Cooper Nuclear Station (CNS) 2020
Ingestion Pathway Exercise (IPX)

The mission should you be “voluntold” to accept it.......
Situation and Purpose

**Situation:** Evaluated Exercise T- 15 Months (May 2020)
- IPX Exercise once every 8 years
- Numerous updates and clarifications in program requirements since last IPX
- Staff Turnovers since last exercise in departments and agencies since last exercise
- Identify gaps, test and validate capabilities, communication and coordination between locals, state, federal, partners, and stakeholders
- Demonstrates “Reasonable Assurance” Standards being met

**Purpose:** Ensure 360° Review (DOTMLPF) & Capabilities
- D - Doctrine
- O - Organization
- T - Training
- M - Materiel
- L - Leadership
- P - Personnel
- F - Facilities
Advanced training opportunities include:

- 16 Months Technical Assistance (TA) Training
  - Individual/Small Group Technical Assistance (upon request)
- 5 Months of Training Game Days
- State and local Hybrid Tabletop (June 2019)
- CNS Quarterly Drills
- Federal Partners Outreach & Hybrid Tabletop (November 2019)
- Dress Rehearsals
  - Post Plume Exercise (PPX) February 25, 2020
  - Ingestion Pathway Hybrid Tabletop (IPX) February 26, 2020
WARNING!
Prepare for:

Learning

Engagement

Fun

Success
Benefits of the Training Program

- Understand the importance of the training
  - How training impact our successes or failures
  - Training requirements related to “reasonable assurance”

- Working knowledge and products for exercises and real world

- Develops and sustains level of continuity in institutional knowledge

- Prepares to demonstrate required capabilities for the evaluated exercise

- Better prepares you for any threat/hazard conditions (All Hazards)
Do We Really Need to Be here?

› Do you know your counterparts in the Risk, Host, and Ingestion Counties?

› Do you know what resources are available, where, and who you can acquire them from at local, state, and/or Federal levels for your area(s) of responsibility (AORs)?

› Do you know what other ESFs may need from you in terms of products, equipment/resources and expertise?

› Do you know what information, resources, expertise and support Risk, Host, and Ingestion Counties may need from your agency and what your role is in providing them?

› Do you have all the resources you may need, understand how to use them, and have them on your computer ready for any representative to be able to walk in and use here in the SEOC?
What Happens if We Fail?

1. We would have to re-demonstrate and be re-evaluated.

2. Plant loses their license.

If we fail again......

3. Donny gets fired!

I see dead people!
Mission and Computer Based Files

› Resources and references for ESFs files for stations.

› Efforts are not limited to what you know; it is about preparing for anyone who may fill your ESF role, and may not know what you do!

› “Mission File” is for you to have a central repository for all your training information for this program.
  
  – Available via email as “read ahead” information
  
  – Centralized quick reference instead of having to search for what you are looking for.
Information Briefing
(a.k.a. The Cheat Sheet)

- Identifies key areas, decision points, tasks and activities that evaluators will be watching to see demonstrated or hear communicated.

- Guides you in assessing your Areas of Responsibility (AORs) and helps you understand the intra- and inter-dependencies that exist between your agency and others.

- Gives us clear training and performance targets. Using them is up to us!
Ingestion Pathway Information Guide

› 5,000 ft. Level view that helps you put the pieces of the puzzle together.

› Aids you with information so you are able to assess and problem-solve what you need to for your position.

› Gives you what you really need in short narrative and graphic formats.

– Pay attention to the graphics!
What is the Difference Between the Two Days?

› **Tuesdays- Technical Assistance (TA) Trainings.**
  - You will receive instruction related to the topic we are focusing our training on for that time.
  - Review, revise, and/or develop additional resource materials that you should have and will need for you or anyone filling your role.

