

MASTER

NOTICE
This report was prepared as an account of work sponsored by the United States Government. Neither the United States nor the United States Department of Energy, nor any of their employees, nor any of their contractors, subcontractors, or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness or usefulness of any information, apparatus, product or process disclosed, or represents that its use would not infringe privately owned rights.

ONCE UPON A TIME
(TRAINING FOR EMERGENCY SITUATIONS)

BY

WAYNE C. OLSEN

DISTRIBUTION STATEMENT

kb

"Once-upon-a-time," "Long, long ago," or "If I am elected," are phrases used to introduce make-believe situations.

Emergency Response Training is generally approached theoretically in classroom sessions where situations and possible responses are discussed; however, it is generally recognized that "real" situations are highly desirable and are accomplished in this same type of "let's pretend" world. For example, it is common to pretend that a person has a broken arm and needs first aid in a simulated high radiation field. All types of emergency situations are postulated to test the effectiveness of emergency training.

Basic first aid normally is not planned to be taught or practiced on a victim who needs assistance though this experience is essential and the best training. Basic fire fighting techniques also are not taught while a needed plant facility burns to the ground. Personnel must be taught to respond to simulated emergency situations or the desired results will not be achieved.

Make-believe situations have historically been used effectively in classroom training sessions where arms and legs are bandaged in first aid classes; fire extinguishers are charged and expended when teaching fire fighting techniques; and mannequins are manipulated in teaching CPR and mouth-to-mouth resuscitation.

Once the formal classroom instruction and training is completed, personnel must practice what they have learned. Drills are conducted to ascertain training effectiveness, to test individual response, to provide experience in handling unexpected situations, and to improve training.

Training drills should be realistic to develop positive personnel attitude and test individual ability to respond. To make simulated emergencies more realistic, we at the Idaho Chemical Processing Plant stage credible accidents using moulage kits, smoke bombs, fire pots and the actual equipment which would be utilized in an emergency situation.

One of the first steps in making the emergency realistic is deciding on the type of emergency necessary to test a particular segment of training or provide practice to develop certain skills. Second, an area is located in which that particular emergency could realistically occur. As an example, a criticality accident would not be staged in an area void of fissile material. Third, a scenario is then written describing the conditions and desired results of the emergency.

Equipment must be provided for handling the emergency. An emergency vehicle and other plant emergency equipment is used at the Idaho Chemical Processing Plant to handle radiological incidents, chemical spills and other plant emergencies. This vehicle is operated by trained emergency response teams comprised of volunteers with specific knowledge of various plant operations. There is no difference between the equipment used for practice drills and the actual emergencies.

Prior to initiating a drill, notifications are made to the local fire department, medical personnel, security and other necessary organizations who are invited to send

observers. A copy of the scenario is made available for their information.

An example of a typical drill is one designed to test the response of the emergency team in an emergency situation involving acid. An explosion is selected as the emergency; the storage battery area in the emergency generator building is chosen as the site for the incident; the scenario is written as follows:

SCENARIO

EMERGENCY RESPONSE TRAINING

DATE _____ TIME _____

NATURE OF EMERGENCY: Acid Explosion

TRAINING TO BE UTILIZED/TESTED: First aid in Acid Environment

LOCATION OF EXERCISE: Emergency Generator Building

NOTIFICATIONS OR SPECIAL INSTRUCTIONS: Fire Department. Request Fire Department to take information from Emergency Response Team and advise that no ambulance is available for transport of injured.

DESCRIPTION OF INCIDENT: A maintenance man was checking the bearings on the emergency generator. Upon completion of his job, he lit a cigarette. The flame ignited hydrogen which was trapped in the area because of a ventilation problem.

The battery exploded.

The man was hit by flying debris.

His head was cut.

His hand was burned.

He is covered with acid.

PROCEED AS IF SITUATION WERE ACTUAL EMERGENCY

To tailor this emergency to the selected area, a sign is placed on a battery to indicate that it has exploded. Water is poured on the floor to simulate acid. The tools that would be used are placed in the area and cigarettes and matches are provided.

The victim's injuries are made as realistic as possible. Items from a moulage kit are used for the head wound and burned hand. If the necessary items were not available in the moulage kit, mortician's wax, dyes, make-up, and even bones and intestines from a meat processing plant are used to simulate injuries. The victim is positioned at the scene and water is poured on his clothes to indicate the areas exposed to the acid.

The fire department and medical staff are advised of the test and instructed in handling the information received from the emergency team. The emergency team is called to the scene. Upon arrival, the team captain is given a copy of the scenario. The scenario gives the team necessary information which would be available either from observation or conversation in an actual emergency situation thus adding credibility to the exercise. As the team handles the emergency, a group of observers checks team response and a videotape of the drill is made to enable team members to immediately view their performance.

A critique is held immediately following the drill to discuss results of the response. The members are given an opportunity to discuss their actions and evaluate the exercise. A mini-training session is then held to alleviate weak areas and further training is then scheduled if necessary on a particular aspect.

To provide effective emergency response, all employees must be indoctrinated in emergency actions. All personnel are trained to respond to specific warning signals. Before unescorted plant entry is granted, the individual must attend an emergency action indoctrination. A review and test is conducted annually to insure that all employees are informed of the Emergency Action Plan, any major changes in the Plan, and to let them practice their emergency actions. Emergency Response Team members are trained and/or tested monthly to maintain their skills.

Test drills will seem more necessary if employees know the importance of their emergency response training and how it can affect them both on and off the job. Surrounding civil defense organizations are advised of the Idaho Chemical Processing Plant Emergency Action Plan through an interagency agreement and incorporate applicable material into their emergency plans.

In summary, to remove the "Once-upon-a-time" atmosphere from emergency response training:

- a) Plan credible emergency situations
- b) Select plausible locations
- c) Write scenarios
- d) Tailor situations to locations
- e) Involve other organizations
- f) Make injuries look realistic
- g) Give employees a piece of the action

Individuals will gain confidence in handling emergency situations by participating in practice or test exercises. As they attend these drills, their actions will become more natural and the make-believe exercise will appear more realistic. Knowing how to respond alleviates "play acting" and in turn makes the situation more realistic.