



# **Revision of NUREG-0654, Supplement 3**

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National Radiological Emergency Preparedness  
Conference  
April 1, 2010  
Chicago, IL

# **Draft Supplement 3 to NUREG-0654**

*“Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants – Guidance for Protective Action Recommendations for General Emergencies”*

# **Draft Supplement 3 to NUREG-0654**

- Guidance for protective action recommendation and implementation
- Guidance for public information materials and emergency messaging

# **Study of Protective Action Recommendation (PAR) Guidance**

- PAR Study – NUREG/CR-6953, Volume 1
  - Alternative protective actions can reduce public dose during severe accidents
- PAR Study – NUREG/CR-6953, Volume 2
  - Insight into public tendencies in responding to protective action strategies
- PAR Study – NUREG/CR-6953, Volume 3 (in process)
  - Analyze protective action strategies for large early release

# Results

- **Revise NUREG-0654, Supplement 3**
  - Evacuation remains major element
  - Staged evacuation is more protective
  - Shelter in place followed by evacuation is more protective for large early release at sites with longer evacuation times

# Results

- People will implement protective actions when asked
- Message effects rate of compliance
- Emergency responders will report for duty

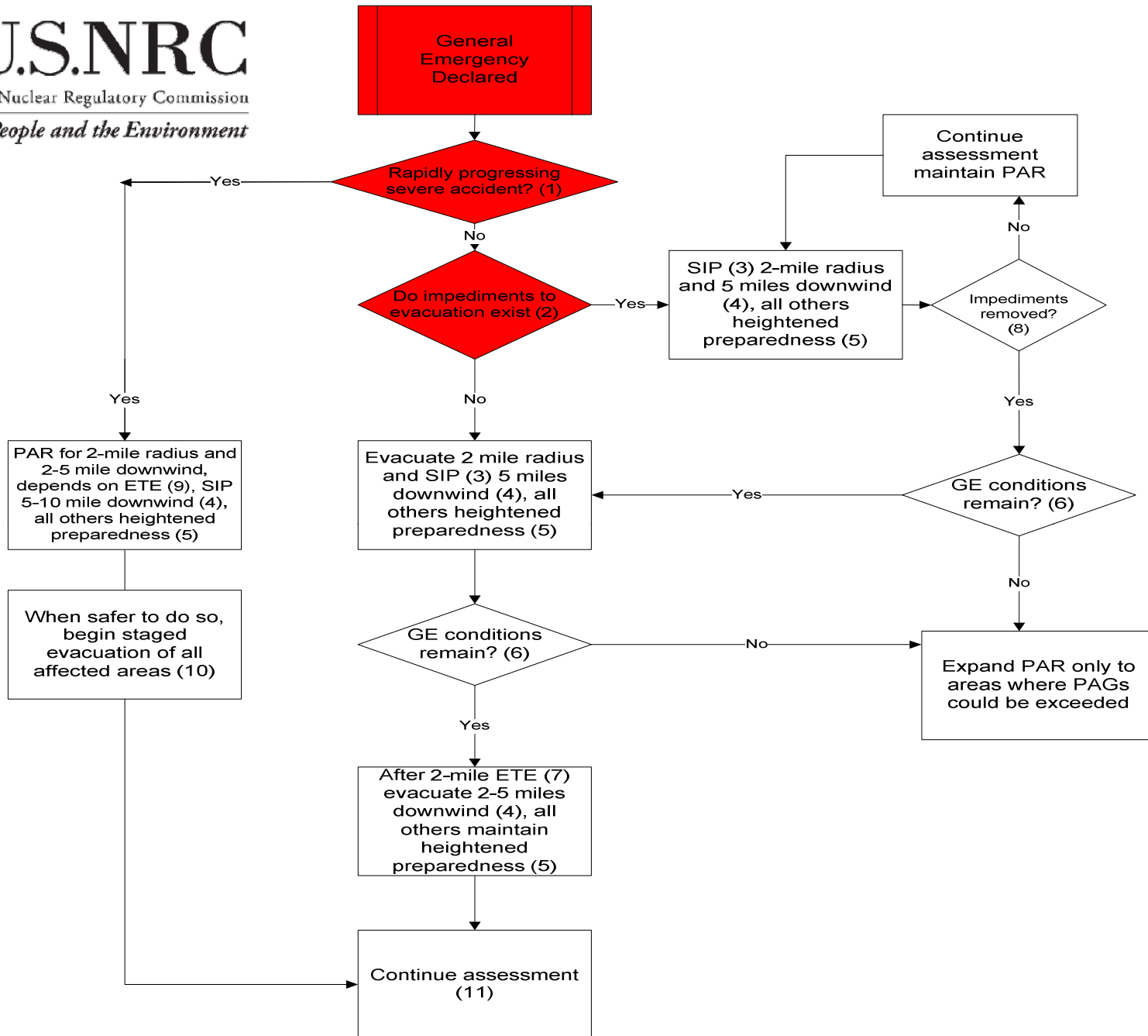
# Process

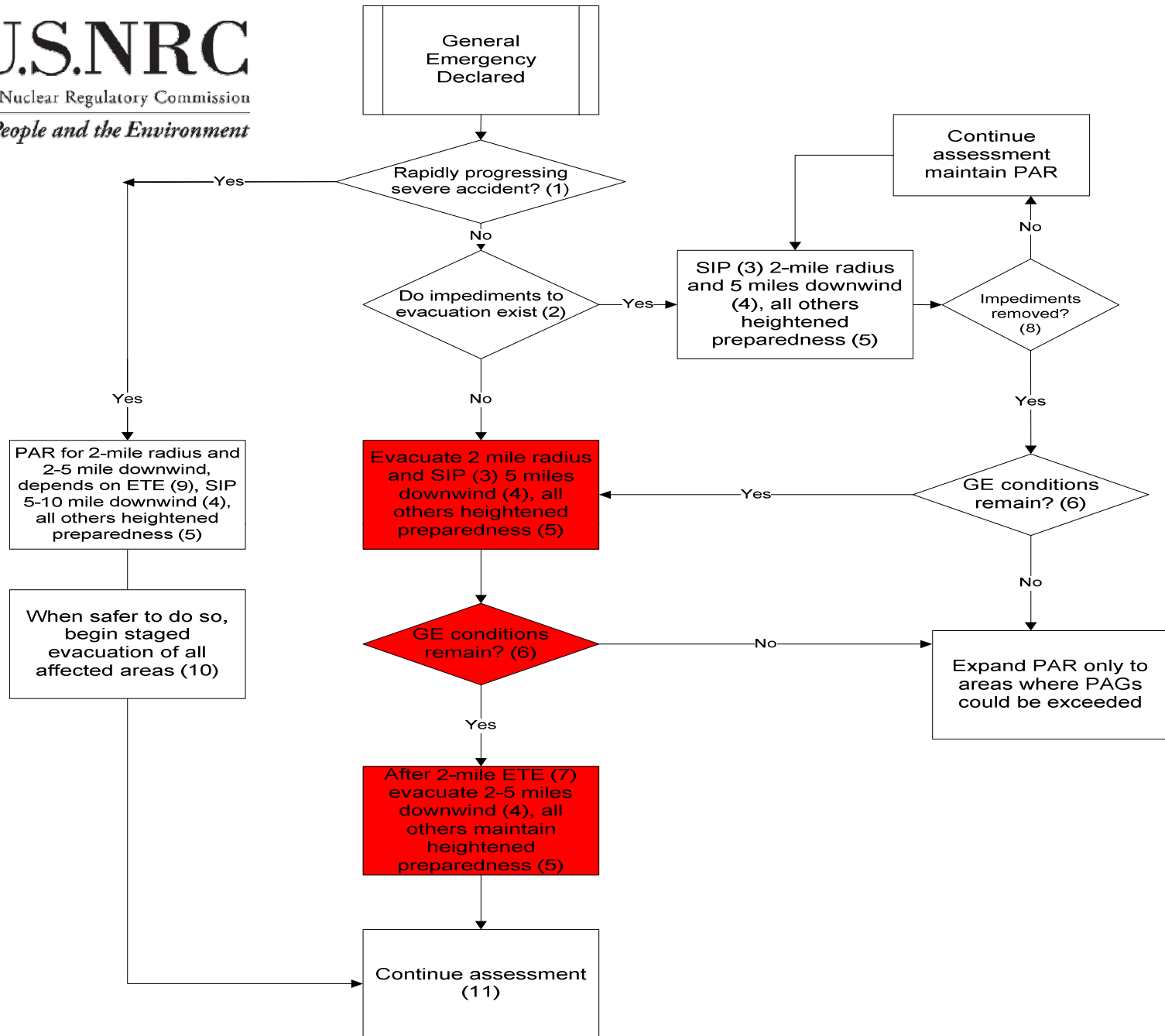
- Revise Supplement 3,
  - Draft PAR Logic Diagram
  - Draft communication guidance
- Align with FEMA
- Gather stakeholder feedback
  - Federal Register Notice
- Resolve comments
- Issue guidance (2011)

