

RASCAL TRAINING

Unit 4 – Additional Problems & Wrap-Up

RASCAL TRAINERS

George Athey

Athey Consulting

Jeff Kowalczyk, CHP

US NRC

Office of Nuclear Security and Incident Response

Ed Harvey

US NRC

Office of Research

DISCUSSION TOPICS

- **Nuclear Power Plant Accidents**
 - [Long-Term Station Blackout](#)
 - [Monitored Effluent Mixtures](#)
 - [Containment Rad Monitor](#)
 - [Steam Generator Tube Rupture](#)
- **Other Radiological Accidents**
 - [Spent Fuel Pool](#)
 - Fuel Cycle
 - Other Materials Accident
 - [Transportation Accident](#)
- **RASCAL features**
 - [Multi-Unit Assessment](#)
 - [Comparing with Field Measurements](#)
 - Field Team Dosimetry & DRDs
 - [Download Met from Internet \(MetFetch\)](#)
 - Special Receptors

RASCAL TRAINING

RASCAL Wrap-Up

SKILLSET CHECK

Do you know how to....

- **open RASCAL and get to STDose?**
- **change default settings?**
- **run a case from start to finish?**
- **view your results?**
- **print/save your results?**

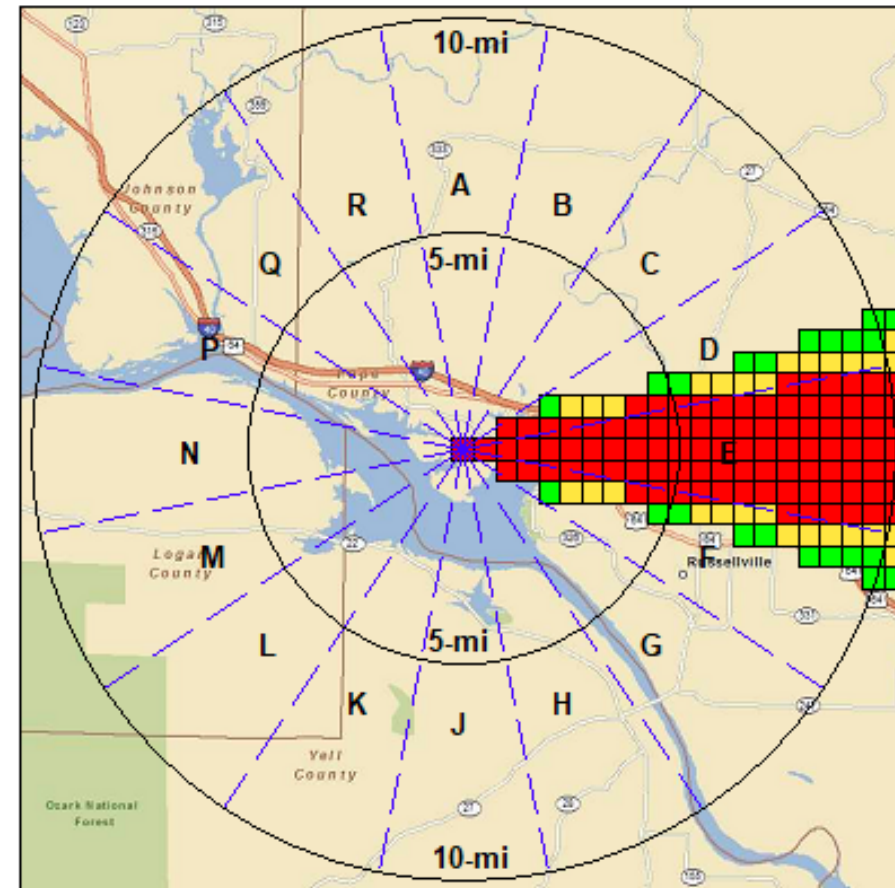
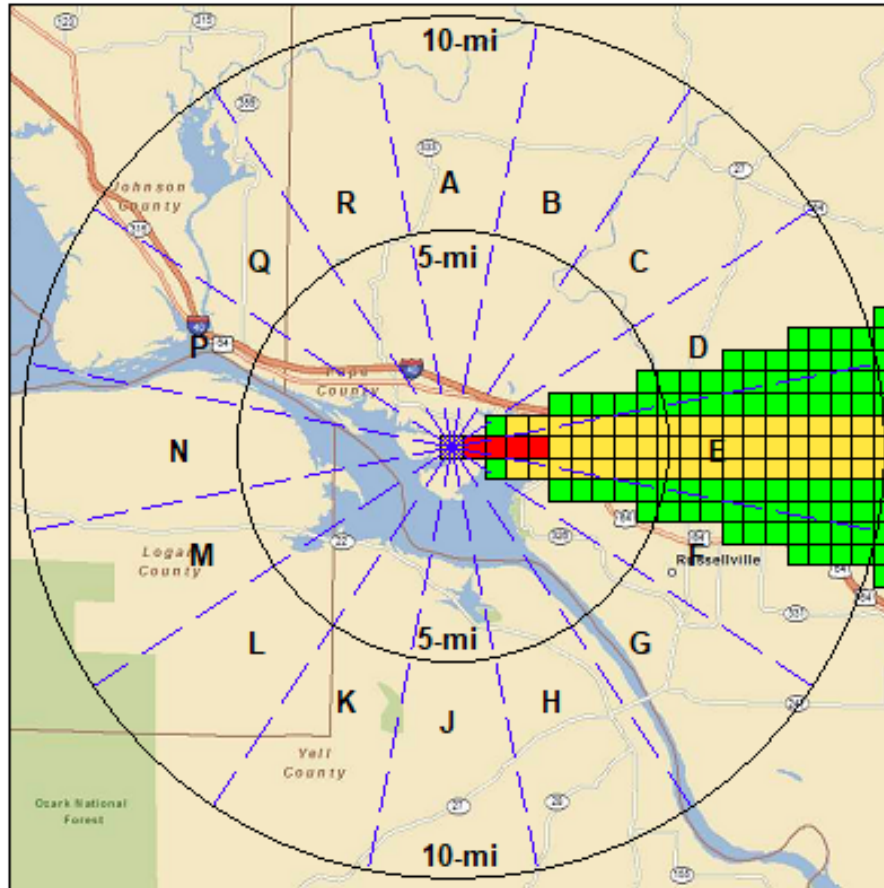
SKILLSET CHECK

