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FEMA

September 9, 2004

Mr. Sam Collins, Regional Administrator
U.S. Nuclear Regulatory Commission
NRC Region I
475 Allendale Road
King of Prussia, PA 19406-1415

Dear Mr. Collins:

Please find enclosed a copy of the Final Exercise Report for the March 16, 2004, Salem/Hope Creek Nuclear Power Station Plume Pathway Exercise and related out of sequence activities. The State of New Jersey, Salem and Cumberland Counties, and all eight risk municipalities participated in this exercise.

There were no Deficiencies and five Areas Requiring Corrective Actions identified in the exercise.

The offsite radiological emergency response plans and procedures for the State of New Jersey, and the affected local jurisdictions, specific to the Salem/Hope Creek Nuclear Power Station, can be implemented and are adequate to provide reasonable assurance that appropriate measures can be taken to protect the public health and safety in the event of a radiological emergency at the site.

If there are any questions regarding this matter, please contact Robert F. Reynolds, FEMA Region II RAC Chairperson at (212) 680-3621.

Sincerely yours,

Joseph Picciano
Acting Regional Director

Enclosure

Cc: ✓ Vanessa E. Quinn, FEMA Headquarters
✓ Robert J. Bores, NRC Region I

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Sincerely yours,

A handwritten signature in black ink, appearing to read "Robert F. Reynolds, Jr.", is written over the typed name of Joseph Picciano.

Joseph Picciano
Acting Regional Director

Enclosure

Cc: Vanessa E. Quinn, FEMA Headquarters
Robert J. Bores, NRC Region I



Exercise Report

SALEM/HOPE CREEK NUCLEAR GENERATING STATION

Licensee:	Public Service Electric and Gas Company
Exercise Date:	March 16, 2004
Report Date:	September 3, 2004

**U.S. DEPARTMENT OF HOMELAND SECURITY
Federal Emergency Management Agency, R II
26 Federal Plaza
New York, New York 10278**

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I. EXECUTIVE SUMMARY

The Federal Emergency Management Agency (FEMA), Region II evaluated an exercise on March 16, 2004 and related out of sequence activities ending on June 22, 2004 in the plume exposure pathway emergency planning zone (EPZ) around the Salem/Hope Creek Nuclear Generating Station (S/HC NGS). The purpose of the exercise and out of sequence activities was to assess the level of State and local preparedness in responding to a radiological emergency. The exercise and out of sequence activities were held in accordance with FEMA's policies and guidance concerning the exercise of State and local radiological emergency response plans and procedures.

FEMA wishes to acknowledge the efforts of the many individuals in the State of New Jersey, Salem County, Cumberland County, Salem City, and the Townships of Elsinboro, Lower Alloways Creek, Mannington, Pennsville, Quinton, Greenwich, and Stow Creek who participated in this exercise.

Protecting the public health and safety is the full-time job of some of the exercise participants and an additional assigned responsibility for others. Still others have willingly sought this responsibility by volunteering to provide vital emergency services to their communities. Cooperation and teamwork by all the participants were evident during this exercise.

This report contains the final evaluation of the biennial exercise and the evaluation of the following out-of-sequence activities in Salem and Cumberland Counties: Reception Center, Congregate Care Centers, Emergency Worker Personnel Monitoring Center, General and Special Population Bus Companies, School Bus Companies, Access and Traffic Control Points, School Interviews and Medical Drill.

The State and local organizations, except where noted in this report, satisfactorily demonstrated knowledge of their emergency response plans and procedures and adequately implemented them. No Deficiencies and five Areas Requiring Corrective Actions were identified as a result of this exercise. Two prior Areas Requiring Corrective Actions were successfully addressed. There are no unresolved prior Areas Requiring Corrective Action.

II. INTRODUCTION

On December 7, 1979, the President directed FEMA to assume the lead responsibility for all offsite nuclear planning and response. FEMA's activities are conducted pursuant to 44 Code of Federal Regulations (CFR) Parts 350, 351, and 352. These regulations are a key element in the Radiological Emergency Preparedness (REP) Program that was established following the Three Mile Island Nuclear Station accident in March 1979.

FEMA Rule 44 CFR 350 establishes the policies and procedures for FEMA's initial and continued approval of State and local governments' radiological emergency planning and preparedness for commercial nuclear power plants. This approval is contingent, in part, on State and local government participation in joint exercises with licensees.

FEMA's responsibilities in radiological emergency planning for fixed nuclear facilities include the following:

- Taking the lead in offsite emergency planning and in the review and evaluation of radiological emergency response plans (RERPs) and procedures developed by State and local governments;
- Determining whether such plans and procedures can be implemented on the basis of observation and evaluation of exercises of the plans and procedures conducted by State and local governments;
- Responding to requests by the U.S. Nuclear Regulatory Commission (NRC) pursuant to the Memorandum of Understanding between the NRC and FEMA dated June 17, 1993 (*Federal Register*, Vol. 58, No. 176, September 14, 1993); and
- Coordinating the activities of the following Federal agencies with responsibilities in the radiological emergency planning process:
 - U.S. Department of Commerce;
 - U.S. Nuclear Regulatory Commission;
 - U.S. Environmental Protection Agency;
 - U.S. Department of Energy;
 - U.S. Department of Health and Human Services;
 - U.S. Department of Transportation;
 - U.S. Department of Agriculture;
 - U.S. Department of the Interior; and
 - U.S. Food and Drug Administration.

Representatives of these agencies serve on the FEMA Region II Regional Assistance Committee (RAC) which is chaired by FEMA.

Formal submission of the RERPs for the S/HC NGS to FEMA Region II by the State of New Jersey and involved local jurisdictions occurred on February 3, 1982. Formal approval of the RERPs under 44 CFR 350 was issued by FEMA Headquarters on August 3, 1998.

The most recent exercise at this site was conducted on March 19, 2002. The qualifying emergency preparedness exercise was conducted on April 8, 1981.

A REP exercise was conducted on March 16, 2004, by FEMA Region II to assess the capabilities of State and local emergency preparedness organizations in implementing their RERPs and procedures to protect the public health and safety during a radiological emergency involving the S/HC NGS. The exercise was staged for the Hope Creek reactor at the Salem/Hope Creek site. The purpose of this exercise report is to present the exercise results and findings on the performance of the offsite response organizations (ORO) during a simulated radiological emergency.

The findings presented in this report are based on the evaluations of the Federal evaluation team, with final determinations made by the FEMA Region II RAC Chairperson, and approved by the Regional Director.

The criteria utilized in the FEMA evaluation process are contained in:

- NUREG-0654/FEMA-REP-1, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," November 1980 (hereafter referred to as NUREG-0654); and the
- FEMA Interim REP Program Manual, August 2002.

Section III of this report, entitled "Exercise Overview," presents basic information and data relevant to the exercise. This section of the report contains a description of the plume pathway EPZ, a listing of all participating jurisdictions and functional entities that were evaluated, and a tabular presentation of the time of actual occurrence of key exercise events and activities.

Section IV of this report, entitled "Exercise Evaluation and Results," presents detailed information on the demonstration of applicable exercise objectives at each jurisdiction or functional entity evaluated in a jurisdiction-based, issues-only format. This section also contains: (1) descriptions of all Deficiencies and ARCAs assessed during this exercise, recommended corrective actions, and the State and local governments' schedule of corrective actions for each identified exercise issue, and (2) descriptions of unresolved ARCAs assessed during previous exercises and the status of the OROs' efforts to resolve them.

III. EXERCISE OVERVIEW

Contained in this section are data and basic information relevant to the March 16, 2004, exercise to test the offsite emergency response capabilities in the area surrounding the S/HC NGS. This section of the exercise report includes a description of the plume pathway EPZ, a listing of all participating jurisdictions and functional entities that were evaluated, and a tabular presentation of the time of actual occurrence of key exercise events and activities.

A. Plume Emergency Planning Zone Description

1. Site Vicinity Description

There are two nuclear generating stations (three units) located on Artificial Island. The nuclear generating stations are Salem Nuclear Generating Station Units 1 and 2, and the Hope Creek Nuclear Generating Station. The stations are adjacent to each other and located on the southern tip of the Artificial Island in the Township of Lower Alloways Creek, Salem County, New Jersey. The two stations are owned and operated by the Public Service Electric and Gas Company (PSEG), located at 80 Park Plaza, Newark, New Jersey.

The Artificial Island (actually an artificial peninsula) projects from the eastern shore about one-third of the way across the Delaware River, which has a width of about two and one-half miles at this location. The stations are roughly midway between Wilmington and Dover, Delaware, which are approximately 20 miles north and south of the site, respectively. Philadelphia is about 32 miles north-northeast of the site and Salem City is about seven and one-half miles north-northeast of the site.

There are no major highways or railroads within seven miles of the site. The only road access is via the PSEG road that connects to an existing secondary road three miles to the east of the site. There is also a waterborne access by way of the inter-coastal waterway channel.

The site is situated on the low-lying coastal plain in New Jersey. The region features extensive marsh and meadowlands. Most of the land within three miles of the site is undeveloped, being made up of tidal marshes or river water. The nearest permanent resident on the New Jersey shore is approximately three miles east of the area. Most of the land within the five counties surrounding the area is undeveloped (48 percent) or is used for agriculture (42 percent). Developed urban areas constitute about 10 percent of the available land. Major farm products within the 25-mile radius include vegetables, poultry, dairy products, and field crops.

The net tidal flow is estimated at 400,000 cubic feet per second which produces a relatively high current velocity in the station vicinity. The water of the Delaware River at Artificial Island, and for some 25 miles upstream, is brackish. Therefore, the water is basically used by industry for cooling applications and not as a domestic water supply in this region. Salem City is the only municipality that obtains water from surface sources (Alloways Creek, about eight miles south-east of the area). Nearly all the water supply

for private use is also obtained from wells, most of which are two inches in diameter and more than 75' deep. No non-productive wells exist close to the site, and the nearest residences (summer cottages) are about three miles away.

2. Governments Within the 10-Mile Emergency Planning Zone

The area within 10 miles of the Artificial Island site encompasses small portions of both New Jersey and Delaware. The State of Delaware has its own RERP in case of a radiological emergency at the Artificial Island site. The plume exposure EPZ in the State of New Jersey is located within two counties and eight municipalities:

Salem County

Elsinboro Township

Town of Lower Alloways Creek Township

Mannington Township

Quinton Township

Salem City

Pennsville Township

Cumberland County

Greenwich Township

Stow Creek Township

The plume exposure EPZ is inhabited by approximately 15,843 people (based on 2000 census data, SOP 410) with the following breakdown by county:

Salem County	14,301
Cumberland County	<u>1,542</u>
Total	15,843

B. Exercise Participants

The following agencies, organizations, and units of government participated in the S/HC NGS exercise on March 16, 2004 and in out-of-sequence evaluations.

