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**OSC Report on
Analysis of Disclosure, Agency Report, Whistleblower Comments,
and Comments of the Special Counsel**

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Summary

Maria E. Garzino, Civil Engineer, United States Army Corps of Engineers (USACE), who has consented to the release of her name, disclosed serious allegations concerning pumping equipment manufactured and installed by Moving Water Industries¹ (MWI). The equipment at issue was installed at three outfall canal structures² located on 17th Street, Orleans Avenue, and London Avenue, New Orleans, Louisiana. Specifically, Ms. Garzino alleges that the pumping equipment is defective and largely untested as a result of unauthorized contract modifications improperly agreed upon by USACE at the expense of government oversight and public safety.

Consequently, on September 21, 2007, I referred Ms. Garzino's disclosures to the Honorable Robert Gates, Secretary of Defense, for a formal investigation by the agency pursuant to 5 U.S.C. § 1213(c) and (d). Secretary Gates delegated responsibility for investigating Ms. Garzino's allegations to his Inspector General, the Honorable Claude M. Kicklighter. On May 14, 2008, the agency presented a report in response to Ms. Garzino's disclosures. The report substantiated several of Ms. Garzino's allegations, but ultimately concluded that "... these deficiencies [were] performance related short-comings that did not rise to the level of a serious violation of law or regulation, abuse of authority, or gross mismanagement. Nor did they result in a gross waste of funds or a danger to public health or safety."

According to the Department of Defense (the agency), the Department of the Army (Army) is implementing recommendations that were made by the Government Accountability Office (GAO) to improve the management of future expedited projects, which DoD Office of Inspector General (OIG) concurred without additional recommendations. The agency's conclusion that USACE employees were responsible for merely performance short-comings and failed to follow contract regulations because of exigent circumstances. These conclusions are a disquieting and unsettling result. In response, Ms. Garzino, in a highly critical and detailed response to the agency report, outlined specific deficiencies in the agency report under each of the 14 allegations as sequentially addressed.

After a review of the agency report and Ms. Garzino's comments, I have concluded that the report is deficient under 5 U.S.C. § 1213. Given Ms. Garzino's lengthy professional

¹ MWI, based in Deerfield Beach, Florida, was awarded a \$26,606,383 federal government contract to install a pumping system in New Orleans: Contract No. W912P8-06-C-0089, Emergency Procurement for Temporary Pumps for Three Outfall Canals.

² The three "outfall canal closure structures" are large and crucial components needed to protect New Orleans from flooding.

background in civil and mechanical engineering and her first-hand experience, her comments are detailed, credible, and deserve serious attention. The people of New Orleans have suffered incalculable hardships, and United States Government (Government) has spent billions of taxpayer dollars spent on post-Katrina recovery. We can ill afford to take unnecessary safety risks due to faulty pumping equipment and allow the lack of proper government oversight of this project to go unchallenged.

Below please find a comprehensive summary of the agency report, Ms. Garzino's disclosures and comments on the agency report, and comments by the Special Counsel. Full copies of the agency report and whistleblower's comments have been enclosed.

The Whistleblower's Disclosures

Maria E. Garzino is a mechanical and civil engineer working at USACE, Construction Operations, Contract Administration Branch, Los Angeles, California. She has worked for the United States Department of Defense for 16 years, including nine years as a USACE engineer. From March to September 2006, Ms. Garzino was detailed to USACE New Orleans District, and served as Team Leader of Pumping Systems Installation. Thus, Ms. Garzino had direct oversight responsibility regarding the pumping equipment installed at the three outfall canal closure structures.

On January 27, 2006, MWI was awarded the contract for the emergency procurement for temporary pumps at three outfall canals. Based on the information provided by Ms Garzino, the total cost for each pumping equipment unit is slightly over \$750,000, plus an additional cost of about \$350,000 for spare parts. The total amount of the contract award was \$26,606,383. Ms. Garzino emphasized that the contractor was paid a premium in order to deliver pumping equipment units timely without delay in order to ready the flood protection system prior to hurricane season.

Under the terms of the contract, MWI was to receive an incentive payment of \$5 million if the work was completed prior to hurricane season. For each complete pump system (hydraulic motor, pump, drive unit, discharge elbow, and discharge piping) delivered timely, MWI would receive an incentive payment of \$9,800, per pump, per calendar day. The maximum amount of the incentive for the 17th Street Canal and London Avenue Canal pump systems was \$1,764,000 for each structure. The maximum incentive for the Orleans Avenue Canal was \$1,470,000. The contract also included penalties for late delivery of the pumping equipment, specifically for each pump delivered after 104 calendar days from the issuance of the purchase order, MWI was to pay USACE \$1,700, per day, per pump.

MWI was required to deliver 34 pump assemblies, 34 discharge pipe assemblies, 37 drive units, and all material associated with the hydraulic piping needed to connect the pump assemblies to the drive units. In addition, MWI was to provide all pumping equipment necessary to ensure fully operational emergency pumping systems at each of the outfall canal closure structures. MWI was responsible for placing the pump assemblies on the pump platforms, and the drive units on the engine platforms, as well as fabricating and installing the hydraulic pipe on the hydraulic pipe

support structures. MWI was obligated to provide all necessary labor and ancillary equipment/materials necessary to connect the fabricated hydraulic piping line to the pump assemblies and drive units and to bring the pumping equipment on line and ensure that it was fully operational.

The 17th Street closure structure was to have 12 complete pumps installed, the London Avenue closure structure was to have 12 complete pumps installed, and the Orleans Avenue closure structure was to have 10 complete pumps installed. Ms. Garzino also stated that MWI was to provide six additional pumps, which were to be delivered and installed at the 17th Street closure structure.

In April 2006, Ms. Garzino traveled to the MWI manufacturing and testing facility to observe the testing of the pumping equipment. This trip was originally scheduled to take only three days. However, due to "extremely severe and troublesome pumping equipment failures," Ms. Garzino's trip lasted 28 days.

Upon her return to New Orleans, Ms. Garzino raised grave concerns about the integrity of the pumping system. She specifically reported that the design of the pumping system's hydraulic system was flawed. Ms. Garzino reported that the failure rate for the pumps was a catastrophic 50%. She reported that, with a "very likely probability," if the pumps were needed due to a storm, "we could expect a 100% failure rate before [the pumping equipment] could make it through even one hurricane event." She also emphasized that during the MWI testing she witnessed "...the more the pumping equipment was run, the more it experienced catastrophic failures of the pump assemblies and the hydraulic systems components."

Ms. Garzino also witnessed hydraulic fluid lines bursting thirty feet in the air as a result of overheating and metal shavings from the defective pumping gears contaminating the hydraulic fluid lines. She also described gears "blowing up," even under MWI-favorable conditions, as a result of the defective design. Significantly, in late July 2006, Ms. Garzino worked with USACE personnel, including James St. Germaine, USACE Senior Project Manager in New Orleans, to address needed contract modifications to remedy design defects, and others, including repairing the drive units to prevent air from being sucked into pumps causing them to blow up. Ms. Garzino reported that immediately after she returned to Los Angeles, scheduled meetings were canceled and that "absolutely no further work was done, nor requested by the TFG [Task Force Guardian] pump team, to complete [the work]." Ms. Garzino alleged she was misled by USACE into believing that USACE was going to address properly the pumping equipment problems. Ms. Garzino stated that, during this time period, the media had already been informed that the pumps were operational.

Although USACE appeared to be upgrading the pumping system capacity by changing and upgrading gears, and adding pumps from reputable contractors, Ms. Garzino believed that it is an incorrect assumption that the MWI pumps would operate as intended. She asserted that performance testing had not been completed to measure whether the pumping systems would function.

Ms. Garzino further alleged that modifications in testing requirements were being made without the approval of Cynthia A. Nicholas, USACE TFG Contracting Officer. These modifications included substantially reducing and eventually eliminating infield load testing requirements. During this period, USACE employees appear to have been focused on meeting time-sensitive deadlines instead of getting the task completed properly. Time pressures appear to have been placed on them by government officials, including the agency, and the media to have the pumps operational before hurricane season.

On May 3, 2006, Ms. Garzino formally notified Ms. Nicholas, in writing, that MWI's pump equipment, including the pump assemblies and drive units, which were arriving in the field and being installed daily, were not capable of fulfilling their function as intended by the original contract requirements. She asserted that the pumps were defective, and would fail in the event of a hurricane. Ms. Garzino stated that these reports document the failures of the hydraulic pumps and consequently the need for full "load" (performance) testing of all pump assemblies, per the contract. Ms. Garzino specifically informed Ms. Nicholas that the load testing requirement had been eliminated, and that:

"... less than 25% of all pump assemblies have been load tested (leaving potentially 75% not load tested), and, of the eight (8) pump assemblies that have been load tested, one has only been run for a few minutes at best and one other was run at 1/3 operating pressure (the hydraulic oil barely got warm enough to register). Of the remaining six (6) pump assemblies actually undergoing load testing (actually pumping water), three (3) – 50% - have experienced catastrophic failure. Of note, these three failed pump assemblies have also been the pump assemblies that have the most run time on them – leading me to the logical conclusion that, barring some extraordinary anomaly, the more you run them, the more likely catastrophic failures will occur."

In response to continuing concerns raised by Ms. Garzino, USACE conducted a Technical Review lead by Brigadier General Robert Crear, Department of the Army. General Crear issued a Memorandum of Record entitled "MVN³ Outfall Canal Pump Report," dated June 4, 2007. Further, on May 23, 2007, the Government Accountability Office (GAO) briefed Senator Mary L. Landrieu, Chairwoman, Ad Hoc Subcommittee on Disaster Recovery, in response to her formal request for information about the capacity of the pumping equipment in New Orleans. Both the GAO and General Crear's reports indicate that there were problems with the MWI pumps, but that there were pressures to meet installation deadlines prior to hurricane season.

During the summer of 2007, new non-hydraulic, direct drive pumps were installed at the outfall canal closure structures by two contractors, Patterson and Fairbanks-Morse, to complement MWI's hydraulic pumps. However, Ms. Garzino believes that there is an erroneous assumption that MWI's hydraulic pumps are fully operational and, hence, the risk to public safety remains high. Even so, the installation of new pumps to augment MWI pumps does not negate the serious issues surrounding USACE's decisions to install faulty pumping equipment without meeting adequate performance testing requirements and contract modifications.

³ MVN - Mississippi Valley New Orleans District

Given the gravity of the issues involved and the apparent technical expertise of the whistleblower, on September 21, 2007, OSC referred Ms. Garzino's allegations to Secretary Robert Gates for formal investigation by the agency pursuant to 5 U.S.C. § 1213(c) and (d).

The Agency Report and Whistleblower's Comments

On May 14, 2008, Inspector General Claude M. Kicklighter, sent me his agency's report in response to our request for a formal investigation. Although the agency substantiated several of Ms. Garzino's allegations, the agency concluded that no one was responsible for wrongdoing because agency employees and contractors were working under emergency conditions.

The agency report explained that prior to Hurricane Katrina, the New Orleans Sewerage and Water Board pumped rainwater from the city into three drainage canals at 17th Street, London Avenue, and Orleans Avenue. These three canals flowed into Lake Pontchartrain unrestricted and while they were sufficient to prevent some, but not all, flooding from rainfall events, the canals were vulnerable to storm surges during a hurricane. The canals were designed to protect residents from surges in Lake Pontchartrain driven by storms up to the "Standard Project Hurricane," roughly equivalent to a fast-moving category 3 hurricane. During Hurricane Katrina in August 2005, however, several breaches occurred in the floodwalls. This allowed a significant amount of water from Lake Pontchartrain to enter the city of New Orleans.

USACE began to restore New Orleans' flood protection to a pre-Katrina level by June 1, 2006, the beginning of the next hurricane season. USACE considered strengthening the drainage canal floodwalls, but the agency decided to postpone this effort due to cost and time constraints. Instead, USACE decided to install three interim closure structures at the points where the canals meet Lake Pontchartrain. These closure structures, which remain open during normal weather periods, would be closed during major storm events to prevent a Lake Pontchartrain storm surge from entering the canals, breaching the floodwalls, and overflowing into the city. However, the closures would also prevent rainwater in the canals from flowing into the lake. Because the gates remained closed during a storm surge, large capacity pumping systems were needed to pump water out of the canals and into the lake.

The National Oceanic and Atmospheric Administration (NOAA) created storm event rainfall models for 10, 50, and 100-year storm events for the New Orleans canal system. The storm model used historical data to determine the average of the worst storms that have occurred every 10, 50, and 100 years. The statistical data was then used to predict an event that has a 1% probability of being equaled or exceeded in any year. The Interim Closure Structure's Temporary Pumping System was designed to pump water for a 10-year rainfall event; not a 50-year or 100-year rainfall event like Katrina. A permanent pump system is planned to be completed by 2012 and will be designed to handle a 100-year storm event.

The agency report states that USACE initiated the procurement of 34 large capacity hydraulic pumping systems to provide pumping capacity by June 1, 2006. Six additional pumps were

procured to supplement the pumping capacity at the 17th Street Canal, the largest canal. USACE stated that after additional analysis in mid-2006, USACE determined that a significant additional pumping capacity would be required at the 17th and London Avenue Canals to meet the 10-year rainfall event. Therefore, USACE arranged for an additional 19 direct-drive pumps to be installed sometime in 2007 to meet the 10-year rainfall event.⁴

As part of agency investigation, the agency examined other government studies concerning post-Katrina flood control in New Orleans. Some of these studies specifically addressed the allegations made by complainant and will be referenced in this report when appropriate. Those studies included the following: U.S. Army Audit Agency, "Contracts of the Hurricane Protection System in New Orleans," (A-2006-0198-FFD) August 22, 2006; U.S. Army Corps of Engineers, "Final Report MVN [Mississippi Valley, New Orleans] Outfall Canal Pumps," *Independent Team Report (ITR)*, May 11, 200; Government Accountability Office, "U.S. Army Corps of Engineers' Procurement of Pumping Systems for the New Orleans Drainage Canals," (GAO-07-908R), May 23, 2007; U.S. Army Corps of Engineers, "MVN Outfall Canal Pump Report," *Memorandum for Record (MFR)*, June 4, 2007; U.S. Army Audit Agency, "Contracts to Restore and Enhance the Southern Louisiana Hurricane Protection System," (A-2007-0216-FFD), September 11, 2007; Government Accountability Office, "Army Corps of Engineers Known Performance Issues with New Orleans Drainage Canal Pumps Have Been Addressed, but Guidance on Future Contracts Is Needed," (GAO-08-288), December 31, 2007.

The instant agency report categorized Ms. Garzino's allegations into five areas in order to cover the full range of concerns: (1) Design; (2) Testing; (3) Installation; (4) Operational Capabilities; and (5) Contract Issues. Ms. Garzino criticized the agency report and stated that the foundation of the report is based on a misrepresentation of the allegations composed of incomplete and, thus, inaccurate factual statements, and improperly relied on false and unsubstantiated statements and assurances by others. Ms. Garzino, nonetheless, responded to the facts and allegations sequentially in the order as presented by the agency. Ms. Garzino's comments will be highlighted as separate sections under each agency facts and analyses summarized in detail below. Please note that the facts section, below, are facts as established by the agency.

I. Design Allegations

Allegation #1: Flawed design allowed air to enter into Denison hydraulic pumps on the HPUs causing damage and subsequent failure of the pumps.

⁴ Each pumping unit consists of two major mechanical components: the hydraulic power unit (HPU), which is located on an elevated equipment platform, and the water pump, located in the canal on the protected side of the closure structures. The two components are connected by hydraulic lines. The water discharge piping runs from the water pump around the closure structure and then discharges into Lake Pontchartrain. The following terms are used in this report to distinguish components of the New Orleans Outflow Canal Pumps: Hydraulic Pumping System 1. Pumping Unit: a. HPU; b. Water Pump; 2. Hydraulic Lines; 3. Water Discharge Piping. Each pumping unit underwent testing at the factory and in the field. Problems were continuously encountered and corrected throughout the acquisition process. Final contractual acceptance testing was completed on September 15, 2007.

Agency Established Facts: The contract states: The work under this section shall consist of providing all pumping equipment including the hydraulically driven pumps, diesel drive units, and all piping, appurtenances, mechanical and electrical system as shown on the drawings and as specified herein. It goes on to state: The supplier of the pumping equipment mentioned above shall assume responsibility for the proper functioning of the hydraulic motors, pumps, and hydraulic drive units as a complete system. The clause concerning the Contractor's obligation under Warranty of Supplies of a Noncomplex Nature, states: All supplies furnished under this contract will be free from defects in material and workmanship and will conform with all requirements of this contract... The USACE stated that the Denison hydraulic pump design used in this acquisition was a standard design.

