Fallout from Pacific Tests Reaches Congress

Rongelap, a Pacific atoll dusted by radioactive fallout in 1954, wants to know more about its environmental health

JETON ANJAIN, leader of the tiny South Pacific atoll called Rongelap (three-tenths of a square mile of sand and coconut palms), is coming to Capitol Hill on 20 July to ask Congress to buy his people $6.6 million worth of new environmental studies. He claims that for 15 years the Department of Energy (DOE)—heir to the atom bomb legacy—failed to tell the Rongelapese that lab data indicated their bones were contaminated with plutonium from a bomb test 35 years ago. (DOE now says the data were erroneous.)

Anjain will present his case to the House Interior subcommittee on insular and international affairs, which is holding an oversight hearing this month on the "Compact of Free Association" between the United States and the Marshall Islands, a treaty that took effect in 1986. Rongelap is one of the small inhabited islands in the Marshall chain, 2500 miles southwest of Hawaii.

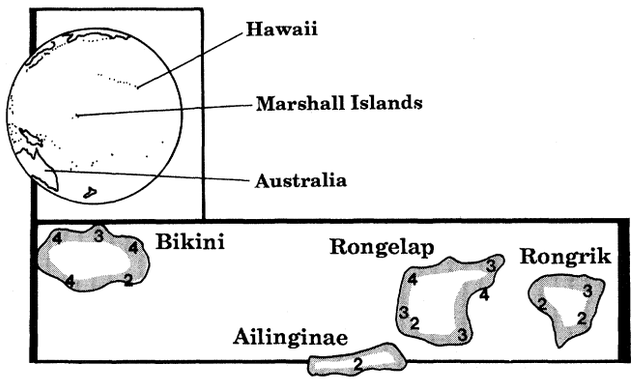
Insignificant though it may appear on the globe, Rongelap was able to play the Washington game with skill, hiring as investigators Bernd Franke, a West German biologist and battler against the nuclear establishment, and a political consultant on Interior Department issues named David Weiman. Franke discovered that after decades of study, DOE still had not resolved the confusion over the amount of plutonium that had made its way into the islanders' bodies.

Franke learned last year that two DOE labs—Lawrence Livermore in California and Brookhaven in New York—have been at odds since the early 1970s on plutonium exposure estimates. Because the labs disagreed, Brookhaven's more alarming data were not passed along to the Rongelapese, although scientists discussed them in DOE symposiums and journal articles.

"We got some unusually high readings," concedes John Rudolph, a DOE weapons official in Germantown, Maryland. But he claims they were "suspect" from the start because scientists at Brookhaven were using an unreliable technique to analyze urine. Livermore's dose estimates, about half as big as Brookhaven's, were based on input, not output—on diet studies and measurements of residues in food. Brookhaven now agrees that its urine data were in error and has revised its dose estimates downward.

But that hasn't eased the islanders' minds. In fact, discussions about this discrepancy with the Rongelapese and their agents got "emotional" last year, according to Rudolph, who argues that it is really "a fairly simple problem."

Simple to some, perhaps, but historically complex. Some Rongelapese still remember the day 35 years ago on 1 March 1954 when "the sun rose twice," the day the United States detonated a hydrogen bomb on Bikini in a test called "Bravo." The Bikinians had been evacuated beforehand, but somehow the people of Rongelap, 100 miles downwind, were not. They were showered with fallout, receiving about 190 rads of radiation in 50 hours—2235 times today's maximum allowable 1-year dose. The U.S. government regrets the error, but argues that Rongelap is habitable and it is time for the people to return. But the people won't cooperate.



Atomic atolls. *The people of Rongelap say they left home after being alarmed by this 1982 DOE map, which ranks radiation zones from 1 to 4 (high). It puts Rongelap in the same class with ground zero at Bikini, the test site. DOE now says the numbers are misleading.*

It is easy to see why the Rongelapese might be suspicious. They were evacuated 2 days after the blast in 1954, put back on the island when it was declared safe by the U.S. government in 1957, and removed again in a panic by the Greenpeace ship *Rainbow Warrior* in 1985. (The ship, used to disrupt nuclear tests in the Pacific, was sunk shortly thereafter by a French commando.) The Rongelapese have been living since 1985 in rented lodgings on other islands. They have been told it is perfectly safe to go home, provided they don't eat or sleep on the northern part of their atoll. (The atoll is a narrow ring of islands around a lagoon. The southernmost and largest island, Rongelap, is the one where the community lived.) Before they return home, the Rongelapese want a new, independent study assuring them it will be safe. In 1988 they rejected a report that found no danger "for adults."

Speaking off the record, one U.S. official says the Rongelapese may also be angling for a deal like the one given to Bikini in 1986. The U.S. Congress gave the Bikinians $90 million to scrape clean or otherwise decontaminate their land as they see fit, so long as they don't bother the United States about it again. Ironically, the Bikinians were not directly exposed to fallout. The Rongelapese were, and many developed thyroid tumors as a result. Anjain himself, a senator in the Republic of the Marshall Islands, had a nephew who died of radiation-induced leukemia in 1972 at age 19. In 1986 the Marshall Islanders were awarded a trust fund worth $150 million to cover all radiation claims, but Rongelap may want more: say, a special cleanup grant like Bikini's.