- **Can you choose the best Source Term based on the event?**
 - **Major break in Reactor Coolant System?**
 - **Steam Generator Tube Rupture?**
 - **Loss of Offsite Power?**
 - **Stack release of 50,000 counts per min?**

SKILLSET CHECK

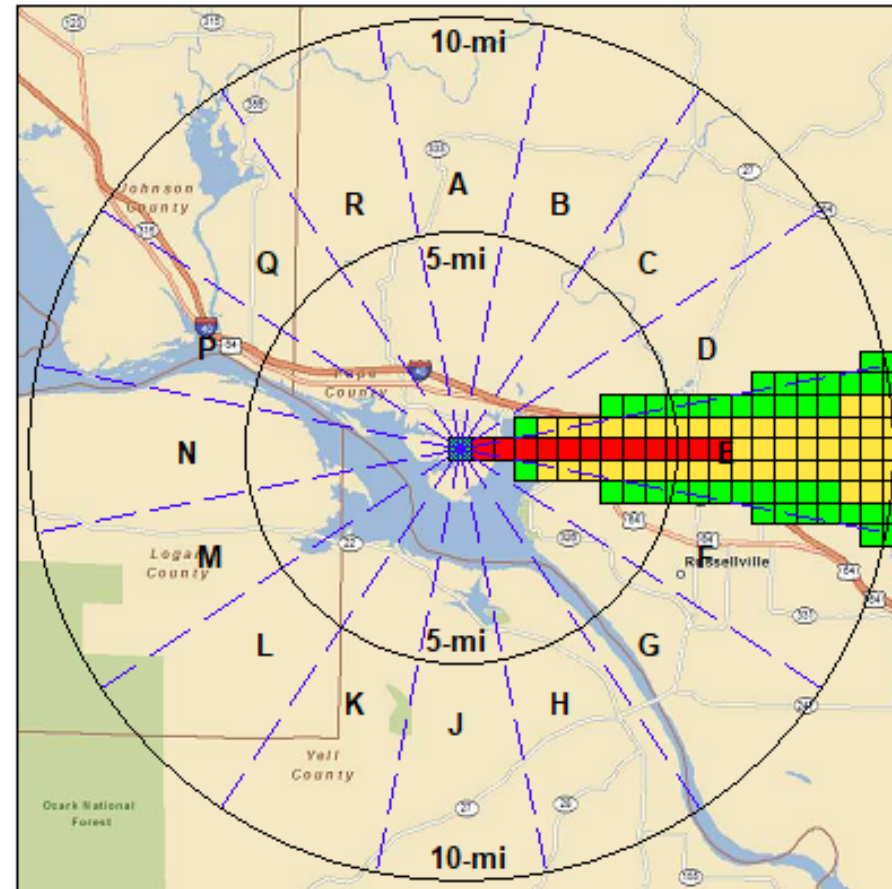
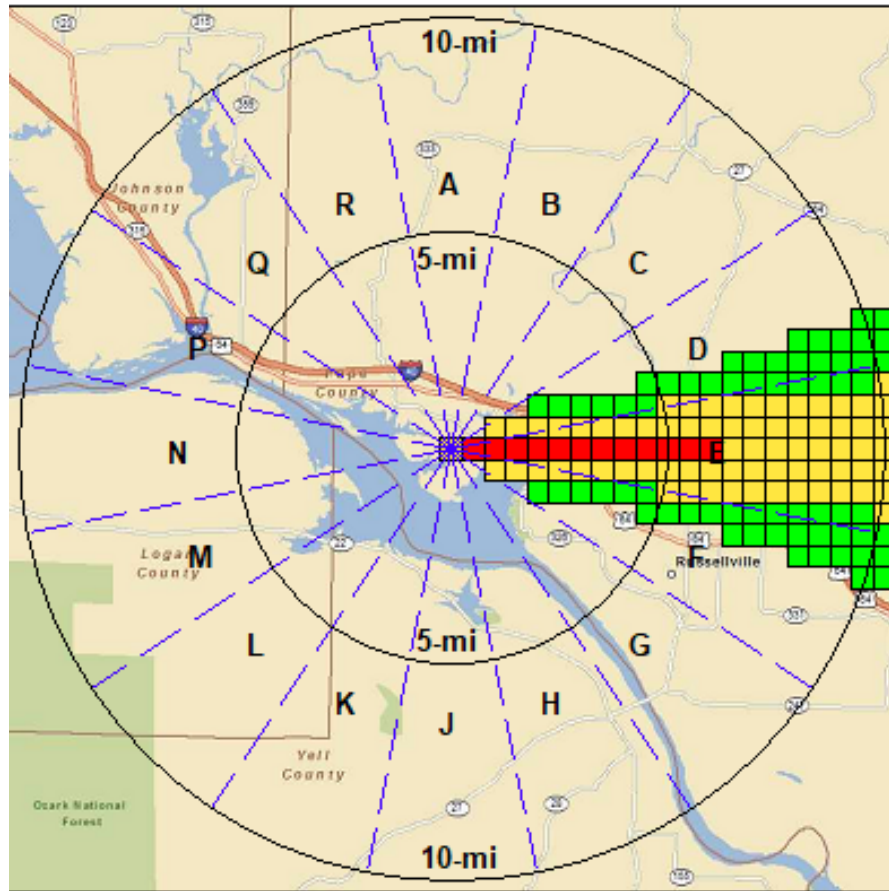
- **Do you know how to compare your runs against...**
 - **Another RASCAL run?**
 - **Another dose assessment code?**

