State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JON S. CORZINE
Governor

LISA P. JACKSON
Commissioner

Division of Environmental Safety and Health
PO Box 424
Trenton, New Jersey 08625-0424
Tel (609) 633-7964
Fax (609) 777-1330

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TO: All Attendees
2007 Public Hearings
New Jersey Radiological Emergency Response Plan

Attached for your information is the Department of Environmental Protection's response document for the three public hearings which were conducted during July 2007 to receive comment on the adequacy and effectiveness of the New Jersey Radiological Emergency Response Plan. Please note that the attachment addresses only those questions and comments for which the Department (DEP) has responsibility under the Radiation Accident Response Act. It does not address questions and comments concerning responsibilities of other agencies. Additionally, we try to respond to most questions during the meetings so that we can "face to face" communicate. However, invariably there are topics that require more research on our part. The attachment reflects those questions and concerns that we were unable to address during the hearings. This document is being mailed to all those who attended the public hearings and also is being placed on the BNE web page at http://www.nj.gov/dep/rpp/bne/bnedown.htm. Transcripts of the three public hearings are available at the same address.

The 2008 public hearings are tentatively scheduled as follows:

Salem County
Wednesday, July 2, 2008
6:00 p.m. to 7:00 p.m. DEP Public Information Session
7:00 p.m. Public Hearing
Salem County Courthouse
Freeholder Meeting Room, First Floor
Salem, New Jersey 08079

Cumberland County
Wednesday, July 16, 2008
6:00 p.m. to 7:00 p.m. DEP Public Information Session
7:00 p.m. Public Hearing
Cumberland County Administration Building
790 East Commerce Street (Route 49)
Bridgeton, New Jersey 08302

Ocean County
Tuesday, July 22, 2008
6:00 p.m. to 7:00 p.m. DEP Public Information Session
7:00 p.m. Public Hearing
Ocean County Administration Building
101 Hooper Avenue, Room 119
Toms River, New Jersey 08754-2191

The dates and locations for these hearings are subject to change. However, as in the past, the Department will send the Notice of Public Hearing with the confirmed dates and locations to everyone on its mailing list approximately June 1, 2008.

I want to thank you for attending the hearings and for your interest in improving the New Jersey Radiological Emergency Response Plan.

Sincerely yours,

Jill Lipoti

Jill Lipoti, Ph.D.
Director

Attachment

Public Hearing Response Document

1. The public would like to see something about the reach of the State's Recovery and Re-entry plan. (Ocean – page 23, line 4)

RESPONSE: Responses to nuclear power plant incidents are typically segmented into three phases. The Emergency Phase begins with the onset of the incident and continues until the nuclear power plant terminates any radiological releases and eliminates the threat of any additional releases. It is during this phase of the emergency that the state makes Protective Action Decisions to ensure the public is adequately protected from acute exposures (large doses over short time periods) to radiation. Some of the decisions to protect the health and safety of the public during this phase are evacuation, sheltering and the use of potassium iodine.

In a nuclear incident with a large release of radioactivity, some of the radioactive material will settle to the ground. Following the termination of the radioactive release, state and federal emergency response staff will begin to survey and sample the environment to determine where radioactivity has been deposited on the ground. Depending on the extent of the deposited material, it may be necessary to temporarily relocate the public from these areas while decisions are made about decontamination. In addition, state, local and federal decision makers will assess the impact of the deposited radioactive materials on food, water and milk. When decisions made to protect the public based on the assessment of deposited radioactive materials in the environment, it is called the Intermediate or Ingestion Phase. Decisions made during this phase of the incident ensure that the public avoids chronic doses (small doses received over a long time) of radiation from direct exposure to deposited materials or ingestion of contaminated food, milk or water. This phase may last from several days, to weeks or possibly months depending on the extent of the deposited radioactive material.

Once the public is protected from both acute and chronic exposures to radiation, state, local and federal officials will begin to make decisions regarding Return, Re-entry, and Recovery, the third and final phase of the incident. During the emergency phase, the decision to evacuate populations is generally conservative because of the uncertainty in determining the path of the radioactive plume and precisely what areas may be impacted. For this reason, many areas that have been evacuated may not be contaminated with deposited materials. Decisions regarding the return of populations to these areas may begin while the Intermediate (Ingestion) Phase is still in progress. As a result, the final phase of an incident may overlap with the Intermediate (Ingestion) Phase but will likely continue for a much longer period.

Re-entry refers to the process of allowing specific individuals or groups of individuals into contaminated areas for a specific purpose and typically has pre-designated constraints on duration and/or exposure. Re-entry may be necessary to perform tasks on critical infrastructure, for response to other emergency events in evacuated/relocated areas (such as fire), or for farmers to attend to their herd. It may also include an opportunity for evacuees to return to their homes to retrieve essential documents, medications etc. The reasons for re-entry will vary greatly depending on the area of impact. However, each re-entry request will be carefully evaluated to

determine if the mission is necessary and what exposures are expected. Doses will always be monitored, recorded, kept As Low As Reasonably Achievable (ALARA) and below the established limits for emergency workers and the general population.