If you ask scientists, though, there's little or nothing to clean up. According to Harry Brown, DOE's program director for the Marshall Islands effort, the most threatening radioactive isotopes—cesium 137 (half-life 30 years) and strontium-90 (half-life 29 years)—have decayed to low-risk levels. Plutonium (half-life 24,065 years) was a minor component of the fallout to begin with and is considered a negligible problem today.

However, a person could still receive a gamma-ray dose that exceeds U.S. standards—not by living on Rongelap Island, but by eating exclusively food grown on the northern part of the Rongelap atoll, where the fallout was heaviest. The trees there are still taking up radiocesium. The coconut crabs are also radioactive, but Brown isn't worried about them because, "You couldn't eat enough" to get an overdose. A person would have to consume the entire crab population, he claims, to surpass U.S. limits. As for Rongelap Island, Brown claims the background ra-

diation there is lower than in most U.S. cities.

One solution to the lingering problem on the northern part of Rongelap Atoll, Brown says, would be to spread high-potassium fertilizer, blocking the uptake of cesium. A single application to the worst two islands, according to DOE official Rudolph, would cost "a few hundred thousand dollars" and wipe out the food contamination problem for 5 years. This would buy time, allowing the radioactive cesium to decay to safer levels.

Rongelap is asking instead for a new $6.6 million analysis by a Phoenix, Arizona consulting firm that may lead to a broad "rehabilitation" plan. An independent study prepared last year by Henry Kohn of Berkeley, California, who found Rongelap already safe for habitation "by adults," has been rejected as "unacceptable" by Anjain because he thinks it lacks credibility. Anjain claims, for example, that Kohn did not cooperate fully with the critics of DOE chosen by Rongelap as watchdog-advisers.

One of them, Bernd Franke, drew attention to the embarrassing 15-year delay in resolving the conflict on plutonium dose estimates. DOE officials explain the delay by saying it took this long for Brookhaven to determine what went wrong with its urine sampling and test methods and to develop new ones that would give accurate readings. The result is a new "fission track etch" technique which can measure plutonium in infinitesimal amounts, down to the level of atocuries (less than a quadrillionth of a curie). DOE's Rudolph says that it would have been "irresponsible" to advertise earlier, unverified data.

Franke responds: "I don't understand how scientists could sit there for 15 years and take samples" without telling the Rongelapese about the results, even if they were wrong. "They were the best data available at the time." Franke also challenges DOE's view that there are no "hot spots" of plutonium on the atoll today.

Franke also hit a nerve when he pointed out that the U.S. government is thinking of decontaminating its own military base on nearby Johnston Atoll to a cleaner standard than it has proposed for Rongelap. A mining machine is being used there to sieve plutonium out of soil where rockets carrying radioactive parts exploded. When Rongelap's agents asked about the new cleanup standard, the director of the Defense Nuclear Agency, Vice Admiral J.T. Parker fired off a letter in April saying that this was "nothing more than a test objective for a limited experiment evaluating a novel cleanup technique," not related in any way to health or safety standards. ■ ELIOT MARSHALL

Compromise in Sight on Animal Regulations

Rules governing dogs and primates are being revised for the third time; less financial distress for scientists predicted

FOR THE PAST 4 YEARS, the Department of Agriculture has been struggling to figure out the meaning of two laconic provisions on laboratory animals that appeared in the 1985 amendments to the Animal Welfare Act. And while the department's officials have been trying to comply with the law, researchers have been looking on with apprehension, for the provisions could prove extremely—perhaps unsupportably—costly for some types of biological research.

The measures, which require that laboratory dogs be exercised and that primates be kept in an environment conducive to their "psychological well-being," were passed without benefit of floor discussion or any subsequent clarification from Congress. The agriculture department, until recently, has responded by drafting regulations that specify in detail the types of animal facilities and exercise regimens required. The estimated price tag: $250 million for new monkey and dog facilities alone.

But finally there's some good news. At a conference held recently by the Scientists Center for Animal Welfare (SCAW), animal researchers agreed that all the signs are pointing to a compromise that will not only be good for dogs and monkeys but will also cause scientists considerably less distress. Says Andrew Rowan of the Tufts University School of Veterinary Medicine, "things are moving in the right direction."

At the center of the debate is the Animal and Plant Health Inspection Service (APHIS), the agriculture department agency that is responsible for interpreting the vague provisions of the Animal Welfare Act. It is writing regulations that will apply to all research on animals funded by the federal government, as well as animal care by licensed breeders and dealers.

APHIS made two initial attempts at drafting regulations, the latest of which was published in the 15 March *Federal Register*. In addition to the specific provisions for dogs and primates, they also contain detailed specifications about laboratory inspections, animal care committees, and animal care and use.

But these efforts have drawn howls of

M. W. Fox/HSUS

Michael Fox

Social exercise. *Regulations are expected to reflect research showing that socialization is better than exercise in keeping dogs healthy.*