STATE OF NEW JERSEY

New Jersey State Agencies and Organizations

New Jersey Office of Emergency Management

New Jersey Bureau of Nuclear Engineering

New Jersey Bureau of Communication and Support Service

New Jersey Bureau of Radiological Health

New Jersey State Police

New Jersey Department of Agriculture

New Jersey Department of Environmental Protection and Energy

New Jersey Department of Health and Senior Services

New Jersey Department of Transportation

New Jersey Department of Education

New Jersey Transit

Governor's Office

Board of Public Utilities
Department of Law & Public Safety
Department of Military & Veterans Affairs
Office of Attorney General
National Guard
Delaware Emergency Management Agency
Delaware Department of Health

Private/Volunteer Organizations

Radio Amateur Civil Emergency Service (RACES)
WSNJ Emergency Alert System (EAS) Gateway Station
Salvation Army
Public Service Electric and Gas (PSEG)
American Red Cross

RISK JURISDICTIONS - COUNTIES

SALEM COUNTY

County Agencies and Organizations

Salem County Office of Emergency Management
Salem County Road & Highways
Salem County Schools
Salem County Freeholders
Salem County Public Works
Salem County Fire Department
Salem County Police Department
Salem County Department of Agriculture
Salem County Department of Health
Salem County Department of Building and Maintenance

Municipal Agencies and Organizations

Town of Lower Alloways Creek Emergency Management Agency
Town of Lower Alloways Creek Police Department
Town of Lower Alloways Creek Legislative Committee
Town of Lower Alloways Creek Fire and Rescue Company
Town of Lower Alloways Creek EMS and Rescue
Pennsville Township Office of Emergency Management
Pennsville Township Police Department
Pennsville Township Fire Department
Pennsville Township Public Works
Pennsville Township Mayor's Office
Salem City Police Department
Salem City Fire Department

Salem City Public Works
Salem City Emergency Medical Services
Salem City Council
Salem City Public Information
Mannington Township Office of Emergency Management
Quinton Township Office of Emergency Management
Elsinboro Township Office of Emergency Management

Private/Volunteer Organizations

Civil Air Patrol
Salvation Army
American Red Cross
RACES
R.H. Williams Bus Company
PSE&G
Carney's Point Volunteer Fire Department
Deepwater VFD
Pennsville Police Department
Pennsville VFD and EMS
Alloway Ambulance Corps
Fenwick Volunteer Ambulance Squad
Memorial Hospital of Salem County

CUMBERLAND COUNTY

County Agencies and Organizations

Cumberland County Emergency Management
Cumberland County Board of Freeholders
Cumberland County Fire Police Department
Cumberland County Fire Department
Cumberland County Department of Public Works
Cumberland County Health Department
Cumberland County Sheriff Department
Cumberland County Superintendent of Schools
Cumberland County Department of Agriculture
Cumberland County Prosecutor
Cumberland County Department of Nursing
Cumberland County Human Resources
Cumberland County 911 Dispatch

Municipal Agencies and Organizations

Greenwich Township Office of Emergency Management
Greenwich Township Fire Police
Stow Creek Township Office of Emergency Management

Private/Volunteer Organizations

RACES
American Red Cross
Salvation Army
Sheppard Bus Company
Shiloh Volunteer Fire and EMS Company

C. Exercise Timeline

Table 1, on the following pages, presents the time at which key events and activities occurred during the S/HC NGS exercise on March 16, 2004. Also included are times notifications were made to the participating jurisdictions/functional entities.

Table 1. Exercise Timeline

March 16, 2004 - Salem/Hope Creek Nuclear Generating Station

Emergency Classification Level or Event	Time Utility Declared	NJ State EOC	Salem County EOC	Cumberland EOC	ENC	NJ BNE- EOF	NJ BNE-FCP	Municipals
Alert	1620	1626	1637	1645	N/A	N/A	N/A	See Next Page
Site Area Emergency	1755	1759	1808	1812	1820	1755	1758	
General Emergency	1925	1934	1940	1942	1924	1925	1927	
Simulated Rad. Release Started	1925	1934	1925	1942	1924	1915	1918	
Simulated Rad. Release Terminated	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Facility Declared Operational		1727	1736	1745	1758	1745	1750	
Governor's Declaration of State of Emergency		1838	1840	1838	1852			
Exercise Terminated		2235		2135	2235	2237	2240	
Early Precautionary Actions								
1st A & N Sequence Decision		1826	1832	1839	1830	1908		
1st Siren Activation		1834	1834	N/A	1834	1908		
1st EAS Message Broadcast		1839	1839	N/A	1840	1908		
1st Protective Action Decision Shelter ERPAs: 6, 7 Evac: ERPAs: 1, 2, 3, 4, 5, 8		2004	2008	2013	2009	2010		
2nd Siren Activation		2008	2012	N/A	2009	2010		
2nd EAS Message Broadcast		2012	2017	N/A	2009	2010		
KI Administration Decision: No KI		2004	2008	2012	2027	2010		

LEGEND: S - Support Jurisdiction D - Decision Making Jurisdiction A - Activating Jurisdiction N/A - Not Applicable N/O - Not Observed

Table 1. Exercise Timeline**March 16, 2004 - Salem/Hope Creek Nuclear Generating Station (Municipals)**

Emergency Classification Level or Event	Time That Notification Was Received or Action Was Taken							
	Town of Lower Alloways Creek	Pennsville Township	Salem City	Mannington Township	Quinton Township	Elsinboro Township	Stow Creek Township	Greenwich Township
Alert	1703	1708	1709	1700	1703	1705	1710	1705
Site Area Emergency	1843	1857	1821	1818	1829	1817	1814	1815
General Emergency	1953	1959	1954	1954	1956	2113	1943	1942
Simulated Rad. Release Started	1953	1959	1954	1954	1956	2113	1943	1942
Simulated Rad. Release Terminated	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Facility Declared Operational	1730	1731	1730	1743	1730	1730	1740	1705
Governor's Declaration of State of Emergency	1933	1931	1928	1926	1945	1904	1938	1944
Exercise Terminated	2103	2200	2140	2200	2142	2135	2153	2145
Early Precautionary Action								
1st A & N Decision	1850	1834	1833	1835	1850	1850	1850	1905
1st Siren Activation								
1st EAS Message Broadcast								
2nd Protective Action Decision	2015	2017	2029	2016	2017	2017	2020	2025
2nd Siren Activation								
2nd EAS Message Broadcast								
KI Admin	2015	2017	2018	2016	2017	2017	2021	2025

LEGEND: S - Support Jurisdiction

D - Decision Making Jurisdiction

A - Activating Jurisdiction

N/A - Not Applicable

N/O - Not Observed

IV. EXERCISE EVALUATION AND RESULTS

Contained in this section are the results and findings of the evaluation of all jurisdictions and functional entities which participated in the March 16, 2004, exercise to test the offsite emergency response capabilities of State and local governments in the 10-mile EPZ surrounding the S/HC NGS.

Each jurisdiction and functional entity was evaluated on the basis of its demonstration of criteria delineated in exercise objectives contained in the FEMA Interim REP Program Manual, August 2002. Detailed information on the exercise objectives and the extent-of-play agreement used in this exercise are found in Appendix 3 of this report.

A. Summary Results of Exercise Evaluation

The matrix presented in Table 2, on the following pages, presents the status of all exercise evaluation criteria from the FEMA Interim REP Program Manual that were scheduled for demonstration during this exercise by all participating jurisdictions and functional entities. Exercise evaluation criteria are listed by number and the demonstration status of those criteria is indicated by the use of the following letters:

- M Met (No Deficiency or ARCAs assessed and no unresolved ARCAs from prior exercises)
- D Deficiency assessed
- A ARCA(s) assessed or unresolved ARCA(s) from prior exercise(s)
- N Not Demonstrated (Reason explained in Subsection B)

Table 2. Summary Results of Exercise Evaluation

DATE AND SITE: March, 16 – Salem/Hope Creek	State EOC	BNE EOF	BNE FCP	State FMTs	ENC	Salem County EOC	Salem County FMT	Lower Alloways Creek EOC
Evaluation Area/Criteria								
1. Emergency Operations Management								
1.a.1. Mobilization	M				M	M		M
1.b.1. Facilities		M	M		M	M		M
1.c.1. Direction and Control	M	M	M		A	A		M
1.d.1. Communications Equipment	M	M	M	M	M	M	M	M
1.e.1. Equipment & Supplies to Support Operations	M	M	M		M	M		M
2. Protective Action Decision Making								
2.a.1. Emergency Worker Exposure Control	M	M				M		
2.b.1. Radiological Assessment & PARs & PADs Based on Available Information	M	M						
2.b.2. Radiological Assessment and PARs and PADs for the General Public	M							
2.c.1. Protective Action Decisions for Special Populations	M							
3. Protective Action Implementation								
3.a.1. Implementation of Emergency Worker Control			M	M		M	M	M
3.b.1. Implementation of KI Decisions			M	M		M	M	M
3.c.1. Implementation of PADs for Special Populations						M		M
3.c.2. Implementation of PADs for Schools						M		M
3.d.1. Implementation of Traffic and Access Control						M		M
3.d.2. Impediments to Evacuation and Traffic and Access Control						M		M
4. Field Measurement and Analysis								
4.a.1. Plume Phase Field Measurement & Analysis Equipment				M			M	
4.a.2. Plume Phase Field Measurement & Analysis Management		M	M					
4.a.3. Plume Phase Field Measurements & Analysis Procedures				M			M	
5. Emergency Notification & Public Information								
5.a.1. Activation of Prompt Alert and Notification	M					M		
5.a.3. Activation of Prompt Alert and Notification Backup Alert and Notification								M
5.b.1. Emergency Information and Instructions for the Public and the Media	M				A			
6. Support Operations/Facilities								
6.a.1. Monitoring and Decon of Evacuees and EWs and Registration of Evacuees								
6.b.1. Monitoring and Decontamination of Emergency Worker Equipment								
6.c.1. Temporary Care of Evacuees								
6.d.1. Transportation and Treatment of Contaminated Injured Individuals								

LEGEND:

M = Met A = ARCA

D = Deficiency

Table 2. Summary Results of Exercise Evaluation (continued)

