Summary – Radiological dose projections must be quickly performed following the accidental or intentional release of radiological materials to the environment to enable public protection decisions to be made in a timely manner. The dose projections include uncertainties associated with numerous input variables (e.g., dose coefficients, atmospheric dispersion modeling, etc.). A DOE inter-laboratory effort is developing the methods and tools to assess the overall uncertainty of the dose projections.

This presentation provides a brief overview of the uncertainty distributions of input variables and the statistical methods used to quantify the overall uncertainty of the dose projections and the supporting data products (e.g., relocation maps). This presentation will focus on how the uncertainty analysis results can be used to help decision makers make informed public protection decisions. Data product contours that indicate areas where public protection actions may be warranted can be customized to consider the risk from low-dose radiation exposures and the risk from evacuating or relocating a population. The presentation will include examples of data products that incorporate uncertainty analysis results in an effort to collect feedback from the radiological emergency response community on whether this information is useful and if so, how it should be used.

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