

Fact Sheet

Zion Station Decommissioning and Site Restoration



Radioactivity and MARSSIM



Site Survey of Below-Grade Areas
Assures site is free of contamination (NRC file photo)



Measures that Protect Workers

(L) Protective clothing and equipment (R) Dosimeters track workers' exposure. Signs and barrier tape denote areas of contamination and whether a work permit is required.



Like all nuclear power plants, the Zion Station utilized enriched uranium to generate electricity. Certain components became and remain radioactive from operating the power plant. Decommissioning (cleanup) will remove radioactive components from the site. However, spent nuclear fuel must remain safely stored on site until such time as the U.S. government takes possession of it.

The Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) is a regulatory guidance document outlining the process and steps to be taken in order to survey a site for radiological contamination and to verify that it has been sufficiently cleaned for release for other uses. This guidance was developed by a multi-agency work group consisting of experts from the Environmental Protection Agency (EPA), the Nuclear Regulatory Commission (NRC), the Department of Energy (DOE), and the Department of Defense (DOD).

After decommissioning, the Zion Station site will be surveyed by ZionSolutions to ensure that the cleanup has been conducted properly and the site meets the NRC radiological criteria for unrestricted release. The surveys

Radiation exposure in the workplace is regulated by the Nuclear Regulatory Commission. ALARA (As Low As Reasonably Achievable) is a standard radiation safety principle in occupational settings to minimize radiation dose to workers. ZionSolutions will set even lower limits as part of its ALARA program.

will consist of radiation readings of the ground and samples of materials, soil, and water to be analyzed for radioactivity by a certified laboratory. Survey results will be verified by the NRC. The site will then be returned to Exelon.

EnergySolutions / ZionSolutions have radiation and survey experts who have conducted more than 50 MARSSIM-based surveys that have been confirmed by third-party survey organizations and accepted by the NRC and other regulatory agencies.

Quick Facts

- The average U.S. citizen receives approximately 360 millirems per year from natural and man-made radioactive sources.
- Natural radiation can vary depending on where you live (cosmic radiation doses are higher at higher altitudes), what type of home in which you live (brick and stone have higher natural radiation levels than wood), or even the foods you eat (some foods, such as bananas and Brazil nuts have higher levels of naturally occurring radioactivity).
- The source of man-made radiation that contributes the least to the average annual radiation exposure in the United States, yet attracts the most attention, is the nuclear fuel cycle, which involves electricity generation at nuclear power plants and activities related to former weapons production activities.
- Radiation exposure to workers from cleanup activities at the Zion Station will be maintained at safe levels, as required by Federal regulators.

For more information:

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