The GAO report dated December 31, 2007, stated: ...according to the Lake Borgne Levee District official, this pump has been successfully used for about 20 years without having to prime the pumps prior to start-up.

The design required a prescribed start-up procedure for the HPU. The operating procedure required the operator to start-up the HPU at a slow speed and gradually increase it to the normal operating speed. Doing so would properly dissipate air that entered the hydraulic pipe whenever the suction pipe was opened for repairs and maintenance. If operators did not follow prescribed procedures for the initial start-up of the hydraulic power unit (i.e., conducted a rapid run-up), trapped air would cause a "dry run" and tear up the hydraulic pump.

The problem was addressed in the December 31, 2007, GAO report as follows: Corps officials from the New Orleans District emphasized to us that the redesign was requested to more adequately meet their needs, not because of concerns about the pumping systems operating as intended. ...[the contractor] subsequently agreed to modify the design of the hydraulic intake line at the request of the Corps. According to Corps officials, by the end of July 2007 and at its own expense...[the contractor] had redesigned and reinstalled a new flooded suction design on all 40 pumping systems.

The June 4, 2007, MFR and May 11, 2007, ITR also addressed this issue and made recommendations that have since been implemented. This air intake problem first occurred during factory testing and surfaced again in June-July 2006 after the water pump systems were installed at sites. The contractor provided a temporary solution by first installing a safety valve on the hydraulic intake pipe to bleed the trapped air. The problem was resolved permanently when suction pipes were submerged in oil and moved to a "gravity feed" position in the hydraulic tank.

On July 12, 2006, a no cost contract modification was issued that required the contractor to modify all existing hydraulic tanks to a flooded intake for the hydraulic pumps. After the implementation of the modification, each of the hydraulic pumps was tested prior to acceptance.

Agency Report Analysis: The allegation was not substantiated. The hydraulic pump design was a standard design that required a prescribed start-up procedure. The air intake problem arose when the operator did not follow the prescribed hydraulic power unit start-up procedure subsequent to suction pipe flange repairs. The possibility of damage from improper start-up was eliminated by implementing a no cost modification that required that the suction pipes be moved to a "gravity

feed" position in the hydraulic tanks that submerged intake pipes in the hydraulic oil tank, thus preventing the air from entering into the pump. The agency report concluded that this was a reasonable approach to eliminate the risk of damage and was accomplished at no additional contract cost to the Government.

Ms. Garzino's Comments:

While the Denison hydraulic pump design was standard, it is documented that it was incorrectly sized, which means it was not used in a standard manner.

For the Denison hydraulic pump configuration chosen by MWI, the design of the hydraulic system was proven to be flawed. The inlet pressure at the Denison pumps was calculated to be insufficient, thereby causing the pumps to suck in air and self-destruct.

Quoting briefly from the email showing the calculations that prove a design flaw with the inlet pressure to the Denison hydraulic pump:

In light of our recent problems with at least 9 Denison Hydraulic Pump failures, I have completed an analysis of the hydraulic pump suction design. I acknowledge that the engine/pump start up procedure has been modified since installation at Orleans to minimize the strain on the pumps. However **the calculations show that we continue to run these pumps at less than the required inlet pressure** until the hydraulic fluid warms up to over 80 F. The damage may be done at start up, with complete failures not showing until we have temperature and load.

Email from Ray Newman, U.S. Army Corps of Engineers (USACE) Engineer, to Task Force Guardian (TFG) pump team, June 13, 2006.

After the above-cited evidence was presented to the TFG pump team, I was then able to inspect each and every Denison hydraulic pump for damage. I discovered that over 40% of all the pumps installed and in the field were in a failed or failing state, with their internal components evidencing severe internal damage due to air entrainment (shredded port plates, cams showing "severe wear," etc.). *See also* Response to Allegation Nos. 2 and 3 for pictures.

The start-up procedure in question was not standard, initially. It was added later and, as documented in emails, it was added to remedy an unexpected problem that was created by the unsuitability of the pump design to the project's demands. An excerpt from an email reflects the way the Corps' own managers judged the pumps and the company that assembled and installed them:

It appears to me that MWI is just trying to "make it work" to get by. Everyone agrees that the Denison pumps are operating in a dry run condition. While the priming procedure described below may work as a one time or short term fix. I feel, and I think Steve agrees, it will not hold up over the long term. There will be entrained air that will percolate out and also air leaking in through the tank etc that will get trapped. They need to look more at root

causes than quick fixes of the problems. This could be pump sizing or relocating the suction intake to a more suitable location.

Email from Jim Bartek, USACE) Engineer, to Jim St. Germain, USACE TFG, "Issues on Hydraulic Drive Units and Pump" [May 31, 2006].

I personally witnessed MWI deviate from this start-up procedure, or skip it entirely (as documented in pump run data sheets), which suggests that it was not treated as standard, even if it is memorialized on paper as the procedure. This was further documented in a Memorandum for the Record (MFR) I sent to the TFG Resident Engineer of the Closure Structures and the entire TFG pump team:

I have no communiqué regarding MWI addressing a problem with their hydraulic system - the closest I have seen them get to admitting they have a problem with their hydraulic system is derived from what Jim St. Germain passed on to me (email of 5/23) - MWI gave him revised start up procedures meant to minimize the problem of air entraining in the hydraulic oil and entering the Denison pump - the revised procedures included starting the Drive Unit at 1000 RPM for 2 minutes and ramp up 200 RPM every 2 minutes until they get to 1800 RPM (10 minutes total time), and, the installation of check valves on the hydraulic intake line to the Denison hydraulic pumps which would allow an air compressor to be hooked up to it and pressurize the oil in the line . . . **from my own observation, MWI does not even believe in their own revised procedures, because, the entire time they have been at the Orleans Ave. Closure Structure, they have not once used the air compressor to hook to the check valve and pressurize the hydraulic line, nor for that matter have they adhered to the ramp up gradually to 1800 RPM procedure - from my observations, most of the time when they start the Drive Units they at best take 2-4 minutes to get to 1800 RPM, not 10 minutes.**"

MFR from Maria Garzino to TFG Pump Team and Resident Engineer, "Implementation of New Corrective Measures to Correct Pumping Equipment Deficiencies," May 29, 2006.

As noted above in Mr. Newman's email dated June 13, 2006, the Contracting Officer (CO) ordered the retrofit flooded suction. That office communicated to me in numerous indirect ways that the Corps generally, and the TFG pump team specifically, considered a retrofit necessary to solve the problem of air entrainment. Further:

MWI has proposed to redesign the hydraulic tank and hoses to form a flooded suction for the two Denison hydraulic pumps. MWI will raise the hydraulic fluid tank and reposition the hoses to the Denison pump. This fix should prevent air from entering the motor . . . We should immediate[ly] have MWI retrofit the engines at 17th that are not installed. Coordinate with the three contractors on swap outs to minimize impacts to buildings. Avoid any impacts to pumping capacity. Have MWI develop a plan to retrofit in place.

--Jim St. Germain

Email from Jim St. Germain to TFG Commander Col. Bedey, "MWI Proposal to Retrofit Flooded Suction for Denison Hydraulic Motor," [June 19, 2006].

The TFG pump team again communicated their grave concerns about a design flaw and the hydraulic pumping system's operability:

We believe that the existing design may have caused numerous problems with the hydraulic motor . . . This is unacceptable.....

Attachment to MWI in Email from Jim St. Germain, USACE CO of TFG, June 25, 2006.

Jim St Germain, TFG pump team leader, communicated this to the entire team, upper command of TFG, New Orleans District (NOD) Operation Division, the CO, and field personnel at the gated closure structures. The urgency of the matter is reflected in the language of the SF-30:

Proceed *immediately* with making these changes.

The DoDIG Report further misrepresents USACE Mississippi Valley Division (MVD) Independent Team Report (ITR) findings on this issue, and uses this misrepresentation to buttress their position when it in fact rebuts DoDIG's position:

The flooded suction intakes have only been accomplished on the new additional contracted 6 pumps, the original contracted 34 pumps have not been revised to add the flooded suction intake as was agreed upon to be revised in June 2006. MWI has only provided a vacuum type check valve for priming the suction to the Denison Hydraulic Pumps. This is only a façade in addressing the real issue and requires the operation of vacuum equipment to prime the hydraulic pumps. If the vacuum is not drawn properly, then the pumps will aerate and create irreversible damage to the components of the pumps. The bilateral contract modification to change the intakes to a flooded suction at no cost to the Government has been in place since 12 July 2006 and has not been accomplished as of this date on any of the original 34 pumps.

USACE MVN Outfall Canal Pumps Independent Team Report, Released May 24, 2007.

The DoDIG report implies that "operator error" was responsible for the mammoth hydraulic pump failures. **The fact is, all the known failed hydraulic pump components were the result of operation during the time when the pumping equipment manufacturer was in sole possession of the equipment.** If the pump *manufacturer* cannot operate the pumping equipment without causing massive and catastrophic failures of the hydraulic pump components, then it is not reasonable to expect the *user* to do a better job. This, in and of itself, defines a design flaw.

The design flaw in question required an analysis of the hydraulic system at issue; a synthesis, or selection of components to shape a system that meets the original contract requirements; a subsequent appraisal of the modified system performance; and feedback to analyze the synthesis of

information obtained in the system evaluation – all in order to mitigate effects of the identified design flaw.

The contract modification that the DoDIG Report cites as a reasonable approach to resolving air entrainment was not implemented by the TFG pump team until a year after it was ordered, and only then when Brigadier General Crear of Mississippi Valley Division (MVN) was informed by the ITR team that not performing the retrofit actions called for in this modification posed a substantial danger to public safety.

The concealment of the design flaw in the hydraulic pumping equipment by the TFG pump team—without measures taken to mitigate its effect on the intended operation of the hydraulic pumping system at all three outfall closure structures—endangered and continues to endanger (*see* Response - Allegation No.5) the lives of the citizens of New Orleans and impairs the government's ability to hold MWI responsible for the manufacture of defective hydraulic pumping equipment.

No documentation available to me as an engineer and contract administration specialist supports the conclusions of the DoDIG Report. Nor does publicly-available evidence. Nor does evidence cited by DoDIG investigators. In fact, the available documentation points the opposite way.

Allegation #2: The complainant alleged: While trying to meet the contractually required testing requirements the pumping equipment experienced voluminous severe hydraulic system component failures, and ultimately, catastrophic pump assembly failures. The complainant went on to state that failure occurred because the HPU components, including cams, hoses and piping were not designed to operate at 3000 pound/square-inch (psi) hydraulic pressure as required.

Facts: The contract explicitly states: All reinforced supply hose ... shall have a minimum safe working pressure of 3,000 psi.

In April 2006, HPUs and the water pumps were tested together at the contractor facility. The tests were observed by USACE representatives from the Jacksonville District quality assurance team, including the complainant, Ms. Garzino. A number of test failures were attributed to improper functioning of Denison hydraulic pump units. The problems identified with the hydraulic pump components were, as follows: inappropriate cam and hydraulic hose sizes, seals, o-ring failures, and excessively hot hydraulic oil.

These discrepancies were reported by the complainant and were acknowledged and addressed in the ITR. The ITR discussed the cam size issue further and stated: Also, sometime in July 2006, it was also found that...[the contractor] had installed cams that would not operate at pressures >3000 psi, the current system pressure being developed ranges from 3000 to 3200 psi. They had to replace the cams in the hydraulic system that would work for pressures >3000 psi. The current hydraulic systems now have the proper cams in place according to the manufacturer... The ITR also addressed the flexible hose problem; it stated that the hydraulic oil high pressure hoses failed and the flexible hydraulic hoses that were below the water line were replaced with rigid piping. This corrected corrosion issues with the galvanized quick connects under water.

USACE representatives told agency investigators that some of the 4-inch diameter intake hoses attached to hydraulic pumps were rated for water use but were not rated for hydraulic oil. The

contractor replaced the water hoses when the problem was brought to their attention. Some of the hyper extended o-rings/seals and improperly installed seals on the water pump motors were also replaced at installation sites. All Denison pumps were 100 percent inspected at the sites for defective parts. All inappropriately sized cams were replaced at the factory as well as at installation sites. No underrated components were allowed to remain on the HPUs.

Agency Report Analysis: The allegation was substantiated. HPUs initially failed factory tests due to pump component failures. The cams, hoses, o-rings and seals failed because they were underrated and did not meet the 3000 psi requirement, were of inappropriate size, were incorrectly installed, or had manufacturing defects. The agency concluded that reasonable corrective actions were taken when problems were detected during factory tests, during 100 percent field inspection of the HPUs, and during acceptance tests conducted in the field. Corrective actions for the above items were accomplished at no additional cost to the Government.

Ms. Garzino's Comments: Contrary to what the DoDIG Report implies, none of the failures have ever been proven to be pressure-related. Questions have been raised about the ability of the hydraulic system components to safely operate at 3200 psi because the hydraulic components appear to be on the edge of design – however, there has never been any formal finding proffered that I'm aware of that these failures they cite are due to operating pressures of 3200 psi and above. The myriad failures that I witnessed were found, and documented, to be caused in large part by air entrainment, excessive heat caused by internal components self-destructing, foreign matter (metal shavings) running through the pressure plates of the Rineer motor, and internal seals rupturing on the Rineer motor(s) for unknown reasons (excessive pressure being one of the two theories presented).

In addition, I have never stated there has ever been any failure of hydraulic pipe. To be clear, I simply stated that the engineering calculations proved the pipe to be undersized and not meeting industry standards for Schedule 80 hydraulic pipe operating at 3200 psi, and that this posed an unreasonable risk of failure (not that failure had occurred).

The DoDIG investigation appears to be confused – it was the cams I discovered and later reported (during the initial tear-down of 4 hydraulic pumps at the Denison Reps factory in June 2006) that were rated at only 3000 psi. However, this fact does not mean the cams would fail if operated – that would be an unfounded finding. The mere fact the cams were only rated to 3000 psi meant the life expectancy would be less than the manufacturer guaranteed if used, for example, at 3200+ psi. It is even documented that I was not concerned about cams rated at 3000 psi inside the hydraulic pumps:

One thing that did come up was the 066 cam appears to be built to sustain a maximum 3000 psi operating pressure, not the over 3100-3200 psi it has been seeing – however, operating them at 3100-3200 psi would not cause the damage we were looking at, this issue speaks to the longevity of the pump...

Email from Maria Garzino to the head of the TFG pump team, Mr. Jim St Germain, June 2, 2006,

The DoDIG Report also incorrectly identifies the failure issues the pumping equipment experienced. **The most important and serious failure modes are not even mentioned – as if they never existed:** air entrainment causing the Denison hydraulic pumps to “suck” air and destroy themselves; Rineer motor failure(s) due to metal pieces coming off the self-destructing hydraulic pumps and running through the motor; and internal seals rupturing on the Rineer motor(s) (for still unknown reasons). The massive number of known failures due to these omitted failures has been overlooked.

The DoDIG Report then discusses a failure issue that is not only incorrect, but also raises serious questions about the DoDIG’s comprehension. The hydraulic oil high pressure lines that were observed failing were on the drive unit (a DU or HPU [Hydraulic Power Unit]), and the hydraulic high pressure line they are talking about that was “fixed” is the hydraulic line on the pump assembly (a PA or WP [Water Pump]). As should be quickly understood from this description, fixing the hydraulic line on the pump assemblies has nothing to do with the observed hydraulic high pressure line failures on the DUs.

The DoDIG Report is also inaccurate when restating and relying on earlier misrepresentations that all the Denison pumps were thoroughly inspected at the sites (the three outfall closure structures) for defective parts in order to uncover and replace *undersized cams*. **This is a false and misleading statement.** All the Denison pumps were thoroughly inspected in the field to uncover and replace *failed or failing port plates and cams*, which were not suitable for, and not capable of, continued operation. In doing so I discovered over **40%** of the pumping equipment installed and in the field required immediate replacement of hydraulic pump components. Their failed or failing state was due to a design flaw – a design flaw that was extensively documented, as discussed above. Again, the undersized cams mentioned by the DoDIG report posed nothing more serious than a *longevity* issue, not an *operability* issue. (See the above discussion and referenced documentation.) Moreover, USACE and MWI have never believed that the cams for the hydraulic pumps were incorrectly installed or had manufacturing defects, and there is no proof of this. All efforts and documentation support the conclusion that a hydraulic system design flaw caused the massive Denison hydraulic pump failures.

