



A few of the items that might one day be made from decontaminated radioactive scrap.

BRC: here we go again

Reduce, recycle, reuse may be a mantra for the green 1990s, but there's one aspect to the recycling craze that's being hotly contested: how, or if, to recycle slightly radioactive metals coming out of decommissioned nuclear facilities.

But for some, it's déjà vu.

Back in 1986, and then again in 1990, the Nuclear Regulatory Commission (NRC) attempted to categorize some extremely low-level radioactive waste as "below regulatory concern," making the stuff eligible for release without further regulation, restriction, or tracking. According to a World Information Service on Energy briefing, the ma-

terials could have been used in consumer products, manufacturing processes, or unloaded into sewers, household garbage dumps, and incinerators—all without public notification.

After a grassroots campaign publicized the scheme, local and state governments began passing ordinances and resolutions requiring ongoing regulatory control. Congress revoked the NRC's "BRC" policies in 1992.

Now it's 1999, and the issue has returned—this time in the form of 126,000 tons of slightly radioactive scrap at the Oak Ridge nuclear weapons plant in Tennessee. While it would cost \$800 million for Energy to

bury the scrap from three uranium enrichment buildings at Oak Ridge, instead it contracted with British Nuclear Fuels, Ltd. (BNFL) to remove, clean, and sell the material for a mere \$238 million. According to the September 20 *U.S. News*

and *World Report*, Energy is currently considering the release of an additional 60,000 tons of materials from the Paducah gaseous diffusion plant in Kentucky.

The name BNFL may be new to North Americans, but the British public faced this same issue last year when BNFL, owned by the British government, released 7,000 tons of "decontaminated" radioactive metal from the Capenhurst uranium-enrichment plant. According to a January 28, 1998, *N-Base Briefing*, the metal, which remains mildly radioactive after decontamination, will be used in the production of cars, windows, and a wide variety of consumer goods, including cooking pans. BNFL claimed, however, that the metal would somehow not be able to find its way into cans for food.

According to BNFL spokesperson David Campbell, most of the materials from the Oak Ridge buildings are contaminated on the surface only and can be decontaminated through scrubbing or sandblasting. But there are also 5,000 tons of nickel that are "volumetrically" contaminated (with radioactive material spread throughout their *volume*, not just on the surface). Although the amount

"It returns us to the dark, secretive days when the Atomic Energy Commission lied to everybody."

Democratic Cong. John Dingell of Michigan, describing the new "nuclear security" agency established within the Energy Department. Quoted in the San Jose Mercury News, September 16, 1999.

of radiation in the nickel is below background levels after processing, at least some of the radioactive material mixed throughout any volumetrically contaminated metal is there to stay.

The state of Tennessee has given BNFL the go-ahead for recycling, but Campbell said only about 5 percent of the material coming out of Oak Ridge (consisting mainly of the volumetrically contaminated nickel ingots made from melting classified bomb-making components) is being questioned.

Campbell added that BNFL is still able to decontaminate the nickel so it is below background radiation levels. "There's an independent verification process, and if we can't get it below background, we can't release it."

Public advocacy groups feel that none of these materials belong in the commercial metal supply. They also oppose the setting of a fixed standard, which, they say, would allow even more



"Oh, stop grumbling. Someone has to teach freshman enlightenment."

radioactive material to be released. However, the Association of Radioactive Metal Recyclers wants to see some federal standards.

The association's managing director, Val Loiselle, estimated that in 1999 approximately 9,000 tons of slightly radioactive metal from Energy Department facilities was processed in the United States. With many of Energy's facilities slated for decommissioning in the coming decades, the industry could see another 2.6 million tons over the next 40 years. Still, in an industry that produces more

than 100 million tons of metal a year, recycled radioactive metals represent less than a tenth of a percent of the yearly scrap metal supply.

But aside from radiation levels, a looming issue remains—tracking and accountability. Scrap brokers have already started mixing ever-so-slightly radioactive scrap taken from Oak Ridge with general scrap before it heads to the electric arc furnaces, and then into items that qualify as "new" steel products.

Wenonah Hauter, director of Public Citizen's Critical Mass Energy Project, is concerned by the absence of federal guidelines for handling radioactive scrap from decommissioned nuclear facilities, as well as by the fact that "agreement" states (which are allowed by NRC to control certain radioactive materials that are specified in the Atomic Energy Act), such as Tennessee, seem to be moving ahead on their own with a variety of other radioactive substances.

In the case of the material being removed from Oak Ridge, it was Tennessee and BNFL who decided—through independent verification and Energy oversight, according to BNFL—

that because the level of radioactivity from the processed nickel would be below the level of radiation allowed on surface contaminated metals, they were in compliance with existing guidelines.

Decisions are "on a case-by-case basis," Hauter said. "And there's no inventory to let us know what's in this stuff."

Even though the level of radioactivity in these metals is extremely low, Public Citizen is concerned about what will happen when people unknowingly acquire a variety of items manufactured from any radioactive scrap with above-background contamination. "Setting a standard for one dose is irrelevant because the radiation can be coming from multiple sources," Hauter said.

"You're basically depending on the steel industry to be a safety net."

