



EVEN A COMPARATIVELY SIMPLE repair job on a pump in Hanford's production plants becomes a rather complicated matter when the equipment is contaminated with radioactive material. Because this pump is radioactively "hot" it must be decontaminated before repairs can be made. Here the eight-foot shaft is being lowered into a tank of solvent, one of the steps in decontamination. Although the canyon building is not extremely hot, there is always the possibility that radioactive material may drop from contaminated equipment. This is the reason workers must wear protective clothing, including a respirator mask.

Super Cleaning Plant Used To Decontaminate Atomic Plant Machinery

Boiling chemicals, a 75-ton crane, and a 28-foot-deep pool of water are some of the things General Electric engineers are using in a strange laundry operation to decontaminate and reclaim equipment worth many thousands of dollars.

Formerly when such equipment broke down, it was often hauled out into the desert and buried. It was cheaper to bury and replace it than to clean and repair it by previously known methods.

The new cleaning establishment is located at the Atomic Energy Commission's Hanford plant which the company operates for the government in eastern Washington state. It strips radioactive material from expensive equipment in need of repair but too "hot" to work on before a thorough cleaning.

The equipment—pumps, centrifuges, concentrators, electric motors and other chemical processing machinery—is used in the processes that extract plutonium, uranium, and highly radioactive waste products from fuel elements that have been irradiated in the giant Hanford atomic reactors.

A team of GE technicians, craftsmen, and operators headed by Morris L. Short have worked out techniques and procedures and assembled the necessary equipment to scrub away the radioactive material.

Much of this unusual cleaning work is done in one of the first separations plant buildings constructed at the 15-year-old atom plant. The process it was built for, the best that could be worked out during the war-time race for the atomic bomb, didn't reclaim the unused uranium. It has been superseded by a more efficient process developed since World War II and carried out in newer buildings. Parts of the old windowless concrete building have been pressed into service for the new clean-up work.

Equipment in need of repair but contaminated with radioactive material is disconnected, placed into big boxes, and loaded onto a flatcar—all by remote-control inside the separations plant in which it is used. A switch engine, separated from its radioactive freight by

several empty rail cars, hauls it to the king-size laundry. Pushed inside the old chemical processing building, the contaminated equipment is lifted from its box and from one cleaning process to another by means of the 75-ton remotely-operated crane built into the building.

During the first six months of the reclamation program nearly \$90,000 have been saved as the difference between the cost of decontamination and repair and the replacement cost of equipment. This volume is expected to swell as continued improvements in technique and methods are developed.

Some contaminated equipment will continue to be buried. Short says, because decontamination would be more expensive than replacement. Some pieces of equipment become so radioactively "hot" that a workman would use up his safe exposure time before he could get close enough to begin to work on it.

Frequently the cost of decontamination, inspection and repair runs as high as 50 per cent of the price of the piece of equipment. But the savings are large when a \$20,000 piece of equipment can be restored to service for a fraction of replacement cost.

Some types of equipment are dunked into a special "swimming pool" and repaired while under as much as 28 feet of water; other equipment is inspected underwater for possible cause of failure. The water provides shielding from radiation but requires the use of specially designed tools for the remote inspection or repair.

Other pieces of equipment are submerged in a big stainless steel tank for several hours in a caustic solution heated to the boiling point. This is followed by washing in an acid solution and then by flushing with water. Various other chemicals are currently being tested as decontaminating agents. This has been effective in lowering the radioactivity of pumps from dangerous to safe working levels.

For instance, with one type of large pump used to move highly radioactive solutions, it has been possible to reduce radiation to less than one one-hundredth its original

Farm Data Listed

July 16-18 — Northwest 4-H Forestry Camp, Camp Wilkerson, Columbia County.

July 16-August 2 — Tri-County events, Curry, Coos, Douglas.

4-H crops, livestock and forestry tour, July 16-17 in Curry County.

4-H Junior Camp, Camp Myrtlewood, July 22-26.

4-H Senior Camp, Camp Myrtlewood, July 28-August 2.

July 18-20 — Oregon Square Dance Festival, Springfield.

July 19 — Oregon Broiler Festival, (serving chicken to square dancers), Willamalane Park, Springfield.

July 20-26 — National Farm and Home Safety Week.

July 23—Gold Hill Lamb Show, grange hall, Gold Hill.

July 26-27 — Marion County 4-H Saddle Horse Show, state fairgrounds, Salem.

July 27-August 2 — Lake County 4-H Summer Camp at Cottonwood Meadows.

July 28-August 1 — Jackson County 4-H Home Economics Contest and Demonstration Week, courthouse, Medford.

July 31-August 2—Wallowa County 4-H Summer Camp, Enterprise.

July 31-August 9 — Multnomah County Fair, fairgrounds, Gresham. City of Portland exhibits on display in the 4-H building, July 31-August 4. County style revue, Meier and Frank auditorium, 7 p.m., August 1.

August 2 — Willamette Valley Ram Sale, 10 a.m., Linn County Fairgrounds.

August 4-8 — Annual Youth Range Camp, sponsored by American Society of Range Management, Lake County.

August 6-8 — Marion County 4-H Show, state fairgrounds, Salem.

August 8-10 — Curry County Fair, Gold Beach.

August 13-16 — Baker County Junior Show.