Finally, as I will discuss later in this document, the “acceptance testing” performed was not, as DoDIG portrayed, a remedy towards assuring that the pumps will work as intended. In fact, this “acceptance testing” could not have occurred as portrayed at all. See Response - Allegation No. 5.

No documentation available to me as an engineer and contract administration specialist supports the conclusions of the DoDIG Report. Nor does publicly-available evidence. Nor does evidence cited by DoDIG investigators. In fact, the available documentation points the opposite way.

II. Testing Allegations

Allegation #3: Factory testing for the hydraulic pump, and water pump was incomplete and defective equipment was shipped to the sites.

Facts: The original contract called for a performance test that measured pumping capacity. USACE representatives stated that they had problems performing these tests and obtained the services of an outside consultant to investigate these issues.

The consultant reported that it was not a normal practice to test the capacity of every pump in the same production run. Variation in performance between identical pumps is expected to be slight based on manufacturing tolerances.

Based on that assessment, USACE decided to replace the performance test with a 5-hour endurance test, which focused on the HPU. Each HPU was connected to a water pump for the test.

Accordingly, the contract modification backup documentation stated: The prior testing required a one-hour run test per pump and drive unit which was being conducted simultaneously, as well as two full size, seven point tests on two pumps. The new procedures require 5 hours per drive unit as well as a 24 hour run test on one drive unit and pump combination. The 5-hour test was later reduced to 3-hours based on the recommendations from USACE engineers and the consultant who stated that there would be no benefit to conducting the test for longer than 3 hours. The contract modification deleted the requirement for testing each hydraulic pumping system. However, because there were numerous problems with the HPU during the factory test, USACE decided to test every HPU, but test only a sample of water pumps. Ultimately, nine water pumps were not tested.

The contractor's quality control forms documented that each of the HPUs completed the 3-hour factory test before being shipped. However, our review of the complainants' documentation and the Jacksonville shop inspection reports revealed that the Government identified one unit as not accepted.

The Jacksonville shop inspection states: This DU was previously tested on 4/29/06 at 1955 Hrs. The unit shut down during the test for no apparent reason. CAT personnel troubleshot the unit and found a burned fuse and replaced it. When the engine was turned on it went through the automatic throttle, but could not hold the 1800 RPM. Also, the auto accumulator solenoid valve was not holding the pressure due to a possible internal leak. The pumps have to be engaged manually. Therefore, this engine is not acceptable. Despite the failed test, the HPU was shipped to the installation site. When USACE found out that the pump was shipped without the Government's approval of the testing, the project manager reviewed the issues found during factory tests and decided to correct the problems with the unit at the installation site rather than sending it back to the factory. After repairs were made, that pump completed the acceptance test in the field and accumulated a total of 25 hours as of March 2008.

Agency Report Analysis: The allegation was partially substantiated. The Jacksonville shop inspection reports show that one HPU did not pass the 3-hour factory test. The agency believes that the project manager's decision not to return the unit back to the factory and to correct all the problems with this pump at the site was reasonable, under the circumstances, because repairs could be accomplished in the field without incurring the delay and expense of returning the unit to the factory. Ultimately, this HPU passed the acceptance test at the site and logged more than

25 running hours. Testing of other units was accomplished as specified by the contract modification.

Ms. Garzino's Comments: The "consultant" referred to was Mr. Dennis Strecker—not a Corps of Engineers employee but a contractor for the Corps. Mr. Strecker was acting with implied authority and was responsible for an unauthorized commitment when he instructed MWI that the Corps would relax and delete the aforementioned testing. This relaxation and elimination of testing requirements was not initiated by MWI. In addition to my own extensive documentation of this, the MVN ITR also discusses Mr. Strecker's inappropriate and apparently illegal actions:

More than one revision to the testing procedures occurred and changes were made by implied authority by email and verbal communications from both Corps and non Corps of Engineers employees without any Contracting Officer authorities.

USACE MVN Outfall Canal Pumps Independent Team Report, Released May 24, 2007.

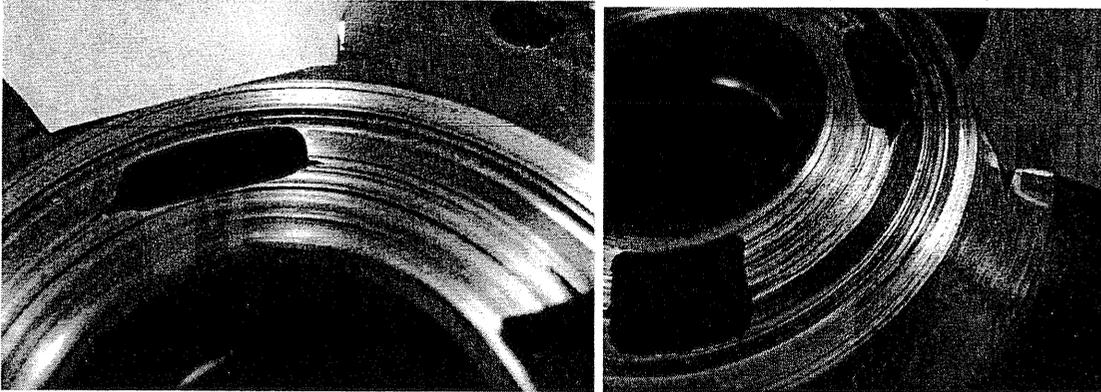
Mr. Strecker's submitted trip report dated April 24, 2006 (Attachment No. 9 of the ITR), also documents that he, not MWI, initiated the relaxation and deletion of the subject factory testing:

I recommended dropping the pump performance tests and adding an endurance test.

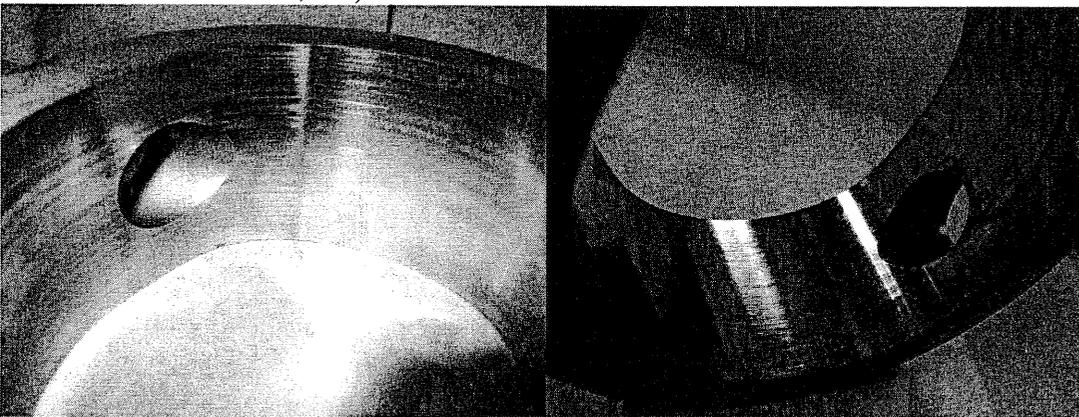
Mr. Strecker instructed MWI to offer this as their own proposal and that the Corps would agree to implement it as stated above (this was witnessed not only by myself, but also by USACE field engineer in charge of all quality assurance (QA) personnel for USACE Jacksonville District (JAX)). The CO was not apprised of this change during or after its ordered implementation; rather, it became known to her only when I inquired about it some weeks later (*see* my Original Declaration and Affidavit). Once again, this fact was witnessed not only by myself, but also by USACE field engineer in charge of all QA personnel for JAX. The reasons for the relaxation and deletion of the above-mentioned testing was not because it was an insightful and appropriate engineering decision, as I have discussed extensively in documentation already on file. **In fact, this bargain is the leading factor in defective hydraulic pumping equipment being delivered to New Orleans.** *See* previous discussions and reference all cited documents.

The following pictures of failed and failing hydraulic pumping equipment components are the direct result of the relaxation and elimination of certain factory testing requirements, which resulted in defective hydraulic pumping equipment being delivered to New Orleans. Contrary to what Colonel Bedey has stated, there was absolutely no plan to "fix the machinery while it was in place." (*See* previously cited documents).

Failed port plates due to design flaw (as found in the field – New Orleans, LA):



Failed/Failing severely worn cams (unsuitable for further service) due to design flaw (as found in the field - New Orleans, LA):



The DoDIG Report acknowledges that there were “numerous problems” with the DUs during the factory testing. It fails to mention, however, that there were also **numerous problems** with the pump assemblies (PAs) during the factory testing. Of the original 34 PAs, only 8 were performance-tested (actually pumped water): one of those was for minutes at best, and another at 1/3 operating speeds and pressures. Of these 8 PAs actually “performance tested,” 4 PA Rineer motors experienced **catastrophic failure** (requiring complete replacement of the motor). In addition, there were 7 related Denison hydraulic pump failures, 2 related Gear Oil Circulation Motor (GOCM) failures, 3 related Hydraulic oil high pressure line failures, 1 related PA experiencing a loud abnormal noise, 1 related PA experiencing abnormal and violent vibrations, 1 related PA experiencing violent surging hydraulic lines, and 1 PA experiencing overheating of the hydraulic oil. Finally, to clarify, of the original 34 total PAs, 24 were not “performance tested”—nearly three times the 9 cited in the DoDIG Report. These facts are extensively and painstakingly documented in my previously-cited submissions (MFR of May 3, 2006, original Declaration, original Affidavit, MFR “Factory Testing Requirements and Field Testing Requirements of the Pumping Equipment for Contract No. W912P8-06-C-0089, etc.).

The discussion in the DoDIG Report related to MWI's quality control (QC) and their documentation of it makes inaccurate, misleading and often false statements. **The facts are that MWI's QC forms were filed with false representations and assertions.** I reviewed and extensively documented the specifics for the TFG, as evidenced by a contemporaneous email I sent the pump team:

After initial review of MWI's submitted QC data for Drive Units 8840 thru 8849 I find they are generally incomplete and do not address the numerous testing and component failures these Drive Units have experienced during their lifetime in the assembly thru testing process. As I discussed with MWI on numerous occasions, the most basic requirement that each Drive Unit and Pump Assembly have documented the various component failures and actions taken to remedy same appears to not have been followed by them. . . In addition, review of the QC data submitted by MWI for Drive Units 8850 thru 8873 reveal the same level of incompleteness.

Email from Maria Garzino to TFG pump team, June 4, 2006. It goes on to outline specifically the failure issues and problems that were omitted in MWI's submitted QC Reports.

The DoDIG Report further contends that the modification to change factory testing requirements was accomplished as specified. This is an inaccurate statement as evidenced by my previously-cited submitted submissions and also by the ITR. The ITR states clearly that the factory testing was not performed in accordance with the contract requirements:

Modification P00004 revised the static test procedures by clarifying the actual steps to follow but no where did it delete the requirements of the full size water testing for each pump. This testing was not performed in accordance with the contract requirements and a *significant credit* is due to the Government for the nonperformance of it.

Id. (emphasis added). For the record, 3 PAs (PA #4580, PA #4596, and PA #4582) were shown not to have even undergone the "testing" mentioned—referencing for a "static" test—as all performance testing was abolished by that time. The DoDIG Report only cites one DU - #8852 was the DU in question, and there is no record of testing.

No documentation available to me as an engineer and contract administration specialist supports the conclusions of the DoDIG report. Nor does publicly-available information. Nor does evidence cited by DoDIG investigators. In fact, all available documentation points in the other direction.

Allegation #4: Ms. Garzino alleged: New Orleans TFG pump team personnel were fully aware of the voluminous pumping equipment failures at the contractor testing facility, and were also fully aware that the more the pumping equipment was run the more it experienced catastrophic failures of the pump assemblies and the hydraulic systems components.

Facts: Although the factory and installation testing of the hydraulic pumping systems revealed numerous problems, USACE and the contractor took corrective actions by performing inspections and fixing the problems as they found them. Confidence in the reliability of the hydraulic pumping

systems has grown with the number of hours that have been accumulated from the 3-hour factory tests, the on site operational tests, the 2-hour on site acceptance tests, and subsequent maintenance runs.

As of the end of March 2008, the HPUs have run from 13 to 50 hours, with an average of 24 hours, and the water pumps have run from 7 to 77 hours, with an average of 18 hours. Beside the vigorous 3-hour factory tests, 2-hours acceptance test, and accumulated total running hours, USACE also ran continuous 12-hour tests on two hydraulic pumping units at 1000 psi at the factory and continuous 36-hour test on one HPU at 3000 psi at the site.

The hydraulic pumping systems are now operational and managed by the New Orleans District Operation Division. The systems are exercised periodically to ensure their readiness. Logs are kept with problems each pump encounters. Confidence in the reliability of the hydraulic pumping systems is also supported by the low number of problems encountered by the New Orleans District Operation Division as documented in their maintenance log files. The agency reviewed these files and stated that they only found routine maintenance items.

Agency Report Analysis: The allegation was not substantiated. Although the factory testing of the HPU revealed several problems with specific components of the hydraulic pumping system, USACE and the contractor took appropriated actions to correct known performance problems. Additionally, the average total running hours of each hydraulic pumping system up to March, 2008, gives us additional confidence that the system will reliably operate when needed.

Ms. Garzino's Comments: As already discussed above, and in my previously-cited documents, the factory testing did not instill confidence in the reliability of the hydraulic pumping equipment, but rather just resulted in defective pumping equipment being delivered to New Orleans. In addition, the DoDIG portrayed 2 hour "acceptance tests" as a remedy towards assuring that the pumps would work as intended. The fact of the matter, however, is that this "acceptance testing" **could not have occurred** as the DoDIG Report portrays (*see* Response - Allegation No. 5). None of the cited testing has been done in a manner that can check the mechanical integrity of the pumping equipment (run at continuous full speeds and operating pressures for a substantive amount of time approximating real-life hurricane conditions).

None of the massive testing trumpeted in the DoDIG Report was for testing the hydraulic pumping equipment at continuous full operating speeds and pressures for substantive amounts of time. There was a single 36-hour run mentioned, **but** of important note, this mentioned test is misleading and falsely represents that one of "our" hydraulic pump assemblies was utilized. It **was not**. The pump assembly used in this 36 hour test run was a "MWI Rental Unit," not one of "our" hydraulic PAs. This 36 hour run was to "test" the Denison hydraulic pumps on a DU only, nothing else. I was present for this "test" and witnessed over 16 hours of it (including logging data for it personally). I also documented the fact that this was an MWI rental PA that was used:

Our '36 hour endurance test' is done – and no, we did not start yesterday – we got about 4.5 hours into it and we are down for the count as there is something very wrong with the water pump (**the MWI rental 60"er**) – it has lost a lot of oil . . .

Email from Maria Garzino to TFG Pump Team, July 5, 2006. The subject 36 hour test was “successfully” completed on the morning of July 7, 2006, and an inspection of the Denison hydraulic pumps that ran for 36 hours ensued – this was also documented in an email from my USACE engineering intern to me

The 36 hour duration test at Leon C. Simon is complete. I put the data logs on your chair... I met with Daren and crew (including Hydradine Rep) this morning, and they are going to begin their initial inspections of the Denison Pumps today... Also, they are going to inspect the Denison's (sic) on the drive unit we just ran for 36 hrs.

Email from USACE intern to Maria Garzino, July 7, 2006.

As discussed elaborately in all my previously-cited documents, when run at continuous full operating speeds and pressures the drive units (HPU's) and pump assemblies (Water Pumps) have experienced severe and catastrophic failures of their hydraulic system. Only when run at reduced operating speeds and pressures, for more substantive amounts of time, do the PAs and drive units experience significantly fewer failures and failure rates. This has been documented by me – it is imperative the reader reviews my Supplemental Affidavit, dated May 15, 2008.

In my Supplemental Affidavit, I reiterate how MWI and TFG learned in **April 2006** that running hydraulic pumping equipment at less than continuous full operational speeds/pressures allowed the equipment to experience a much slower failure rate. I proved and documented this when witnessing the Vero Beach 24-hour test run on April 21-22, 2006, and subsequent field test runs for the same hydraulic pumping equipment when it was shipped to New Orleans and installed at the Orleans Avenue Closure Structure. For the 24-hour Vero Beach run, PA #4588 and DU #8842 were run at 1000 psi (1/3 of full operating pressure) for 24 hours, during which I identified one of the Denison hydraulic pumps on the DU as a strong candidate for failure, with fluctuating high temperatures ranging from 185° - 210° F. As already discussed in my original Declaration, both MWI and TFG refused to investigate and examine the issue and instead deemed the equipment, including DU #8842, as “passed” and shipped and installed it at the Orleans Avenue Closure Structure. A month later (5/24/06), at the Orleans Avenue Closure Structure, when turning on this same pumping equipment (DU #8842) to perform field testing at continuous full operating speeds and pressures, the pumping equipment experienced catastrophic failure. The previously suspect Denison hydraulic pump on DU #8842 failed completely. Later, on 6/01/06, the same DU was again field tested at continuous full operating speeds and pressures, and within a short period of time experienced a loud vibration from the other Denison pump, which was later determined to require replacement.

