

The Nuclear Engineering Program, University of Maryland

Executive Summary

Descriptive project title: **University of Maryland Nuclear Engineering Faculty Development Project.**

This proposal is submitted by the Graduate Nuclear Engineering Program of the University of Maryland. The University of Maryland at College Park is requesting a total amount of \$345,000 for this project. The objectives of the proposed faculty development project is to enhance both graduate and undergraduate education in Nuclear Engineering through an innovative approach based on establishing *a new paradigm of life and reliability prognostics for nuclear system maintenance through the integration of model- and sensor-based and advanced diagnostics approaches for highly confident prognostics*. The proposed faculty will develop and carry out unique research projects and educational program to include: the development of three new courses, entitled 'Capstone Design (with a special topic of PHM)' for an undergraduate level and 'Advanced Health Management of Nuclear Systems' as well as 'Microstructural Characterization of Nuclear Materials' at the graduate level. This project further enhances the extensive nuclear safety expertise of the University of Maryland (UMD) nuclear engineering faculty. The proposed project will revitalize and significantly enhance the graduate Nuclear Engineering Program as well as its undergraduate track in Nuclear Engineering.

The success of our faculty development program will be gauged by a comprehensive evaluation plan that measures the ability of the nuclear engineering graduate program to prepare students for the nuclear engineering profession as measured both by the students and future employers. Semi-annual progress reports will be sent to the NRC detailing faculty development progress in educational course development activities, as well as the success in engaging both graduate and undergraduate students in their research projects. A five member visiting board will continuously mentor the faculty during the duration of the proposed project. The faculty selected for this project clearly have the ability to enhance the stature of nuclear engineering at Maryland both at the national and international level.