



Another Part of the Power Puzzle

TROUTDALE, Ore. — Jack Gates is a frustrated man. Imagine Rembrandt short of brown paint, Jim Zorn with a deflated football, the Olympia brewmeister without hops and you may understand his anguish.

A former football player for the LSU Tigers, Gates manages the Reynolds Aluminum Co. plant here alongside the Columbia River near Portland. If he played the college game with the vigor of his work for Reynolds, you have to feel relief for Bama and Ole Miss.

Gates makes aluminum, a fascinating process of subtle chemistry and heavy engineering which he actually describes as a kind of art. His plant is one of 10 in the Pacific Northwest where one-third of the nation's supply of this metal is produced.

Along with Kaiser, Alcoa, Intalco and Martin-Marietta, Reynolds came here after World War II to take advantage of the region's electricity, a prime raw material in aluminum production.

Once abundant and therefore, cheap, electricity generated by dams along the Columbia River system and wholesaled by the Bonneville Power Administration (BPA) is getting scarce and expensive.

There's a hell-roaring debate over what to do about this new shortage: build nukes, burn coal, harness the wind, conserve, or, most likely, do a bit of each.

Gates, somewhat surprisingly, doesn't care how it's resolved. He is not your all-out, nukes or nothing, corporate manager gunning for a quick economic fix, neverminding the dirty environmental hazards and safety risks.

But Jack Gates is a producer. He wants that power. One of his five potlines, quarter-mile long rows of vats where processed bauxite — alumina — is converted into metal, is shutdown. No juice.

Unlike other parts of the country, BPA electricity used by the aluminum companies is cheap, but "interruptible." When the hydro-electric dams are low and power production declines, these "direct service customers" can have their electrical loads cutback. If power runs so low cities are threatened with brownouts, aluminum producers can be cut off.

The dams got low last month. Reynolds got its power reduced. Gates had to close the potline a couple of weeks ago and now doesn't think he will be able to re-open it even after the spring run-off of melted snow fills the lakes behind the dams.

"It costs \$750,000 to re-start a potline," said Gates, a balding, well-built man in his early forties with a gummy knee, from, of all things, a scrimmage with an Oregon ski slope.

"We're not sure the power will be there long enough to warrant re-start costs," he said.

What's frustrating is the hot demand for this light, supple, metal, not only for the familiar packaging of beer, pop and food, but for Boeing airplanes, electrical conductors and increasingly for Detroit's automobiles.

"We can sell all we produce," said Gates, noting the irony in the history of the Troutdale plant. It was built in a hurry by the federal government in 1941 when metal was needed for warplanes; was sold as surplus in 1946 to Reynolds when the American dream was encapsulation in a car the size of a Roman bath, speeding at 70-plus miles per hour. A car made of steel.

So what? you may ask. What's wrong with no growth or even a bit of retrogression? The simple answer, according to figures supplied by Reynolds, is the impact of this industry on the economy. It employs 12,000 people, not great in proportion to its energy consumption. But they average \$25,000 in annual wages.

Aluminum production is an \$850 million item in the annual report of the Northwest's economy, no small share of our good life.

The problem, however, is more complicated. No growth in aluminum surely affects the auto industry where pressure, probably insufficient, from the federal government, and the price of oil, maybe overwhelming, is driving car-makers to a lighter, more efficient, product.

Detroit's use of aluminum jumped from virtually zero to an average of

125 pounds per vehicle last year. By 1985 it's expected to be 300 pounds per car. Use of the lighter-weight metal instead of a heavier one translates into more miles per gallon.

Given the nation's current annual mortgage payment of \$90 billion to OPEC, that's no small consideration.

Gates is no less aware of the energy puzzle than the president of the Sierra Club. And, alas, he is no more certain of an answer to this pervasive problem. Quit making aluminum beverage cans? You burn more fuel moving the goods from factory to market. It's not simple, even in its small components.

What he knows is how to make aluminum. He's proud of Troutdale as one of the cleanest and most efficient plants in the country. By tinkering with the infernal, reddish-orange, brew of alumina, carbon dioxides and electricity, the Troutdale plant has dropped its electrical consumption per pound of produced metal to 7.5 kilowatt hours. It used to be 12 kwh per pound.

"We're working at this all the time," said Gates. "What makes this plant efficient are men on the potline, artists in this technology of the aluminum pot. We're always trying to improve the mix."

They used to do this to reduce the cost of their prime raw material, electricity. Now it's more urgent. They must save their limited supply, or face greater frustrations.

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