As will be discussed in the next Response to Allegation No.5, there has not been a storm event that was utilized by the NOD to test all the hydraulic pumps at continuous full operating speeds and pressures for any substantive period of time. (Also evidenced by rainfall runoff records from NOAA).

None of the hydraulic pumps have been tested to ensure mechanical integrity—including the cited onsite operational tests and maintenance runs. “Exercise” runs and “demonstration” runs (not running hydraulic pumps, but running direct drives only); running hydraulic pumps at lesser

speeds/pressures; and running hydraulic pumps for very short periods of time at these lesser speeds/pressures—do not substitute for adequate mechanical integrity testing, nor determine if the pumping equipment's hydraulic system is functioning properly. For an analogy, it is like turning an Indy 500 car on in the pits and either staying there the entire race idling away, or intermittently taking caution laps before reentering the pits again to continue idling—nothing is proven as to the car's actual ability to survive racing the 500 mile distance around the track at full speed. Documenting some information, such as the required number of gas fill-ups lends the same value – **none**.

No documentation available to me as an engineer and contract administration specialist supports the conclusions of the DoDIG Report. Nor does any publicly-available information. Nor does evidence cited by DoDIG investigators. In fact, the available documentation shows otherwise.

Allegation #5: Ms. Garzino alleged: Appropriate and sufficient field testing requires delineating specific and befitting operating parameters with suitable engineering testing formulation, field engineering oversight, and record keeping - to date, to my knowledge, this has not occurred. Simply turning one, a couple, or a few pumps on for 15 to 45 minutes, under unknown conditions, with minimal oversight, and with no record keeping of the conditions, parameters, or oversight is not sufficient. The pumping equipment failures I witnessed most often became evident after hours of run time under normal operational speeds and pressures. At a minimum, real event operating conditions (as in a hurricane, i.e., full operating speeds and pressures) and run times (12 to 24 hours or more) should be applied for any field testing to ensure the pumping equipment operates as intended, and design defects have been mitigated properly.

Facts: USACE prepared a test plan for the final acceptance of the hydraulic pumping systems in the field. The plan included the requirement to run for a minimum of 2 hours continuously with engine speeds of 1800 rpm and hydraulic pressure of 3200 psi. The testing monitor was to verify a steady state condition with engine rpm, hydraulic system pressure, hydraulic oil temperature, engine jacket water temperature, canal level, ambient conditions, and no leaks from hydraulic and fuel systems. The final acceptance tests for each hydraulic pumping system were conducted in the field by the contractor with oversight by USACE. USACE documented the tests with quality assurance reports (QARs) which recorded the testing parameters including pump speeds, run times, temperature, and deviations from test procedures. The 40 systems were accepted by the Government. The QARs documented that 4 of the hydraulic pumping systems were accepted with only 1.5 hours of testing and 6 systems were accepted with reduced speeds for the last half hour of the 2-hour tests, 1400 rpms instead of the required 1800. The reduced run times and speeds for the acceptance tests were caused by the canals running out of water, rather than an actual or anticipated equipment failure. USACE personnel stated that they accepted the systems with reduced hours and speeds because performance was demonstrated in the first 45 minutes by reaching steady state conditions. In addition to the acceptance test for the hydraulic pumping systems, USACE also performed a 36-hour test to prove that the HPU would function for that period of time. This test was performed with a HPU connected to a rented water pump in the canal.

Agency Report Analysis: The allegation was partially substantiated, in that test runs were shorter than the 12 to 24 hours recommended by Ms. Garzino. However, USACE did develop a test plan

and recorded in QARs the extent to which each pumping system met the test requirements. Due to the limitation of the water level in the canal, the test procedures performed by USACE and the contractor were adjusted, but sufficient to demonstrate that the hydraulic pumping systems will function as designed. The 36-hour test on the HPU and the additional run hours on the hydraulic pumping systems provide additional evidence that these hydraulic pumping systems will meet endurance requirements.

Ms. Garzino's comments: It is imperative to review my Supplemental Affidavit, dated May 15, 2008, and all previous discussions and cited documents.

The subject acceptance testing cited by the DoDIG could not physically have taken place. A detailed discussion to provide clarification follows:

- **Rebuttal to statement: acceptance testing of all 40 hydraulic pumps, "run for a minimum of 2 hours continuously with engine speeds of 1800 rpm and hydraulic pressure of 3,200 psi "**

The subject acceptance testing is memorialized in the internal USACE Newsletter of **May 31, 2007** entitled *TASK FORCE HOPE STATUS REPORT*:

As Promised: Corps Delivers All 40 Temporary pumps

New Pumps At Three Outfall Canals Are Tested, Installed And Ready

. . . The Corps of Engineers set a self-imposed deadline of June 1 – the start of hurricane season - to have all 40 of its temporary hydraulic pumps in place at the three outfall canals. **That mission has been accomplished.**

Id. Citing further from the internal USACE Newsletter:

A problem occurred last week with one pump motor during an Orleans Avenue test; that motor was replaced and the new one is working well. **Now all 40 of the pumps are installed, they've been successfully tested, and all are ready for service this hurricane season if needed.**

Id. (emphasis added). Also depicted boldly in the middle of the page is a trophy photo of Col. Bedey with the following quotation and caption:

"We said we'd be there on 1 June. We're there."

Col. Jeffrey Bedey, Commander, Hurricane Protection Office, on having all 40 temporary pumps operational by the start of hurricane season.

Id. Below that is a picture of the 17th Street Canal with the following celebratory caption:



On March 31, the Corps successfully demonstrated all 18 new temporary pumps at the 17th Street Outfall Canal.

There are similar pictures and captions for the London Avenue Canal and the Orleans Avenue Canal – both showing the gates closed and testing underway. Specifically, testing was depicted as being accomplished on March 31, 2007 at the London Avenue Canal, and on May 24, 2007 at Orleans Avenue canal.

The internal USACE Newsletter was presented as a demonstration of the extensive “capabilities” of the New Orleans District to overcome adversity – highlighting their “accomplishments.”

Three days after the March 31, 2007 testing at the 17th Street Canal heralded in the internal USACE Newsletter, Col. Jeff Bedey went on public radio and reported on the state of the hydraulic pumps at that location. Here is what he said to the people of New Orleans:

Col. Jeff Bedey: “I’m really, really happy to report that we have all 18 of the pumps reinstalled in at the 17th Street Canal – 16 of which have been fully tested, and in fact this Saturday we had 10 of the pumps operating and it was I would say a thing of beauty. We have multiple pictures of that and videos – very, very pleased with the progress we’ve made to this point . . . for all the listeners, this is a very, very good news story . . . I can tell you we have 18 pumps in at the 17th Street Canal, 16 of then have been tested, the only reason we haven’t tested the last two is we don’t have enough water in the canal, and stored by the

Sewage and Water Board to actually test them – we're moving forward . . . in my mind this is a good news story, people should be confident in where we are, where we are going . . .”

Radio Broadcast on “Big 870 WWL 1053,” April 3, 2007.

What follows is an analysis of the 17th Street Canal and the likelihood that 10 hydraulic pumps, not the 18 reported in the internal USACE Newsletter, were “fully tested” on March 31, 2007, or any time before May 31, 2007 – fully tested being what the Corps has reported to the DoDIG investigative team as merely a 2-hour acceptance test run, continuously, at full operating speeds and pressures.

The following analysis will utilize very conservative assumptions in order to give the benefit of the doubt to the statements made by the DoDIG Report, apparently by Col. Bedey and the TFG pump team.

Known: In order to perform acceptance testing on 10 hydraulic pumps at the 17th Street Canal, there had to have been a very large volume of water stored by the Sewage and Water Board.

Known: The volume of water the hydraulic pumps would need on their own to pump for two hours at full operating speeds and pressures is simply calculated to be their discharge rate multiplied by the time they ran – 200 cfs (cubic feet per second) times 2 hours - this would be roughly 115 million gallons of water.

Known: Next, in order to run the hydraulic pumps at something other than zero elevation, at which they cannot be run, there must be additional water stored to raise the canal level to a sufficient elevation in order to turn the pumps on. Conservatively, assuming that the test is run at high tide, this would bring the water elevation to about a 1-foot elevation. Next, in order to raise the water level an additional foot (for a turn-on elevation of 2 feet) – probably too low to work, but assumed for the sake of argument, there would have to be an additional volume of water conservatively estimated at 28 million gallons.

Known: What we know at this point is we need, conservatively, roughly 140 million gallons of water to perform these tests successfully.

In reality, this is the amount of water available on March 31, 2007 to run these tests:

<p>On 03/01/07 there was 0.12” of rain in and around the affected drainage basin. On 03/14/07 there was 0.32” of rain in and around the affected drainage basin. On 03/15/07 there was 1.29” of rain in and around the affected drainage basin. On 03/21/07 there was 0.01” of rain in and around the affected drainage basin. On 03/31/07 there was 0.35” of rain in and around the affected drainage basin.</p>

Even under the best case scenario, in the month prior to the much-lauded “testing,” only 2.09 inches of water fell in and around the affected drainage basin. Assuming for the sake of argument the Sewage and Water Board collected it all – every drop of it that made its way to their basin.

Known: Looking at the resultant amount of water actually collected in the collection system, the 2.09 inches of rain equates to less than 0.5 inches of water that is collected in the canals (as taken from a SCS Rainfall – Runoff Solution graph using Soil Type B (moderate infiltration rates) and medium density residential classification – giving a resultant curve number of 75).

Known: Calculating the affected drainage basin at the most to be 15 square miles, yields an estimated volume of water collected to be only 17.5 million gallons.

In sum, as it has been described to the DoDIG, 140 million gallons of water were needed to perform the acceptance testing successfully and we had approximately 17.5 million gallons of water available to do so. These facts are in direct conflict with the statements, analysis and conclusion reached by the DoDIG Report.

Further, no more than a single hydraulic pump could have actually been tested.

Known: Assuming each pump being tested is at full operating speeds and pressures, the discharge rate is then 200 cfs. Running the pump for 2 hours requires 10.8 million gallons of water. If there were 17.5 million gallons of water available, and one pump requires 10.8 million gallons of water, that that means 1.62 hydraulic pumps could be run. Since a fraction of a pump cannot be run when trying to get true testing done, this means only 1 pump was capable of being successfully tested on March 31, 2007. **One pump, not 10 pumps.**

Finally, with 17.5 million gallons of water available, 10 hydraulic pumps could really run only 20 minutes. With 200 cfs for each pump, 10 pumps, gives 2000 cfs, which is equal to roughly 875,000 gallons of water per minute. This yields less than 20 minutes of run time—not 2 hours.

There have not been actual or simulated storm events (as evidenced by documentation of testing that has taken place and NOAA rainfall runoff records) that NOD could have used to test all of the hydraulic pumps at continuous, full operating speeds and pressures for any substantive period of time.

My analysis proves it is physically and mathematically impossible to have conducted acceptance testing for a single hydraulic pump, much less 10 hydraulic pumps, run continuously at full operating speeds and pressures for 2 hours on March 31, 2007.

In addition, given a review of the status of the hydraulic pumps (in various states of repair, installation, etc.), and given the rainfall records for the area surrounding the three outfall canals, it is not physically and mathematically possible to have completed this testing, as reported in the DoDIG Report, at any point during the time period in question (August 2006 through May 2007).

Next, Col. Bedey's statement that "we don't have enough water in the canal" when testing hydraulic pumps, and why such acceptance testing could not have taken place, is really because there is a design flaw. **The Corps' own design flaw is what precludes effective testing of the installed hydraulic pumps** (a review of my Supplemental Affidavit, dated March 15, 2008, is imperative). The contractually-specified Maximum Head Operating Design Point, with a design discharge flow rate of 85,000 gpm, against Total Dynamic Head (TDH) for the hydraulic pumps, was off by two feet (it was 16.8 feet rather than 18.8 feet.). This results in the currently-installed hydraulic pumping equipment being 2 feet less submerged than the original design criteria specified, and pumping at a TDH greater than originally specified.

At normal canal water levels (zero elevation), the original "pump on" design submergence (if no design flaw existed) left the pumping equipment operating at over 5 feet below that required by the Hydraulic Institute Standards (HIS) for submergence (about 10 $\frac{3}{4}$ feet, using the HIS 1994 Edition; 13 feet using the HIS 1998 Edition – for purposes herein, using the lesser value). To clarify further, the pump design specified by the Corps defined the "pump on" elevation as 4 feet, and a "bottom of bell" elevation of -6 feet, bringing total submergence to 10 feet – about 1 foot less than that required by the HIS. Adding this 1 foot to the lacking 4 feet of water (there were no storm/hurricane conditions) required for "pump on" during "normal canal water levels" (zero elevation) results in a 5-foot deficit. Accordingly, it is reasonable to state, significantly beyond the edge of the pump design, it is difficult, but not impossible (wait for high tide, store water from rain events prior to testing, etc.), to operate pumps at anything but storm conditions. The design flaw has now subjected the pumping equipment to submergences over 7 feet below that required by HIS requirements during normal canal water levels, less than half that required by the HIS. Operation of the pumping equipment, to facilitate testing in place (installed), is not possible at zero water elevation and below without severe and likely catastrophic damage to the pumping equipment. This explains why testing at continuous full operating speeds and pressures, for limited minutes, not hours, is the reality of what has been accomplished to date for all the hydraulic pumps.

The DoDIG Report makes further mention of the 36-hour test run as somehow relevant to their conclusions in this allegation. This issue has already been addressed, above. The subject test was done using a MWI rental pump, not one of "our" hydraulic pumps.

The DoDIG's conclusions as to what constitutes a reasonable duration of time for acceptance testing to be run are incorrect due to the facts upon which they relied. As has already been discussed, the subject 2-hour acceptance testing could not have taken place. Regardless, **that the DoDIG Report would find a 2-hour acceptance test (mechanical integrity test) sufficient is without any basis given the documentation that exists.** Documentation from May through July 2006, from the USACE, delineated TFG's own concepts as to an acceptable period of time the subject hydraulic pumps should be run during acceptance testing. An email dated **May 17, 2006** from Jim Bartek (USACE, MVR) sent to Steve Farkus (USACE, MVS)—in the ITR, Jim St. Germain explains that Steve Farkus was brought in to assist TFG with analysis and recommendations for the pumping equipment—reflects the way the Corps' own pump experts evaluated a suitable duration of time such acceptance testing should be run:

[T]hey are looking for input for field testing of the pumps. I would agree with

Ms. Garzino's recommendations below. I believe we recommended a duration of 8 hrs for a test run. . .

Email from Jim Bartek to Steve Farkus, May 17, 2006. The reply to this states:

For the field testing one thought might be to test each individual pump for a period of time (6 hours?) and then test each set of 3 pumps at the same time for a short period (1 hour). The second test would allow for a check of the discharge header for possible leaks under full flow conditions . . .

Email from Steve Farkus to Jim Bartek, May 18, 2006.

Further, email from MWI to TFG pump team states:

Jim and Dan...

For the London Ave. East Platform, we are requested to perform the following:

Remove Denison pumps from 6 drive units on Friday June 7th

On Saturday, we will have a representative from Hydra-Dyne/Denison present to inspect the cams and record condition. Then the Denison units will be reinstalled.

On Sunday, at 7am, we plan to start the 6 water pumps for a **6 hr test**.

Upon conclusion of testing, we will again remove and inspect the Denison cams and record condition with a Hydra-Dyne/Denison representative present.

Id. (emphasis added). Email from Dana Eller, MWI, to Mr. Jim St. Germain, July 7, 2006.

Also, in **June 2006**, the follow-on contract solicitation from USACE TFG for the additional 6 hydraulic pumps cites in the specifications a 5-hour testing duration.

No documentation available to me as an engineer and contract administration specialist supports the conclusions of the DoDIG Report. Nor does publicly-available evidence. Nor does evidence cited by DoDIG investigators. All available documentation points in the opposite direction.

III. Installation Allegation

Allegation #6: Defective and untested pumping equipment was installed.

