



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

December 7, 2023

EA-23-105

Donald Smith, Quality Assurance Director
Mistras Services
1480 James Parkway
Heath, OH 43056

SUBJECT: NRC OFFICE OF INVESTIGATIONS REPORTS 1-2022-003; AND APPARENT VIOLATION

Dear Mr. Smith:

This letter documents the results of an investigation initiated on October 22, 2021, by the U.S. Nuclear Regulatory Commission (NRC) Office of Investigations (OI), Region I, King of Prussia, Pennsylvania at your Trainer, Pennsylvania facility. The investigation, which was completed on October 19, 2022, and supplemented on May 9, 2023, evaluated whether a former Director of Advanced Services and a former Non-Destructive Testing (NDT) Engineer engaged in deliberate misconduct by falsifying certificates of calibration for non-destructive test equipment that was used at nuclear power plants. A factual summary of the OI investigation is included as Enclosure 1 to this letter.

Based on the results of the investigation, an apparent violation (AV) of Title 10 of the *Code of Federal Regulations* (10 CFR) 50.5, "Deliberate Misconduct" was identified and is being considered for escalated enforcement action in accordance with the NRC Enforcement Policy. The current Enforcement Policy is included on the NRC's website at <http://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html>.

The AV is provided as Enclosure 2 and involves Mistras Services' failure to ensure that NDT equipment was calibrated on an annual frequency. Specifically, Mistras maintained falsified records documenting the calibration of Acoustic Emissions (AE) test equipment used at nuclear power plants. On multiple occasions, two Mistras employees created falsified documents to conceal Mistras' failure to calibrate the AE Data Acquisition Systems on an annual basis, as specified by the equipment manufacturer. The falsified documents, certificates of calibration, affected AE systems that were used in activities affecting quality (e.g., AE systems were used by NRC licensees to examine the structural integrity of cranes used for lifting components such as reactor vessel heads and reactor vessel internals). As a result, Mistras caused NRC licensees to be in violation of NRC requirements (e.g., Criterion XII, "Control of Measuring and Test Equipment," and Criterion XVII, "Quality Assurance Records" of Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Reprocessing Plants" to 10 CFR Part 50). Before the NRC makes its enforcement decision for the AV, we are providing you an opportunity to request a Pre-decisional Enforcement Conference (PEC) or request Alternative Dispute Resolution (ADR) mediation. If a PEC is held, the NRC will issue a press release to announce the time and date of the conference; however, the PEC will be closed to public observation since information related to an OI report will be discussed and the report has not

been made public. If you decide to participate in a PEC or pursue ADR, please contact Kerri Kavanagh, Chief, Quality Assurance and Vendor Inspection Branch at 301-415-3743, or via electronic mail at Kerri.Kavanagh@nrc.gov within 10 days of the date of this letter. A PEC should be held within 30 days, and an ADR session within 45 days, of the date of this letter.

If you choose to request a PEC, the conference will afford you the opportunity to provide your perspective on these matters and any other information that you believe the NRC should consider before making an enforcement decision. The decision to hold a PEC does not mean that the NRC has determined that a violation has occurred or that enforcement action will be taken. This conference would be conducted to obtain information to assist the NRC in making an enforcement decision. The topics discussed during the conference may include information to determine whether a violation occurred, information to determine the significance of a violation, information related to the identification of a violation, and information related to any corrective actions taken or planned. In presenting your corrective action, you should be aware that the promptness and comprehensiveness of your actions will be considered in assessing any civil penalty for the apparent violation. The guidance in NRC Information Notice 96-28, "Suggested Guidance Relating to Development and Implementation of Corrective Action," may be helpful.

In lieu of a PEC, you may request ADR with the NRC in an attempt to resolve this issue. ADR is a general term encompassing various techniques for resolving conflicts using a neutral third party. The technique that the NRC employs is mediation; a voluntary, informal process in which a trained neutral mediator works with parties to help them reach resolution. If the parties agree to use ADR, they select a mutually agreeable neutral mediator who has no stake in the outcome and no power to make decisions. Mediation gives parties an opportunity to discuss issues, clear up misunderstandings, be creative, find areas of agreement, and reach a final resolution of the issues.