DATE AND SITE: March, 16 – Salem/Hope Creek	Pennsville EOC	Salem City EOC	Mannington EOC	Quinton EOC	Elsinboro EOC	Cumberland County EOC	Greenwich EOC	Stow Creek EOC
Evaluation Area/Criteria								
1. Emergency Operations Management								
1.a.1. Mobilization	M	M	M	M	M	M	M	M
1.b.1. Facilities	M	M	M	M	M	M	M	M
1.c.1. Direction and Control	M	A	M	M	M	M	M	M
1.d.1. Communications Equipment	M	M	M	M	M	M	M	M
1.e.1. Equipment & Supplies to Support Operations	M	M	M	M	A	M	M	M
2. Protective Action Decision Making								
2.a.1. Emergency Worker Exposure Control								
2.b.1. Radiological Assessment & PARs & PADs Based on Available Information								
2.b.2. Radiological Assessment and PARs and PADs for the General Public								
2.c.1. Protective Action Decisions for Special Populations								
3. Protective Action Implementation								
3.a.1. Implementation of Emergency Worker Control	M	M	M	M	M	M	M	M
3.b.1. Implementation of KI Decisions	M	M	M	M	M	M	M	M
3.c.1. Implementation of PADs for Special Populations	M	M	M	M	M	M	M	M
3.c.2. Implementation of PADs for Schools	M	M	M	M		N/A	M	
3.d.1. Implementation of Traffic and Access Control	M	M	M	M	M	M	M	
3.d.2. Impediments to Evacuation and Traffic and Access Control	M	M		M	M	M	M	
4. Field Measurement and Analysis								
4.a.1. Plume Phase Field Measurement & Analysis Equipment								
4.a.2. Plume Phase Field Measurement & Analysis Management								
4.a.3. Plume Phase Field Measurements & Analysis Procedures								
5. Emergency Notification & Public Information								
5.a.1. Activation of Prompt Alert and Notification								
5.a.3. Activation of Prompt Alert and Notification Backup Alert and Notification		M						M
5.b.1. Emergency Information and Instructions for the Public and the Media								
6. Support Operations/Facilities								
6.a.1. Monitoring and Decon of Evacuees and EWs and Registration of Evacuees								
6.b.1. Monitoring and Decontamination of Emergency Worker Equipment								
6.c.1. Temporary Care of Evacuees								
6.d.1. Transportation and Treatment of Contaminated Injured Individuals								

LEGEND:

M = Met

A = ARCA

D = Deficiency

Table 2. Summary Results of Exercise Evaluation (Continued)

DATE AND SITE: Various Out Of Sequence Drills, Salem/Hope Creek	Salem County					
	State ACP	School Interviews	School Bus Run	Congregate Car Center	Medical Drill	Transit Dependent Bus Run
Evaluation Area/Criteria						
1. Emergency Operations Management						
1.a.1. Mobilization						
1.b.1. Facilities						
1.c.1. Direction and Control						
1.d.1. Communications Equipment						
1.e.1. Equipment & Supplies to Support Operations						
2. Protective Action Decision Making						
2.a.1. Emergency Worker Exposure Control						
2.b.1. Radiological Assessment & PARs & PADs Based on Available Information						
2.b.2. Radiological Assessment and PARs and PADs for the General Public						
2.c.1. Protective Action Decisions for Special Populations						
3. Protective Action Implementation						
3.a.1. Implementation of Emergency Worker Control	M		M		M	M
3.b.1. Implementation of KI Decisions	M		M			M
3.c.1. Implementation of PADs for Special Populations						M
3.c.2. Implementation of PADs for Schools		M	M			
3.d.1. Implementation of Traffic and Access Control	M					
3.d.2. Impediments to Evacuation and Traffic and Access Control						
4. Field Measurement and Analysis						
4.a.1. Plume Phase Field Measurement & Analysis Equipment						
4.a.2. Plume Phase Field Measurement & Analysis Management						
4.a.3. Plume Phase Field Measurements & Analysis Procedures						
5. Emergency Notification & Public Information						
5.a.1. Activation of Prompt Alert and Notification						
5.a.3. Activation of Prompt Alert and Notification Backup Alert and Notification						
5.b.1. Emergency Information and Instructions for the Public and the Media						
6. Support Operations/Facilities						
6.a.1. Monitoring and Decon of Evacuees and EWs and Registration of Evacuees						
6.b.1. Monitoring and Decontamination of Emergency Worker Equipment						
6.c.1. Temporary Care of Evacuees				M		
6.d.1. Transportation and Treatment of Contaminated Injured Individuals					M	

LEGEND:

M = Met A = ARCA

D = Deficiency

Table 2. Summary Results of Exercise Evaluation (Continued)

DATE AND SITE: Various Out Of Sequence Drills, Salem/Hope Creek	Salem County		Cumberland County			
	Mobility Impaired Route	Reception Center	School Interviews	Congregate Care Center	Transit Dependent Bus Run	School Bus Run
Evaluation Area/Criteria						
1. Emergency Operations Management						
1.a.1. Mobilization						
1.b.1. Facilities						
1.c.1. Direction and Control						
1.d.1. Communications Equipment						
1.e.1. Equipment & Supplies to Support Operations						
2. Protective Action Decision Making						
2.a.1. Emergency Worker Exposure Control						
2.b.1. Radiological Assessment & PARs & PADs Based on Available Information						
2.b.2. Radiological Assessment and PARs and PADs for the General Public						
2.c.1. Protective Action Decisions for Special Populations						
3. Protective Action Implementation						
3.a.1. Implementation of Emergency Worker Control	M	M			M	M
3.b.1. Implementation of KI Decisions	M	M			M	M
3.c.1. Implementation of PADs for Special Populations	M				M	
3.c.2. Implementation of PADs for Schools			M			M
3.d.1. Implementation of Traffic and Access Control						
3.d.2. Impediments to Evacuation and Traffic and Access Control						
4. Field Measurement and Analysis						
4.a.1. Plume Phase Field Measurement & Analysis Equipment						
4.a.2. Plume Phase Field Measurement & Analysis Management						
4.a.3. Plume Phase Field Measurements & Analysis Procedures						
5. Emergency Notification & Public Information						
5.a.1. Activation of Prompt Alert and Notification						
5.a.3. Activation of Prompt Alert and Notification Backup Alert and Notification						
5.b.1. Emergency Information and Instructions for the Public and the Media						
6. Support Operations/Facilities						
6.a.1. Monitoring and Decon of Evacuees and EWs and Registration of Evacuees		M				
6.b.1. Monitoring and Decontamination of Emergency Worker Equipment						
6.c.1. Temporary Care of Evacuees				M		
6.d.1. Transportation and Treatment of Contaminated Injured Individuals						

LEGEND: M = Met A = ARCA D = Deficiency

Table 2. Summary Results of Exercise Evaluation (Continued)

DATE AND SITE: Various Out Of Sequence Drills, Salem/Hope Creek	Cumberland County	
	Emergency Worker Decon Center	Traffic Control Point
Evaluation Area/Criteria		
1. Emergency Operations Management		
1.a.1. Mobilization		
1.b.1. Facilities		
1.c.1. Direction and Control		
1.d.1. Communications Equipment		
1.e.1. Equipment & Supplies to Support Operations		
2. Protective Action Decision Making		
2.a.1. Emergency Worker Exposure Control		
2.b.1. Radiological Assessment & PARs & PADs Based on Available Information		
2.b.2. Radiological Assessment and PARs and PADs for the General Public		
2.c.1. Protective Action Decisions for Special Populations		
3. Protective Action Implementation		
3.a.1. Implementation of Emergency Worker Control	M	M
3.b.1. Implementation of KI Decisions		M
3.c.1. Implementation of PADs for Special Populations		
3.c.2. Implementation of PADs for Schools		
3.d.1. Implementation of Traffic and Access Control		M
3.d.2. Impediments to Evacuation and Traffic and Access Control		
4. Field Measurement and Analysis		
4.a.1. Plume Phase Field Measurement & Analysis Equipment		
4.a.2. Plume Phase Field Measurement & Analysis Management		
4.a.3. Plume Phase Field Measurements & Analysis Procedures		
5. Emergency Notification & Public Information		
5.a.1. Activation of Prompt Alert and Notification		
5.a.3. Activation of Prompt Alert and Notification Backup Alert and Notification		
5.b.1. Emergency Information and Instructions for the Public and the Media		
6. Support Operations/Facilities		
6.a.1. Monitoring and Decon of Evacuees and EWs and Registration of Evacuees	M	
6.b.1. Monitoring and Decontamination of Emergency Worker Equipment	M	
6.c.1. Temporary Care of Evacuees		
6.d.1. Transportation and Treatment of Contaminated Injured Individuals		

LEGEND:

M = Met

A = ARCA

D = Deficiency

B. Status of Jurisdictions Evaluated

This subsection provides information on the evaluation of each participating jurisdiction and functional entity, in a jurisdiction-based, issues-only format. Presented below is a definition of the terms, relative to objective demonstration status, used in this subsection.

- **Met** - Listing of the demonstrated exercise objectives under which no Deficiencies or ARCAs were assessed during this exercise and under which no ARCAs assessed during prior exercises remain unresolved.
- **Deficiency** - Listing of the demonstrated exercise objectives under which one or more Deficiencies were assessed during this exercise. Included is a description of each Deficiency and recommended corrective actions.
- **Area Requiring Corrective Actions** - Listing of the demonstrated exercise objectives under which one or more ARCAs were assessed during the current exercise or ARCAs assessed during prior exercises remain unresolved. Included is a description of the ARCAs assessed during this exercise and the recommended corrective action to be demonstrated before or during the next biennial exercise.
- **Not Demonstrated** - Listing of the exercise objectives which were not demonstrated as scheduled during this exercise and the reason they were not demonstrated.
- **Prior ARCAs - Resolved** - Descriptions of ARCAs assessed during previous exercises which were resolved in this exercise and the corrective actions demonstrated.
- **Prior ARCAs - Unresolved** - Descriptions of ARCAs assessed during prior exercises which were not resolved in this exercise. Included is the reason the ARCA remains unresolved and recommended corrective actions to be demonstrated before or during the next biennial exercise.

The following are definitions of the two types of exercise issues which are discussed in this report.

- A **Deficiency** is defined in FEMA-REP-14 as "...an observed or identified inadequacy of organizational performance in an exercise that could cause a finding that offsite emergency preparedness is not adequate to provide reasonable assurance that appropriate protective measures can be taken in the event of a radiological emergency to protect the health and safety of the public living in the vicinity of a nuclear power plant."

- An **ARCA** is defined in FEMA-REP-14 as "...an observed or identified inadequacy of organizational performance in an exercise that is not considered, by itself, to adversely impact public health and safety."

FEMA has developed a standardized system for numbering exercise issues (Deficiencies and ARCAs). This system is used to achieve consistency in numbering exercise issues among FEMA Regions and site-specific exercise reports within each Region. It is also used to expedite tracking of exercise issues on a nationwide basis.

The identifying number for Deficiencies and ARCAs includes the following elements, with each element separated by a hyphen (-).

- **Plant Site Identifier** - A two-digit number corresponding to the Utility Billable Plant Site Codes.
- **Exercise Year** - The last two digits of the year the exercise was conducted.
- **Evaluation Criterion Number** – An alphanumeric corresponding to the evaluation criteria in the FEMA Interim REP Program Manual (e.g., 1.a.1).
- **Issue Classification Identifier** - (D = Deficiency, A = ARCA). Only Deficiencies and ARCAs are included in exercise reports.
- **Exercise Issue Identification Number** - A separate two (or three) digit indexing number assigned to each issue identified in the exercise.

