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Subject: Green Alert: Survey Technology Saves Time and Money

Title: GREEN - New Survey Technology Saves INEEL Time and Money

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Lessons Learned Statement: Engineers used new technology to characterize the floors of two buildings that had to undergo radiological surveys before they can be decommissioned and dismantled. The new process saved time and money, and it produced more accurate, readable data. These benefits show the need for continuous evaluation of new technologies to solve issues.

Executive Summary: The floors of two air-support buildings at the Idaho National Engineering and Environmental Laboratory (INEEL) had to be surveyed for radiation before they can be decommissioned and dismantled. The process could have taken several months to complete, but instead took just two weeks. Engineers used the Surface Contamination Monitor and Survey Information Management System: a new system designed by SHONKA that captures spatial and radiological data with one instrument and replaces handheld Geiger-Mueller counters. The detector collected approximately 18.5 million data points, compared to about 10,000 that would have been collected by traditional methods, and picked up more accurate and lower levels of radiation.

The next step in the survey process is to produce a characterization report. Producing this report can take up to 200 hours using conventional methods; the survey monitor's accompanying software produced the report in 20 minutes and included 2- and 3-dimensional graphs, tables, release limits, drawings of areas missed, and color enhancements of contaminated areas.

Recommended Actions:

1. Projects that must complete radiological surveys of interior or exterior floors and walls, gypsum board, lumber, or other flat objects should consider using the SHONKA system.

2. Managers and personnel should stay abreast of new technological developments in their fields.

Estimated Savings/Cost Avoidance: The closure characterization project saved almost 6,000 hours of labor and an estimated $176,000.
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Follow-up Action: Information in this report is accurate to the best of our knowledge. As a means of measuring the effectiveness of this report, please notify Terry Pierce at (208) 526-4288 (or by electronic mail at txp@inel.gov) or the INEEL Lessons Learned Program Office at (208) 526-1530 (e-mail at mae@inel.gov or lmitll@inel.gov) of any action taken as a result of this report or of any technical inaccuracies you find. Your feedback is important and appreciated.