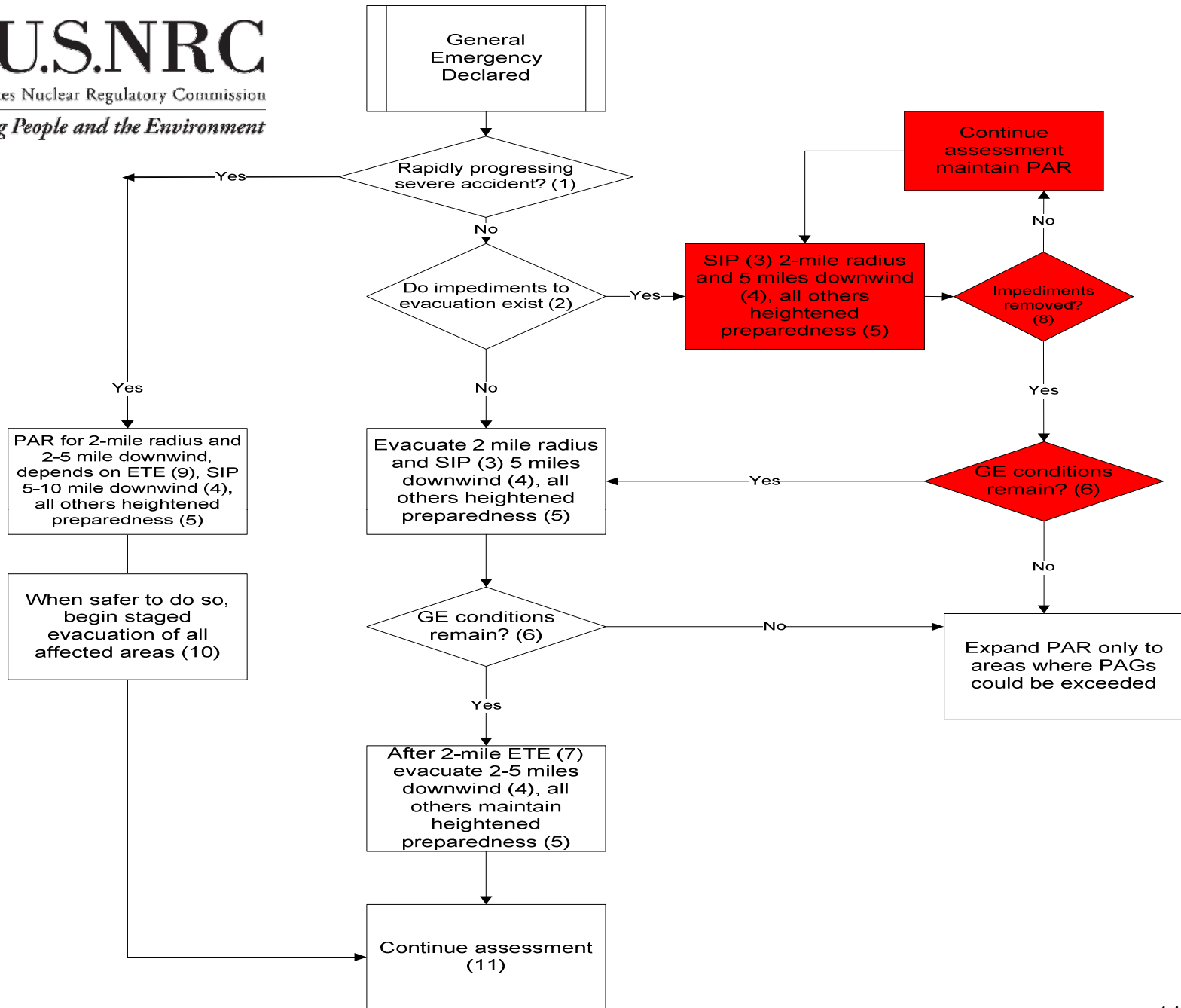


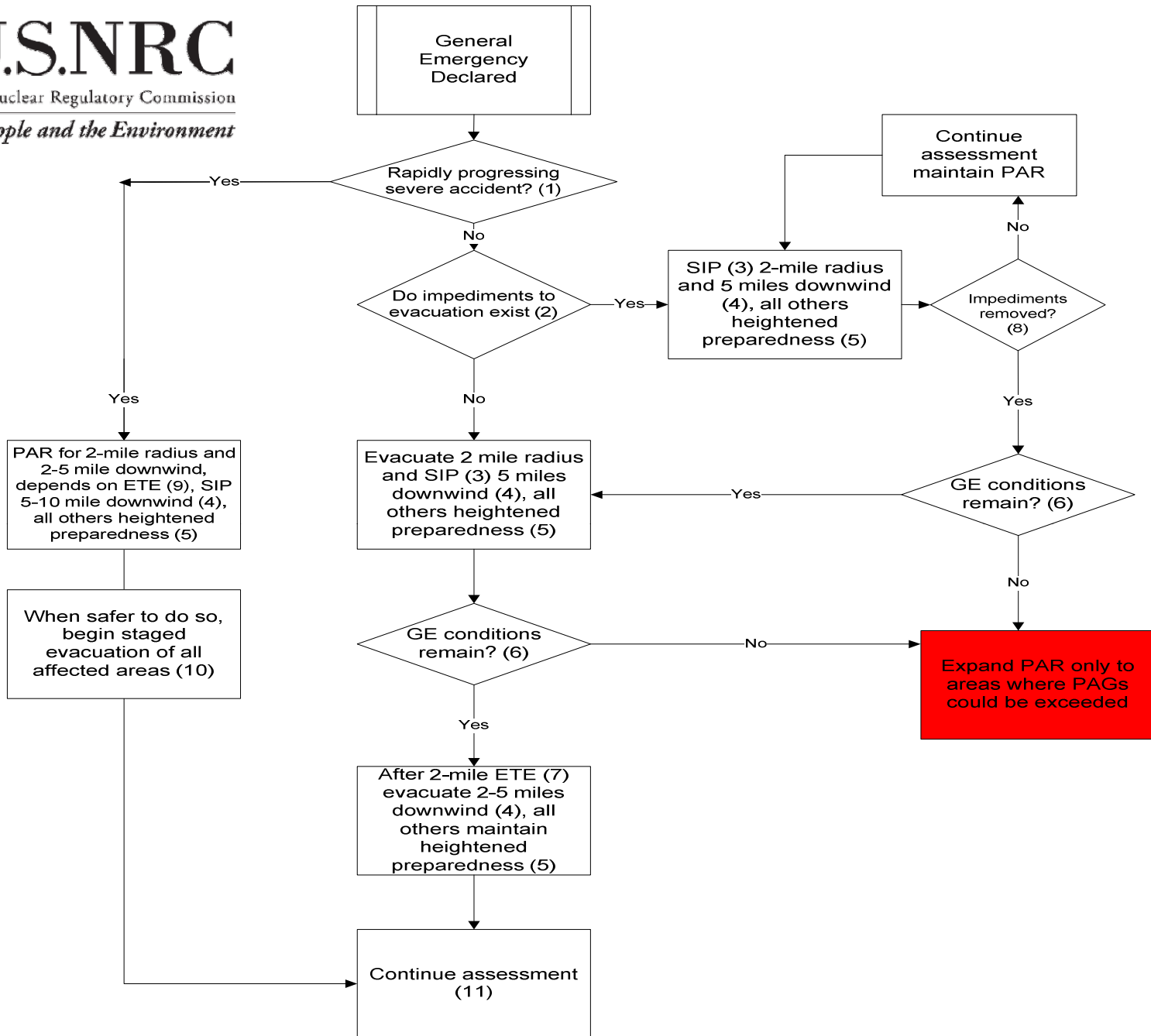
# PAR Logic Diagram

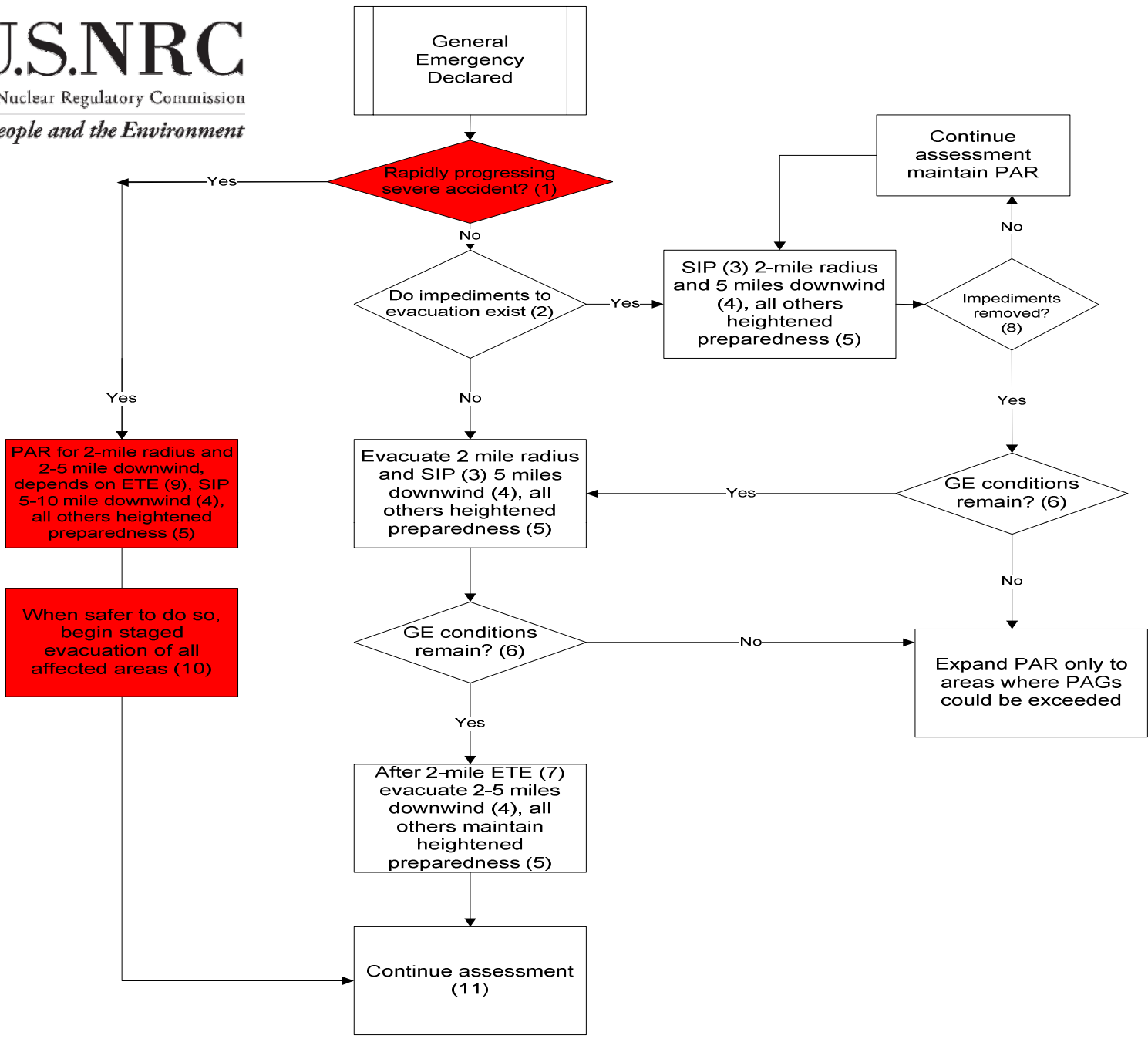


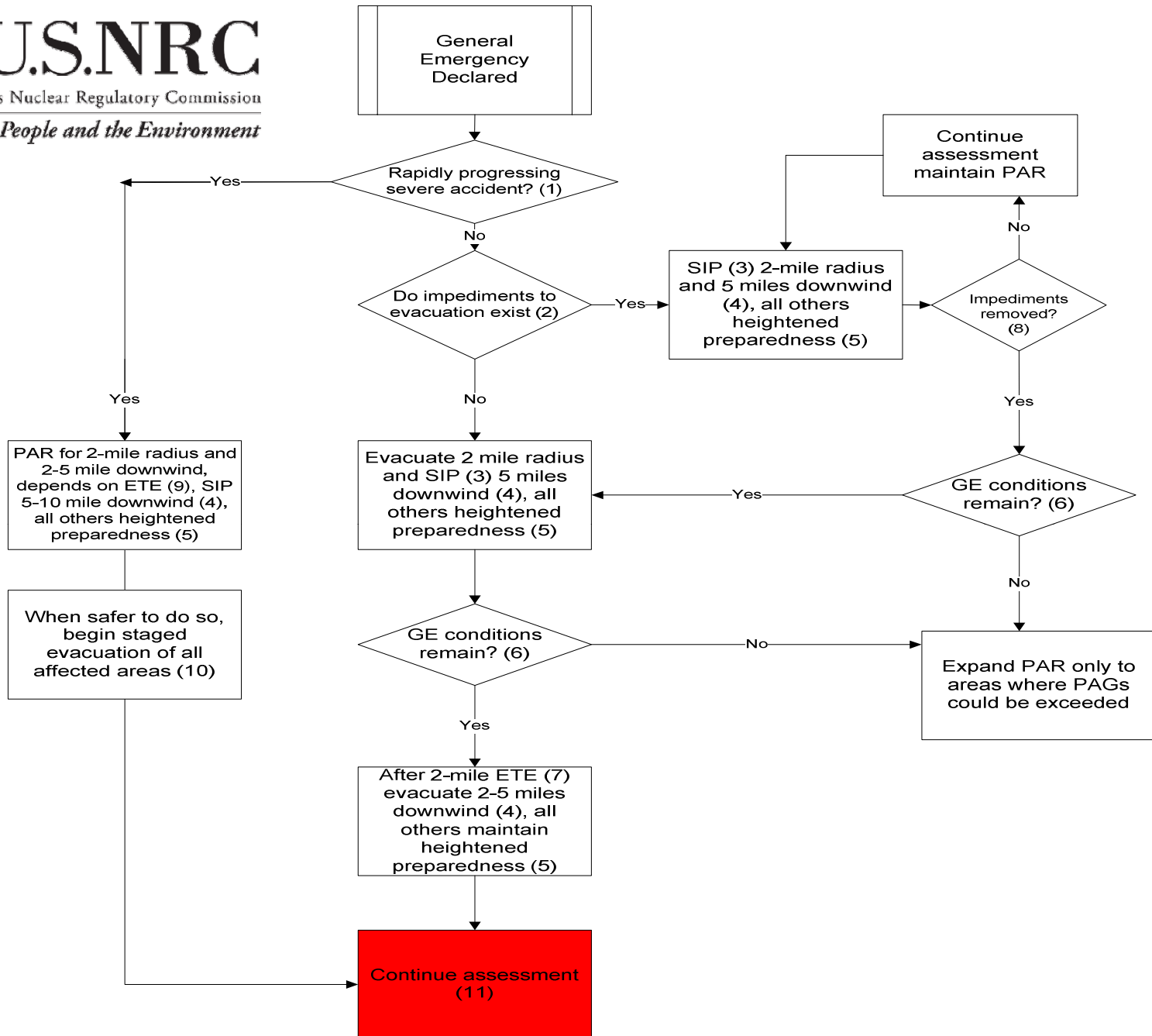












## **Appendix to Supplement 3**

# **EFFECTIVE COMMUNICATION WITH THE PUBLIC TO SUPPORT EMERGENCY PREPAREDNESS AND RESPONSE**

# Purpose

- Provide guidance to licensees and offsite response organizations (OROs) to enhance communications with the public before and during nuclear power plant emergencies
  - Consistent with U.S. Department of Homeland Security (DHS) guidance
- Guidance is provided regarding:
  - Public information materials
  - Emergency messaging





# Preparedness

# Public Information Materials

- Disseminated yearly to the public within the EPZ
- Brochures, phone books, calendars and utility bills
- Most residents are familiar with emergency information materials
  - Many keep information available
- Establish “Heightened Preparedness” as a protective action