COMPARING RESULTS



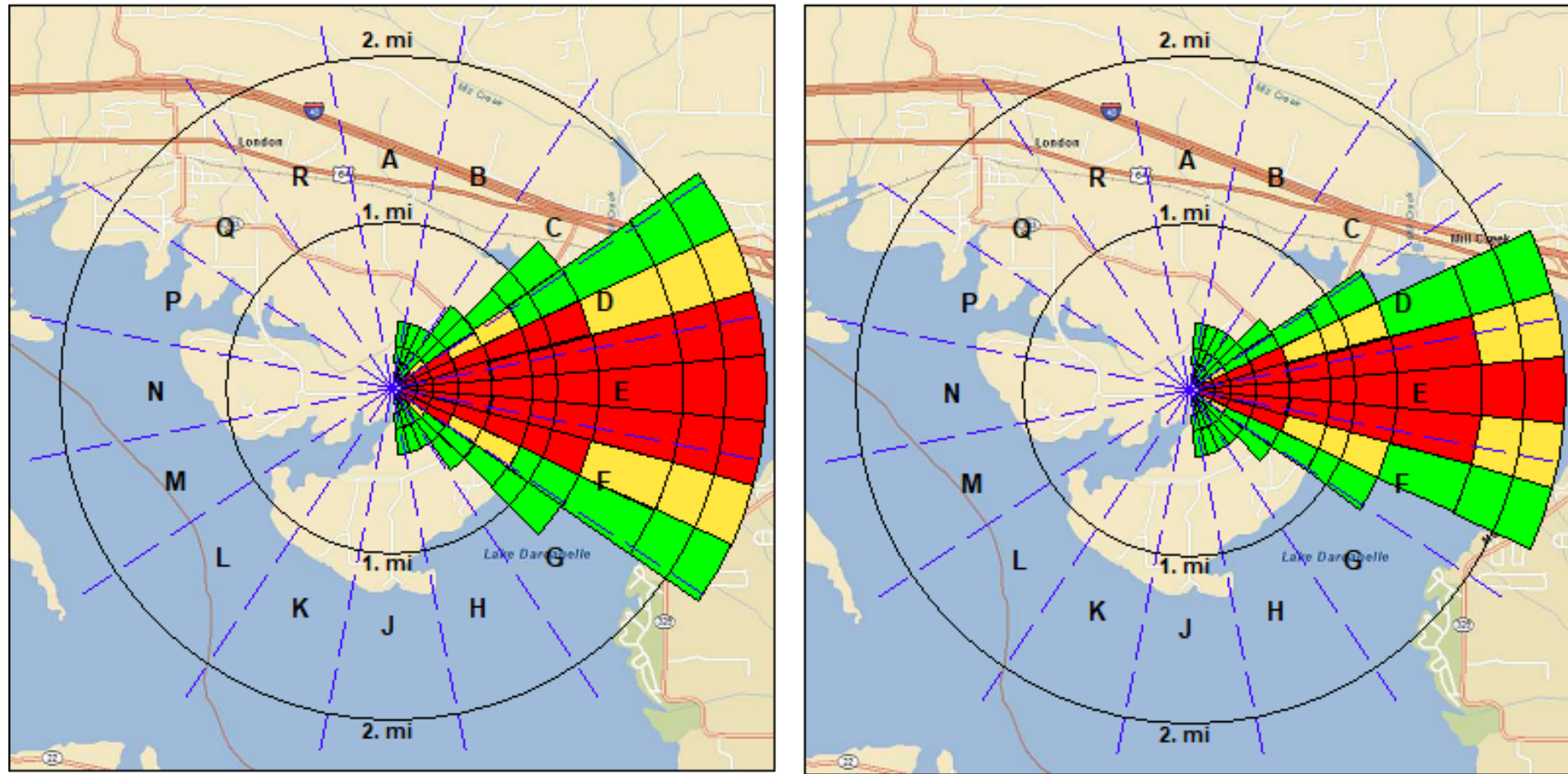
Larger duration or magnitude of release on the right