Facts: As discussed above, 9 water pumps were not factory tested prior to installation and one HPU was received at the site without Government approval of the 3 hour factory testing. Problems identified at the factory testing included undersized gear oil circulation motors, hydraulic motor vibrations, suspect pipe welds, and lower than expected pumping capacity. Under the contract, final

acceptance of the hydraulic pumping systems was not at the factory. It occurred in the field after, final acceptance testing. Additional hydraulic pumping system issues were identified and corrected in the field, including hydraulic oil with foreign contamination described as metal shavings and a jell-o like substance. The agency report found that the problems were solved and that the systems are now fully operational.

The December 31, 2007 GAO Report addressed the issue as follows: Each pumping system has been successfully tested on site ... providing greater assurance that they perform as designed during future hurricane seasons...the Corps stated that all of the outstanding repairs have been completed and on-site testing indicates that the Hydraulic pumping systems are fully operational. Final acceptance of the pumping systems is expected to be completed early in calendar year 2008.

Agency Report Analysis: The allegation was partially substantiated. All HPUs were tested at the factory before shipping. However, as noted above, one HPU failed factory test but was shipped to the site and 9 water pumps were not tested at the factory. However, all defects related to these problems were fixed at the installation sites. Indeed, USACE has taken extensive corrective actions to fix the problems at the sites from April 2006 until May 2007. All 40 HPUs are in place and have been successfully installed and tested. The agency considers this approach reasonable in view of the urgency of achieving an immediate improvement to New Orleans' flood control protection and the unprecedented capacity of these individual pumping units.

Ms. Garzino's Comments: In this allegation, the DoDIG Report mainly restates issues previously addressed in response to Allegation #3 and elsewhere. Please review my Response to Allegation No. 3.

The DoDIG Report restates incorrect information. The fact is that 24 PAs were not performance-tested at the factory, **not the smaller number of 9 they admit to failing to test.**

In addition, when the DoDIG report identifies the hydraulic pumping equipment failures experienced at the factory, there now appears to be a complete omission of all Denison hydraulic pump failures (20 counting only those "seen" by government employees); all hydraulic high pressure hose failures (7 counting only those "seen" by government employees); and all PA failures (4). These omitted failures constitute over 90% of the serious failure issues (experienced during factory testing) I brought forward – issues that, if they were to have happened in the field during a hurricane or tropical storm event, would mean irreversible and catastrophic failure of the pumping system. The DoDIG Report fails to address these massive and potentially catastrophic failures.

As discussed in my Response to Allegation No.3, failed and failing hydraulic pumping equipment components were delivered and installed at all three closure structures, with absolutely no remedial measures taken. Sadly, the TFG pump team provided public and internal statements that the pumping equipment was not defective and would operate as required by the contract—statements that were blatantly false.

Additionally, as discussed in my Response to Allegation No.5, none of the mentioned testing has been done in a manner that can check the mechanical integrity of the pumping equipment - run continuously at full speeds and operating pressures for a substantive amount of time.

No documentation available to me via USACE, publicly-available information, or evidence cited by DoDIG investigators supports the conclusions of the DoDIG Report. What is available is quite to the contrary.

IV. Operational Capability Allegation

Allegation #7: USACE allowed less than full designed capacity performance as called out in the contract.

Facts: The contract stated that the pump shall be able to operate through the entire range and within a tolerance of 0 to plus 5% of capacity in gallons/minute (gpm) at a given Total Dynamic Head in feet of water. The Request for Proposal (RFP) required and the contractor provided a certified pump curve based on model studies identifying that the pumps proposed met contract requirements. The original contract required a full scale capacity test on each pump. Following the initial full size factory tests, USACE's pump testing consultant traveled to the contractor's facility to assess testing issues and production delays.

The consultant's report stated: I recommended dropping the pump performance tests and adding an endurance test for three main reasons. First, there was expected to be only slight variations in pump performance considering they were all manufactured to be identical. Secondly, I had a low confidence level in the validity of the current performance tests and third we needed endurance testing to weed out mechanical problems before the pumps are shipped to New Orleans.

USACE initiated a contract modification to implement these recommendations and replace the full scale capacity test with a model test. In order to validate the contractor's original model test results, a full scale factory test was performed by the contractor in conjunction with ERDC in December 2006. The test results indicated that at the specified operating total dynamic head conditions, the measured discharge capacity was less than required as shown in the following chart:

TDH	Required Capacity	Actual Capacity	% Reduction
16.8 ft	85,000 gpm	82,960 gpm	6.5%
12.1 ft	98,000 gpm	93,982 gpm	4.1%
8.5 ft	105,000 gpm	98,280 gpm	2.4%

USACE stated that the accuracy of the instrumentation for this test was +/- 5%. Because the original model test was not witnessed by the Government, USACE and the contractor agreed to perform an additional model test to ensure the accuracy of the measured capacity of the pumping systems. The model test was conducted by the contractor in cooperation with USACE's ERDC in September 2007. The model test revealed that the hydraulic pumping systems' capacity was 1.4 percent less than required by the contract. USACE stated that the deficit did not have significant impact because the 1.4 percent was within the testing equipment margin of error and the interim system comprised of both the hydraulic and direct drive pumping systems still exceeded the 10-year event system design criteria.

Model testing was considered more accurate for pumping capacity. The use of a model test is standard practice for a pump of this size according to both USACE Engineering Manual 1110-2-3105 and the HI Standard, ANSI/HI 2.6-2000.

Agency Report Analysis: The allegation was substantiated. The model testing did show that the hydraulic pumping systems' capacity was 1.4 percent less than required by the contract. However, USACE stated that the deficit did not have significant impact because the 1.4 percent was within the testing equipment margin of error and the interim system comprised of both the hydraulic and direct drive pumping systems still exceeded the 10-year event system design criteria. The agency stated that because the total system is capable of meeting the 10-year event design criteria, the agency found no basis to recommend equipment redesign or upgrade.

Ms. Garzino's Comments: It appears the DoDIG lacks a good understanding of the engineering associated with pumps and pump tests to determine discharge and head; instead, they have instituted their own "adjustment" to the values report by USACE ERDC (Engineer Research Development Center) team—an "accuracy factor" that, when applied, decreases the actual values reported by ERDC. In point of fact, the values arrived at by ERDC already contain an "adjustment for accuracy" embedded in the assumptions and calculations used to arrive at the values obtained. The DoDIG's fuzzy math is just a way to get the answers they seek.

I also think the DoDIG was likely confused. The error factor of plus-or-minus 5% that they applied to all the testing done was to be applied only to the factory testing that MWI performed in April through May 2006 – not the testing conducted by ERDC (see Page 8 of the ITR, Attachment entitled "Data Report on Factory Tests of Discharge . . . Dr. Stephen T. Maynard"). Again, DoDIG relies on phony calculations to obtain the result desired.

Contrary to what is presented in the DoDIG Report, this is not an Allegation, or issue, I have ever brought forward with regards to operational functionality. My concern has always been the operability of the pumping equipment (i.e. if these pumps are turned on during a hurricane will they **STAY** turned on), not whether they pump 5-10% less than the contract dictates. That is a monetary issue – and one that I do not feel warrants the attention it has received (when looking at a cost-benefit analysis). In the realm of what is important in this investigation, this issue does not even register for me. It appears to be a straw-man that has been put forth by DoDIG so that it can be easily knocked down. It is important only for how it was investigated and the results presented.

IV. Contract Issues Allegations

Allegation #8: Ms. Garzino alleged: TFG ACE [USACE] team violated Federal procurement regulations with numerous and consequential unauthorized commitments, acted with implied authority without the knowledge or consent of the Contracting Officer, failed to take corrective action when knowledge of contracting improprieties were made evident, and refused to implement contract administration actions ordered by the Contracting Officer to mitigate pumping design deficiencies.

Facts: USACE Contracting Officer stated that she was in constant contact with USACE team. The agency reviewed numerous emails, memorandums, records of daily phone calls, and documentation

of meetings with USACE project manager that confirmed continual contact throughout the entire process of the testing and delivery of the hydraulic pump system to the three sites. The agency found evidence that USACE team addressed each of the problems identified in those records, both at the factory and on site. As a result, of the continuous involvement of the contracting officer, 33 modifications were made to the contract from February 15, 2006 to November 13, 2007. For example the modifications involving funds included specification changes to hydraulic piping and hose. Additionally, revisions of testing procedures were made at no cost to the Government.

The December 31, 2007 GAO report stated: We found much of the documentation that the ITR specifically cited as missing - including request for proposals, independent government estimates, certified cost or pricing data, technical analyses, and price negotiation memorandums - was not required, because documentation was not relevant to the contract modifications in question... our review found that, for the most of the contract modifications, there was evidence of some analysis by the Corps and extensive back and forth discussion, usually by email, between officials from the Corps and ... [the contractor].

Agency Report Analysis: The agency found insufficient evidence to support the allegation. Documentation confirmed continual interaction between the contracting officer and other members of USACE team throughout the acquisition process. The contracting officer stated that she was in daily contact with the project manager throughout the duration of the project. The Jacksonville quality control team provided technical support for USACE team by providing oversight of the factory testing.

Ms. Garzino's Comments: The DoDIG report states the CO was in constant contact with USACE pump team – this is a true statement, from my own personal knowledge. However, the DoDIG Report fails to mention that the TFG pump team was coordinating dozens and dozens of other outstanding actions completely unrelated to the pumping equipment contract. This fact, which I know from my own personal knowledge, minimizes the seeming importance of the daily contact.

Furthermore, I know from first-hand knowledge the CO was kept in the dark as to the true status and disposition of the hydraulic pump contract. That the CO kept in constant contact with the TFG pump team during testing and delivery of the pumping equipment is irrelevant if she was not informed of the actual ongoing status of the hydraulic pumping equipment contract. I know of no documentation that exists that supports the contention made by the DoDIG Report; in fact, the opposite is more likely true: no such documentation exists. As the lead person in the field for the pumps (during testing and installation), I would have been copied on any emails pertaining to this matter. I was not. In addition, I was informed by the COs contact specialist that neither of them were aware of any contractual changes to the required factory testing prior to my bringing it to their attention. Regardless, constant contact, no matter the content, does not substitute for Federal Regulations as to what information must be reflected in the contracting documents – the content of the supposed “contact” must be reflected in these contract documents.

For example, with regards to factory testing, it is not proper to revise testing procedures 10 times and not exercise any contract modification, save a single time, almost three weeks after the fact (for the last “revision”), and then only because I brought it to the CO’s attention by raising it with her

Contract Specialist. If factory testing requirements changed 10 times, then there should have been contracting documentation that acknowledged this fact and accounted for it in any final, acceptable disposition of factory testing requirements. I know for a fact that the CO knew absolutely nothing about testing requirements changing as they did. There is a mountain of email and redundant eyewitness accounts that substantiate this fact. Further, the ITR states clearly that after a review of all the contracting documents surrounding the factory testing, they found that the TFG USACE team violated Federal procurement regulations, citing unauthorized commitments and acting with implied authority without the knowledge or consent of the CO – excerpted as follows:

No official contract changes were made to relax testing requirements.... **More than one revision to the testing procedures occurred and changes were made by implied authority by email and verbal communications from both Corps and non Corps of Engineers employees without any Contracting Officer authorities.** Testing was not performed in accordance with the contract documents . . . The original testing performed at MWI was not in accordance with HI standards nor was full-size factory performance testing of each pump performed as required by the contract.

USACE MVN Outfall Canal Pumps Independent Team Report, Released May 24, 2007.

In addition, as I describe later in this document when I respond to Allegation No. 12, the contract modification for hydraulic pipe flushing/cleaning was not done in accordance with Federal Regulations. I will prove that the TFG CO did not enforce the terms and conditions of MWI's contract, and in effect knowingly issued a contract modification to MWI to remain at the site and perform work that was not initially done, and work already required by the terms and conditions of MWI's original contract award, and work that cost the American taxpayers an additional \$683K.

The DoDIG reports inference that USACE somehow performing adequate QA functions in the field during factory testing can alleviate or lessen the need for adequate contract administration is confusing and misguided. The QA functions performed in the field by USACE do not substitute for contract administrative functions by the TFG pump team – especially when the QA reports and associated documents (my trip reports, MFRs, emails, etc. during this same period) point to serious and substantial operational problems with the hydraulic pumping equipment.

Any further comment by me regarding this issue is not possible without seeing the documents the DoDIG relied on to arrive at their conclusion, and without a copy of the documents cited in the ITR with regard to the contract administration issues.

No publicly-available documentation, documents provided to me as an engineer and contract administration specialist, or evidence cited by DoDIG investigators support their conclusion; if anything, it counsels the opposite.

Allegation #9: USACE team personnel did not engage in usual and customary USACE contract administration practices or conduct project oversight and documentation that would ensure even minimum requirements could be met to protect the Government's interests.

Facts: The contract stated: The field test shall be witnessed by the Government . . . Start-up tests and demonstration shall be performed by the pump manufacturer's representative and the Contractor, and witnessed by the Government... The contract also required full size factory testing witnessed by the Government prior to shipment of the pumps. However, the agency found that the process for Government sign-off on the factory testing and designation of who had the authority to approve that the equipment was ready for shipment was not formalized.

The contract administration and documentation issue was extensively addressed by the MFR, ITR and the GAO reports. These reports found numerous deficiencies in contract documentation.

The June 4, 2007, MFR has addressed documentation, contract administration and oversight issues partially. It stated: "My expectation is that the team should document their ongoing contract procurement actions even while working under crisis conditions. I will form a team to help them bring the documentation file up to date. An improvement in future operations would be to deploy a contract administration team to work along side the project delivery team, with the sole focus of performing and assuring correct and complete contract actions and documentation." It further stated: "Meanwhile our team of engineers worked with the manufacturer in the factory to adjust/retrofit/improve the pumps in actual field conditions daily to assure that the pumps reached the required level of reliability."

The ITR found certain key elements of the solicitation documents missing from the contract files. The ITR also noted several change orders (contract modifications) with apparent missing documentation.

The December 31, 2007 GAO report also stated: Contract files for the pumping systems, although incomplete at the time of the ITR review, now contain the required documentation for the type of contract and value of the associated modifications. In a number of cases, Corps officials inserted required documentation in the contract files several months after modifications were issued and only after the ITR reported its findings. The ITR correctly noted the absence of some required documentation. However, we found much of the documentation that the ITR specifically cited as missing—including requests for proposals, independent government estimates, certified cost or pricing data, technical analyses, and price negotiation memorandums—was not required, either because documentation was not relevant to the contract modifications in question . . . Further, the contract itself was not written as precisely as it should have been. Specifically, the original factory test requirements were ambiguous, there were limited provisions for on-site testing, and there were no criteria for acceptance of the pumping systems by the government.

GAO recommended that USACE: Take steps, through additional guidance or otherwise, to reinforce the importance of adherence to sound acquisition practices even during expedited procurements, including ensuring that important contract provisions, such as any required testing, are clear and that the contractor and the government understand what conditions or criteria must be met for successful completion of the contract.

DoD (and the Army) concurred with the GAO recommendation and stated that USACE will review and revise, as necessary, current policies and regulations to ensure that a reasonable period of time is identified for completing and filing contract documents.

The agency report found evidence of Government project oversight during factory and on-site testing of the pumping systems. Ms. Garzino herself was a member of the factory test oversight and site installation teams. Although a supply contract did not require appointment of a contracting officer's representative (COR), USACE appointed the on-site resident engineer as the COR for the pump contract. USACE stated that a COR was not appointed at the factory, as there was a shortage of qualified personnel.

Agency Report Analysis: The allegation concerning inadequate documentation was substantiated. Several audits and examinations found significant deficiencies in contract documentation. The agency stated that it considered it appropriate that the Army has taken actions to emphasize the future need for proper documentation, despite project urgency. The agency report found that USACE provided ample project oversight at the factory as well as at the installation sites.

Ms. Garzino's Comments: As an initial matter, I find this to be a confusing characterization of my Allegation – from the way it is stated, to the “facts” presented, to the analysis offered.

Various statements made in the DoDIG Report are false, to wit:

- The process for “sign-off on the factory testing and designation of who had the authority to approve that the equipment was ready for shipment” is easily understood—unlike DoDIG’s statement that it was “not formalized.” To the contrary, there was no need for government sign-off at the factory, as MWI was solely responsible for QC. In fact, it would be a deviation from usual and customary practice *if* the government did perform sign-off at the factory. Such a requirement would be clearly delineated in the contract documents. In addition, the need for government sign-off was worded such that it was at the discretion of the government, and it did so per directives from the TFG pump team. Given the emergency nature of this procurement, it was imperative that problems/issues be “seen” and addressed at the earliest possible moment; therefore, the government opted to be 100% present (in presence only, not in participation) to protect its interests as best as possible.
- Contrary to the citation from the June 4, 2007, MFR, USACE “team of engineers” did NOT work with MWI in the factory to adjust/retrofit/improve the pumps. To do so would have constructively relieved MWI of their contractual responsibilities. Our USACE “team of engineers” performed only observations and QA functions, constantly reporting forward problems/issues so the TFG pump team would hopefully take action to hold MWI accountable for required contract deliverables through proper contract administration – this never happened as the TFG pump team abdicated usual and customary Corps of Engineers project oversight. The results of this was the TFG pump team engaged in numerous violations of Federal Regulations and committed gross mismanagement and gross waste of public funds.