Being the safety net does not make the steel industry comfortable. According to a public policy statement from the Steel Manufacturers Association, there have been more than 50 known incidents in the past 15 years in which companies have inadvertently melted shielded, and therefore less detectable, radioactive sources. To the association, more radioactive materials in the supply means more potential accidents. Eric Stuart, an association staffer, said that it can cost as much as \$10–20 million to clean up after a single incident.

Member companies use portal monitors at their front gates to scan for radioactive materials. "They're not 100 percent, but they're the best they can be, and member com-

Thank you!

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A postcard from Greenpeace Atlanta's anti-BRC campaign in 1990.

panies calibrate them down as tightly as they can to right above background levels of radiation," he said.

The association maintains a "zero tolerance" stance. If an alarm goes off, the member company may reject any shipment. "We're not saying that every piece of metal that comes from a decommissioned DOE facility is irradiated to the point where it's unusable," Stuart said, but his association wants the Energy Department to have a notification process that lets them know where materials came from and what they were irradiated with.

All the industry represen-

tatives the *Bulletin* spoke with as well as a scientist at Argonne National Laboratory who asked not to be quoted, said that essentially everything is radioactive in some way or another, and adding slightly radioactive materials into the human environment is harmless.

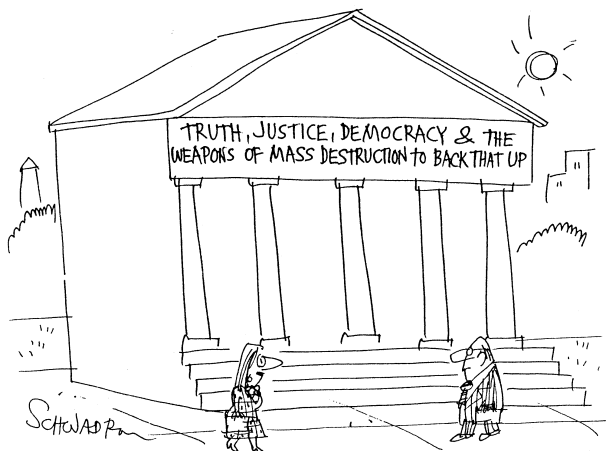
Diane D'Arrigo, radioactive waste project director for the Nuclear Information Resource

Service, disagrees.

"[They're] saying that since there's already a risk, it's OK."

Unlike voluntary X-rays or medical procedures, or even the smoke detectors many of us choose to place in our homes, releasing recycled radioactive materials to an unknowing public, D'Arrigo added, adds "completely involuntary additional risks" to our already radiation-filled lives, but aside from the safety issue, another remains. Does the American public really want Tennessee, BNFL, and scrap haulers to decide what's safe?

—Bret Lortie



In brief

■ Things are perking up

Drinking a cup of coffee in the morning may make you feel a little perkier, but apparently this is especially true if the day happens to be the one when the bombs fall. Scientists at the Bhabha Atomic Research Center in Mumbai (Bombay) have found that mice injected with caffeine are up to 70 percent more likely to survive high doses of radiation than their uncaffeinated fellow rodents. As reported in the June 19 *New Scientist*, of 471 mice injected with 80 milligrams of caffeine per kilogram of body weight one half hour before being irradiated with 7.5 grays of gamma radiation, 70 percent were still alive 25 days later. But all 196 of a group of irradiated but uncaffeinated mice died. To put the amount of caffeine in perspective, though—an average person weighing approximately 150 pounds would have to drink at least 100 cups of coffee to get a comparable dose.

■ Beware the black diamond

Belgian officials believe that a lot of diamonds recently offered for sale by Russian "businessmen" at Antwerp's famous diamond exchange were radioactive. The idea of irradiating gems is not totally bizarre—some "London Blue" topazes are created by zapping duller-colored stones. These gems, however, were black, a very rare color for a diamond. The Antwerp public prosecutor's office says that the sellers were asking \$74 million for the stones, which were probably irradiated at a Russian nuclear power plant. The prosecutor's office expressed concern that, after diamond exchange personnel backed out of a tentative deal, the Russians may have sold the diamonds on the black market (BBC, September 16, 1999).

■ Duck and cover . . .

Neighbors of the Sellafield nuclear facility who live in the village of Seascale are periodically assured by the British government and the plant manager, British Nuclear Fuels, that the nuclear plant presents no risk to their well being. And that may well be true. But it has not been true for one particular garden in Seascale, where a combination of general hospitality and well stocked bird feeders attracts regular visits from as many as 700 pigeons who live in various abandoned buildings at the nuclear facility (*New Scientist*, August 14, 1999). Last February, neighbors' complaints about the birds and their droppings forced a health inspection of the garden and the birds. It turns out that the pigeons are highly radioactive (more than 40 times above the European Union's food-safety limit). The garden itself was found to have levels of plutonium and cesium 800 times higher than neighboring yards. Britain's Ministry of Agriculture, which forced a cleanup, has warned people living within a 16-kilometer radius of Sellafield not to handle, kill, or eat pigeons.

■ Bringing out the big guns

One reader of *National Defense* magazine argued in the letters column of the May/June 1999 issue that if anti-gun forces insisted on outlawing some types of guns, one weapon on the civilian market could readily do without was the .50