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From: Meredith Brown <racer@lanl.gov>
Subject: Green Alert: VPP Program Saves Lives

Title: GREEN - **VPP Program Saves Lives**

Identifier: INEEL Lessons Learned #98002
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Lessons Learned: The proactive safety practices and actively caring attitudes that are a part of DOE's VPP Program are designed to extend beyond the workplace into employees' personal lives. The positive behavioral changes can save lives.

Summary of Success Story: An employee demonstrated the "actively caring attitude" taught by LMITCO's Voluntary Protection Program (VPP) by alerting his colleagues to the dangers of carbon monoxide (CO) in buildings. As a result, another employee discovered potentially dangerous CO levels in his home.

Discussion of Activities: Lockheed Martin Idaho Technologies Company (LMITCO) has been pursuing the DOE's Voluntary Protection Program (VPP) Star Certification. To obtain Star status, LMITCO employees must show through documented actions an "actively caring attitude." Employees are given total safety culture training to produce a desirable behavioral change.

Several LMITCO employees who recently demonstrated an "actively caring attitude" may have saved the lives of at least one other employee and his family.

Employee Lane Butler became curious about carbon monoxide (CO) in his home after listening to a television news item. He shared his curiosity with fellow employee Lawrence Blair. Blair researched CO exposures in the home. He documented his findings and forwarded the information to other managers, asking them to share it with their employees.

Alerted to the potential dangers of CO, employee Dave Carlson installed a CO detector in his home during the Christmas holidays. Carlson's home has a gas water heater installed in the basement. Fuel-burning devices produce odorless, tasteless, colorless toxic CO gas as a by-product of combustion.

Almost immediately after it was installed, the detector alarmed and indicated a room concentration on the main floor of as high as 300 parts per million (ppm). Levels on the upper floor levels registered at 200 ppm. Exposure to CO levels of 200 ppm for two to three hours causes mild headaches, fatigue, nausea, and dizziness. Exposure to CO levels of 400 ppm for 3 hours is life threatening.

Upon investigation, Carlson determined the exhaust from the water heater was flowing back into the basement because the exhaust vent pipe did not extend far enough above the roofline. Although the house had passed building inspections when it was constructed about five years

ago, the exhaust vent did not meet code requirements. By increasing the height of the vent pipe to meet building code, Carlson was able to correct the problem.

Carlson shared his story with other employees when he returned to work. His story was subsequently distributed to other managers across the site.

Recommended Actions: Training employees in an "actively caring attitude" to produce a positive, proactive culture change in the work place. Encourage employees to share their safety concerns through formal and informal communication channels.

Priority Descriptor (optional): Green/Good Work Practice

Functional Category(s) (DOE): Human Resources, Training and Qualification

Functional Category(s) (User-Defined): Human Resources, Training/Qualification/Education

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