Additional information concerning the NRC ADR program can be obtained at <http://www.nrc.gov/about-nrc/regulatory/enforcement/adr.html>. The Institute on Conflict Resolution (ICR) at Cornell University has agreed to facilitate the NRC program as a neutral third party. Please contact ICR at 877-733-9415 within 10 days of the date of this letter if you are interested in pursuing resolution of this issue through ADR. If you have any questions concerning the NRC ADR program, please contact Ms. Nicole Coleman at 301-287-9007.

Please be advised the number and characterization of the AVs described in the enclosed inspection report may change as a result of further NRC review. You will be advised by separate correspondence of the results of our deliberations on this matter.

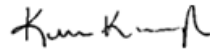
Please note that final NRC investigation documents, such as the OI report described above, may be made available to the public under the Freedom of Information Act (FOIA), subject to redaction of information appropriate under the FOIA. Requests under the FOIA should be made in accordance with 10 CFR 9.23, "Requests for Records." Additional information is available on the NRC website at <http://www.nrc.gov/reading-rm/foia/foia-privacy.html>.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure(s), and your response, if you choose to provide one, will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's Agencywide Documents Access and Management System, accessible from the NRC's Web site at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your response should not

include any personal privacy, proprietary, or safeguards information so that it can be made available to the public without redaction.

If you have any questions concerning this matter, please contact Ms. Kerri Kavanagh at 301-415-3743.

Sincerely,



Signed by Kavanagh, Kerri
on 12/07/23

Kerri Kavanagh, Chief
Quality Assurance Vendor Inspection Branch
Division of Reactor Oversight
Office of Nuclear Reactor Regulation

Enclosures:

1. Factual Summary of Office of Investigation
Report No. 1-2022-003 and 1-2022-012
2. Notice of Apparent Violation

SUBJECT: NRC OFFICE OF INVESTIGATIONS REPORTS 1-2022-003; AND APPARENT VIOLATION DATE: December 7, 2023

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ADAMS Accession No.: ML23340A106

NRR-106

OFFICE	NRR/DRO/IQVB	NRR/DRO/IRAB	OE/EB
NAME	DZhang	BHughes	DJones
DATE	12/6/2023	12/6/2023	12/6/2023
OFFICE	OGC/LHE/SE	NRR/DRO/IQVB	
NAME	KGamin	KKavanagh	
DATE	12/7/2023	12/7/2023	

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FACTUAL SUMMARY
OFFICE OF INVESTIGATIONS REPORT NOS. 1-2022-003 and 1-2022-012

On October 19, 2022, the US Nuclear Regulatory Commission (NRC) Office of Investigations (OI) completed an investigation to determine whether a former Director of Advanced Services and a former NDT Engineer employed by Mistras Services (hereafter referred to as Mistras), located in Trainer, Pennsylvania, deliberately falsified certificates of calibration for non-destructive test (NDT) equipment that was used at nuclear power plants. NRC OI supplemented their Report of Investigation on May 9, 2023, after further evidence was discovered.

Mistras engages in direct contracts with NRC licensees to perform testing of heavy lifting equipment at nuclear power plants. Mistras is required to implement Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," of Part 50, "Domestic Licensing of Production and Utilization Facilities," of Title 10 of the *Code of Federal Regulations* (10 CFR) as specified by NRC licensees in purchase orders and contracts. Mistras' NDT service includes usage of an Acoustic Emission (AE) Data Acquisition System that is used by many NRC licensees to examine the structural integrity of cranes used for lifting components such as reactor vessel heads and reactor vessel internals. One means by which NRC licensees ensure that contractors (e.g., Mistras) are adequately implementing NRC's quality assurance requirements, as specified in purchase orders and contracts, is through audits conducted by Nuclear Procurement Issues Corporation (NUPIC).