COMPARING RESULTS



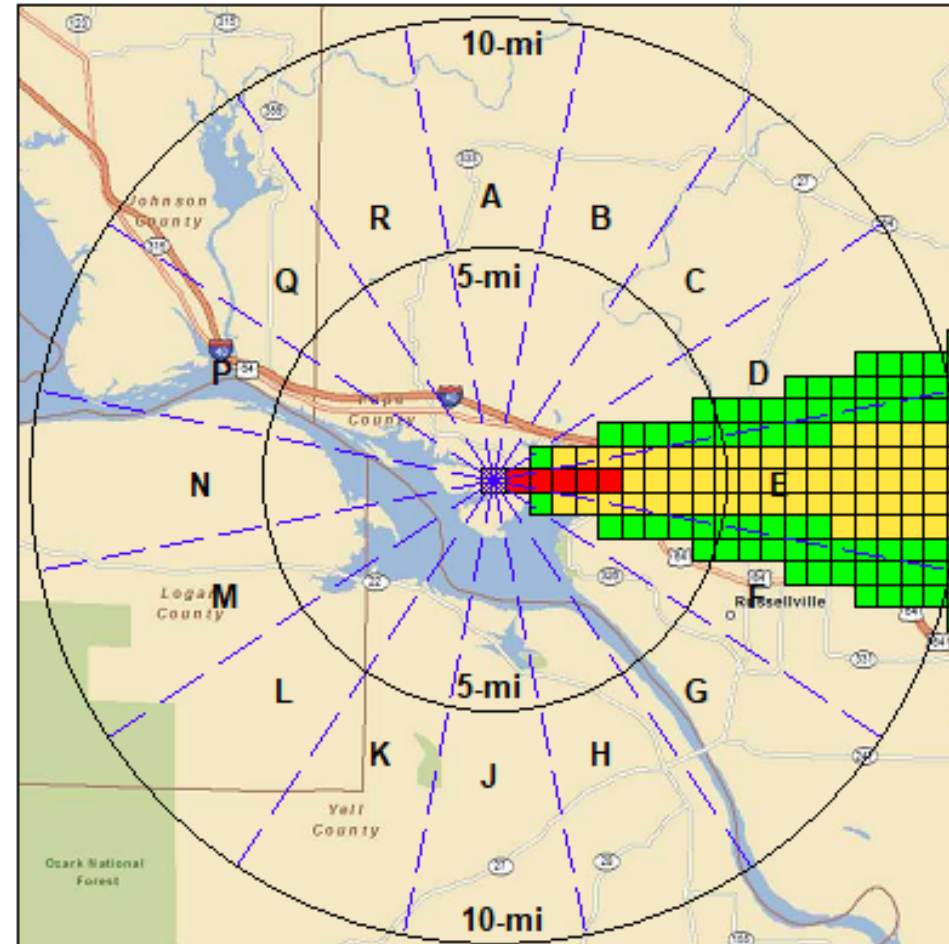
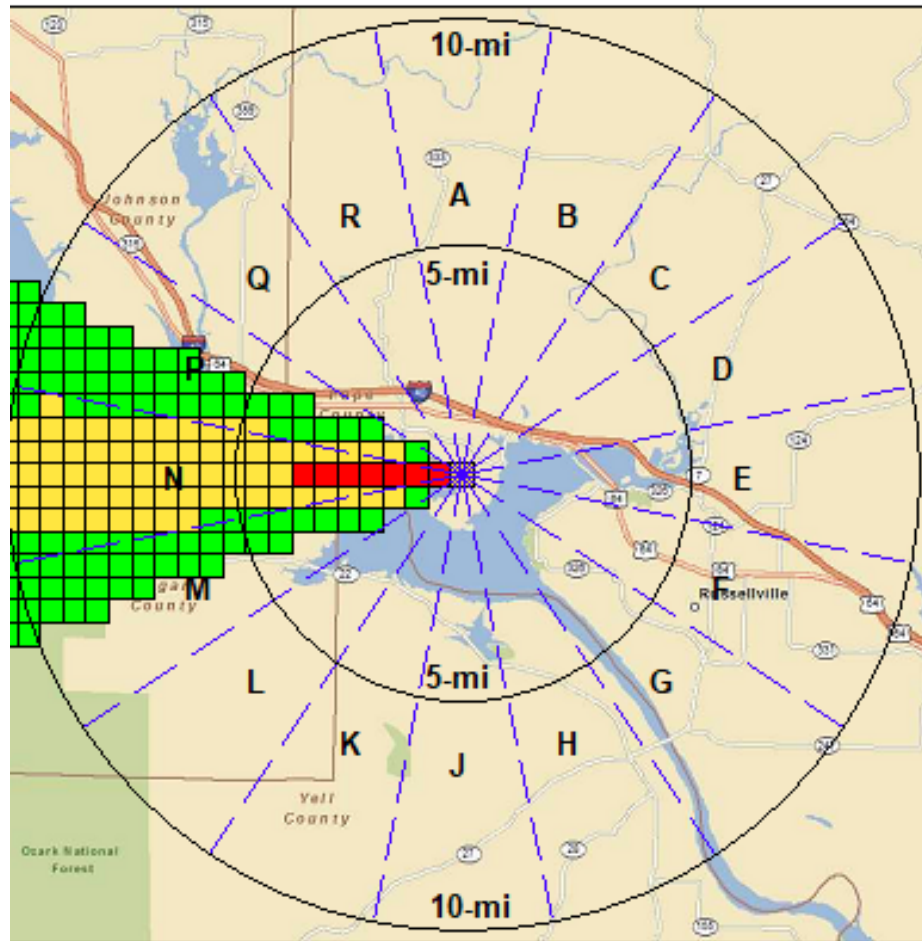
The one on the right is from an elevated release (200ft vice 10m).

