



## Center for Energy and Environmental Research Puerto Rico

A MED/AEC LEGACY SITE

This fact sheet provides information about the **Center for Energy and Environmental Research site**. Long-term stewardship responsibilities for this site are managed by the **U.S. Department of Energy Office of Legacy Management** as a **Manhattan Engineer District/Atomic Energy Commission Legacy Site**.

### Site Information and History

The Center for Energy and Environmental Research (CEER) was established in 1957 as the Puerto Rico Nuclear Center, with facilities in Mayagüez and Rio Piedras. The U.S. Atomic Energy Commission (AEC), a predecessor agency of the U.S. Department of Energy (DOE), built both facilities. The Mayagüez site is on the University of Puerto Rico Mayagüez campus. The facility occupies about 20 acres adjacent to the university's College of Agriculture and Mechanical Arts and the U.S. Department of Agriculture Experiment Station, northeast of the Mayagüez city limits. The Rio Piedras site is located about 2 miles south of San Juan and consists of a biomedical facility. In 1976, the Puerto Rico Nuclear Center was renamed the Center for Energy and Environmental Research. Both facilities conducted work under contract to AEC.

#### CEER Rio Piedras Site

AEC established the Bio-Medical Life Sciences Research and Training Center under the 1958 Atoms for Peace program. The University of Puerto Rico has used the facility since 1961 for research, education, and training programs in the medical applications of radioisotopes. Substantial amounts of radioactive materials were used for nuclear medicine and radiation therapy, and CEER also conducted extensive radiochemical and terrestrial ecology studies

at the El Verde Field Station in the Caribbean National Forest. When the Puerto Rico Nuclear Center was renamed CEER, activities at the Rio Piedras facility focused more on nonnuclear research. The federal Energy Research and Development Administration, a successor to AEC, agreed to transfer the facilities to the University of Puerto Rico and to release some areas of the facility for unrestricted use. The Health and Safety Division of CEER performed radiation surveys and decontamination activities before releasing the Bio-Medical Building, the "shop," and the "animal house." CEER published a report documenting the survey and decontamination results in 1981. DOE requested a review of the report to verify that radiological conditions of the facility were acceptable for unrestricted use.

Argonne National Laboratory's Radiological Survey Group reviewed the report and, as a follow-up, conducted an independent radiological survey between June 15 and June 25, 1982. The Argonne survey detected small areas of elevated radioactivity in three locations. These were cleaned to background levels and are no longer detectable. A molybdenum-99 source was left in place when survey calculations determined that the source did not constitute a radiological exposure hazard.

After completing radiological surveys and facility decontamination, DOE transferred the land and buildings to the University of Puerto Rico in 1982 by means of a

quitclaim deed. An underground diesel fuel storage tank was removed from the site in 1994, and no contamination remains on the site today. The CEER Rio Piedras facility has been released for unrestricted use.

### CEER Mayagüez Site

The Mayagüez site has multiple buildings that housed a marine studies program, a research reactor, a training reactor, and associated laboratories. The site became operational in 1960 with the start-up of a 1-megawatt materials testing reactor. The reactor was shut down in 1971, and the fuel elements were removed and shipped to DOE's Savannah River, South Carolina, site. The facility was refitted with a 2-megawatt TRIGA (Training, Research, Isotope, General Atomics) research reactor, which operated until September 1976. An L-77 training reactor was periodically operated on-site until 1976. The reactors were operated as part of a University of Puerto Rico nuclear training and research institution, particularly addressing the needs of Latin American students studying nuclear medicine and technology. Reactor research activities concluded in 1976, and the two reactors were decommissioned. Activities at the facility shifted to nonnuclear energy research and technology development.

DOE removed the TRIGA reactor fuel and components from the Mayagüez site in 1977 and transferred them to Argonne National Laboratory in Idaho Falls, Idaho. In October 1981, the L-77 reactor fuel core was removed and shipped to DOE's Y-12 Plant in Oak Ridge, Tennessee. Reactor decommissioning, decontamination, and restoration of the facility were completed by 1997. Soils contaminated

by PCBs (polychlorinated biphenyls), underground fuel oil storage tanks, gas cylinders, glass windows from hot cells (heavily shielded enclosures for remote handling of highly radioactive material), asbestos, and miscellaneous laboratory chemicals were also removed.

Multiple radiation and site characterization surveys were conducted at the Mayagüez site between 1977 and 1992, including an independent verification survey conducted by Oak Ridge Associated Universities in 1987. Following a final 1992 site investigation, the U.S. Environmental Protection Agency concurred that the CEER Mayagüez site was cleaned up to applicable standards and no further action was required.

### Regulatory Setting

DOE completed environmental restoration at the CEER facilities in accordance with regulations of the Puerto Rico Environmental Quality Board and the Resource Conservation and Recovery Act. Transfer of property to the University of Puerto Rico followed the Comprehensive Environmental Response, Compensation, and Liability Act Section 120(h), "Property Transferred by Federal Agencies."

### Legacy Management Activities

Responsibility for maintaining records for the CEER site transferred to the DOE Office of Legacy Management (LM) in 2006. No monitoring, maintenance, or site inspections are required for the site. LM's responsibilities consist of managing site records and responding to stakeholder inquiries.

## Contact Information



**In case of an emergency at the site, contact 911.**

LM toll-free emergency hotline: (877) 695-5322


Site-specific documents related to the **Center for Energy and Environmental Research, Puerto Rico, Sites** are available on the LM website at [www.energy.gov/lm/center-energy-and-environment-research-ceer-puerto-rico-sites](http://www.energy.gov/lm/center-energy-and-environment-research-ceer-puerto-rico-sites).


For more information about LM activities at the **Center for Energy and Environmental Research, Puerto Rico, Sites**, contact:

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