disturbed that the Navy report criticizes Mr. Conrad for disclosing his allegations to OSC, rather than reporting them internally through his chain of command. The agency report repeats the opinion expressed by Sean Brennan, CDR, USN (Retired), that "when the Complainant failed to utilize the chain of command to report the issues, he demonstrated a disregard for known, established process and willingness to violate procedures raising questions as to his reliability and therefore questions as to the legitimacy of his claims." Pursuant to 5 U.S.C. § 1213, federal employees have a statutory right to use OSC as a safe channel for making whistleblower disclosures. The law does not require federal employees to first report allegations within their own agency before reporting them to OSC. On the contrary, Congress enacted 5 U.S.C. § 1213 for the specific purpose of providing federal employees with the opportunity to report agency wrongdoing to an outside entity, separate and independent from their own agency. Furthermore, Mr. Conrad had already complained to his immediate supervisors and to the FAA, and he had reason to believe his immediate supervisors would continue to ignore his request and that a more objective oversight outlet was called for. Therefore, it is unacceptable for the Navy to chastise Mr. Conrad, or any other agency employee, for exercising his statutory right to submit a whistleblower disclosure to OSC.

Conclusion

Based on the representations made in the agency report and Mr. Conrad's comments, I have determined that the agency report contains all of the information required by statute; however, I am unable to find that all of the agency's findings are reasonable. Specifically, I find that the agency's decision to refrain from taking disciplinary action against any GCU Shop managers is unreasonable.