# Evacuation Guidance

Public information materials should describe:

- Who is to go (describe ERPAs)
- Where to go (reception centers, congregate care centers)
- How to get there (personal vehicle, bus, special needs)
- Will there be direction on when to go
  - Is there time to go home and pack
  - Could they be directed to leave immediately
- What they should take with them

# Staged Evacuation

- Explain the reason for staged evacuation
  - Allow those closer to the plant to evacuate rapidly
- **Key Message**
  - Residents not in the evacuation area should stay off roadways to allow those more at risk to evacuate

# Staged Evacuation

- The public will support staged evacuation if message is properly delivered
- Public information material help educate the public on the reasons for staged evacuation

# School Evacuation

- Benefit of implementation of school evacuation plans without interference
  - Parental interference may impede evacuation, increasing risk to students
- School evacuation planning should anticipate parents picking up children
  - Develop expedient means to release children to parents, friends, or relatives
  - Manage additional traffic.
  - Planning can limit impact

# Transit Dependant Evacuation

- Suggest transit-dependent residents request a ride from neighbors, relatives or friends
- Residents requiring transportation should register with the ORO
- Informational materials should include:
  - Maps of bus routes and pick-up points
  - How to get to pick-up point (register for assistance if necessary)
  - When buses are going to start picking up residents
  - How long residents might wait for a bus and why it is safe to be outside during this time
  - Multiple bus runs

# Shelter In Place (SIP)

- SIP information should include details such as:
  - Close doors and windows, turn off air conditioning or heating, and monitor communications channels for further instructions
  - What to do if in a vehicle when the order is given
    - stop at nearest building, exit EPZ, etc.
  - What to do if working, shopping, dining, etc. (e.g., remain where you are or seek shelter, monitor for additional information)
  - What to do if family members are not together at home. (have a family emergency plan)



# Special Needs Individuals

- Special needs individuals not in special facilities
- Enhanced outreach will yield improvement in registration
  - Distinct section in the ***beginning*** of information material.
    - Modify the card to attract readers.
  - Change the title from “Special Needs” to a term without connotation (e.g., “Evacuation Assistance”)
  - Assure personal information provided is kept confidential.
    - Although this was not found to influence many residents
  - Conduct registration at community activities/outreach efforts
  - Work with senior centers and local advocacy groups



