

High-level Radioactive Waste Disposal

In accordance with the Nuclear Waste Policy Act, the Department of Energy (DOE) identified nine candidate sites, predominantly in the western United States, for the nation's first high-level radioactive waste repository. Two of the nine sites (Davis Canyon and Lavender Canyon) are immediately adjacent to Canyonlands National Park. Neither of these two sites are among the three selected by DOE for characterization (i.e., further in-depth field studies); however, either site could be selected for characterization later if none of the three originally selected meets the requirements. NPS reviewed the Draft Environmental Assessments for the Davis Canyon and Lavender Canyon sites and

recommended that both be declared unsuitable as repository sites. Among other things, a major concern of NPS was the geologic instability of the area and the potential for contamination of surface and ground water in Canyonlands National Park and ultimately the Colorado River.

DOE has recently completed the regional screening for a second high-level radioactive waste repository in the northeastern, north central, and southeastern United States as called for in the Nuclear Waste Policy Act. Based on this screening, DOE has identified 20 preliminary candidate areas for a nuclear repository site. NPS has reviewed DOE's Draft Area Recommendation Report on these areas and has raised a number of concerns about four of these areas where a high-level nuclear repository might have hydrologic impacts on nearby NPS units (namely, Great Smoky Moun-

tains National Park, Blue Ridge Parkway, Appalachian National Scenic Trail, and Saint Croix National Scenic Riverway). At this time, DOE plans to conduct area field studies in 12 of the 20 areas; a final decision as to which will be studied is expected in the fall of 1986.

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Visual effects are also a concern at any proposed repository near a park unit. The repository would operate 24 hours each day with necessary outdoor lighting to perform the work and provide lighting for security at night. The NPS Air Quality Division conducted a study of night sky glow at the two Canyonland sites, using a mathematical model to predict effects (*Park Science*, Fall 1985). Conclusions were drawn that 1) the proposed repository, at either site, would probably cause a perceptible night glow and obscure the view of dim stars and the Milky Way in some portions of the sky from many locations within Canyonlands, and 2) some terrain features visible from Canyonlands would be illuminated directly by repository lighting and would be visible from adjacent parts of the park. The model presumably could be used at other locations if modified for local conditions.