› **Thursdays- Game Day Trainings.**
  - Reinforce what you learned on any of the preceding TA days.
  - Opportunities to apply knowledge and skills
  - Test and validate any resources we may develop
Ingestion Pathways

AIRBORNE RELEASE
DEPOSITION
SOIL & VEGETATION
FORAGE & GRAINS
LIVESTOCK & POULTRY
MEAT & MILK
EATING & DRINKING
FRUIT, VEGETABLES, & GRAINS
FRESH & PROCESSED
EATING & DRINKING

LIQUID RELEASE
SURFACE & GROUND WATER
RESERVOIRS & CISTERNs
DRINKING
AQUATIC CHAIN
FISH & SEAFOOD
EATING & DRINKING
Response Picture

Public Health and Safety Protective Actions

1. NPP Incident
2. Exposure Pathways
   - Precautionary Protective Actions
3. Start of Release
4. Release under Control or Terminated
5. Post-Plume (Intermediate) Phase

People Controls
- Inhalation & Direct Exposure
- Plume Exposure Pathway
- Deposition Exposure Pathway

Food Controls
- Ingestion (In-direct Exposure)
- Ingestion Exposure Pathway

0 to 10-miles
0 to 50-miles
What Goes Up/Out.....Goes Somewhere!

- Gaseous effluents
- Depletion
- Ingestion
- Inhalation
- Livestock products
- Drinking water
- Agricultural products
- Nuclear facilities
- Soil
- Ingestion
- Sea
- Liquid effluents
- Marine products

- Radiation
- : Radionuclides
- : Behavior of radionuclides
Threat/Hazard & Impact Phase(s)

Potential Exposure Pathways

1. External radiation from the facility
2. External radiation from the plume
3. Inhalation of activity in the plume
4. Contamination of skin and clothing
5. External radiation from deposited activity
6. Ingestion of contaminated food and water
7. Inhalation of resuspended activity

Incident Phases

- Early
- Intermediate
- Late
<table>
<thead>
<tr>
<th>Exposure &amp; Routes-of-Entry Projected Hazard Period(s)</th>
<th>Early Phase</th>
<th>Intermediate Phase</th>
<th>Late Phase</th>
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</thead>
<tbody>
<tr>
<td>Direct Plume &amp; Inhalation</td>
<td>![radioactive icon]</td>
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<tr>
<td>Contamination of Skin and Clothes</td>
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<td>Ground Shine (Deposition)</td>
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<td>Re-aerosolization</td>
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<td>Ingestion of Contaminated Water</td>
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<td>Ingestion of Contaminated Food</td>
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<tr>
<td>Protective Actions</td>
<td>Early Phase</td>
<td>Intermediate Phase</td>
<td>Late Phase</td>
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<td>Initial Evacuation(s)-Sheltering</td>
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<td>Shelter-in-Place &amp; Evacuation of those previously sheltered-in-place</td>
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<td>Livestock/Animal Protection(s)</td>
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<td>Control Air Space</td>
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<td>Access Controls- Water &amp; Rail</td>
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<td>Access Control Points (ACPs)</td>
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<td>Prophylactic Measures (Emergency Workers only)</td>
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<td>Decontamination &amp; Reception of Initial Evacuees</td>
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<td>Decontamination of Emergency Workers, Equipment, and Vehicles</td>
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<td>Food Controls (Embargos/Quarantine &amp; Relaxing)</td>
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<td>Water Controls (Including Surface Waters)</td>
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<td>Waste Controls &amp; Disposal</td>
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<td>Re-Entry Emergency Workforce</td>
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<td>Restricted/Buffer/Exclusion Zones</td>
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<td>Additional Relocation of Those In Areas Exceeding PAGs</td>
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<tr>
<td>Re-Entry (For livestock/animal care, essential business records, personal, medical, and care items for relocations,</td>
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<td>Long-Term Relocation</td>
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<td>Decontamination of Access Routes, land, and critical infrastructure</td>
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<td>Re-Entry Non-Emergency Workforce</td>
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<tr>
<td>Return to unrestricted homes and businesses</td>
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Anyone who had trouble getting on base today, please shoot leave your name with Wade and we’ll make a visitor request for Security.

Review the information we covered today. Our game will be based on information in your packets!

Please come and have some fun! This isn’t about winning or losing or making anyone look bad.

Engage! Right or wrong does not matter, you will get the information you need in the process!
Time for Questions