



Advertiser photo by Ron Jen

Capt. Day tests radioactivity of metal debris en route to craters on Runit Island.

## 'Hottest' isle at Enewetak is no place for cold feet

Last of three articles.

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RUNIT ISLAND, Enewetak — White moths danced in and out of the shrubs of scaevola as a truck joggled down a rutted road in low gear toward ground zero. It's a safe place for a casual visit, said Capt. Chuck Day, but everyone nervously kept glancing anyway toward his geiger counter.

Runit was the site of several nuclear explosions in the U.S. weapons-testing program of the cold war. One felt an overwhelming desire to suddenly learn more about alpha, beta and gamma rays as the truck bounced toward two craters at the northern end of the little island.

The radioactive half-lives of con-

taminated debris — that length of time for the radioactivity to naturally reduce itself by one-half — ranges from five years for cobalt 60 to 24,000 years for plutonium. Theoretically, the amount of plutonium on Runit would have to go through 10 half-lives, or 240,000 years, before it is debased to an environmental level safe for people to live here.

After a cleanup operation now under way, limited access to the island will be allowed for short periods but it will remain quarantined to prohibit permanent residents.

To ease tension aboard the truck, several bad jokes are told. The troops assigned to clean up the radioactive debris at Enewetak are ordering a special T-shirt, says someone. It will have a frog — with two heads — and beneath, the

mutated creature will be saying: "Runit."

"Hey, Chuck, we're just radiant with enthusiasm about this visit," says another.

Survey parties have camped and worked on Runit before without any protective clothing, but today everyone is fitted out in rubber boots and two face masks made of paper, one over the other.

Runit is the "hottest" of the 40 islands in the Enewetak atoll, partly because of large amounts of twisted metal debris and partly because two explosions blew a good deal of plutonium across its landscape.

One Hawaii scientist who camped at the craters for a month was called to the Mainland recently for a whole body count of radionuclides.

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# Runit—Enewetak's 'hottest' island



an atomic species of spontaneously emitted radiation. Although the tests revealed nothing untoward, they are indicative of a caution bordering on uncertainty about exposure to places like Runit.

On Runit, two of the many detonations carved craters — Cactus and LaCrosse — and it is into Cactus that troops of the 8th Engineering Battalion from Schofield Barracks in Hawaii will be burying radioactive wastes.

Two troop teams will sweep across the rest of the atoll while 88 persons of Team C will go to work on Runit. With them at all times will be eight or nine radiological safety officers, part of a group of 63 persons directly responsible for radiological control.

"We will be concerned about the safety of the men doing the work as well as ourselves," said Capt. Day. "Each person and his tools will be continuously monitored with instruments.

"Our biggest problem will be with the plutonium in the soil. Kicking it up in the dust and resuspending the plutonium in the air is the biggest risk. Our feelings are that the migration of plutonium should be very small, based on our estimates of foot traffic and light vehicles on the site.

"We'll have to determine this, however, by actual experience. We'll be controlling the dust by water sprinkling, and by avoiding brute force on the soil. We'll be removing it at depths of 2 to 3 inches at a time, and of course we'll closely watch the wind."

All of the troops and radiological safety officers

will be heavily dressed in full protective clothing and complete face masks, he said. The men will work two hours, then take two hours off because of the merciless temperature.

Contaminated soil will be "excised" in pinches, placed in a canopy-covered dump truck and hauled to Cactus crater to be dumped into its pit.

But what is the level of risk?

"We have no specific analysis of safety in terms of a statistical expectation of numbers of cancers or deaths," said Roger Ray, assistant manager of environment and safety for the Energy Research and Development Administration (ERDA). "We just don't expect any guy who comes out here to end up with a greater exposure than he would have had if he had stayed home.

"With the emission of any rays from the plutonium, you're talking about a movement of tens of feet or yards, not movement clear across the atoll."

People on the southern islands of the atoll today are in the same kind of radioactive environment that one would find on the Mainland, he said.

"If you go to Runit or other islands in the north, you come up with levels that, over a long period of time, would be three or four times above what's acceptable.

"So you start looking at what you can remove. You can remove a piece of contaminated iron — that's a gamma emitter. It's going to be less easy to remove the soil."

Besides plutonium, the radioactive contaminants at Enewetak are cesium, strontium 90 and cobalt 60. The cost to rehabilitate the atoll for the 460 people who wish to live here is budgeted at \$32 million and may run higher. But the money the United States spent in its 10-year testing program ran into the billions, recalls Ray.

"I remember that in the 1950s, we used to say a weather delay cost us \$1 million a day. Our operational costs, running three to four months, were maybe \$100 to \$150 million apiece."

Ray said he believes there is an institutional as well as personal moral commitment to make the atoll safe for the Enewetak people to resume their way of life.

ERDA has developed what it's calling a "dose commitment" for the Enewetak people, defined as the maximum absorption of radioactive materials they can receive without risk.

"We hope the people will be here for a lifetime and for generations," Ray said.

"So what would be acceptable numbers in the way of radiation for a guy who is here only six months, eating meals prepared entirely from food shipped in from outside — well, those numbers must be very much lower for these people.

"It's that sort of consideration that accounts for us denying the atoll to them for so many years."