- A Contracting Officer Representative (COR) at the factory is **NOT** necessary – CORs are for the contract, not individual portions of the deliverables of the contract. The COR for the contract can preside over any needed action required at the factory testing. Why the DoDIG finds a need to muddle, confuse, and imply some deficiency with regards to this matter eludes me.

Interestingly, however, the conclusory Analysis somehow finds a way to state that, even though inadequate documentation was substantiated, they found that there was still ample project oversight at the factory and the installation sites. If adequate contract administrative functions were not performed, what substituted for insuring the government's interests were protected? The reports and submitted assurances from the field personnel? This appears to be the logic used. If so, then why does the Analysis not account for the voluminous documentation of there being serious problems regarding the government's interests being violated?

None of the publicly-available information, DoDIG information, or information provided to me as an engineer and contract administration specialist supports the conclusions of the DoDIG Report.

Allegation #10: Original bidders for the contract would not have been rejected if the requirement for factory load testing that was subsequently deleted from the contract had not been in the Request for Proposal.

Facts: The December 31, 2007 GAO Report addressed the issue as follows: The testing specifications used for the RFP were nearly identical to those published by ... [the winning contractor], which included an open sump test requirement. After the other manufacturers complained that the open sump test requirement was restrictive because only ... [the winning contractor] had an open sump, the Corps amended the RFP to delete this requirement. This open sump test requirement was incorporated into the contract at the time of award, however, because it was offered by ... [the winning contractor] as part of its proposal. USACE representatives stated that the open sump test requirement was deleted from the RFP and was not a factor in the source selection. It, therefore, had no effect on the original bidders' ability to compete. According to the contracting officer, who was also the Source Selection Official, neither the full scale open sump test nor the contractor facilities was a factor in the final selection of the pump manufacturer. During the source selection, each contractor was judged only on its technical approach, project management expertise, past performance, and small disadvantaged business initiatives. The winning contractor was rated significantly higher on the selection criteria. The winning contractor's proposal included the conduct of full scale performance testing at the factory and therefore, it was left in the contract.

Agency Report Analysis: The allegation was not substantiated. Indeed, the requirement for open sump testing that some bidders found objectionable was deleted from the RFP in order to enhance competition. Moreover, the Source Selection Official stated that test facilities were not a factor in judging the bidders.

Ms. Garzino's Comments: The DoDIG Report's conclusion appears to hinge on the premise that factory testing and/or test facilities were not a factor in selecting a winning bidder. Nothing could be further from the truth. In order to meet the requirements of the contract, it was necessary for a

successful bidder to provide full factory performance testing (dynamic testing) and hydrostatic testing (static testing) for all pump assemblies and drive units.

The DoDIG report does not acknowledge the fact that full performance testing was *required* by the contract, not just a “nice thing to have” that was merely left in because the winning bidder put it in their bid proposal.

It is imperative to review my MFR on “Factory Testing Requirements and Field Testing Requirements of the Pumping Equipment for Contract No. W912P8-06-C-0089.”

This MFR will make it very clear that dynamic testing and static testing were integral to the contract in question.

Further, if DoDIG had done any research, they would have ascertained the following additional pieces of evidence I would like to bring to light, which relate directly to this allegation and which show appearance of impropriety with regards to how this contract was awarded.

First: The ITR states the following:

The procurement for the emergency pumps was a source selection and three competitive offers were submitted. At the initial visit in September 2006, each of the offerers and their proprietary information was intact in the contract files. At the follow-up visit in April 07, only MWI's proposal was part of the contract files. The other two offerers were missing. The source selection board's recommendation for award and the basis of it to MWI was intact in the contract files. One of the noted technical approach strengths by the SSB for awarding to MWI was MWI's full scale test of all major components . . .

[C]ertain key elements of the solicitation process are missing from the contract files, namely: the emails notifying the offerers (sic) their weaknesses as alluded in the amendment and the documentation pertaining to the oral presentations conducted on 20 January 2006 (no meeting notes, no sign-in sheets confirming the participants, etc). At the follow-up visit, a videotape of the oral presentations was included in the contract files along with the selection panel's technical evaluations of each offerer. The written clarification on the offerer's weaknesses along with their written responses is still missing for 2 out of the 3 offerers from the contract files. . .

The ITR states clearly that, after a complete review of the source selection contract files, MWI's full-scale test of all major components *was* a noted technical strength in determining the contract award. In addition, the fact that key contract documents that delineate the offer's weaknesses (also providing where they met or were strong) is missing. This shows that the DoDIG relied on a verbal assurance of certain award/non-award criteria—criteria that appear to change during different times of this pumping equipment contract.

Next, the Audio tape of FPI's (one of the bidders) debriefing was made available to me and I have listened to it. It contains the verbal debriefing Dan Bradley and the CO had with FPI once they

were informed that they had not won the bid. In this verbal debrief, Dan Bradley and the CO state clearly that the primary reason FPI was not awarded the contract was that their delivery schedule conflicted with regard to suppliers' letters of commitment, and FPI could not give the Corps uniform components (FPI offered diesel drives from two sources). FPI is heard to inform the CO that they could not offer a single source for the diesel drives because MWI had placed an order for a full complement of Diesel Drives from Caterpillar (apparently the only diesel drive manufacturer large enough to commit to supplying 37 diesel drives in a short period of time) prior to the bid presentations, thereby undermining the ability for another contractor to offer diesel drives and probably violating antitrust laws.

Interestingly, a review of MWI's bid proposal shows that they were offering letters of commitment from 1) Rineer (the pump motor) for delivery of the 34 units with a 12-week lead time and 2) Caterpillar for the 37 diesel drives, also with a 12-week lead time. Both of these components are critical path items; however, they are shown on MWI's bid proposal schedule as arriving on or before February 10, 2006. In addition, on MWI's bid proposal schedule, the completion of the installation of the Rineer motors is April 7, 2006, and the completion of the installation of the Caterpillar diesel drives is that same day.

The actual delivery dates, if relying on the letters of commitment, would give the following actual start delivery dates, assuming no contractor risks a significant financial penalty by placing an order for components prior to contract award:

Rineer: 12 weeks after award of contract (01/27/2006) yields 4/27/2006.

Caterpillar: 12 weeks, therefore same start delivery date, 04/27/2006.

There appears to be an almost 2 ½ month delivery schedule conflict imbedded into MWI's bid proposal – and, for 2 of the most important hydraulic pumping equipment components.

The Source Selection Panel appears not to hold MWI to the same criteria of delivery schedule conflicts that they imposed on FPI. Without knowing what FPI's delivery schedule conflicts are, I would still characterize MWI's bid proposal as unacceptable due to the schedule bust and their bid proposal would have been ranked as such (I have extensive experience in this area as I have served on numerous Source Selection Panels – contract values ranging from \$10-50 million).

Next, while I was in Vicksburg, Mississippi, to participate on an advisory board for the ITR, I was provided a copy of a report to J.P. Woodley, Jr., Assistant Secretary of the Army (ASA) entitled "Project Assessment for 17th Street, London Avenue, and Orleans Avenue Flood Control Pump Stations Project." The Scope of this report centers around the difficulties the pumping equipment was experiencing with regards to schedule delays from pumping equipment defects as well as other logistical problems. In this report, the author states the following:

...the commitment to the impeller foundry (critical path item) was issued on the 20th. The diesel engines were ordered in the 18th On(sic) January 20,(sic) MWI produced a project schedule timeline that showed shipment of the pump systems during April 12 to May 4...

It should be noted that MWI appears to have *ordered* the Caterpillar engines a week and a half before they were awarded the contract—a fact that was lamented by FPI when they were told a single source for diesel engines was an important factor when deciding award of the contract.

I believe there exists a *prima facie* case for looking much closer into the award of the contract in question—at best, there is a definite appearance of impropriety.

There is no evidence available to me in my work capacity, or publicly-available, to suggest otherwise.

Allegation #11: The complainant alleged: TFG ACE [USACE] team refused to hold the contractor responsible for providing accurate and truthful quality control documentation for pumping equipment, and refused to hold the contractor responsible for engaging in misleading and deceptive actions to conceal the actual number and nature of failures.

Facts: The contract required the Contractor to provide test documentation as follows: The Contractor shall provide and maintain an inspection system acceptable to the Government covering the supplies, fabricating methods, and special tooling under this contract. Complete records of all inspection work performed by the Contractor shall be maintained and made available to the Government during contract performance and for as long afterwards as the contract requires. Documentation from the complainant and from the Jacksonville shop inspection reports show problems and corrections at the factory that were not all recorded in the contractor's factory quality control reports. However, USACE was informed of the problems and corrections were made to address pumping system problems.

Agency Report Analysis: The allegation was partially substantiated. The contractor's documentation did not include every problem and correction. However, the Jacksonville QC team also provided documentation and USACE took corrective actions when they became aware of the problems. The agency report found insufficient evidence to conclude that the contractor engaged in deception to conceal equipment failures and agreed with the December 31, 2007, GAO report recommendation: Develop procedures to ensure that any contract related documentation, including that related to contract pricing, is completed and filed within a reasonable period of time.

Ms. Garzino's Comments: The DoDIG report cites facts that are inaccurate and mischaracterizes the facts. Actual Facts Regarding Inspection Requirements, Quality Control, and Quality Assurance:

First, the contract required that the contractor fulfill their obligation to perform Inspection (QC). Specifically, with regards to QC, the contractor was obligated to comply with FAR 52.246-2 which provides for the following:

- Provide & maintain inspection system acceptable to the government.
- Keep records of inspection work available during contract performance.
- Tender only supplies inspected in accordance with inspection system and found to be in conformity with contract requirements.
- Prepare records evidencing all inspections made under the system.

Second, any QA performed, or records the government was able to provide, is simply to help provide some assurance that the contractor has complied with the contract requirements—this is done by comparing the government's QA reports to the contractor's QC reports. On the whole, QA reports usually impart significantly less information regarding the quality of the work being done than QC reports (sometimes 10 to 100 times less). The government has one to two people watching only a small portion of the actual ongoing work, whereas the contractor has possible legions of employees that are part of the QC process. On the whole, the government usually chooses an aspect of the work that they are concerned about to observe (in our case, factory testing) or the government can do random spot checks (or combinations . . .). The whole purpose for government QA reports is to compare and contrast with the contractor's QC reports to assure the government that things are on track.

The idea here is that the government cannot be expected to take over the QC function of the contractor. To address specifics in the DoDIG Report:

In the DoDIG Report, the overall approach appears to be addressing the state of the QA/QC reports. The DoDIG Report seems to imply that USACE was informed of the missing and substandard QC provided by MWI and took action to have MWI submit proper QC reports in order for USACE to have some assurance that pumping system problems were being addressed. For such a scenario, nothing could be further from the truth.

Subsequent to my repeated reporting of substandard, and complete omission of QC on MWI's part (all during **April 2006**), the CO issued a Unilateral Modification (P00005) on **May 06, 2006**, which ordered MWI to attend a meeting where QC would be discussed.

Subsequent to that meeting, MWI turned in QC reports on **May 10, 2006** to the TFG pump team.

This appears to be where the DoDIG Report stops in their investigation and analysis.

On **May 11, 2006**, I received an e-mail from Jim St. Germain with MWI's attached QC reports. Shortly after receipt of this e-mail I verbally informed Jim St. Germain that after cursory review, I found MWI's QC reports to be incomplete, full of false statements, and generally unsuitable. I also informed him that, due to the ongoing installation work (and my 14+ hour work days), unless he had another person to review and comment, there would be quite some time before any feedback could happen. No assistance was forthcoming, and on **June 04, 2006**, I submitted an e-mail where I reviewed and extensively documented for the TFG the reality of MWI's submitted QC reports as being nothing more than a collection of false representations and assertions. The following is an excerpt from the e-mail I sent to Jim St. Germain:

Jim, After initial review of MWI's submitted QC data for Drive Units 8840 thru 8849 I find they are generally incomplete and do not address the numerous testing and component failures these Drive Units have experienced during their lifetime in the assembly thru testing process. As I discussed with MWI on numerous occasions, the most basic requirement that each Drive Unit and Pump Assembly have documented the various component failures and actions taken to remedy same appears to not have been followed by them . . . In addition,

review of the QC data submitted by MWI for Drive Units 8850 thru 8873 reveal the same level of incompleteness. . .

Email from Maria Garzino to Jim St. Germain, June 04, 2006. In the body of this same email, I went on further to delineate specifics of what was missing.

At no time after receipt of my analysis of MWI's submitted QC reports did the TFG pump team, or the CO, take action to remedy the incomplete, inaccurate, and missing QC data.

Treating the documentation for the pumping systems as suitable, when it clearly was not, lent the false impression that all was well with the pumps.

This created a very real problem. It appears that, since the government accepted MWI's false representations and false assertions made in their QC reports, and subsequently accepted the pumping equipment with no measures taken to correct or memorialize (by the CO) the false representations from MWI having to do with the actual history and condition of the pumping equipment, then there is a very good probability that these actions on the part of the TFG pump team have laid the burden for defective pumping equipment solely with the government.

This represents gross mismanagement and a gross waste of public funds and should have been addressed by the DoDIG Report.

In addition, the conclusion of the DoDIG Report—that QC reports can be filed after-the-fact (they still have not been addressed 2 years later), or not at all, with government QA reports used to substitute where deficiencies in QC reports is apparent—is not allowed by the contract requirements or Federal Regulations.

No publicly-available or internal documentation available to me as an engineer and contract administration specialist shows otherwise.

Allegation #12: USACE team personnel refused to hold the contractor responsible for hydraulic oil with foreign object contamination (metal shavings, etc.), and hydraulic pipe flushing procedures that caused hydraulic oil to solidify within the hydraulic system.

In Ms. Garzino's October 13, 2006 Declaration the complainant alleged: We have had issues of the hydraulic oil in the hydraulic system of the pumps in the field turning to a Jell-O (like Jell-O shots) consistency and requiring every part of every pumping equipment component to be flushed and refilled...during an inspection of the hydraulic reservoir there was discovered a large amount of hydraulic oil in the bottom that had turned to a Jell-O like consistency (4" thick slab about 1.5' x 4'). In addition, during the inspection of the Denison hydraulic pumps there was observed largenumber of pumps that had a jelly like substance through out their internal workings. It was later discovered by our testing lab that the Jell-O like substance was caused by a reaction of calcium and water within the hydraulic oil. The calcium was introduced by the pickling compound used in the hydraulic piping provided by [...the contractor] and the water was present by virtue of the hydraulic system not being 100% contained [...the contractor's] own flushing procedure caused the

pickling compound to be introduced to the hydraulic oil, and the subsequent introduction of water caused the reaction to occur. [...The contractor] stated during a meeting on this subject that they did not feel it necessary to rectify this problem and would not take measures to correct it. When I asked [...the contractor] if the Jell-O like hydraulic oil met the specifications of the hydraulic oil required by the Denison hydraulic pump and Rineer motors, they did not answer. My understanding was the government was to bear the cost of flushing/cleaning/refilling all the hydraulic pumping systems because [...the contractor] refused to do so (a day before I left New Orleans three contracts were being awarded to outside contractors to perform the needed flushing/cleaning/refilling). This cost, and all associated costs, should be born by [...the contractor].