1. NEW JERSEY STATE

1.1 State Emergency Operations Center

- a. **MET:** 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.b.1, 2.b.2, 2.c.1, 5.a.1, 5.b.1
- b. **DEFICIENCY:** None
- c. **AREAS REQUIRING CORRECTIVE ACTION:** None
- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:** None
- f. **PRIOR ARCAs - UNRESOLVED:** None

1.2 Bureau of Nuclear Engineering - Emergency Operations Facility

- a. **MET:** 1.b.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.b.1, 4.a.2
- b. **DEFICIENCY:** None
- c. **AREAS REQUIRING CORRECTIVE ACTION:** None
- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:** None
- f. **PRIOR ARCAs - UNRESOLVED:** None

1.3 Bureau of Nuclear Engineering - Forward Command Post

- a. **MET:** 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 4.a.2
- b. **DEFICIENCY:** None
- c. **AREAS REQUIRING CORRECTIVE ACTION:** None
- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:** None

- f. **PRIOR ARCAs - UNRESOLVED:** None

1.4 State Radiological Field Monitoring Teams (Teams "A" and "B")

- a. **MET:** 1.d.1, 3.a.1, 3.b.1, 4.a.1, 4.a.3
- b. **DEFICIENCY:** None
- c. **AREAS REQUIRING CORRECTIVE ACTION:** None
- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:** None
- f. **PRIOR ARCAs - UNRESOLVED:** None

1.5 Emergency News Center

- a. **MET:** 1.a.1, 1.b.1, 1.d.1, 1.e.1
- b. **DEFICIENCY:** None
- c. **AREAS REQUIRING CORRECTIVE ACTION:** Three

Issue Number: 01-04-1.c.1-A-01

Condition: A utility spokesperson posted the General Emergency ECL in the media briefing room at 1934 shortly after it had been declared, without any explanation of what had happened at the plant and what impact it might have on the public. The only announcement that was made was that the next media briefing would be at 2030. This created considerable consternation among the members of the "media" present as it would in a real incident. Once the Governor declares a State of Emergency, which had happened at 1838 and was received in the ENC at 1852, the State assumes the lead (*per* the New Jersey Radiological Emergency Response Plan, Section IV. A.1.3). Therefore, the utility spokesperson had released critical emergency information to the media without receiving clearance or authorization from the State.

Possible Cause: The utility spokesperson was perhaps unaware that the State would take the lead upon the Governor's Declaration of Emergency.

Reference: NUREG-0654, E.5

Effect: The result was that critical information about the incident was released to the media without authorization from the State and without an explanation of the impact on the public.

Recommendation: Include in the ENC procedures that the State will assume the lead after the Governor declares a State of Emergency, and that release of all emergency information from the ENC is only on the authority of the State.

Schedule of Corrective Actions: Demonstration at Salem/Hope Creek Evaluated Exercise in March 2006.

Issue 02-04-5.b.1-A-02

CONDITION: During the first press conference there was insufficient opportunity for questions from the media and an opportunity for the audience to address concerns, seek clarification, or to ask questions of the representatives of the utility, states and counties in attendance.

POSSIBLE CAUSE: Too much information being read to the media that significantly reduced the question and answer opportunities.

REFERENCE: NUREG-0654, E.5

EFFECT: There was unclear information for the news media to work with as well as an anticipated negative reaction from the media. It would be likely that more time would have to be spent in clarifying inaccurate or incorrect coverage by the news media because of this initial lack of opportunity by the media to ask questions and clarify information. Additionally, media would become suspect of the information that they were being provided without opportunity for challenge, clarification or follow-up.

RECOMMENDATION: Limit the amount of information being briefed to the media and condense to the most important details that information that should be disseminated to the general public. For example, distribution of the Governor's Declaration of a State of Emergency rather than reading the entire document would have been a better approach. Therefore, changing this practice would ensure an adequate amount of time for questions from the media.

Schedule of Corrective Actions: Demonstration at the Salem/Hope Creek Evaluated Exercise in March 2006.

Issue 02-04-5.b.1-A-03

CONDITION: Insufficient information being provided in a timely manner after an announcement of a change in ECL and a display of information that radioactive matter could be released outside the plant. It was one hour from the time the screens displayed the elevation to GE and the time that a press conference was started to explain the change. In addition, it was 18 minutes from the time sirens were sounded until press conference # 2 started. Because EAS messages could not fit within the two minutes allotted for broadcast, a decision was made to read the complete announcements during press conferences # 1 and # 2. The reading of the EAS message during press briefing # 2 began at 2031, - 19 minutes after the sirens had sounded.

POSSIBLE CAUSE: A decision to display the ECL change in the press briefing room, combined with the inability to get the complete EAS message broadcast.

REFERENCE: NUREG-0654, E.5

EFFECT: It is expected that the media would broadcast the change in the ECL to a General Emergency, along with the information that a GE could mean that radioactive matter has or might be released outside the plant. Clarification of the situation was not provided for over an hour. This would likely create a serious level of undue concern from the general public.

RECOMMENDATION: A decision to display and announce a change in ECL should be coordinated through and approved by representatives of all affected populations. This decision should include a discussion of what reactions could be expected as well as a determination as to when additional details would be provided. A decision to display a change in ECL, particularly when it includes wording that indicates a possible or potential release of radioactive material,

should be coordinated with decision makers at the state Emergency Operations Center.

Schedule of Corrective Actions: Demonstration at Salem/Hope Creek Evaluated Exercise in March 2006.

- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:** Two

Issue No: 02-02-12-A-01 (5.b.1)

DESCRIPTION: The first two of three briefings were difficult to follow and had no discernable format. Pertinent information was not presented at the outset of the briefing. Clearly define the roles of each presenting organization in the response effort.

RECOMMENDED CORRECTIVE ACTION: Restructure the briefing presentation to feature the pertinent information first. Identify the lead organization for each phase of the response at the briefings.

CORRECTIVE ACTION DEMONSTRATED: The Standard Operating Procedure (SOP) for Public Information Officers was revised and used to reflect the needs identified in this exercise.

Issue No: 02-02-13-A-02 (5.b.1)

DESCRIPTION: Important information was omitted during the first two of three briefings. The Public Information Officers were provided with prescribed briefing statements which feature the pertinent information for the public.

RECOMMENDED CORRECTIVE ACTION: Review Plans and Procedures for operations at the Emergency News Center.

CORRECTIVE ACTION DEMONSTRATED: During the press briefings (at this exercise), and in the four news releases distributed by the State of New Jersey, emergency information was disseminated in a manner that was consistent with the prescribed protective action decisions. This was demonstrated with press conference announcements including: Emergency Alert System messages; the announcement of the decision to shelter-in-place selected Emergency Response Preparedness Areas (ERPA) in press conference # 1; the announcement in press

conference # 2 of evacuations of selected ERPAs; the recommended ingestion of potassium iodide (KI) medication; and relocation of special populations to reception centers.

f. PRIOR ARCAs - UNRESOLVED: None

1.6 Access Control Point

a. MET: 3.a.1, 3.b.1, 3.d.1

b. DEFICIENCY: None

c. AREAS REQUIRING CORRECTIVE ACTION: None

d. NOT DEMONSTRATED: None

e. PRIOR ARCAs - RESOLVED: None

f. PRIOR ARCAs - UNRESOLVED: None

2. RISK JURISDICTIONS

2.1 COUNTIES

2.1.1 Salem County

2.1.1.1 Salem County Emergency Operations Center

- a. MET:** 1.a.1, 1.d.1, 1.e.1, 2.a.1, 3.a.1, 3.b.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2
5.a.1
- b. DEFICIENCY:** None
- c. AREAS REQUIRING CORRECTIVE ACTION:** One

Issue No: 02-04-1.c.1-A-04

CONDITION: Salem County did not ensure verification of communications to all risk municipalities after they sent out faxes stating the ECL.

Lower Alloways Creek (LAC): LAC Township received the SAE ECL by fax at 1843 (it had been declared at 1755). The SAE notification to LAC would have been even later, except that the LAC EOC received notification from Salem County at 1837 that a "heads-up" siren sounding was underway. The LAC EMC called Salem County at 1839 and asked why the sirens were sounding when the Alert ECL was still in effect. He was told by the County that the SAE ECL was currently in effect. The LAC EMC stated that he had not yet received anything from the County on the SAE ECL. The County then faxed the SAE ECL notification at 1843. The delay in notification could have been avoided had the method of communication been verified by telephone calls to LAC as it was to other Townships.

Pennsville: No phone call or fax advising of the elevation in classification level to SAE was received by the Pennsville Township EOC until 1857 (by fax). The Pennsville Township EMC directed the RACES volunteer to radio the Salem County EOC for a status check after receiving notification of the first siren sounding at 1834. Pennsville Township thought they were still at an Alert ECL at the first siren sounding.

Elsinboro: Elsinboro EOC had not received notification of the General Emergency/simulated radiological release when they received the notification about the second siren/EAS sequence. The Elsinboro Coordinator called Salem County EOC to ask why the sirens were being sounded. Fax notification of the GE was then made at 2113 (it had been declared at 1925). Salem County EOC had received the GE ECL from the State at 1940.

POSSIBLE CAUSE: Inattention to detail in the communications room.

REFERENCE: NUREG-0654, E-1

EFFECT: Risk municipalities are placed at a greater risk due to the lack of clear and timely information concerning plant conditions and actions in progress by the State and County.

RECOMMENDATION: The Communications room supervisor should develop a procedure to assure communications are being received by the risk municipalities in a timely manner. For example, after each multiple fax is sent to the risk municipalities, the fax confirmation log should be reviewed to verify transmission. This, in addition to a telephone call to each municipality to verify receipt of the fax transmission, would assist in confirming receipt. This procedure should be included in the Salem County Plan.

In addition, provide more training to the Communications Room staff concerning communication processing, with a focus on the necessity to assure communications are received, verified, and fully understood by the risk municipalities.

Schedule of Corrective Actions: Immediate Revision of the Plan, Training as soon as possible, and Demonstration at Salem/Hope Creek Evaluated Exercise in March 2006.

- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:** None
- f. **PRIOR ARCAs - UNRESOLVED:** None

2.1.1.2 Salem County Field Monitoring Team

- a. MET: 1.d.1, 3.a.1, 3.b.1, 4.a.1, 4.a.3
- b. DEFICIENCY: None
- c. AREAS REQUIRING CORRECTIVE ACTION: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ARCAs - RESOLVED: None
- f. PRIOR ARCAs - UNRESOLVED: None

2.1.1.3 Salem County School Interviews – School Interviews: Lower Alloways Creek, Elsinboro, Quinton, and Fenwick on May 12, 2004.

