



INNOVATING NUCLEAR TECHNOLOGY
ANALYSIS AND MEASUREMENT SERVICES CORPORATION

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Docket #99902075

March 29, 2019

Ms. Maureen E. Wylie
Chief Financial Officer
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Subject: Request for Exemption from NRC Fees

Dear Ms. Wylie:

Analysis and Measurement Services Corporation (AMS) was recently awarded a grant from the U.S. Department of Energy (DOE) under FOA #0001817 to work with the NRC on a project referred to as "Resolving the Regulatory Issues with Implementation of Online Monitoring Technologies to Extend the Calibration Intervals of Process Instruments in Nuclear Power Plants".

The goal of the AMS project is to produce a topical report (TR) and submit it to the NRC for review and approval. The TR will document results of research that AMS will perform under this project in collaboration with the NRC. The project duration is one year, starting in spring 2019. The feasibility of AMS working with NRC through the DOE grant has been established in a number of informal phone conversations and meetings with the DOE and NRC staff. This included a recent meeting on the side of Regulatory Information Conference (RIC) in March 2019, where nearly a dozen NRC staff members from NRR, RES, and elsewhere participated.

A fee waiver for pre-application activities, research collaboration with NRC staff, NRC review of this TR, and issuance of an SER is requested pursuant to the provisions of 10 CFR 170.11(a)(1)(ii). The TR will provide a generic overview of the online monitoring process for pressure, level, and flow transmitters. NRC approval of the TR with an SER will allow licensees to extend calibration intervals without the need for additional plant-specific work. As such, the review of this TR will support ongoing NRC generic regulatory improvements/efforts associated with the surveillance requirements for pressure, level, and flow transmitters.

This project (referred to hereafter as the AMS/DOE/NRC project) will be modeled after a successful implementation of online monitoring (OLM) technology at the Sizewell B nuclear power plant in the United Kingdom. Sizewell B is a Westinghouse Pressurized Water Reactor (PWR) near London, England. AMS implemented OLM at Sizewell B between 2005-2010 leading to extension of calibration intervals of hundreds of pressure, level, and flow transmitters. According to the utility operating the Sizewell B plant, OLM implementation at this facility is saving the utility nearly five million dollars per each operating cycle of about two years in reduced outage time, dose reductions, less work in harsh environments, reduced manpower and human errors, and improved safety and efficiency. In implementing this project, AMS and Sizewell B staff worked with the British regulatory authorities and received formal regulatory approval to change surveillance requirements for transmitters in the plant technical specifications. As a result, the Sizewell B plant is now allowed to use OLM to identify drifting transmitters and thereby limit the calibration activities to those transmitters that have drifted out of tolerance and need a calibration as opposed to the conventional practice of calibrating all transmitters regardless of their performance history.

OLM technologies were developed substantially in the United States with research and development funding from DOE, NRC, Electric Power Research Institute (EPRI), and vendors and suppliers of nuclear plant products and services. It involves monitoring the output of nuclear plant pressure, level, and flow transmitters during startup, shutdown, and normal plant operation to identify drift over the entire operating span of transmitters.

As an alternative to OLM, the calibration intervals of pressure, level, and flow transmitters can be extended using historical performance data from the nuclear industry. This data has shown that more than 90 percent of nuclear grade pressure, level, and flow transmitters do not drift enough in a single cycle and do not therefore have to be calibrated at every refueling outage. This history together with probability risk assessment and other analysis are the subject of a project by the PWR Owner's Group (PWROG) toward development of the technical basis and justification to extend the calibration intervals of nuclear plant pressure, level, and flow transmitters. AMS is working with PWROG on this project. In fact, AMS plans to involve either PWROG and/or a nuclear utility in this AMS/DOE/NRC project. To this end, preliminary discussions have been carried out with PWROG and Southern Nuclear Company and both have agreed in principle to collaborate with AMS on this project.

Please let me add that a Safety Evaluation Report was issued for an EPRI Topical Report on this subject in the summer of 2000. Unfortunately, licensees have found that the plant-specific action items in the SER were too restrictive. Consequently, no effort was spent by the industry to take advantage of OLM or find other means to justify extension of calibration intervals. The AMS/DOE/NRC project will remedy the industry's reasons for not pursuing calibration interval extension based on the original SER of the year 2000. Today, AMS is working with PWROG on a TSTF traveler to extend the calibration intervals. AMS will describe in the topical report to be prepared under this AMS/DOE/NRC project the difference between the TSTF route and the

topical report route. In particular, AMS will explain the pros and cons of the TSTF approach versus the topical report approach.

Thank you and please contact me at (865) 691-1756 ext. 128 or by email at hash@ams-corp.com with any questions.

Best regards,



H.M. Hashemian, Ph.D.
President

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