Facts: The contract incorporated several FAR clauses by reference and stated: All supplies furnished under this contract will be free from defects in material or workmanship and will conform to all requirements of this contract. The contract stated that the contracting officer may require, by written notice, the prompt correction or replacement of any supplies. Even though the contract does not specifically mention hydraulic oil, the above clause applies to the hydraulic oil. Numerous impurities were noticed in the hydraulic system installed at the sites. The impurities were attributed to slag from welding operations and metal shavings from sawing and pipe cutting operations entering hydraulic pipes during the building of pipe racks by the on-site contractors. Additionally, a jelly like substance in the hydraulic fluid reservoirs, on the tank filters, and hydraulic pumps located at Orleans and London Avenue canals was observed. Testing of the filter indicated a high level of Calcium, Boron, and Silicon, which was believed to be the result of the oils used in the pickling process. Additionally, the suction strainers and hydraulic fluid reservoirs contained large amounts of metal particles. USACE personnel informed us that the hydraulic pump units were shipped to the New Orleans sites with hydraulic oil in the reservoirs. During installation of HPUs additional hydraulic fluid from a local supplier was added. When the two hydraulic fluids mixed, a Jello-like substance formed. An analysis of the hydraulic fluids revealed that the two hydraulic fluids had different consistencies. The contractor replaced the hydraulic fluid but insisted that the hydraulic system was clean and did not require further flushing and cleaning. The contract did not specify a specific procedure for flushing and cleaning the hydraulic pipes. Therefore, USACE decided that long-term reliability would be best served by requiring a cleaning process that was not specified in the contract. In July 2006 two contract modifications were issued to implement new cleaning and flushing of hydraulic piping at the three installation sites.

Agency Report Analysis: The allegation was not substantiated. USACE enforced contract provisions. The contractor replaced the contaminated hydraulic fluid that had turned into Jell-O like substance but insisted that the hydraulic system was clean and did not require further flushing and cleaning. USACE realized that the contract did not specify a specific procedure for flushing the hydraulic pipes. Therefore, USACE determined that for long term reliability the system required a more thorough cleaning to prevent metal particles and other impurities from getting into the hydraulic pump units. The additional cleaning was accomplished through contract modifications at Government expense.

Ms. Garzino's Comments: The DoDIG Report provides a narrative that is severely flawed in its timeline of events and actual facts associated with these events.

The “actual” story and associated timeline:

The contract deliverables required MWI to “furnish the required length of black steel supply and return pipe and hydraulic hose to install and operate all furnished pumps and diesel engine drive units.” Basically, MWI was to supply all the material necessary to construct the required high pressure hydraulic pipe, and each site closure structure contractor was simply responsible for fabricating (constructing) the entire length of hydraulic pipe and installing it on the hydraulic pipe support structures.

MWI provided to each site closure structure contractor the required piping materials, and the pipe that was supplied was shipped with the usual pickling solution found in steel pipe.

MWI was responsible for instructing each closure structure contractor how they wanted the pipe cleaned out before it was presented to them to make the final connections (connect the DUs and PAs to the hydraulic pipe) and then do their own flush and fill procedure (flush and fill all hydraulic lines with hydraulic fluid). MWI provided these pump procedures to the TFG pump team and a preparatory meeting was held with each site closure structure contractor with MWI in attendance to provide all direction and answer all questions.

The site closure structure contractors followed the instructions given to them by MWI for air blowing the piping out. All three site closure structure contractors successfully performed this air blowing pipe cleaning (with MWI personnel either present or able to be present). At the conclusion of the air blow procedure, MWI inspected the pipes prior to their commencing with their flush and fill procedure.

MWI developed and provided the TFG pump team their flushing and filling procedures prior to actually conducting them. These procedures were detailed and were also provided to the DoDIG investigation team. At both Orleans Avenue and London Avenue, these flush and fill procedures were carried out by MWI.

At the manufacturing facility, MWI filled the hydraulic oil reservoir on each DU with 200 gallons of hydraulic oil (the hydraulic reservoirs were shipped to New Orleans with a full hydraulic oil reservoir).

At the site closure structures, when performing their flush and fill procedure, MWI supplied and introduced hydraulic oil that was a different brand than that used in their hydraulic reservoirs.

When the two different types of hydraulic oil were mixed, and then came in contact with trace amounts of Calcium left on the inside of the pipe (from the pickling compound) and trace amounts of water (from condensation), an emulsion formed that later turned to a gelatinous consistency (very rubbery and bouncy).

A lab test was conducted to identify this substance:

From: Floyd Friloux [mailto:ffriloux@lubriport.com]
Sent: Monday, July 24, 2006 1:38 PM
To: Floyd Friloux; Newman, Raymond C MVN
Cc: Pereira, Albert D MVN; joyray130@charter.net
Subject: Re: Filter problems at London Avenue

Anticipated reaction confirmed by weekend study.

Mixing of Mobil Excel and Texaco Rando hydraulic fluids, and homogenizing in 2% deionized water leads to additive separation.

Lab blends of the two oils and small amount of water were whipped into a creamy emulsion. One portion was placed in glass cylinder in 90C oven, another into a steel bomb charged with 15 atmospheres of oxygen.

Calcium and phosphorus additives are found to precipitate in both conditions, slightly more in the oxygen bomb.

A denser, more viscous liquid could be expected to form at bottom of hydraulic reservoir if contamination with small amount of water occurs in a system that contains the Mobil Excel mixed with some competitive product.

	Excel	Rando	mix/top	mix/bottom
Bottom bomb				
		Metals in PPM		
calcium	40	1	8	291
340				
phosphorus	538	295	400	900
938				

It cannot be stressed enough, MWI was in sole possession and had 100% control of the materials used, the flushing/cleaning procedures followed, and the results that ensued.

Next, in early **July 2006**, I was present for the meetings that took place to have the Jell-O like hydraulic oil removed from the *entire* hydraulic system, not just the reservoir (the Jell-O like hydraulic oil was found in the Denison hydraulic pumps and it was known to be in *all* parts of the hydraulic system). It was determined, prior to my leaving, that MWI was responsible for performing this work (as evidenced in a meeting I attended with MWI, Jim St. Germain and Randy Persica, and follow-up emails). However, I was also present when the owner of MWI, David Eller, stated very clearly and emphatically (in this same meeting), that MWI was not about to perform the work as they felt it unnecessary and too expensive. I asked Mr. Eller if his hydraulic pumps and motors were specified to run on Jell-O like hydraulic oil. Mr. Eller did not answer me.

By the time I left, I was told MWI was to perform the work. I assumed MWI was ordered by the CO, given their earlier refusal. I did not know the particulars: that they were being paid \$683,000 to do the work that was already required to be done at no cost to the government.

On **July 14, 2006** MWI sent an e-mail to Jim St. Germain, outlining MWI's "proposed procedure for conducting additional cleaning of the hydraulic tanks and lines."

On **July 15, 2006** Jim St. Germain sent Col. Bedey an email stating the following:

We have issues with the hydraulic fluid at London and Orleans. Test on metal particles found on the suction strainer show slag and metal shavings from the hydraulic piping. Additionally we found a jelly like substance in the hydraulic fluid tank. Test on this fluid indicates that the substance is caused by a reaction of Calcium and water. The Calcium may have come from the oil in the pipe pickling process. Metal is residual from the pipe welding. Discussions with MWI have not gotten very far. They propose to clean the system the same way they clean it before (will provide details but not needed for this message). This problem is beyond their capacity and their solution will be to keep trying to clean the system as they did before. We have been in contact with two companies that are experienced in flushing hydraulic lines. They recommend procedures much more rigorous than those used by MWI. A third company is meeting with us Monday. These new procedures will cost about \$100,000 per outfall canal and will take 12 days per canal. I want to move on these new procedures ASAP. **I will draft a letter to MWI giving them 48 hours to develop a committee to (sic) a quality flushing procedure or turn it over to our construction contractors to perform and deduct it from their pay. Bottom line is this system is beyond MWI's capability, they need more motivation and I have no confidence in their ability to figure this problem out. MWI will continue with their flushing procedure tomorrow but after what I witnessed today, they are doing this on the cheap and with little insight.**

--Jim St. Germain

On **July 16, 2006** Col. Bedey replied to this email stating the following:

Need you to personally engage Mr. Eller, the president of MWI - I met with him Friday. He needs to understand that we are not going to half-step this.... I fully agree with the team's approach - **either they perform or we will move out in a different direction.** Contracting/legal make sure we are straight in our direction. **TIME is of the essence in gaining reliable pumping capacity...**

COL Bedey

On **July 20, 2006**, TFG issued a modification (Undefinitized – scheduled to be definitized in the next two weeks) to MWI to perform "new" flushing procedures at the 17th Street Canal. In this modification, the CO states:

The method of flushing the hydraulic piping is being changed. The contract did not specify a specific procedure for flushing the hydraulic lines. The contractor's proposed method has produced a minimally acceptable clean fluid, but for long term reliability, the system requires a more thorough cleaning.

This was a day or two after I left New Orleans to return home. On **July 21, 2006** TFG issued an identical modification to MWI to perform the same new procedures at London Avenue Canal and Orleans Avenue Canal.

On **July 21, 2006**, MWI provided the TFG pump team their "cost proposal" for the "flushing procedures" for the 17th Street Canal.

In the submitted "cost proposal" MWI asks for, and I later learned obtained (in reality, not in contract format), a **time and materials** contract. In other words, whatever cost escalation they expect they will experience, they pass along for reimbursement. In other words, all "risk" is passed to the government.

On **July 21, 2006**, MWI issued a purchase order to the **subcontractor that will perform the actual cleaning/flushing** of the hydraulic system at the 17th Street Canal (and subsequently for all three outfall canals).

On **August 9, 2006**, MWI provided the TFG CO a "revised" cost estimate for the flushing at London Avenue Canal and Orleans Avenue Canal.

On **September 5, 2006**, the subcontractor performing the cleaning/flushing instructed MWI that they the sub had completed all flushing of the hydraulic systems and, before they commenced refilling the hydraulic systems with filtered hydraulic oil, they needed additional compensation as their contract with MWI appears not to cover this aspect of "additional" work.

On **September 5, 2006**, MWI responded to this subcontractor and informed the sub that MWI just spoke to the TFG CO, and, following her advice, MWI instructed the sub to wait for her to issue a modification to MWI to cover this portion of the work.

On **November 6, 2006**, the HPO performed a "technical analysis" of MWI's submitted invoices from August 7, 2006 through September 16, 2006 for a total amount of \$188,000. Of note, this "technical analysis" is not in accordance with the Federal Acquisition Regulations (FAR).

On **November 6, 2006** the HPO performed a "technical analysis" of MWI's submitted invoices (August 15, 2006, August 21, 2006, August 28, 2006 and September 17, 2006 for a total amount of \$420,000. This "technical analysis" was also not in accordance with the Federal Acquisition Regulations (FAR).

On **December 5, 2006** the TFG CO issued a definitization modification in the amount of \$682,956.50 for the cleaning/flushing performed at all three outfall canals (17th Street Canal, Orleans Avenue, and London Avenue). Of important note, this modification does not contain an

Independent Government Estimate, a Prenegotiation Objective – Business Clearance Memorandum (required for actions greater than \$650,000), Cost or Pricing Data (also required for actions greater than \$650,000), nor a Price Negotiation Memorandum. Even if this was a legitimate modification to MWI's contract, **which it is not**, there was no cost analysis or price analysis done for this very expensive contracting action. It should also be noted that the contract modification amount is simply a total of all the invoices submitted by MWI to the TFG pump team – there is no evidence that “negotiations” were conducted to verify and/or determine if the price adjustment was “fair and reasonable.” If there had been negotiations, then surely hourly labor rates of \$300.00 would have been addressed. I would assume—especially as “deductive” work calculated by MWI (a credit due to the government) used labor rates of \$91.00 per hour. Additionally, included in the “submitted invoicing” were costs associated with delays due to MWI (\$21,000), which the government also appears to have borne. However, it should be stressed that the issuance of this modification was an unnecessary action on the CO's part and constitutes fraud, waste and abuse on the part of the TFG pump team, as it provides for payment of work that was already covered by the original contract terms and conditions at no additional cost to the government.

What becomes very clear from this chronology and compilation of fact statements is that the TFG pump team, with the support of the TFG CO, did not enforce the terms and conditions of MWI's contract, and effectively compensated MWI to remain at the site and perform the work that was required—a \$683,000 compensation to perform work MWI was contractually-obligated to do in the first place at no additional cost to the government—and then issuing revisionist paperwork to cover up the true facts of what occurred.

No documentation available to me as an engineer and contract administration specialist supports the conclusions of the DoDIG report. Nor does publicly-available evidence or evidence cited by DoDIG investigators. What is available points the other way.

Allegation #13: The hydraulic piping supplied by the contractor is not in accordance with accepted industry standards.

Facts: Sub-section 2.4 of the contract stated the hydraulic piping requirements as follows: Hydraulic lines connecting the power unit to the pumping unit shall be a combination of black steel pipe and reinforced hose and shall be installed in accordance with the drawings and as specified herein. Supply pipe shall be ASTM A106, Schedule 80 seamless black steel pipe, and return pipes shall be ASTM A106, Schedule 40 seamless black steel pipe... USACE representatives stated that the contractor supplied the pipes to the standards specified in the contract.

The contract required pipe meeting American Society for Testing and Materials (ASTM) A106. ASTM A106 is a material properties specification which is verified by mill certifications. The properties identified in ASTM A106 are used in the formulas of the American Society of Mechanical Engineers (ASME) codes B31.1 and B31.3 to determine the pipe size. However, the ITR stated, “The hydraulic piping does not meet the requirements of ASME B31.1...” and recommended, “...that a certified hydraulic systems inspector determine if the system is free of shock loading and certify that the system as built is safe to operate for the intended use.”

In response to the recommendation made in the ITR, USACE hired a professional engineer who performed an evaluation to determine the suitability of the hydraulic piping system design and construction. The consultant was advised by an ASME representative that code B31.3, not code B31.1, was the proper code for this application. Using the formulas found in ASME code B31.3 and the properties of ASTM A106 pipe, the consultant determined that the piping was in accordance with the appropriate industry standard. In addition, he tested the installed piping system at 1.5 times the design pressure (4500 psi) and observed no failure in piping and found the system working satisfactorily.

The professional engineer concluded that the hydraulic piping system, design, and construction were suitable for transmitting power from the diesel engine to the vertical water pumps. Shock loading in the drive was not an issue. There were no rapid closing valves in the oil power system. Engineering calculations indicated that the pipe envelope did not present a safety hazard. In summary, the professional engineer found the existing hydraulic pipes adequate.

In addition, another consultant analyzed the adequacy of the ASTM A106 Schedule 80 black steel pipe used as hydraulic conduits for the pumps. He stated in his report: Based on the above observations and ...[the contractor representative] email dated May 18, 2006, we believe that the 3" diameter Sch. 80 seamless black steel pipe is adequate for the hydraulic conduits for the hydraulic pumps at the 17th Street Canal Interim Pump Station.

Agency Report Analysis: The allegation was not substantiated. The hydraulic pipes supplied by the contractor met the contractual specifications and accepted industry standards. The ASME advised that the correct standard for this purpose was ASME B31.3.

Ms. Garzino's Comments: The DoDIG Report fails to address my allegation and facts statement, and instead responds to a follow-on examination of this issue by the ITR—dismissing the ITR's findings by implying that they were invalidated because they were not doing calculations in accordance with ASME B31.3 process piping guide (the ITR used the ASME B31.1 power piping instead).

For the record, **I did my calculations using ASME B31.3, DoDIG's preferred method.**

It should also be noted that the site closure structure contract also states clearly: "*Section 15060-2. Piping installation shall be in accordance with ANSI B31.3*" – as the closure structure contractors were responsible for manufacturing the pipe that MWI provided, this specification was enforced (and I followed it).

It appears the DoDIG did not review the documents I gave them – my calculation sheet was included (attached in emails).

For clarification, I'll cut-and-paste it here:

Calculations to determine appropriate pipe schedule (using t_{total}) for the high pressure side of the hydraulic pipe used in the pumping system:

Operating Pressure: 3000 psi
Operating Temperature: 160 F
Pipe Material Spec.: ASTM A106
Pipe Size: 3" NPS
Corrosion Allowance (CA): 0.125" (required by B31.3)

Design Pressure – for this calculation, design pressure is set to equal operating pressure – this is not advisable, this is only being done to provide a “best” case scenario. Therefore, for this calculation, P = design pressure = operating pressure.

To find wall thickness:

From ASME B31.3-202, Chapter II, Design, Part 2, Pressure Design of Piping Components, Section 304, Pressure Design of Components, Paragraph 304.1, Straight Pipe, Sub Paragraph 304.1.2 Straight Pipe Under Internal Pressure:

$$t_{min} = \frac{PD}{2(SE + PY)} \quad (\text{for } t_{min} < D/6)$$

S = 16,000 psi *Stress value for material* from Table A-1, Basic Allowable Stresses in Tension for Metals, ASTM B31.3 (16ksi for this temperature range)

E = 1.0 *Quality factor* from Table A-1, Basic Allowable Stresses in Tension for Metals, ASTM B31.3 (seamless pipe)

D = 3.5" *Outside diameter of pipe*

Y = 0.4 *Coefficient* from Table 304.1.1 (valid for $t < D/6$) - temp < 900 F

Therefore, $t_{min} = 0.3052326''$

Add Corrosion Allowance (CA):

$$t_{corr} = t_{min} + CA = 0.3052326'' + 0.125'' = 0.430233''$$

Adjust For Mill Tolerance:

$$t_{total} = t_{corr} / 0.875 = 0.430233'' / 0.875 = 0.4917''$$

Determine the appropriate Pipe Schedule from table: for 0.492” wall thickness, **XX Strong**⁵ (0.600”) – (Schedule 160 = 0.438” wall thickness; Schedule 80 = 0.300 “...)