NUPIC performed an audit (No. 25093) of Mistras at the Trainer, Pennsylvania, facility on April 19-20 and June 8-10, 2021. In response to a NUPIC audit request, the Mistras Corporate Quality Assurance Director identified that information on a Certificate of Calibration for an AE Data Acquisition System was falsified (i.e., the calibration was not performed as stated in the certificate). Subsequently, the Mistras Corporate Quality Assurance Director interviewed Mistras' Director of Advanced Services, who had the responsibility to ensure that AE instruments were calibrated annually, as required by Mistras' quality assurance procedures. The Director of Advanced Services admitted to not consigning the instrument to the original equipment manufacturer for calibration, and to falsifying the calibration certificate. NUPIC issued a significant finding (NUPIC audit report, dated June 16, 2021) that documented the falsification of a calibration certificate used in the Seabrook nuclear power plant AE Test Report provided by Mistras.

During sworn testimony to OI, the Director of Advanced Services admitted that, from approximately 2011 until 2021, he engaged in creating false/fraudulent certificates of calibration for AE instruments that are used by Mistras during NDT of heavy lifting equipment. When shown copies of six calibration certificates dated from 2016 to 2020, the Director of Advanced Services, confirmed that they were fraudulently created by him. OI's investigation documented that the Director of Advanced Services: (1) understood work at nuclear power plants was regulated by the NRC in accordance with 10 CFR Part 50; (2) was responsible for ensuring Mistras' AE instruments were calibrated annually; (3) wrote Mistras' work packages for all calibrations using the AE instrument; (4) ensured certificates of calibration were included in completed work packages; (5) was aware that Mistras did not have the necessary calibration equipment and that, in order to properly calibrate the devices, they needed to be sent to Mistras Products, formerly known as Physical Acoustics Corporation (PAC), in Princeton Junction, NJ; (6) admitted performing only verification checks, which do not meet calibration requirements; (7) created certificates of calibration which falsely indicated the AE instruments had been calibrated by the original equipment manufacturer (Mistras Products); (8) created false calibration certificates on his work computer using a self-created template in Microsoft Word; (9) began

creating fraudulent calibration certificates in 2011, when he assumed duties as the Director for Advanced Services.

The AE test reports provided to NRC Licensees by Mistras (including the false/fraudulent Certificates of Calibration) are material to the NRC because the test reports are quality assurance records in accordance with Appendix B, Criterion XVII, "Quality Assurance Records," to 10 CFR Part 50, which provide evidence that licensees are following NRC regulations. OI obtained records from several NRC Licensees, including Mistras AE Test Reports that contained falsified calibration certificates created by the Director of Advanced Services, which were relied upon by the NRC licensees.

Additionally, OI acquired emails and metadata that exposed similar misconduct by a Mistras NDT Engineer who was a direct report to the Director of Advanced Services. The evidence shows that the former Director of Advanced Services and the former NDT Engineer created and provided fraudulent calibration certificates to NRC licensees for AE testing equipment used to perform NDT at numerous NRC licensed nuclear power plants from 2011 to 2021.

The evidence revealed that falsified certificates of calibration were provided to the following NRC licensees: (1) AEP: DC Cook Units 1 and 2 (2019); (2) Dominion: Kewaunee Unit 1 (2012); (3) Dominion: Millstone Unit 3 (2016); (4) Dominion: North Anna Unit 2 (2020); (5) Dominion: Surry Units 1 and 2 (2013, 2014); (6) Duke Energy: Harris Unit 1 (2012); (7) Duke Energy: Oconee Unit 3 (2018); (8) Duke Energy: Robinson (2015); (9) Entergy: ANO Units 1 and 2 (2018, 2017); (10) First Energy: Beaver Valley Units 1 and 2 (2017, 2018); (11) Florida Power & Light: St Lucie Unit 2 (2012, 2017); (12) Florida Power & Light: Turkey Point Units 3 and 4 (2010, 2012); (13) NextEra: Seabrook unit 1 (2020); (14) Southern Company: Farley Unit 1 (2016); (15) Southern Company: Vogtle Units 1 (2015, 2017) and 2 (2016); (16) TVA: Sequoyah Units 1 (2012, 2021) and 2 (2011, 2020); (17) TVA: Watts Bar Unit 2 (2015); (18) Xcel Energy: Prairie Island Units 1 and 2 (2016, 2017).