August 13-16 — Tillamook County Fair.

August 13-16 — Umatilla County Fair, fairgrounds, Hermiston.

August 13-17 — Malheur County 4-H Club Camp, Payette Lakes, Idaho.

August 16 — 32nd Oregon Ram Sale, 10 a.m., Pendleton.

August 15-17 — Jefferson County Fair.

August 17 — Jackson County 4-H Horse Show Finals, Posse Grounds, Medford.

August 17 — Annual state picnic of Oregon Farmers Union, Champeog State Park, Picnic dinner at noon. Program starts at 1:30 p.m.

August 16-26 — Linn County 4-H Fair, Albany.

August 19-21 — Wallowa County 4-H Club Fair, Enterprise.

August 19-23 — Washington County Fair, county fairgrounds, Hillsboro.

August 19-20 — Sherman County 4-H pre-fair judging, Moro.

August 19-23 — Jackson County 4-H and FFA Fair, fairgrounds, Medford.

August 20-23 — Clackamas County Fair, fairgrounds, Canby.

August 20-23 — Clatsop County 4-H Fair, fairgrounds, Astoria.

August 21-22 — Nut Grocers Society of Oregon and Washington annual farm tour, Northern Willamette Valley.

August 21-23 — Yamhill County Fair, McMinnville.

August 21-23 — Lincoln County Fair, Newport.

August 21-24 — Douglas County Fair, fairgrounds, Roseburg.

August 21-24 — Wasco County Fair, fairgrounds, Tygh Valley.

August 21-24 — Deschutes County Fair, fairgrounds, Redmond.

August 22 — Linn County All-Breed Dairy Show, Linn County Fairgrounds, Albany.

August 22-23 — Western Lane County Fair, grade school, Florence.

August 22-24 — Polk County Fair, Rickreall.

August 27-30 — Malheur County Fair, fairgrounds, Ontario.

August 28-September 1 — Astoria Regatta, Oregon Fish Festival, Pier No. 3.

August 28-September 6 — Oregon State Fair, fairgrounds, Salem.

August 26-September 1 — Lake County Fall Fair and Roundup, fairgrounds, Lakeview.

September 5-6 — Southern Oregon Ram Sale, fairgrounds, Lakeview.

September 16-14—Southern Oregon Homemaker's Camp (Coos, Curry, Western Douglas, and Western Lane counties) Camp Easter Seal, Lakeside.

September 11-14 — Sherman County Fair, Moro.

September 11-14 — Crook County Fair, Prineville.

August 18-20 — Union County Fair, La Grande.

September 19 — Annual meeting Turkey Improvement Association, Withycombe Hall, 9:30 a.m., Oregon State College.

October 3-4 —Lake County Stockgrowers Range Bull Sale, fairgrounds, Lakeview.

October 10-11 — Light horse judging short course, Withycombe Hall, Oregon State College.

October 14-16 — Oregon Town and Country Church Conference, Memorial Union, Oregon State College.

November 10-13 — Oregon Farm Bureau Federation annual meeting, Marion Hotel, Salem.

November 12-13 — Seventh annual Weed Conference, Sacajawea Hotel, La Grande.

November 12-14 — Western Oregon Livestock Association annual meeting, West Linn Inn, West Linn.

November 20-21 — Oregon State Horticultural Society annual meeting, Oregon State College campus.

December 4-6 — Thirty first annual convention of Oregon Wheat Growers League, Multnomah Hotel, Portland.

December 8-16 — Seed League meeting, Portland.

The limp, outer leaves of lettuce can be shredded and used in mixed salads or sandwiches. Wash and crisp the leaves in cold water before using.

Spaghetti Sauce Goes With The Sauerkraut

A quick, easy and unusual main course substitutes sauerkraut for spaghetti with Italian crab sauce. Combine 1 one-pound can sauerkraut with 1/2 teaspoon salt, 1/4 teaspoon pepper and 1/4 teaspoon oregano. Mix well, heat to serving temperature, and drain. While sauerkraut is heating, combine one 10 1/2-ounce can meatless spaghetti sauce with one 6 1/2-ounce can crab meat, drained and boned. Heat to serving temperature, stirring occasionally. Serve over kraut, and top with 2 tablespoons grated Parmesan cheese. Serves 4.

There's a **CHEVY TRUCK** To Help you do YOUR JOB **Dugan & Mest** CHEVROLET 410 So. 6th TU 4-3101

Attention Ranchers **★ Canvas Dams** Cooper Treated, No Mildew. All Sizes in Stock, 5'x7' Thru 9'x15' **★ White Roll Canvas** 5' and 6' Widths Lowest Prices! **ARMY STORE** 320 So. 6th Ph. 4-9206



4,500,000 Motorists Choose State Farm Why? They enjoy top-notch protection and rock-bottom rates on auto insurance. Do you? Call me. **Wm. N. Goen** 631 So. 6th Ph. TU 4-3262 State Farm Mutual Automobile Insurance Company Home Office—Bloomington, Illinois

Juniper Baler Twine First Quality Long Fiber Guaranteed **Baler Wire** Imported Domestic Bighorn 5 Star Guaranteed **ALBERS STANDARD FEED STORE** QUALITY 2710 SO. 6TH TU. 4-8300