To further clarify, if we calculate [that] we need a minimum 0.4917” wall thickness for our pipe, yet we used pipe (Schedule 80) that has a wall thickness of 0.300”, this will not work well. Even a layperson can understand if you subject a high pressure pipe to pressures that greatly exceed its design capacity, it presents significant concerns for longevity and the lives and welfare of the people who are in and around the high pressure piping system when operations are under way – especially when our hydraulic pumping equipment experiences cavitations, vortexing, and shockwaves within the hydraulic piping system—which it has had a history of experiencing. Therefore, there is even more about which to worry.

In addition, and of significant importance, USACE’s high pressure hydraulic pipe was fabricated using the materials MWI provided – this resulted in the pipe being fabricated utilizing **socket weld fitting and welding**. Per the ASTM Code, **socket welds cannot be used for high pressure piping** (to determine if high pressure ASME B31.3 references ASTM B16.5 where high pressure equates to 2500 psi and over). USACE’s pipe experiences were in excess of 3200 psi. Therefore, the hydraulic pipe as fabricated using the materials MWI provided violates the Code.

The ITR’s recommendations are similar to what I have asked for all along on this issue. My recommendations are as follows:

Recommend that a certified hydraulic systems inspector, per ASME B31.3 Process Piping, inspect the piping system and certify that the hydraulic piping system is safe to operate for the intended use. The inspector may add operating requirements due to the reduced factor of safety. Any additional operating requirements must be included in the training of, and provided to any pump system operators.

Finally, if in fact TFG found a registered or licensed Professional Engineer (P.E.) to certify that the hydraulic system is safe to operate for the intended use (a fit-for-service analysis), and this person came to the conclusions cited in the DoDIG Report, then this P.E.’s name, Professional License Number, the State(s) in which they are licensed, and their analysis with findings need to be forwarded to the respective **Engineering Licensing Board**.

No available internal or external documentation supports the conclusions of the DoDIG report.

Allegation #14: Ms. Garzino alleged: ...they [the contractor] referred to my mandated 100% presence for pump testing oversight by USACE QA [Quality Assurance] personnel, including full QA and photographic documentation of all ongoing pump equipment testing, to be excessive, unnecessary, and somehow detrimental to getting pumps delivered to the city of New Orleans.

⁵ “XX Strong” is a pipe size.

Facts: USACE representatives told us that the contract did not specify the extent of oversight during factory testing. The contract states: Full size factory testing shall be witnessed by the Government prior to shipment of the pumps.

The contract also includes by reference FAR 52.246-2 which states: The Government has the right to inspect and test all supplies called for by the contract, to the extent practicable, at all places and times, including the period of manufacture, and in any event before acceptance. The Government shall perform inspections and tests in a manner that will not unduly delay the work. The Government assumes no contractual obligation to perform any inspection and test for the benefit of the Contractor unless specifically set forth elsewhere in this contract.

In response to the contractor's expressed concerns regarding the complainant's oversight activities, USACE assessed the issue and included the following statement in a contract modification: Inspectors are to be notified of the initiation of test with enough time to travel between test sites and witness the beginning and ending of all tests, even if only one inspector is on duty at that time.

Agency Analysis: The agency report confirmed that the contractor raised objections to Ms. Garzino's rigorous oversight activities because the original contract intent was not clear regarding the extent to which Government representatives would be involved in pump testing. The agency report concluded that USACE management reasonably attempted to balance the need for Government involvement in testing with the need to avoid the type of interference which could slow production. USACE's decision to modify the contract to require the Government representative to witness the beginning and end of each test was an acceptable approach.

Ms. Garzino's Comments:

This "Allegation" was **not** an issue I ever brought forward for investigation. The quote they took from my submitted documents is nothing more than background information as to the conduct of MWI at that time and their unwillingness to cooperate and allow government oversight as the contract clearly states USACE had the right to do (contrary to what the DoDIG reports). It is like the sage brush covering the approach to the mountain, with the mountain being the object of focus. I can only conclude that I did not make the mountain big enough.

The DoDIG Report is seriously flawed by a plethora of misleading statements. For instance, the contract for the pumping equipment clearly calls for government oversight of factory tests:

2.5.4 Full size factory testing shall be witnessed by the Government prior to shipment of the pumps.

The need for government oversight was worded such that it was at the discretion of the government to do so, and it did. There is no ambiguity as the DoDIG Report implies—if comprehensive factory testing is happening, then the government has the right to be there, period. The "extent" that is implied would be if the government *interfered* with the ongoing testing. I, along with the leader of the JAX QA team, never condoned or allowed any oversight activities by government personnel

that violated Corps of Engineers QA oversight requirements. MWI was **never** delayed or impaired due to any government oversight activities. There is extensive documentation to prove this.

Given the emergency nature of this procurement, it was imperative that problems/issues be “seen” and addressed at the earliest moment; accordingly, the government opted to be 100% present (in presence only, not in participation) to protect its interests as best it could.

In addition, 100% government oversight of all factory testing was known by all parties (myself, the JAX QA crew, and MWI) to have been agreed to and signed off on by Jim St. Germain before any testing even began. Once testing began—the massive number of hydraulic component failures, the subsequent failure of MWI to meet their schedule, and the reality of MWI’s efforts to delete and relax testing requirements in an effort to quicken the pace of anticipated delivery of the pumping equipment—became apparent. During this period, MWI also sought to have government personnel stop the practice of witnessing their ongoing testing – this was known by all parties and the issue was discussed in detail. Jim St. Germain provided assurances to myself and the leader of the JAX QA team that he had not changed his position on 100% government oversight—even though we soon learned that Jim St. Germain was attempting to enlist the help of a junior engineer on the JAX QA team to institute government testing oversight more in line with what MWI was proposing.

I followed and enforced contract testing requirements that were provided to me by my superior, Jim St. Germain. At no time did I ever act unilaterally or make decisions and carry them out without the concurrence and direction of either Jim St. Germain or Dan Bradley. *Every single time* there was question as to what new idea triggered testing requirements (whether promoted by the contractor, MWI, or others), I sought the direction of my superiors. *Every single time* I was given the direction I sought from my superiors, **I followed that direction with absolute precision.** I wish to communicate very strongly here, even when my own professional counsel to my superiors was contrary to the direction/orders they issued (which happened a great deal of the time), I always demonstrated the loyalty, dedication to service, and teamwork required by me as a USACE engineer, and **always** followed my orders to the letter. There is **extensive** documentation of this.

I also will state for the record, there is no documentation that exists that shows I have been directed to act and have failed to do so, or have done so contrary to orders—all email, phone calls, and in-person conversations I have been party to with Jim St. Germain, Dan Bradley, and the CO will demonstrate this fact.

Further, I want to correct the record on the following: The CO did **not** modify the contract to curtail my “rigorous oversight activities”—**the contract was modified (early May, 2006) because MWI was implementing the practice of starting testing without notifying the government a test was about to begin – a practice we (myself and USACE JAX QA Team Leader) asked the TFG pump team to help stop.** This is documented by me and persons other than myself at the site (USACE JAX QA).

In fact here is an excerpt from USACE JAX QA Team Leader’s Shop Inspection Report #14, dated **April 21, 2006:**

Mr. Gary Allen came into the warehouse after a static pressure test had already begun on pump #4590. Mr. Allen was never notified that this pressure test was going to begin. He then contacted Ms. Gross to have her ask New Orleans whether these two units needed to be retested or not. New Orleans said that both pump #4587 and pump #4590 did not need to be retested, but that the Contractor must now give adequate notification and opportunity to the Government to witness ALL tests. [see e-mail from Dan Bradley stating such to the Contractor]

The wording in the modification was to imply a **minimum** requirement, not reset the boundaries as implied in the DoDIG Report.

The DoDIG Report fails to mention where it obtained this statement they quoted. It came from my TFG-2 Declaration submitted in April 2007, in which I give a thorough account of the attempted **bribery**.

The statement the DoDIG Report quotes was simply commentary on my part, not allegations of wrongdoing. It is interesting that nowhere does the DoDIG Report address the actual subject matter of the TFG-2 Declaration - **bribery**. DoDIG chooses instead to focus on an issue MWI tried to bring about, namely having me replaced by a lower-level USACE engineer MWI had wrapped around their finger (who was offered the bribe by the TFG pump team leader to “look the other way”—institute QA oversight that helped MWI get more pump equipment through the “testing phase,” including no longer performing full government oversight - only observing when the contractor invited the government to do so). The DoDIG chose to spin this event in an attempt to impugn my conduct during this time. An interview with the head USACE Engineer in the field for the QA’s (who was with me day and night everyday) can put to rest any doubts as to my conduct during this time. In fact, I would demand that occur now.

Attempts to try and sully the conduct of the “complainant,” rather than address the real allegations, is a classic response to a “whistleblower,” but not a sufficient investigatory response.

Agency’s Conclusions

The New Orleans Temporary Outfall Canal Pumps were procured and installed under emergency conditions. The project team made many hurried decisions that sometimes left protocol and documentation lacking. However, our review revealed a dedicated effort by committed professionals, including Ms. Garzino, to procure, debug, and install a temporary outfall canal pumping system to help protect the people of New Orleans. According to information that the agency obtained, this was the largest pumping system ever procured by the USACE, having a 60-inch water pump diameter. The largest pumps previously procured by USACE had a 42-inch diameter. The agency report found several of the allegations were substantiated. Testing at the factory and on-site disclosed numerous deficiencies that were corrected by the contractor at no cost to the Government, or through contract modification when necessary. Furthermore, the effort to produce and install the pumping systems on an expedited basis resulted in the failure to properly document the contract files. However, we consider these deficiencies performance-related shortcomings that did not rise to the level of a serious violation of law or regulation, abuse of

authority, or gross mismanagement. Nor did they result in a gross waste of funds or a danger to public health or safety.

Accordingly, the agency report found insufficient basis to make a referral to the Attorney General pursuant to Section 4(d) of the IG Act or to recommend disciplinary action against any Government employee.

Ms. Garzino's Conclusions

The conclusions drawn by the DoDIG Report are severely flawed and erroneous, and represent a whitewash according to the available evidence and documentation. Evidence and documentation as presented in this Response have been provided to OSC in furtherance of the DoDIG investigation.

Moreover, the DoDIG report is devoid of engineering and mathematical interpretation, upon which the engineering profession is based. An analysis of what conclusions will follow logically from given premises using engineering knowledge and skill, and mathematical descriptive interpretation of the relationships discovered, is paramount in any investigation of this sort. Merely transcribing without question and adequate scrutiny what others put forth, no matter how illogical, unsubstantiated, or void of fact, is unsuitable in any investigatory effort.

And now, unfortunately, not only are there reasonable grounds to believe that the New Orleans District Task Force Guardian pump team committed gross mismanagement, facilitated gross waste of public funds, violated Federal criminal law ("bribery"), and endangered the safety and welfare of the citizens of New Orleans, but there are reasonable grounds to believe that federal investigators have been misled and/or lied to in violation numerous laws.

It remains imperative that there be a vehicle in place that can provide a truthful, competent, and fair investigation of the evidence and documentation that exists in this matter—imperative because the most important public charge we serve is at stake—the safety, health, and welfare of the citizens of New Orleans.

The Special Counsel's Comments

Based on the representations made in the agency's reports and as stated above, I have determined that these reports contain all of the information required by statute, but I am unable to conclude that the agency's findings are reasonable. More specifically, the agency's account of events surrounding the pumps' design, testing, installation, operational capabilities, and contract issues appear to be inconsistent with documentary evidence that Ms. Garzino made available to both OSC and DOD investigators. The documentation and comprehensive explanation provided by Ms. Garzino in contrast with the agency's superficial and dismissive findings also suggest that, although Ms. Garzino regularly and persistently made USACE aware of serious flaws in the design, testing, installation, capabilities and contract issues that arose with the New Orleans pumps, USACE failed to act in manner that was consistent with providing accountability to the process. Instead of taking Ms. Garzino's concerns seriously, USACE employees appeared to have

taken a band-aid approach at the expense of good government and public health and safety. The agency report reflects that it is making excuses on behalf of the USACE instead of making people accountable for their actions. There is a disconnect with the findings that substantiated some of Ms. Garzino's allegations and yet dismissed the mismanagement and abuses of this project by refusing to hold individuals accountable. This failure to address and explain the extensive body of countervailing evidence would alone make the agency's findings unreasonable within the meaning of 5 U.S.C. § 1213(e).

After reviewing the agency report, one finds that the agency's findings and conclusions are hollow and incomplete, despite compelling evidence that would lead one to conclude that USACE employees are responsible for wrongdoing. The agency report appears to avoid holding people accountable for documented deficiencies in how USACE managed the design, installation and oversight of the pump units in New Orleans, all at a substantial and specific danger to public health and safety to the people of New Orleans.

A failure of the pumping equipment to function properly during a time of flooding would be yet another catastrophic event for New Orleans, a city still recovering from the devastating effects of Hurricane Katrina. The report indicates that USACE employees allowed costly pumping equipment to be installed without proper testing and that USACE employees and MWI personnel circumvented contract requirements in an effort to complete the task more quickly at the risk of public safety and proper contract oversight. The government and the public cannot reasonably trust that the flood control system in place in New Orleans possesses reliability and integrity.

There are additional defects in the agency report that further compel me to find the agency's response deficient. I note the following:

- The agency's investigation into Ms. Garzino's allegations of violation of law, rule or regulation, gross mismanagement, a gross waste of funds, an abuse of authority, and a substantial and specific danger to public health and safety; specifically, that pumps were improperly installed at closure structures as part of the flood protection system in New Orleans, appears to have been dismissive and cursory and the agency does not appear to have weighed evidence fully;
- The evidence appears to reflect that in an effort to meet time-sensitive deadlines, and to avoid government imposed damages and instead earn financial incentives, the contractor, MWI, along with USACE, are likely responsible for installing defective pumping equipment that has been largely untested.
- The information reflects that the design of the Denison hydraulic pumps were flawed due to air entrainment, in other words, air getting sucked into the pumping unit causing it to malfunction, and incorrect assumptions about the load capacity running at less than the required inlet pressure, despite the agency's dismissive conclusion that it was an operator's error such as priming and the operation of vacuum equipment, that caused pump unit failures;

- The information provided that the manufacturer and USACE employees undertook ongoing mechanical modifications to the hydraulic pumps for more than a year, which would indicate that the design was flawed and not standard;
- The information shows that over 40% of the Denison hydraulic pumps upon inspection had failed, including the documented evidence of shredded port plates;
- DoD wrongly excuses the conduct of USACE employees on the grounds that USACE and MWI employees expedited the installation of faulty pumping units because they were operating under pressure, even though MWI had already been paid a premium contract price with additional incentives to deliver conforming and operational pump units timely. It appears that USACE and MWI had incentives to look the other way. But not for Ms. Garzino's persistent oversight of the pumping system, despite documented USACE interference, many of the issues would not have been brought to our light.

These and other apparent defects in the agency's report lead me to question the impartiality of the investigation into Ms. Garzino's allegations and conclude that many of the agency's findings are inconsistent with available evidence. DoD OIG has indicated that they will provide supplemental information supporting their report by August 30, 2008. Based on conversations between OSC and DoD OIG officials, it is apparent that no new conclusions or additional findings will be forthcoming. Therefore, due to the onset of hurricane season, OSC believes it is in the public interest to forward all information in its possession without waiting for the additional supporting documentation. I am particularly concerned about the public safety risk created by the assumption that the pumps will adequately operate during a hurricane. Given the hardships suffered by the people of New Orleans, and the billions of tax payer dollars spent on post-Katrina recovery, the Government can ill afford to take unnecessary risks with public safety due to faulty pumping equipment and lack of proper government oversight of this project; a situation that indeed has raised, and continues to raise, serious issues of accountability, public safety, and oversight. Consequently, I must concur with Ms. Garzino's recommendation that an investigation be conducted by independent professional engineers, not subject to the supervision of DoD management, in order to ascertain reliably the scope of past and present dangers of the defective pumping units to determine appropriate remedial actions.