# Response

## **Ongoing Communication During an Emergency**

- After the initial alert and notification, the public will monitor media broadcasts and subsequent EAS messages
- Important to broadcast current status through frequent/scheduled updates
- Frequent broadcast instills confidence that officials are monitoring and will warn the public if need be

# Shelter in Place Messaging

- Residents instructed to remain indoors, turn off heating or air conditioning, seal windows, monitor communications channels, and prepare to evacuate
- Messages should address the locations at which people might be sheltering such as at home, work, etc.
- Regular updates should be provided
- Loss of power will impede SIP direction

# Evacuation Messaging

- Specify who should evacuate
  - Residents, tourists, employees, special needs individuals
- Explain where to find description of ERPAs
  - Information brochure, telephone book, etc.
- Specify when to evacuate
  - Immediately, within an hour, etc
- Explain where to go
  - Reception center, congregate care
  - Consistency. E.g., if EAS message states there is no radiological release, do not state need for contamination screening

# Staged Evacuation Messaging

- The initial protective action recommendation is a staged evacuation
  - 2-mile area around the plant is evacuated first, while others shelter-in-place
  - Allow those nearest the plant to be evacuated rapidly
- Identify areas that should not evacuate
  - Provide reason, e.g., allow those nearest to the plant to leave first.

# School Evacuation Messaging

- Schools evacuated early, e.g., SAE
- Expected parents will become aware of evacuation through informal channels
- Emphasize benefit of organized evacuation of school
  - Reduce potential for parents picking up children

## **Messaging to Minimize Shadow Evacuation**

- Shadow evacuation - evacuation from areas outside designated evacuation area
- Shadow evacuation can be mitigated through education, communication and traffic control
- Instruct residents not affected to stay off roadways to allow those near the plant to evacuate



# Transit Dependent Messaging

- Emphasize the need to request a ride from a neighbor, relative, or friend
- For those with no ride, communicate:
  - Map of bus routes
  - How often buses will run
  - How to get to bus route
  - What to do if they cannot get to bus route
  - What they should bring
  - Limits on belongings (e.g., do pets require a pet carrier)
  - How long they may wait for bus

## **Special Needs (Homebound) Residents**

- Emphasize the need to request a ride from a neighbor, relative, or friend
- For those who have registered for assistance provide information regarding:
  - How long to expect to wait for assistance,
  - What to do if assistance does not arrive
- Instructions needed for residents who have not registered for assistance.

## To Make a Formal Comment

- We will **NOT** be taking formal comments from the microphone at this meeting, but questions will be answered
- Comments can be submitted at [regulations.gov](http://regulations.gov), Docket ID: NRC-2010-0080
- The deadline for submitting comments is 05/24/2010
- Thank you in advance for your comments



# Additional Ways to Comment

## Mail

Michael T. Lesar, Chief  
Rulemaking & Directives Branch  
Division of Administrative Services  
Office of Administration  
Mail Stop: TWB-05-B01M  
US Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

## Fax

301-492-3446



# Summary

- PAR Logic Diagram
- Public Information Guidance
- Emergency Communication Guidance



# Questions?

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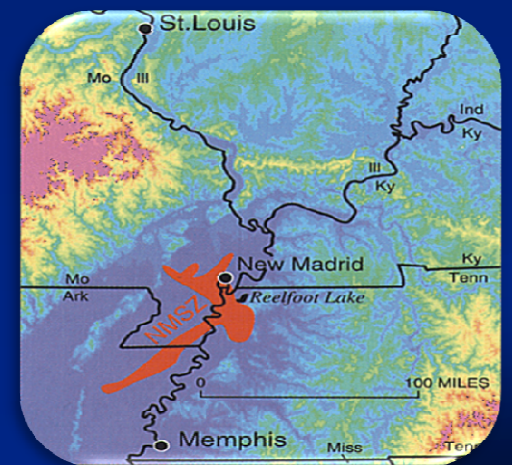
# National Level Exercise 2011 Overview

Jason Kozal

Senior Emergency Response Coordinator  
Office of Nuclear Security and Incident Response

# New Madrid Fault Zone Background

- 150 miles long, covering 5 states
- 4 of the largest earthquakes in North American history
- Largest earthquakes were in 1811 and 1812
- Quakes rang church bells in Boston and caused the Mississippi River to flow backwards
- Studies predict that a major quake could cause the highest economic losses due to a natural disaster in US history





## National Level Exercise 2011

- Dates: May 16th – 20th , 2011
- Severe and wide spread damage
- Planning for NLE 2011 is unique
  - Planning initiated the Central US Earthquake Consortium (CUSEC)
  - Planning is being driven by each FEMA region involved
  - Overall planning is being coordinated at the national level