- a. MET: 3.c.2,
- b. DEFICIENCY: None
- c. AREAS REQUIRING CORRECTIVE ACTION: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ARCAs - RESOLVED: None
- f. PRIOR ARCAs - UNRESOLVED: None

2.1.1.4 Salem County School Bus Run - Salem High School on May 12, 2004

- a. MET: 3.a.1, 3.b.1, 3.c.2
- b. DEFICIENCY: None
- c. AREAS REQUIRING CORRECTIVE ACTION: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ARCAs - RESOLVED: None

- f. **PRIOR ARCAs - UNRESOLVED:** None

2.1.1.5 Salem County Congregate Care Center, Shalick High School, May 12, 2004.

- a. **MET:** 6.c.1
- b. **DEFICIENCY:** None
- c. **AREAS REQUIRING CORRECTIVE ACTION:** None
- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:** None
- f. **PRIOR ARCAs - UNRESOLVED:** None

2.1.1.6 Salem County Medical Drill, Fenwick Volunteer Ambulance Squad and Memorial Hospital of Salem County, May 19, 2004

- a. **MET:** 3.a.1, 6.d.1
- b. **DEFICIENCY:** None
- c. **AREAS REQUIRING CORRECTIVE ACTION:** None
- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:** None
- f. **PRIOR ARCAs - UNRESOLVED:** None

2.1.1.7 Salem County Transit Dependent Bus Run, Route 5, May 12, 2004

- a. **MET:** 3.a.1, 3.b.1, 3.c.1
- b. **DEFICIENCY:** None
- c. **AREAS REQUIRING CORRECTIVE ACTION:** None
- d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs - RESOLVED:** None

f. **PRIOR ARCAs - UNRESOLVED:** None

2.1.1.8 Salem County Mobility Impaired Route, Mannington, May 12, 2004

a. **MET:** 3.a.1, 3.b.1, 3.c.1

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs - RESOLVED:** None

f. **PRIOR ARCAs - UNRESOLVED:** None

2.1.1.9 Salem County Reception Center, Pennsville, June 22, 2004

a. **MET:** 3.a.1, 3.b.1, 6.a.1

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs - RESOLVED:** None

f. **PRIOR ARCAs - UNRESOLVED:** None

2.1.2 Cumberland County

2.1.2.1 Cumberland County Emergency Operations Center

- a. **MET:** 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 3.a.1, 3.b.1, 3.c.1, 3.d.1, 3.d.2, 5.a.1
- b. **DEFICIENCY:** None
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE
- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:** None
- f. **PRIOR ARCAs - UNRESOLVED:** None

2.1.2.2 Cumberland County School Interviews – Morris Goodwin, Stow Creek, and Woodland County Day on May 5, 2004.

- a. **MET:** 3.c.2
- b. **DEFICIENCY:** None
- c. **AREAS REQUIRING CORRECTIVE ACTION:** None
- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:** None
- f. **PRIOR ARCAs - UNRESOLVED:** None

2.1.2.3 Cumberland County Congregate Care Center – Woodruff School, May 26, 2004

- a. **MET:** 6.c.1
- b. **DEFICIENCY:** None
- c. **AREAS REQUIRING CORRECTIVE ACTION:** None

- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:** None
- f. **PRIOR ARCAs - UNRESOLVED:** None

2.1.2.4 Cumberland County Transit Dependent Bus Run, Route 7, May 5, 2004

- a. **MET:** 3.a.1, 3.b.1, 3.c.1
- b. **DEFICIENCY:** None
- c. **AREAS REQUIRING CORRECTIVE ACTION:** None
- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:** None
- g. **PRIOR ARCAs - UNRESOLVED:** None

2.1.2.5 Cumberland County Emergency Worker Decontamination Center, Shiloh Fire Department, May 19, 2004.

- a. **MET:** 3.a.1, 6.a.1, 6.b.1
- b. **DEFICIENCY:** None
- c. **AREAS REQUIRING CORRECTIVE ACTION:** None
- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:** None
- f. **PRIOR ARCAs - UNRESOLVED:** None

2.1.2.6 Cumberland County School Bus Run, Morris Goodwin School, May 5, 2004

- a. **MET:** 3.a.1, 3.b.1, 3.c.2
- b. **DEFICIENCY:** None
- c. **AREAS REQUIRING CORRECTIVE ACTION:** None
- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:** None
- g. **PRIOR ARCAs - UNRESOLVED:** None

2.1.2.7 Cumberland County Traffic Control Point, Cumberland County Sheriff, May 19, 2004.

- a. **MET:** 3.a.1, 3.b.1, 3.d.1
- b. **DEFICIENCY:** None
- c. **AREAS REQUIRING CORRECTIVE ACTION:** None
- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:** None
- g. **PRIOR ARCAs - UNRESOLVED:** None

2.2 MUNICIPAL EMERGENCY OPERATIONS CENTERS

2.2.1 Salem County Municipalities

2.2.1.1 Town of Lower Alloways Creek Emergency Operations Center

- a. MET:** 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2, 5.a.3
- b. DEFICIENCY:** None
- c. AREAS REQUIRING CORRECTIVE ACTION:** None
- d. NOT DEMONSTRATED:** None
- e. PRIOR ARCAs - RESOLVED:** None
- f. PRIOR ARCAs - UNRESOLVED:** None

2.2.1.2 Pennsville Township Emergency Operations Center

- a. MET:** 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2
- b. DEFICIENCY:** None
- c. AREA REQUIRING CORRECTIVE ACTION:** None
- d. NOT DEMONSTRATED:** None
- e. PRIOR ARCAs - RESOLVED:** None
- f. PRIOR ARCAs - UNRESOLVED:** None

2.2.1.3 Salem City Emergency Operations Center

- a. MET:** 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2, 5.a.3
- b. DEFICIENCY:** None

- c. **AREAS REQUIRING CORRECTIVE ACTION:** None
- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:** None
- f. **PRIOR ARCAs - UNRESOLVED:** None

2.2.1.4 Mannington Township Emergency Operations Center

- a. **MET:** 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1
- b. **DEFICIENCY:** None
- c. **AREAS REQUIRING CORRECTIVE ACTION:** None
- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:** None
- f. **PRIOR ARCAs - UNRESOLVED:** None

2.2.1.5 Quinton Township Emergency Operations Center

- a. **MET:** 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2
- b. **DEFICIENCY:** None
- c. **AREAS REQUIRING CORRECTIVE ACTION:** None
- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:** None
- f. **PRIOR ARCAs - UNRESOLVED:** None

2.2.1.6 Elsinboro Township Emergency Operations Center

- a. **MET:** 1.a.1, 1.b.1, 1.c.1, 1.d.1, 3.a.1, 3.b.1, 3.c.1, 3.d.1, 3.d.2
- b. **DEFICIENCY:** None
- c. **AREAS REQUIRING CORRECTIVE ACTION:** One

Issue No: 02-04-1.e.1-A-05

CONDITION: The fax machine at the Elsinboro EOC did not produce quality documents. The documents received from the Salem County EOC were difficult to read due to the poor quality of printouts. Important information could have been missed, which could have resulted in poor decision making.

POSSIBLE CAUSE: Defective equipment.

REFERENCE: NUREG-0654, H

EFFECT: Inhibition of effective decision making process.

RECOMMENDATION: Provide the Elsinboro EOC with equipment capable of functionally supporting response operations.

Schedule of Corrective Actions: Demonstration at Salem/Hope Creek Evaluated Exercise in March 2006.

- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:** None
- f. **PRIOR ARCAs - UNRESOLVED:** None

2.2.2 Cumberland County Municipalities

2.2.2.1 Greenwich Township Emergency Operations Center

- a. **MET:** 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2
- b. **DEFICIENCY:** None
- c. **AREAS REQUIRING CORRECTIVE ACTION:** None
- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:** None
- f. **PRIOR ARCAs - UNRESOLVED:** None

2.2.2.2 Stow Creek Township Emergency Operations Center

- a. **MET:** 1.a.1, 1.b.1, 1.d.1, 3.a.1, 3.b.1, 3.c.1, 3.c.2, 5.a.3
- b. **DEFICIENCY:** None
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE
- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:** None
- f. **PRIOR ARCAs - UNRESOLVED:** None

APPENDIX 1**ACRONYMS AND ABBREVIATIONS**

The following is a list of the acronyms and abbreviations that were used in this report.

ARCA	Area Requiring Corrective Action
ARI	Alternate Rod Insertion
A&N	Alert and Notification
CCEOC	Cumberland County Emergency Operations Center
CFM	Cubic Feet per Minute
CFR	Code of Federal Regulations
DHS	U.S. Department of Homeland Security
DOT	U.S. Department of Transportation
DRD	Direct-Reading Dosimeter
EAL	Emergency Action Level
EAS	Emergency Alert System
EBS	Emergency Broadcast System
EC	Emergency Coordinator
ECL	Emergency Classification Level
EOC	Emergency Operations Center
EOF	Emergency Operations Facility
EMC	Emergency Management Coordinator
EMITS	Emergency Management Information Tracking System
ENC	Emergency News Center
EPA	U.S. Environmental Protection Agency
EPZ	Emergency Planning Zone
ERF	Emergency Response Facility
ERO	Emergency Response Organization
ERPA	Emergency Response Planning Area
ERM	Emergency Response Manager
FCP	Forward Command Post
FDA	U.S. Food and Drug Administration
FEMA	Federal Emergency Management Agency
FMT	Field Monitoring Team
GE	General Emergency

ICF	ICF Consulting, Inc.
KI	Potassium Iodide
LAC	Lower Alloways Creek Township
LOCA	Loss of Coolant Accident
mR	milliRoentgen(s)
MS	Medical Services
NEO	Nuclear Equipment Operator
NJ	New Jersey
NJBNE	New Jersey Bureau of Nuclear Engineering
NJDEP	New Jersey Department of Environmental Protection
NJOEM	New Jersey Office of Emergency Management
NRC	U.S. Nuclear Regulatory Commission
NUREG-0654	NUREG-0654/FEMA-REP-1, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," November 1980
OEM	Office of Emergency Management
ORO	Offsite Response Organization
OSC	Operational Support Center
PAD	Protective Action Decision
PAG	Protective Action Guide
PAO	Public Affairs Officer
PAR	Protective Action Recommendation
PIO	Public Information Officer
R	Roentgen
RAC	Regional Assistance Committee
RACES	Radio Amateur Civil Emergency Service
REP	Radiological Emergency Preparedness
RERP	Radiological Emergency Response Plan
R/hr	Roentgen(s) per hour
RPS	Reactor Protection System
SAE	Site Area Emergency
SCEOC	Salem County Emergency Operations Center

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SEOC	State Emergency Operations Center
SFA	State Field Activities
S/HC	Salem/Hope Creek Station
SOP	Standard Operating Procedure
TL	Team Leader
TLD	Thermoluminescent Dosimeter
TSC	Technical Support Center
USDA	U.S. Department of Agriculture

APPENDIX 2**EXERCISE EVALUATORS AND TEAM LEADERS**

The following is a list of the personnel who evaluated the Salem/Hope Creek Nuclear Generating Station exercise on March 16, 2004 and out-of-sequence drills. Evaluator Team Leaders are indicated by the letters "TL" after their names. The organization which each evaluator represents is indicated by the following abbreviations:

FEMA	Federal Emergency Management Agency
FDA	U.S. Food and Drug Administration
EPA	U.S. Environmental Protection Agency
DOT	U.S. Department of Transportation
ICF	ICF Consulting, Inc.

