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# THE FERNALD DOSIMETRY RECONSTRUCTION PROJECT

## Tasks 2 and 3

### Radionuclide Source Terms and Uncertainties

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RAC Report CDC-5

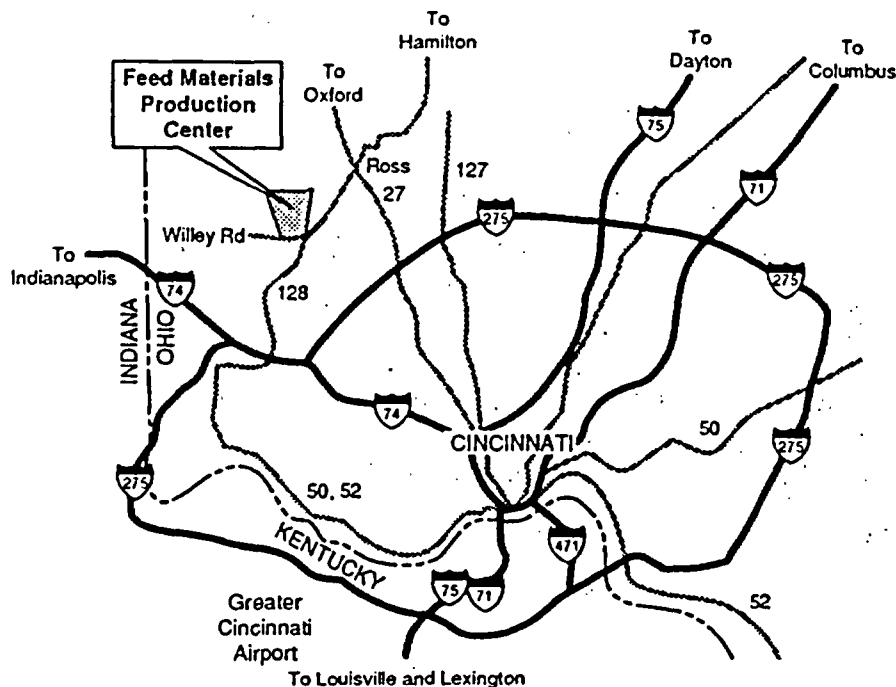
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**Figure 1. Location of the Fernald Feed Materials Production Center.**

- An alternative calculation of radon and radon daughter product releases from the K-65 silos using a conventional methodology of radon releases from bulk quantities of  $^{226}\text{Ra}$ -bearing materials (Appendix J, page J-73).
- Revision of fugitive emissions calculations for the waste pits using an improved model (Appendix K).
- Use of an empirical model to estimate uranium concentrations in offsite contaminated wells for years when no measurements were made; the model uses available uranium measurements in well water and considers the uranium released to Paddy's Run and the storm sewer outfall ditch (Appendix M).

This report is divided into this summary and 13 appendices. Each appendix is in bold type when it first appears in the discussion of that appendix. The appendices are:

Appendix A	Sources of Information
Appendix B	Plant Processes and Wastes
Appendix C	FMPC Production Information
Appendix D	Other Radionuclide Releases
Appendix E	Effluents from Dust Collector Exhausts
Appendix F	Fitting Particle Size Distributions for FMPC Dust Collectors
Appendix G	Estimates of Bias in Effluent Sampling for Particles
Appendix H	Discharges from Plant 2/3 Denitration Operations
Appendix I	Releases from Plant 8 Scrubber Systems
Appendix J	Releases of Radon, Radon Decay Products and Gamma Radiation from the K-65 Silos
Appendix K	Other Sources and Episodic Releases to the Atmosphere