For areas that have become contaminated from deposited radioactive materials, it may be necessary to take additional actions before populations are allowed to return. Some of the areas can be decontaminated. Some of the areas may need to be condemned and the residents and merchants permanently relocated. Recovery is a complex process that incorporates the consideration of a number of variables into decision making. Location of critical infrastructure, land use, economic and social impacts, transportation routes and commerce are just a few of the factors that must be considered when making decisions regarding recovery and return. Based on lessons learned from past ingestion phase exercises, New Jersey has developed a comprehensive matrix for assessing the complexities of Return, Re-entry and Recovery.

Return, Re-entry and Recovery is a process that requires a tremendous amount of resources to address. Should an event with far reaching radiological consequences occur in New Jersey, it is likely that the President will make a declaration of a State of Emergency and the incident will require implementation of the National Response Plan. This plan makes available all the resources necessary to properly characterize and assess the extent of the impacted areas and populations. The Department of Energy will open and operate the Federal Radiological Monitoring and Assessment Center to gather environmental data for decision making. The US Environmental Protection Agency will provide long term planning and assessment to monitor the environment and assists in making recommendations for the control of food, water and milk. Many other federal agencies will provide support and coordination for the incident and all levels of state and local government will be involved in the process of Return, Re-entry and Recovery.

2. "I would like to ask you how the devastation of the reactors, or let's say impairment of the reactors in Japan by the earthquake that particular event, has been factored into a response by the State Troopers and by the DEP?" (Ocean - page 49, line 12)

RESPONSE: According to press reports, two earthquakes, measuring about 6.8 on the Richter Scale, struck on July 16, 2007 near the 4-unit Kashiwazaki-Kariwa nuclear station in Japan. They caused a minor fire and leakage of 317 gallons of radioactive water to the Sea of Japan. Tokyo Electric was criticized for being too slow in reporting the problems to the public and government. It took six hours to report the leak to authorities. Additionally, the earthquakes exceeded the seismic design basis for the plant by a factor of two. It was later determined that the nuclear plants were unknowingly constructed directly on top of an active seismic fault. The characteristics of the earthquake caused broad horizontal swaying causing water to slosh out of storage pools. The plant are designed for shorter more intense tremors. All four reactors were safely shutdown.

There are significant differences when comparing the Japanese site to Oyster Creek. Oyster Creek is located in a geological area consisting of sandy soil which results in the expectation of lower intensity earthquakes.

In the 1990's, Oyster Creek revised their seismic design loadings using a then state-of-the-art methodology which took credit for the actual soil conditions and damping factors (Oyster Creek UFSAR Section 3.7). This more accurate analysis predicted generally lower seismic accelerations than the original plant design basis.

Earthquakes, as well as high winds and floods, are environmental events that are factored into emergency response for nuclear power plants in the United States. According to the current Emergency Action Level Matrix of the Emergency Plan, AmerGen is required to notify the New Jersey State Police Office of Emergency Management (OEM) within 15 minutes of a seismic event felt in the Oyster Creek plant and confirmed by the National Earthquake Center. The New Jersey State Police Office of Emergency Management is required to contact the New Jersey Department of Environmental Protection's Bureau of Engineering (NJDEP-BNE) within 15 minutes of their notification. The NJDEP-BNE would then implement a proceduralized response to the notification which, depending on the severity of the event, could result in the activation of the Nuclear Emergency Response Team. This process would avoid the extreme notification delays which occurred during the Japanese event. Protective actions would be implemented in accordance with the existing Radiological Emergency Response Plan.

3. Hearing Officer promised a copy of Journal of Urban Health article re: health care worker response to catastrophic disasters to attendees. (Ocean- page 23, line 25)

RESPONSE: At the Ocean County public hearing, The DEP's Hearing Officer referenced a scientific study published in the Journal of Urban Health pertaining to an emergency responder survey. During the ensuing dialogue, the DEP Hearing Officer offered to provide a copy of that study to meeting participants. The study was to be included with this hearing response document. After carefully reviewing the copyright restrictions for the article, the DEP found that permission from the publishing company was required to copy or reprint the article in its entirety. The DEP officially requested permission from Springer Publishing Company to provide copies to our hearing participants. That request was denied by the publisher and we were informed that copies may only be obtained by purchasing the article. The following information provides the details of the article referenced at the hearing and a web page where the article may be purchased:

Title: " Health Care Workers' Ability and Willingness to Report to Duty During Catastrophic Disaster"
Journal: Journal of Urban Health
Publisher: Springer New York
ISSN: 1099-3460 (Print) 1468-2869 (Online)
Issue: Volume 82, Number 3 / September, 2005
DOI: 10.1093/jurban/jti086
Pages; 378-388
Subject: Medicine
Web Address: http://springerlink.com/content/c0hl689374236374