EVALUATION SITE	EVALUATOR	ORGANIZATION
Exercise Oversight	R. Reynolds, R. II RAC Chair	FEMA
	R. Thomson, R. II REP TL	FEMA

STATE OF NEW JERSEY

SEOC	J. Young (TL)	FEMA
SEOC	D. Thome	ICF
SEOC	M. Santiago	FEMA
SEOC	D. Schweller	ICF
EOF	J. Keller (TL)	ICF
FCP	J. Eng	EPA
Field Monitoring Team "A"	R. Bernacki	FDA
Field Monitoring Team "B"	E. Simpson	EPA
ENC	D. Jacks (TL)	FEMA
ENC	M. Beeman (PAO)	FEMA
ENC	W. Cullen	FEMA
Access Control Point*	S. Nelson	ICF

EVALUATION SITE	EVALUATOR	ORGANIZATION
SALEM COUNTY		
SCEOC	K. Reed (TL)	FEMA
SCEOC	D. Petta	USCG
SCEOC	P. Malool	FEMA
Field Monitoring Team "C"	W. Gawlak	ICF
Salem Co. - School Interviews *	D. Schweller	ICF
Salem Co. - School Bus Run*	P. Malool	FEMA
Salem Co. - Mobility Impaired Route*	D. Schweller	ICF
Salem Co. - Congregate Care Center*	S. Nelson	ICF
Salem Co. - Transit Dependent Bus Run*	P. Malool	FEMA
Salem Co. - Reception Center*	J. Keller (TL)	ICF
Salem Co. - Reception Center*	S. Nelson	ICF
Salem Co. - Medical Drill*	J. Keller (TL)	ICF
Salem Co. - Medical Drill*	P. Malool	FEMA
SALEM COUNTY MUNICIPALITIES		
Lower Alloways Creek EOC	H. Christiansen (TL)	ICF
	A. Davis	FEMA
Pennsville EOC	C. Zeppenfeld	ICF
Salem City EOC	H. Boedecker	FEMA
Mannington EOC	E. Boaze	ICF
Quinton EOC	J. McClanahan	ICF
Elsinboro EOC	L. DeMarco (TL)	FEMA
CUMBERLAND COUNTY		
CCEOC	B. Hasemann (TL)	FEMA
CCEOC	R. Fernandez	ICF
CCEOC	M. Weston	FEMA
CC - School Interviews & Bus Run*	J. Keller	ICF
CC - Congregate Care Center*	S. Nelson	ICF
CC - Transit Dependent Bus Run*	J. Keller	ICF
CC - Traffic Control Point*	J. Keller	ICF
CC - Emergency Worker Decon Center*	J. Keller (TL)	ICF
CC - Emergency Worker Decon Center*	P. Malool	FEMA
CUMBERLAND COUNTY MUNICIPALITIES		
Greenwich EOC	P. Nied	ICF
Stow City EOC	B. Edmonson	ICF

* Out-of-Sequence Demonstration

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APPENDIX 3

EXTENT OF PLAY AGREEMENT

EXERCISE OBJECTIVES AND EXTENT-OF-PLAY AGREEMENT

SALEM/HOPE CREEK EXTENT OF PLAY GROUND RULES

REAL LIFE EMERGENCIES TAKE PRIORITY OVER EXERCISE PLAY.

- There will be injects as elements of the scenario.
- A control cell will inject rumor control/public inquiry messages at the State EOC.
- State Controllers will provide injects at the County and municipal EOC's.
- A State Controller will inject radiological data for field radiological activities (i.e. Field Monitoring Teams, Reception Centers, EWDC's).
- According to REP Program Strategic Review Initiative 1.5 and the Interim Radiological Emergency Preparedness (REP) Program Manual Section III. I: During tabletop exercises, drills, and other demonstrations conducted out-of-sequence from an integrated exercise, if FEMA and the offsite response organizations (ORO) agree, the FEMA Evaluator may have the participants re-demonstrate an activity that is determined to be not satisfactorily demonstrated. Immediate correction of issues in an integrated exercise is authorized only if it would not be disruptive and interrupt the flow of the exercise and affect other Evaluation Areas".

EVALUATION AREA 1: EMERGENCY OPERATIONS MANAGEMENT

Sub-element 1.a - Mobilization

Criterion 1.a.1: OROs use effective procedures to alert, notify, and mobilize emergency personnel and activate facilities in a timely manner. (NUREG-0654, A.4, D.3, 4, E.1, 2, H.4)

EXTENT OF PLAY AGREEMENT:

BNE/EOF

The BNE will pre-position Staff in the area and will arrive at the EOF approximately 60 minutes after notification by the State OEM of an ALERT or greater ECL notification.

BNE/FCP

The BNE will pre-position Staff in the area and will arrive at the FCP approximately 60 minutes after the declaration of an ALERT or greater ECL notification.

BNE/FMT

Two (2) State and (1) county FMT will pre-demonstrate instrument checkout and field air-sampling procedures during the afternoon of March 16, 2004. The three field teams will remain in the area until FCP staff arrives and will not be required to perform a second instrument checkout.

ENC

State ENC Staff will be pre-positioned and arrive approximately 60 minutes after notification of an ALERT or greater ECL notification.

EVALUATION AREA 1: EMERGENCY OPERATIONS MANAGEMENT

Sub-element 1.b - Facilities

Criterion 1.b.1: Facilities are sufficient to support the emergency response. (NUREG-0654, H)

EXTENT OF PLAY AGREEMENT:

Back-up power is available, but will not be demonstrated, for the State, Salem County, Cumberland County, or the municipal EOCs.

Maps and displays will vary with each facility according to the assigned mission. They may include printouts and listings.

Additional baseline facility evaluations, outside of those detailed in the Offsite Extent of Play Activities Schedule, will be conducted prior to or after the exercise as agreed by FEMA, NJ OEM, NJ BNE, Salem County OEM, Cumberland County OEM, and each municipal OEM.

EVALUATION AREA 1: EMERGENCY OPERATIONS MANAGEMENT

Sub-element 1.c - Direction and Control

Criterion 1.c.1: Key personnel with leadership roles for the ORO provide direction and control to that part of the overall response effort for which they are responsible. (NUREG 0654, A.1.d; A.2.a, b)

EXTENT OF PLAY AGREEMENT:

There are no modifications from the NJRERP.

EVALUATION AREA 1: EMERGENCY OPERATIONS MANAGEMENT

Sub-element 1.d - Communications Equipment

Criterion 1.d.1: At least two communications systems are available, at least one operates properly, and communication links are established and maintained with appropriate locations. Communications capabilities are managed in support of emergency operations. (NUREG-0654, F.1.2)

EXTENT OF PLAY AGREEMENT:

County/municipal EOCs

The use of RACES as a backup to commercial telephone will be demonstrated between the Salem County EOC and the risk municipal EOCs.

The use of 800 mhz as a backup to commercial telephone will be demonstrated between the Cumberland County EOC and the risk municipal EOCs.

EVALUATION AREA 1: EMERGENCY OPERATIONS MANAGEMENT

Sub-element 1.e - Equipment and Supplies to Support Operations

Criterion 1.e.1: Equipment, maps, displays, dosimetry, potassium iodide (KI), and other supplies are sufficient to support emergency operations. (NUREG 0654, H.7, 10; J.10.a, b, e, J.11; K.3.a)

EXTENT OF PLAY AGREEMENT:

In the NJRERP, Accident Assessment is a State responsibility therefore; radiological monitoring points and population by evacuation area is not displayed on maps at the county or municipal EOCs.

The NJ OEM Calibration Laboratory calibrates field team equipment. The State RERP Plan requires annual calibration of this equipment. Therefore, the calibration sticker for this equipment shows a calibration due date which reflects the annual calibration cycle. The instruments are considered calibrated as long as the current date is within one year of the calibration date.

No equipment (i.e. barriers, traffic cones, signs, etc.) will be deployed to the field.

FMTs will simulate the donning of protective clothing.

Check sources for field monitoring instruments will be shared among state and county FMTs at the FCP prior to being dispatched.

EVALUATION AREA 2: PROTECTIVE ACTION DECISION-MAKING**Sub-element 2.a. Emergency Worker Exposure Control**

Criterion 2.a.1: OROs use a decision making process, considering relevant factors and appropriate coordination, to insure that an exposure control system, including the use of KI, is in place for emergency workers including provisions to authorize radiation exposure in excess of administrative limits or protective action guides. (NUREG-0654, J.10.e, f; K.4)

EXTENT OF PLAY AGREEMENT:

One emergency worker exposure control kit will be utilized in each County EOC and in each municipal EOC. No TLDs will be distributed during this exercise, but their location and recording methodology will be explained to the evaluator. County and municipal coordinators will provide and discuss the SOP on TLD distribution and record keeping with the evaluator. EMCs who distribute more than the minimum requirement of emergency worker kits will not be penalized.

Maximum authorized mission exposure limits may be referred to as mission dose, dose limit, or turn back value. The New Jersey limit is 1.25 R. Direct-reading dosimeters (DRDs) in the emergency worker exposure control kits contain 0-20 R and 0-200 mR dosimeters. Inspection dates (including leak test information) for this instrumentation is on file at the NJOEM Radiation Laboratory and will be visually inspected and evaluated by FEMA staff prior to the exercise. KI will not be distributed. It is stored at the State OEM, BNE-FCPs and at the County OEM's until an actual incident.

EVALUATION AREA 2: PROTECTIVE ACTION DECISION-MAKING

Sub-element 2.b. Radiological Assessment and Protective Action Recommendations and Decisions for the Plume Phase of the Emergency

Criterion 2.b.1: Appropriate protective action recommendations are based on available information on plant conditions, field monitoring data, and licensee and ORO dose projections, as well as knowledge of on-site and off-site environmental conditions. (NUREG-0654, I.8, 10, and Supplement 3)

EXTENT OF PLAY AGREEMENT:

The back up for the electronic dose projection model at the EOF is hand calculations based on the NRC's Response Technical Manual. Hand calculations will only be demonstrated if electronic systems fail.

EVALUATION AREA 2: PROTECTIVE ACTION DECISION-MAKING

Sub-element 2.b. Radiological Assessment and Protective Action Recommendations and Decisions for the Plume Phase of the Emergency

Criterion 2.b.2: A decision-making process involving consideration of the appropriate factors and necessary coordination is used to make protective action decisions (PADs) for the general public (including the recommendation for the use of KI, if ORO policy). (NUREG-0654, J.9, 10.f, m).

EXTENT OF PLAY AGREEMENT:

There are no modifications from the NJRERP.

EVALUATION AREA 2: PROTECTIVE ACTION DECISION-MAKING

Sub-element 2.c. - Protective Action Decisions Consideration for the Protection of Special Populations

Criterion 2.c.1: Protective action decisions are made as appropriate, for special population groups. (NUREG-0654, J.9, J.10.d, e)

EXTENT OF PLAY AGREEMENT:

There are no modifications from the NJRERP

EVALUATION AREA 2: PROTECTIVE ACTION DECISION-MAKING

Sub-element 2.d - Radiological Assessment and Decision Making for the Ingestion Exposure Pathway

Criterion 2.d.1: Radiological consequences for the ingestion pathway are assessed and appropriate protective action decisions are made based on the ORO planning criteria. (NUREG-0654, J.9, J.11)

EXTENT OF PLAY AGREEMENT:

Not evaluated for this exercise.