COMPARING RESULTS



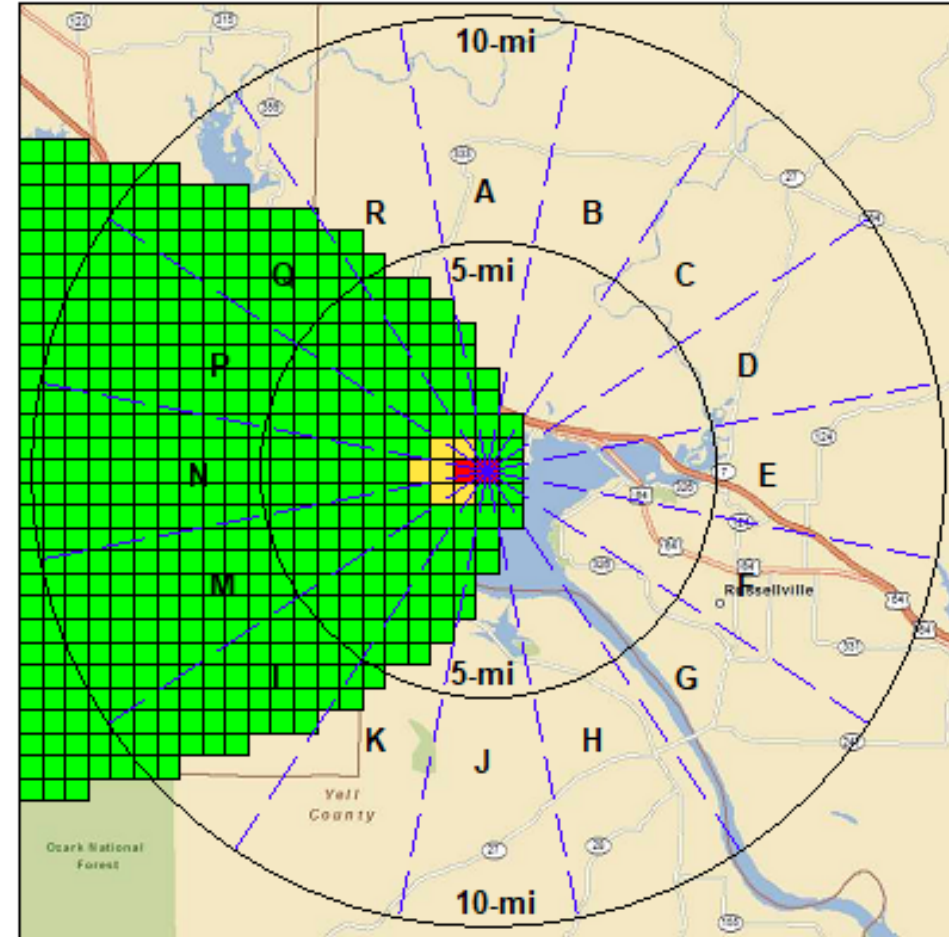
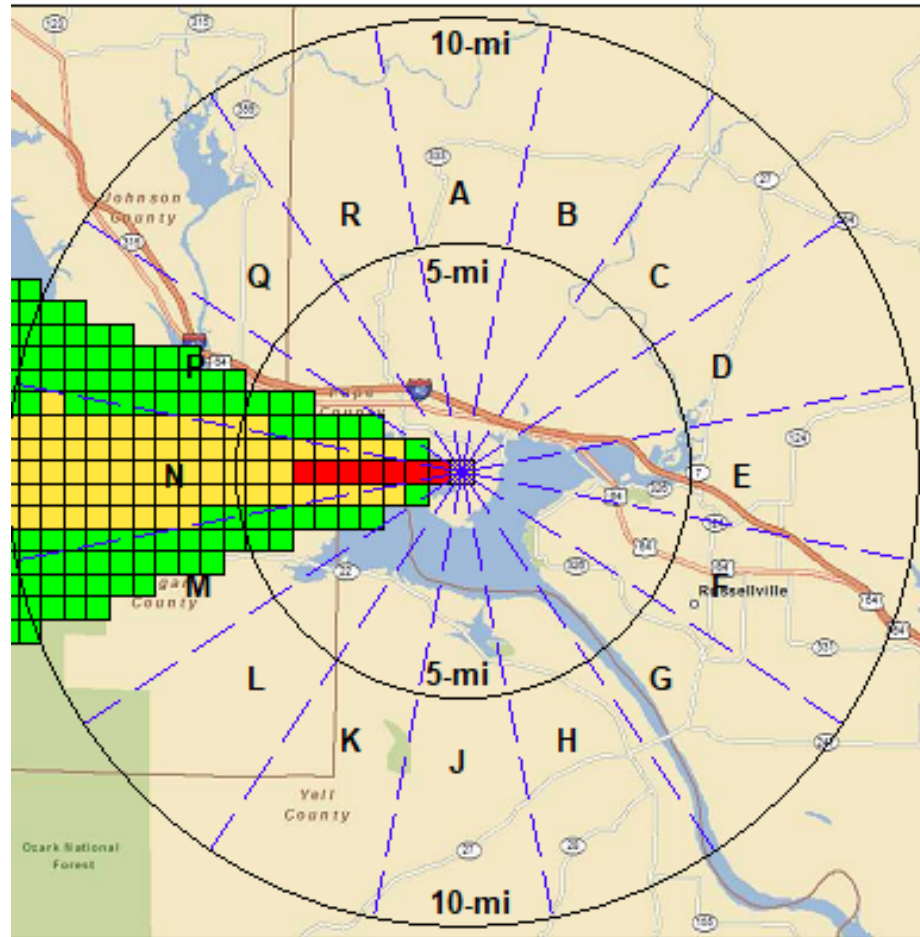
Same as previous but using close-in plume model.
The one on the right is from an elevated release (200ft vice 10m).

