APR15-2015-000595

Abstract for an Invited Paper
for the APR15 Meeting of
the American Physical Society

Experiences of an Engineer working in Reactor Safety and Emergency Response[1]

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The U.S. Department of Energy's Federal Radiological Monitoring and Assessment Center Consequence Management Home Team (FRMAC/CMHT) Assessment Scientist's roles, responsibilities incorporate the FRMAC with other federal, state, and local agencies during a nuclear/radiological emergency. Before the Consequence Management Response Team arrives on-site, the FRMAC/CMHT provides technical and logistical support to the FRMAC and to state, local, and tribal authorities following a nuclear/radiological event. The FRMAC/CMHT support includes analyzing event data, evaluating hazards that relate to protection of the public, and providing event information and data products to protective action decision makers. The Assessment Scientist is the primary scientist responsible for performing calculations and analyses and communicating results to the field during any activation of the FRMAC/CMHT assets. As such, the FRMAC/CMHT Assessment Scientist has a number of different roles and responsibilities to fill depending upon the type of response that is required. Additionally, the Sandia National Laboratories (SNL) Consequence Assessment Team (CAT) Consequence Assessor roles, responsibilities involve hazardous materials operational emergency at SNL New Mexico facilities (SNL/NM) which include loss of control over radioactive, chemical, or explosive hazardous materials. When a hazardous materials operational emergency occurs, key decisions must be made in order to regain control over the hazards, protect personnel from the effects of the hazards, and mitigate impacts on operations, facilities, property, and the environment. Many of these decisions depend in whole or in part on the evaluation of potential consequences from a loss of control over the hazards. As such, the CAT has a number of different roles and responsibilities to fill depending upon the type of response that is required. Primary consequence-based decisions supported by the CAT during a hazardous materials operational emergency at SNL/NM include:

- Onsite Protective Actions
- Offsite Protective Action Recommendations
- Event categorization
- Event classification

Other consequence-based decisions supported by the CAT include:

- Response planning and operations
- Event termination
- Reentry planning and operations
- Recovery planning and operations

[1]Sandia National Laboratories is a multi-program laboratory managed and operated by Sandia Corporation, a wholly owned subsidiary of Lockheed Martin Corporation, for the U.S. Department of Energy's National Nuclear Security Administration