EVALUATION AREA 2: PROTECTIVE ACTION DECISION-MAKING

Sub-element 2.e. - Radiological Assessment and Decision-Making Concerning Relocation, Re-entry, and Return

Criterion 2.e.1: Timely relocation, re-entry, and return decisions are made and coordinated as appropriate, based on assessments of the radiological conditions and criteria in the ORO's plans and/or procedures. (NUREG-0654, I.1; J.9; M.1)

EXTENT OF PLAY AGREEMENT:

Not evaluated for this exercise.

EVALUATION AREA 3: PROTECTIVE ACTION IMPLEMENTATION

Sub-element 3.a - Implementation of Emergency Worker Exposure Control

Criterion 3.a.1: The OROs issue appropriate dosimetry and procedures, and manage radiological exposure to emergency workers in accordance with the plans and procedures. Emergency workers periodically and at the end of each mission read their dosimeters and record the readings on the appropriate exposure record or chart. (NUREG-0654, K.3a, b)

EXTENT OF PLAY AGREEMENT:

- FMTs will not be required to dress out during the plume phase (protective clothing will be available for inspection by the evaluator). Exposure control and contamination control functions will be addressed through an interview with the field teams

EVALUATION AREA 3: PROTECTIVE ACTION IMPLEMENTATION

Sub-element 3.b - Implementation of KI Decision

Criterion 3.b.1: KI and appropriate instructions are available should a decision to recommend use of KI be made. Appropriate record keeping of the administration of KI by emergency workers and institutionalized individuals is maintained.

EXTENT OF PLAY AGREEMENT:

__ There are no modifications from the NJRERP.

EVALUATION AREA 3: PROTECTIVE ACTION IMPLEMENTATION

Sub-element 3.c - Implementation of Protective Actions for Special Populations

Criterion 3.c.1: Protective action decisions are implemented for special populations other than schools within the areas subject to protective actions. (NUREG-0654, J.10.c, d, g).

EXTENT OF PLAY AGREEMENT:

Evacuation of Transportation Dependent Population

Evacuation of Transportation Dependent Population will be demonstrated out of sequence.

Notification of Hearing Impaired

The notification of a hearing impaired individual will be demonstrated by discussion.

The list of hearing impaired individuals will be available for inspection at each municipal EOC. The list will be reviewed but not retained by the federal evaluator.

There will be no actual notification of hearing impaired individuals.

Evacuation of Non- Institutionalized Mobility Impaired Individuals

The notification of non-institutionalized mobility impaired individual will be demonstrated out of sequence.

The list of non-institutionalized mobility impaired individuals will be available for inspection at each municipal EOC. The list will be reviewed but not retained by the federal evaluator. There will be no actual notification.

**EVALUATION AREA 3: PROTECTIVE ACTION
IMPLEMENTATION****Sub-element 3.c - Implementation of Protective Actions for
Special Populations**

Criterion 3.c.2: OROs/School officials implement protective actions for schools. (NUREG-0654, J.10.c, d, g).

EVACUATION OF SCHOOL POPULATIONS**EXTENT OF PLAY AGREEMENT:**

An evacuation bus route for Salem High School will be run from the building to the host facility on May 12, 2004.

An evacuation bus route for Morris Goodwin School will be run from the building to the host facility on May 5, 2004.

SCHOOL INTERVIEWS**EXTENT OF PLAY AGREEMENT:**

Interviews for Salem County will be conducted during by FEMA and a State Controller with either school superintendents or principals on May 12, 2004.

Interviews for Cumberland County will be conducted during by FEMA and a State Controller with either school superintendents or principals on May 5, 2004.

EVALUATION AREA 3: PROTECTIVE ACTION IMPLEMENTATION

Sub-element 3.d. - Implementation of Traffic and Access Control

Criterion 3.d.1: Appropriate traffic and access control is established. Accurate instructions are provided to traffic and access control personnel. (NUREG-0654, J.10.g, j)

EXTENT OF PLAY AGREEMENT:

Traffic and Access Control Points (TCP's and ACP's)

The activation of a water borne Access Control Post and a land Access Control Post will be demonstrated out of sequence. (Location and date TBD).

The State Police Field Operation Bureau personnel will discuss how to activate ACPs in the field in mutually agreed upon locations.

The personnel from the Cumberland County Sheriffs Department and road Department will discuss how to activate TCP's in the field in mutually agreed upon locations.

The (Elsinboro Twp. under contract with LAC), Lower Alloways Creek Twp., Pennsville Twp., and Salem City have police departments and will discuss traffic control with the evaluator on the night of the exercise. Mannington Twp. and Quinton Twp. use the State Police for law enforcement, traffic control in those communities may be discussed at the State EOC.

The participants will demonstrate their ability to locate their assigned posts through an interview with a federal evaluator.

There will be no actual activation of Access Control or Traffic Control.

EVALUATION AREA 3: PROTECTIVE ACTION IMPLEMENTATION

Sub-element 3.d. - Impediments to Evacuation

Criterion 3.d.2: Impediments to evacuation are identified and resolved. (NUREG-0654, J.10.k)

EXTENT OF PLAY AGREEMENT:

Impediments to evacuation

The State Police Field Operation Bureau personnel will discuss with the Federal evaluator how impediments to evacuation would be overcome.

The Salem County Sheriffs Department and Road Department will discuss with the Federal evaluator how impediments to evacuation would be overcome.

The Cumberland County Sheriffs Department and Road Department will discuss with the Federal evaluator how impediments to evacuation would be overcome.

EVALUATION AREA 3: PROTECTIVE ACTION IMPLEMENTATION

Sub-element 3.e - Implementation of Ingestion Pathway Decisions

Criterion 3.e.1: The ORO demonstrates the availability appropriate use of adequate information regarding water, food, supplies, milk, and agricultural production within the ingestion pathway emergency planning zone for implementation of protective actions. (NUREG-0654, J.9, 11).

EXTENT OF PLAY AGREEMENT:

Not evaluated for this exercise.

Sub-element 3.e - Implementation of Ingestion Pathway Decisions

Criterion 3.e.2: Appropriate measures, strategies, and pre-printed instructional material are developed for implementing protective action decisions for contaminated water, food products, milk, and agricultural production. (NUREG-0654, J.9, 11).

EXTENT OF PLAY AGREEMENT:

Not evaluated for this exercise.

EVALUATION AREA 3: PROTECTIVE ACTION IMPLEMENTATION

Sub-element 3.f. - Implementation of Relocation, Re-entry, and Return Decisions

Criterion 3.f.1: Decisions regarding controlled re-entry of emergency workers and relocation and return of public are coordinated with appropriate organizations and implemented. (NUREG-0654, M.1, 3)

EXTENT OF PLAY AGREEMENT:

Not evaluated for this exercise.

EVALUATION AREA 4: FIELD MEASUREMENTS AND ANALYSIS

Sub-element 4.a.1 - Plume Phase Field Measurements and Analysis

Criterion 4.a.1: The field teams are equipped to perform field measurements of direct radiation exposure (cloud and ground shine) and to sample airborne radioiodine and particulates. (NUREG-0654, H.10; I.7, 8, 9)

EXTENT OF PLAY AGREEMENT:

FMTs

- Two (2) State and (1) county FMT will pre-demonstrate instrument checkout and field air-sampling procedures during the afternoon of March 16, 2004. The three field teams will remain in the area until FCP staff arrives and will not be required to perform a second instrument checkout. The BNE will perform an operational check in lieu of a range response of Ludlum Model 3 instruments.

EVALUATION AREA 4: FIELD MEASUREMENTS AND ANALYSIS

Sub-element 4.a. - Plume Phase Field Measurements and Analysis

Criterion 4.a.2: Field teams are managed to obtain sufficient information to help characterize the release and to control radiation exposure. (NUREG-0654, H.12; I.8, 11; J.10.a)

EXTENT OF PLAY AGREEMENT:

There are no modifications from the NJRERP.

EVALUATION AREA 4: FIELD MEASUREMENTS AND ANALYSIS

Sub-element 4.a. - Plume Phase Field Measurements and Analysis

Criterion 4.a.3: Ambient radiation measurements are made and recorded at appropriate locations, and radioiodine and particulate samples are collected. Teams will move to an appropriate low background location to determine whether any significant (as specified in the plan and/or procedures) amount of radioactivity has been collected on the sampling media. (NUREG-0654, I.9).

EXTENT OF PLAY AGREEMENT:

Two (2) state and (1) county FMT will pre-demonstrate instrument checkout and field air sampling and counting procedures during the afternoon of March 16, 2004. If the FMT is not required to perform an additional air sample and count during exercise play, the pre-demonstration will serve as the evaluation demonstration for this criterion.

Chain of Custody Forms will be completed during the exercise by FMTs. However, the transfer of samples to the laboratory will not be demonstrated.

EVALUATION AREA 4: FIELD MEASUREMENTS AND ANALYSIS

Sub-element 4.b - Post Plume Phase Field Measurements and Sampling

Criterion 4.b.1: The field teams demonstrate the capability to make appropriate measurements and to collect appropriate samples (e.g., food crops, milk, vegetation, and soil) to support adequate assessments and protective action decision-making. (NUREG-0654, I.8; J.11)

EXTENT OF PLAY AGREEMENT:

Not evaluated for this exercise.

EVALUATION AREA 4: FIELD MEASUREMENTS AND ANALYSIS

Sub-element 4.c - Laboratory Operations

Criterion 4.c.1: The laboratory is capable of performing required radiological analysis to support protective action decisions. (NUREG-0654, C.; J.11)

EXTENT OF PLAY AGREEMENT:

Not evaluated for this exercise.

EVALUATION AREA 5: EMERGENCY NOTIFICATION & PUBLIC INFORMATION

Sub-element 5.a - Activation of the Prompt Alert and Notification System

Criterion 5.a.1: Activities associated with the primary alerting and notification of the public are completed in a timely manner following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. The initial instructional message to the public must include as a minimum the elements required by current FEMA REP guidance. (10 CFR Part 50, Appendix E.IV.D & NUREG-0654, E.5, 6, 7)

EXTENT OF PLAY AGREEMENT:

The Primary EAS Station WIXM-FM will be in automated mode during the exercise therefore the OEM will simulate the broadcast of the message using the SAGE/ENDEC encoder. There will be no actual siren sounding and no broadcasting of EAS messages. The Salem/Hope Creek siren system was tested on the latest date with results shall be provided.

The demonstration of the message being transferred from the State EOC to WIXM-FM will take place on April 14, 2004.

EVALUATION AREA 5: EMERGENCY NOTIFICATION & PUBLIC INFORMATION

Sub-element 5.a - Activation of the Prompt Alert and Notification System

Criterion 5.a.2: RESERVED

EVALUATION AREA 5: EMERGENCY NOTIFICATION & PUBLIC INFORMATION

Sub-element 5.a - Activation of the Prompt Alert and Notification System

Criterion 5.a.3: Activities associated with FEMA approved exception areas (where applicable) are completed within 45 minutes following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. Backup alert and notification of the public is completed within 45 minutes following the detection by the ORO of a failure of the primary alert and notification system. (NUREG-0654, 3B.2.c)

EXTENT OF PLAY AGREEMENT:

— Backup route alerting will be demonstrated during the exercise:

Cumberland County
Stow Creek Twp, March 16, 2004.