COMPARING RESULTS



Opposite wind directions. Remember wind direction is input as direction FROM.

COMPARING RESULTS

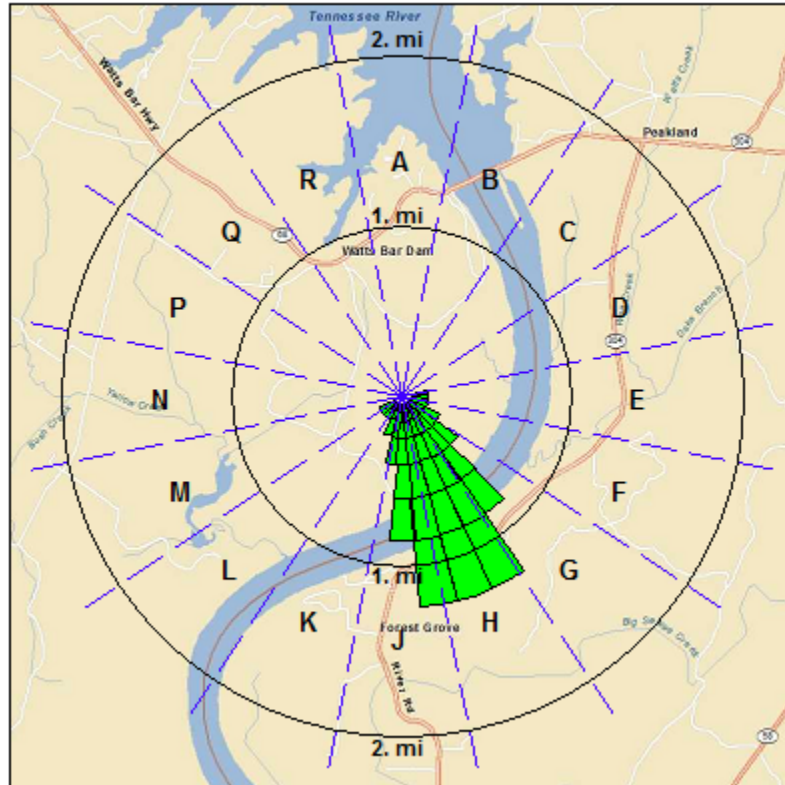


The one on the right has more unstable conditions (A vice D).

COMPARING RESULTS

Total Effective Dose Equivalent

Watts Bar - Unit 1



Maximum Dose Values (rem)

Dist from release miles (kilometers)	0.1 (0.16)	0.2 (0.32)
Total EDE	8.6E-01	3.0E-01
Thyroid CDE	2.0E+01	6.4E+00

Early Phase Dose (0-96 Hrs) (Total Effective Dose Including Plume Passage)



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Actions and Long-Term Effects

Description	(rem) Extent Area
Exceeds 1 rem total effective dose.	>1 203 m 32,506 m ²

RASCAL FEEDBACK

- **Any topics that you'd like us to add to training?**
- **Any recent exercise or event with a RASCAL question?**
- **How do you print/communicate results to decisionmakers?**
- **Do you use FMDose or Turbo FRMAC?**
- **Do you ever use Metfetch?**
- **Model/feature recommendations or requests**
 - **Tentatively, R5 is removing FMDose, ST: Coolant Sample, ST: Containment Air Sample, RP: Containment Pressure/Hole Size**

THIS CONCLUDES OUR RASCAL TRAINING

Remember that resources & training can be found at:

<https://ramp.nrc-gateway.gov/>