



# U.S. Department of Energy Categorical Exclusion Determination Form



Program or Field Office: Office of Energy Efficiency and Renewable Energy:  
Phase III Xlerator Program

Funding Opportunity Number DE-FOA-0000397

Applicant Name: Analysis and Measurement Services Corp

Location: Knoxville, TN

Project Title In-Containment Application of Wireless Technology for  
Online Conditioning Monitoring in Pressurized Water  
Reactors

Proposed Action or Project Description American Recovery and Reinvestment Act:

Analysis and Measurement Services Corporation proposes a comprehensive effort to expand and commercialize previous research projects to provide passive, in-containment use of wireless technology at nuclear power plants. Specifically, the efforts of the Phase III project would focus on assembling a complete, commercial, wireless, on-line, data monitoring and analysis system that can be adapted for use in any pressurized water reactor (PWR) containment. The system would be used for condition monitoring during plant operation and/or outage time to provide additional measurements that may be needed by the maintenance crews, operations or plant management. Because of the nature and purpose of nuclear plant containment, the introduction of a wireless network/communication system inside the confined area is challenging and, yet, very advantageous. One such difficulty is operating a wireless system in a very harsh environment with elevated temperatures, high humidity, constant vibration, various levels of radiation, a variety of sources for electromagnetic interference, and large structures preventing transmission of wireless data. The immediate benefit to the nuclear plant is the reduced cost for monitoring equipment and/or processes within containment and to provide additional data as needed for maintenance work during refueling outages and normal operation.

Conditions: None

Categorical Exclusion(s) Applied: B3.6, B5.1

\*-For the complete DOE National Environmental Policy Act regulations regarding categorical exclusions, see Subpart D of 10 CFR 10 21

This action would not: threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health, including DOE and/or Executive Orders; require siting, construction, or major expansion of waste storage, disposal, recovery, or treatment facilities, but may include such categorically excluded facilities; disturb hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum and natural gas products that pre-exist in the environment such that there would be uncontrolled or unpermitted releases; or adversely affect environmentally sensitive resources (including but not limited to those listed in paragraph B.(4)) of Appendix B to Subpart D of 10 CFR 1021). Furthermore, there are no extraordinary circumstances related to this action that may affect the significance of the environmental effects of the action; this action is not "connected" to other actions with potentially significant impacts, is not related to other proposed actions with cumulatively significant impacts, and is not precluded by 40 CFR 1506.1 or 10 CFR 1021.211.

Based on my review of information conveyed to me and in my possession (or attached) concerning the proposed action, as NEPA Compliance Officer (as authorized under DOE Order 451.1B), I have determined that the proposed action fits within the specified class(es) of action, the other regulatory requirements set forth above are met, and the proposed action is hereby categorically excluded from further NEPA review.

ORO NEPA Compliance Officer

**James L. Elmore**

Date Determined: 9/17/2010