

# CAP88-PC V4 TRAINING

## Module 2.3

### CAP88-PC V4 Limitations



# LIMITATIONS ON USE OF CAP88-PC VERSION 4

## Traditional Model-Based Limitations:

- Up to 6 sources but all treated as being co-located with same plume rise method
  - We recommend minimizing use of multiple stacks
- Straight line Gaussian plume model limited for complex terrain
- Coarse grid and sector-averaged calculations (can be helped by good modeler)
- Cannot use for short-term exposures unless weather data adapted (wind, rain, etc.)
  - The code now supports shorter buildup periods and depositions
- No groundwater pathway (may not be important for 1 year analysis)
- Surface water pathways not active in code (would need new data development)
- No ingrowth and decay in vegetation/meat/milk during season and holdup
  - Reg. Guide 1.109 limitation, could be easily changed now



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## Data-Based Limitations:

- 80 kilometer outer zone
- Deposition rates are pre-defined and do not include gravitational settling velocity
- Multiple long isotope chains can stress total nuclide limit of 500
- Pre-defined particle sizes (but much better than previous single 1 micron size)
  - Includes broad range of pre-defined sizes
- Age-dependent dose and risk factors not 100% available for all pathways
  - In particular external
- Still don't have both internal and external dose factors for all isotopes
- Decay-derived isotopes have default chemical forms
- Lots of parameter limits; these are defined in validation checks



# LIMITATIONS ON USE OF CAP88-PC VERSION 4

## System-Based Limitations:

- Requires Windows XP with SP3, Vista, 7, or 8 (runs on Microsoft Surface too)
- Requires the .Net Framework 4 or later installed on machine
- Only one instance of V4 can be running on any machine at a time (deliberate for data configuration control)
- Shouldn't use screen resolution below 1280x768
- Requires installation by user with administrative rights
- Not backward compatible with CAP88-PC datasets earlier than Oct 2007
- User must click away from field before saving when using in-grid editing
- Ancillary routines have not yet been updated (GETWIND, STAR, etc.)