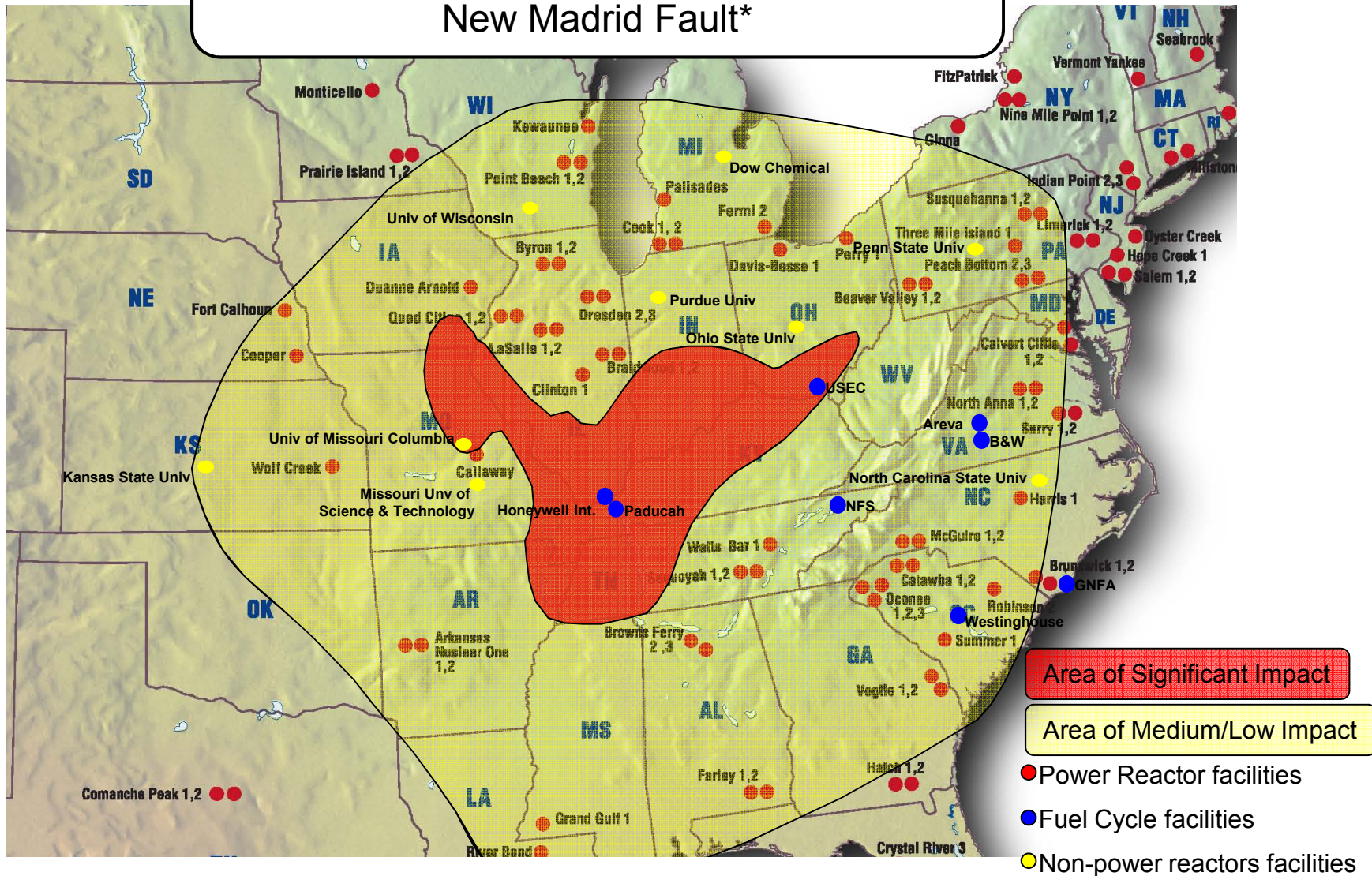
## Licensee Participation

### Reactor & Materials Sites

- A large earthquake at the NMFZ would be felt by over 60 licensees
- Licensees closer to the fault could have significant damage
- Licensee participation would be voluntary



Location of NRC regulated facilities with respect to a magnitude 6.8 earthquake at New Madrid Fault\*



\*Exercise will be at 7.7 magnitude

# NRC Coordination

## Outreach

- Opportunity for licensees to participate in a large scale, national exercise
- Participation is voluntary
- Level of participation can vary
- Letter to solicit participation from licensees was issued
- If a licensee elects to participate, efforts will be coordinated with the states, regional planning groups, and the NRC

# QUESTIONS?