As a result of the NRC OI investigation, the Department of Justice negotiated plea agreements with the former Director of Advanced Services and the former NDT Engineer, which were accepted by the United States District Court for the Eastern District of Pennsylvania on October 19, 2023. Both plea agreements state the following:

The defendant agrees to plead guilty to Count One of an information, waiving prosecution by indictment, charging him with knowingly and willfully making and using a false document, and aiding and abetting, in violation of 18 U.S.C. § 1001(a)(3) and § 2, arising from his creation and use of falsified calibration certificates for acoustic emissions (AE) testing equipment. The defendant sent the false certifications to licensees subject to the jurisdiction of the U.S. Nuclear Regulatory Commission (NRC), attesting that the equipment used to perform acoustic emissions testing at the licensees' nuclear power facilities had been properly calibrated when in fact it had not.

Based on the evidence gathered during the OI investigation and the signed plea agreements, the actions of the former Mistras Director of Advanced Services and the former Mistras NDT Engineer appear to have caused Mistras Services to be in violation of 10 CFR 50.5(a)(2), which states, in part, that any contractor or subcontractor of any licensee who knowingly provides to any licensee, applicant, contractor, or subcontractor, any components, equipment, materials, or other goods or services that relate to a licensee's activities in this part may not deliberately submit to the NRC, a licensee, an applicant, or a licensee's or applicant's contractor or

subcontractor, information that the person submitting the information knows to be incomplete or inaccurate in some respect material to the NRC.

Apparent Violation

Title 10 of the *Code of Federal Regulations* (10 CFR) 50.5(a)(2), states in part, that any contractor or subcontractor of any licensee who knowingly provides to any licensee, applicant, contractor, or subcontractor, any components, equipment, materials, or other goods or services that relate to a licensee's activities in this part may not deliberately submit to the NRC, a licensee, an applicant, or a licensee's or applicant's contractor or subcontractor, information that the person submitting the information knows to be incomplete or inaccurate in some respect material to the NRC.

Criterion XVII, "Control of Measuring and Test Equipment," of Appendix B, "Quality Assurance Program Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," states in part, that sufficient records shall be maintained to furnish evidence of activities affecting quality.

Criterion XII, "Control of Measuring and Test Equipment," of Appendix B to 10 CFR Part 50 states, that measures shall be established to assure that tools, gages, instruments, and other measuring and testing devices used in activities affecting quality are properly controlled, calibrated, and adjusted at specified periods to maintain accuracy within necessary limits.

From approximately 2011 until 2021, Mistras (a contractor) knowingly provided services related to licensees' activities in 10 CFR Part 50 and deliberately submitted to licensees information that the person submitting the information knew to be incomplete or inaccurate in some respect material to the NRC. Specifically, Mistras maintained falsified records documenting the calibration of test equipment used at nuclear power plants. On multiple occasions, two Mistras employees created falsified documents to conceal Mistras' failure to calibrate the Acoustic Emissions (AE) Data Acquisition Systems on an annual basis, as specified by the equipment manufacturer. These falsified documents, certificates of calibration, were submitted to NRC licensees as part of AE test reports on multiple occasions between approximately 2011 and 2021.

The Mistras AE test reports provided by Mistras to licensees (which included the falsified certificates of calibration) are material to the NRC because the test reports concerned AE systems that were used in activities affecting quality (e.g., AE systems were used by NRC licensees to examine the structural integrity of cranes used for lifting components such as reactor vessel heads and reactor vessel internals) and the test reports are quality assurance records in accordance with Appendix B, Criterion XVII, "Quality Assurance Records," to 10 CFR Part 50, which provide evidence that licensees were in compliance with NRC regulations.