Salem County
Lower Alloways Creek Twp, March 16, 2004

EVALUATION AREA 5: EMERGENCY NOTIFICATION & PUBLIC INFORMATION

Sub-element 5.b - Emergency Information and Instructions for the Public and the Media

Criterion 5.b.1: OROs provide accurate emergency information and instructions to the public and the news media in a timely manner. (NUREG-0654, E.5, 7; G.3.a, G.4.c).

EXTENT OF PLAY AGREEMENT:

Public Instruction and Emergency Information

EAS Follow-up News Releases are provided to Primary EAS Station only and the media at the ENC.

Public Inquiry

The public inquiry (rumor control) function will be staffed by at least five operators with one supervisor.

Inject messages will identify at least two false or misleading information to enable the public inquiry (rumor control) function to identify trends and false rumors.

EVALUATION AREA 6: SUPPORT OPERATION/FACILITIES

Sub-element 6.a - Monitoring and Decontamination of Evacuees and Emergency Workers, and Registration of Evacuees

Criterion 6.a.1: The reception center/emergency worker facility has appropriate space, adequate resources, and trained personnel to provide monitoring, decontamination, and registration of evacuees and/or emergency workers. (NUREG-0654, J.10.h; J.12;K.5.a)

EXTENT OF PLAY AGREEMENT:

One (1) Reception center will be demonstrated out of sequence.

At least 1/3 of the required monitors will be present and evacuees will be monitored. Staff will be provided to act as evacuees.

Initial personnel monitoring staff will be demonstrated as tabulated below. Staff will be provided to act as evacuees.

Two radiation monitoring staff will be present and demonstrate, one (1) for male decontamination and one (1) for female decontamination. They will process one person each.

Both vehicle monitoring posts will be staffed with a minimum of two (2) emergency workers.

Two vehicles will be demonstrated for monitoring and decontamination, one (1) clean vehicle and one (1) contaminated.

There will be only a representative (small) sample of supplies available at the facility.

Decontamination techniques will be simulated.

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Reception Center floors will not be covered with paper/plastic during this demonstration. However, it will be available for inspection.

Distribution of Potassium Iodide to the general public will be demonstrated by the County Department of Health.

EVALUATION AREA 6: SUPPORT OPERATION/FACILITIES

Sub-element 6.b - Monitoring and Decontamination of Emergency Worker Equipment

Criterion 6.b.1: The facility/ORO has adequate procedures and resources for the accomplishment of monitoring and decontamination of emergency worker equipment including vehicles. (NUREG-0654, K.5.b).

EXTENT OF PLAY AGREEMENT:

One (1) Emergency Worker Decontamination Center (EWDC) will be demonstrated out of sequence.

Two radiation monitoring staff will be present and demonstrate, one (1) for male decontamination and one (1) for female decontamination. They will process one person each.

Both vehicle monitoring posts will be staffed with a minimum of two (2) emergency workers.

Two vehicles will be demonstrated for monitoring and decontamination, one (1) clean vehicle and one (1) contaminated.

There will be only a representative (small) sample of supplies available at the facility.

Decontamination techniques will be simulated.

EWDC floors will not be covered with paper/plastic during this demonstration. However, it will be available for inspection.

EVALUATION AREA 6: SUPPORT OPERATION/FACILITIES

Sub-element 6.c - Temporary Care of Evacuees

Criterion 6.c.1: Managers of congregate care facilities demonstrate that the centers have resources to provide services and accommodations consistent with American Red Cross planning guidelines (found in MASS CARE-Preparedness Operations ARC 3031). Managers demonstrate the procedures to assure that evacuees have been monitored for contamination and have been decontaminated as appropriate prior to entering congregate care facilities. (NUREG-0654, J.10.h, J.12)

EXTENT OF PLAY AGREEMENT:

One (1) Congregate Care Shelter in each County will be demonstrated out of sequence.

Capabilities will be demonstrated through an interview process. Personnel, at a minimum, will consist of one Manager and an Assistant for each congregate care shelter opened.

Availability of additional personnel will be determined by interview.

Supplies required for long term mass care (cots, blankets, food, etc.) are not to be acquired or brought to the Congregate Care Shelters.

EVALUATION AREA 6: SUPPORT OPERATION/FACILITIES

Sub-element 6.d - Transportation and Treatment of Contaminated Injured Individuals

Criterion 6.d.1: The facility/ORO has appropriate space, adequate resources, and trained personnel to provide transport, monitoring, decontamination, and medical services to contaminated injured individuals. (NUREG-0654, F.2; H.10; K.5a, b; L.1, 4)

EXTENT OF PLAY AGREEMENT:

The use of flashing lights and sirens for exercise play will be simulated.

APPENDIX 4**SCENARIO SUMMARY**

The Operations crew will be reporting to the simulator at 1430. An operations crew will perform in the Hope Creek simulator beginning at 1600. The simulator crew and Nuclear Equipment Operators (NEOs) will be prestaged. Other PSEG Nuclear emergency response facilities will be notified using page announcements and the callout system after 1600.

Initial Conditions:

Salem 1 is at 100% power at beginning of life.

Salem 2 is at 100% Power at middle of life.

Hope Creek is at 100% Power and has been on line for the past 14 months.

All Major Equipment is Operable with the following exception:

- **MIDAS** is not available in Automatic Mode due to a problem with the reliability of the automatic data collection system.

AT 1600 DRILL BEGINS

At 1615, Control Room Operators receive a Hi vibration on main turbine bearing #10, causing the reactor to be SCRAMed and the turbine tripped. The operator observes no rod motion, so he backups the scram with Reactor Protection System (RPS) with no results, and Alternate Rod Insertion (ARI) which successfully inserts all control rods.

By approximately 1616, the operations crew may attempt to start the "B" SLC pump. If they do the "B" SLC pump will immediately trip.

From approximately 1620 until 1640, the operations crew will be looking at the main turbine to determine the reason for the hi vibration.

At 1630, or sooner, an **ALERT** should be declared by the Shift Manager (SM) who is now also the Emergency Coordinator (EC) based on:

ALERT

**EAL 5.1.2.b,
A Manual Reactor Scram was not successful.**

(ATWS)

The **EC** will **implement ECG Attachment 2** for the Alert Declaration. The emergency response organization (ERO) callout system will be activated resulting in staffing of all emergency response facilities (ERFs).

By approximately 1700, the Operational Support Center (OSC) should be staffed and activated.

At approximately 1715, a boiler will trip, which will lead the OSC controls technician to investigate the situation.

By approximately 1730, the Technical Support Center (TSC) should be activated and the Emergency Coordinator function transferred to the Emergency Duty Officer (EDO).

At 1730, the instrument air compressor will trip due to a lube oil line break. An OSC team should investigate.

At 1745, a design based loss of coolant accident (**DBA LOCA**) occurs. The reactor water level falls below the top of active fuel (TAF) and fuel damage occurs.

Coincident with core uncover, the Drywell Atmosphere Post Accident (DAPA) "A" radiation monitor will be reading 2500 R/hr.

By 1746, DAPA "A" and DAPA "B" will be reading **5100R/hr**, indicating a loss of fuel cladding.

By 1800 or sooner, a **SITE AREA EMERGENCY** should be declared by the Emergency Coordinator (EDO/ERM) based on:

SITE AREA EMERGENCY

3.1.2, DAPA \geq 5000R/hr

AND

EAL 3.2.2.b, Valid High Drywell Pressure (\geq 1.68 psig)

OR

3.2.1.b Reactor Water Level reaches -161" (Top Of Active Fuel)

(Loss of Fuel Clad and RCS Barriers = 8 pts.)

The **EC** will **implement ECG Attachment 3** for the Site Area Emergency Declaration.

Soon afterward, the EC should implement Accountability of the protected area and Evacuation of the owner controlled area. (Accountability will be limited to drill participants and evacuations will be simulated)

By 1900, if not already done, the Emergency Operations Facility (EOF) will be activated and the Emergency Response Manager (ERM) will assume the role of the EC.

At 1915, a piping line break occurs on the downstream Suction valve of B RHR pump (1BCHV-FO04B). The break location results in a radiological release pathway from the Drywell, to the Reactor Building, and out the Filtration Recirculation Ventilation System (FRVS). A filtered, monitored release above the Hope Creek Offsite Dose Calculation Manual (HCODCM)/Federal Limits is now in progress.

By 1930, a GENERAL EMERGENCY should be declared by the EC (ERM) based on a loss of all 3 fission product barriers:

GENERAL EMERGENCY

3.1.2, DAPA \geq 5000R/hr

AND

EAL 3.2.2.b, Valid High Drywell Pressure (\geq 1.68 psig)

OR

3.2.1.b Reactor Water Level reaches -161" (Top Of Active Fuel)

AND

EAL 3.3.4, UNISOLABLE leakage OUTSIDE Primary Containment as indicated by one of the following:

- Downstream pathway to the environment exists
- Radiation monitors, area temperature, flow or sump level

AND

Containment isolation is required as indicated by a signal for ANY one of the following systems:

- NSSS
- PCIS
- HPCI
- RCIC

AND

Cannot be ISOLATED from the main Control Room

OR

3.3.5.b, ANY condition, in the opinion of the EC that indicates a Loss of the Containment Barrier**(Loss of Fuel Clad, RCS and Containment Barriers = 10 pts.)**

The EC will **implement ECG Attachment 4** for the General Emergency Declaration. A 10-point keyhole type PAR must also be made.

Starting at approximately 1930, the TSC and OSC will be trying to terminate or mitigate the radiological release.

Also, the radiological assessment team in the EOF will be monitoring the meteorological conditions and will recommend PAR Upgrades to the EC based on wind direction shifts.

At 2015, a fire will break out in the Hydrogen Seal Oil Skip in the Turbine Building. The fire bridge is dispatched from the OSC to fight the fire.

At 2030, a fire protection operator is injured and will require transport to the Memorial Hospital Of Salem County. (For this exercise, the transportation of the injured person will end at the Sally Port)

At 2100, the "C" Emergency Diesel Generator will trip due to a lube oil line break and the OSC should dispatch a team.

By no later than 2200, the radiological release into the Reactor Building will be terminated by the closing of "B" RHR pump (1BCHV-FO04B) suction valve. The actual time for the termination of the radiological release prior to 2200 will be determined by when the OSC team is able to close the "B" RHR pump suction valve. The suction valve will go closed for scenario control purposes at 2200, if it has not already been closed. The radiological release from the Reactor Building into the environment will gradually decrease throughout the exercise, but will continue above the HCODCM/Federal Limits until the termination of the drill. This is due to the radiological release products still bottled-up in the Reactor Building being vented at a rate of 9000 cfm.

Starting at 2230, the drill may be terminated. The time for the actual termination of the drill will be dependent on when all of the objectives have been met.