See coupon on last page

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Sober Facts on P&W Pulp Mill

To help our readers decide (without emotion) merits of Parsons & Whittemore's proposed pulp and paper mill, *The Review* has prepared the following fact sheet.

QUESTION: Does P&W intend to meet current New Mexico Water Quality Standards?

ANSWER: No. P&W admits it cannot meet state water quality standards. P&W's feasibility study claims the Rio Grande mill will discharge liquids with a Chemical Oxygen Demand (COD) of 135 parts per million. This means it would take 135 parts of dissolved oxygen per million parts of river-water to break down chemical and organic materials in waste water.

Water quality standards set by Dept. of Health prohibit dumping waste water into the river if it contains COD higher than 50 parts per million. P&W recommends New Mexico change its standards to 250 parts per million—a 500% increase.

QUESTION: Could P&W consistently meet a COD standard as high as 250 ppm?

ANSWER: Doubtful. P&W's pulp mill at Saskatchewan discharges waste water with a COD of 600 ppm. Samples of water taken 6 miles from point of discharge indicate even at that distance COD still is 90 ppm.

(For more detailed technical analysis of water pollution problem, see report on page 11.)

QUESTION: What are the possible effects of water pollution from P&W mill in Albuquerque area?

ANSWER: Waste water from the mill would contain dangerous bacteria that could pose a threat to Albuquerque's water supply. Richard Brusuelas, city environmental health planner, points to a recent study by U. S. Dept. of Interior and Oregon State Sanitary Authority. Study "indicates that the sulfate pulp and paper operations contribute large numbers of both total and fecal coliform organisms to the Willamette River," he said. Brusuelas notes that "with the low water flow of the Rio Grande," emissions from P&W mill could put coliform at a "hazardous" level.

QUESTION: But doesn't P&W claim in its feasibility study that "the building of the proposed mill will not create pollution problems"? What do other engineers think of this claim?

ANSWER: No engineer not employed by or connected with P&W supports the company position.

At a meeting last month of the Nordhaus Committee, George E. Boyhan, P&W director, introduced Russell Blosser as a representative of "The National Council for Air and Stream Improvement." Blosser backed the company position. But it turned out that the actual title of his organization is "National Council *of the Paper Industry* for Air and Stream Improvement."

Evaluations by more objective engineers: Jerry Harper, senior engineer of Washington State Water Pollution Control Commission told *The Review* that a pulp and paper mill producing 300 tons per day would create serious pollution problems.

"You can anticipate odors from a pulp and paper mill," he said. "The odors are distinct—very aromatic and objectionable. If the mill is within 30 miles of a city, you can expect to have the smell on certain days, depending on the wind."

Asked about possible water pollution, Harper said: "I don't know what the flow of the Rio Grande is or where the mill will dispose of its waste. If the river does not have good flow, that is, if it isn't a pretty good size stream—you can hardly allow any effluent into it without grossly polluting it. I think you can expect to have no life in that stream. The water pollution will create a sterile stream, and it shouldn't be allowed."

Asked about new technical developments to eliminate pollution, Harper said: "Under present technology, it is virtually impossible to eliminate

air and water pollution problems. Pollution is particularly severe in kraft pulp mills. You can be reasonably certain that a pulp mill near Albuquerque will create serious problems, and even with our technology today it will be virtually impossible to eliminate them."

John Hernandez, professor of civil engineering at New Mexico State University and one of the authors of present water quality standards: "I disagree wholeheartedly with Parsons & Whittemore's analysis that any leeway now exists in water quality standards with respect to the addition of sulfates, chlorides or other dissolved mineral constituents. I personally feel that we have the standards at the upper limits for conditions that now exist. Any lowering of standards would be disastrous."

QUESTION: If pulp and paper mills do create pollution problems, why is it that the 12 Albuquerqueans taken by P&W on a tour of two paper mills did not report there were pollution problems?

ANSWER: No engineers or scientists were permitted to go on the trip. P&W took the group on two elegant private jets, one rented from Winthrop Rockefeller for $13,000; the group was wined and dined and given numerous assurances no pollution problems would be created. Evidently, no attempt at objective, factual analysis was presented. (For detailed account of that trip, see Peter Montague's story on page 7.)

QUESTION: How much water will P&W's paper mill require?

ANSWER: For initial operations producing 250 tons of paper per day, the mill will require 18 million gallons per day. 17 million gallons will be polluted and dumped somewhere; 1 million will be consumed.

For production of 400 tons per day, water use will increase proportionately to 28.8 million gallons per day. 27.2 million will be polluted and dumped; 1.6 million consumed.

QUESTION: Who will supply the water?

ANSWER: P&W claims they'll get their water from Indian water rights if they settle on a Pueblo. Or they'll buy it from the city of Albuquerque at $28.00 per acre-foot. In effect, Albuquerque taxpayers would subsidize P&W since water to customers usually costs between $325 and $450 per acre-foot.

QUESTION: Why does P&W want to settle on Indian land?

ANSWER: State pollution controls probably could not be enforced on Indian lands. Further, P&W hopes to obtain a $14.1 million loan from the U. S. Economic Development Administration. EDA also pays half the wages of employees being trained; labor at $1.60 hourly would cost P&W only $.80. EDA also helps pay shipping costs for raw materials and finished products--opening up possibility of U. S. paying Santa Fe Railway to haul P&W paper around the country.

QUESTION: How many unemployed men would be put to work at P&W mill?

ANSWER: Boyhan claims P&W will employ 725 at the mill, but this figure seems incredibly high. A new St. Regis paper Company mill near Monticello, Mississippi, produces 1,500 tons of paper per day, 6 times what P&W says they'll produce, yet it employs only 60 men per shift, 3 shifts, with total in-plant employment of 500. Boyhan claims his mill would employ 450 in-plant, raising the question--is proposed mill as technologically advanced as P&W claims? How can St. Regis produce 6 times as much paper with only 11% more help? (See Merrill Lynch, *Investor's Reader*, June 18, 1969).

QUESTION: Can P&W mill meet air pollution standards of such states as Oregon and Washington?

ANSWER: In Oregon and Washington any mill operating in 1970 may not emit more than 2 pounds of Total Reduced Sulphur (TRS) from its stacks per ton of dry pulp. By 1975 mills won't be allowed to emit more than ½ pound of TRS per ton of dry pulp. Boyhan and Blosser assured the Nordhaus Committee P&W would have no trouble meeting 1975 standards.

But their answer seems less than direct and truthful. Dr. Calvin Patterson, associate professor of civil engineering, University of New Mexico, spoke to Oregon state officials and to mill operators in West Virginia. He was informed that no one in the industry knows how to meet those standards. The purpose of the rigid laws is to force the paper industry into a crash program to find ways to clean up sulphur odors. Present technology simply isn't sufficiently advanced. A "clean" mill today emits between 10 and 20 pounds of TRS per ton of pulp, nearly all of it as hydrogen sulfide gas (rotten egg odor). Cutting

TRS to ½ pound per ton will require extensive research, ingenuity, and luck. But P&W representatives see it as no problem at all.

QUESTION: What guarantees would P&W give New Mexico citizens that the mill would operate as promised and *continue* operating that way?

ANSWER: This question was asked by Nordhaus of P&W.

Boyhan: "I'm a little perplexed by the question."

Nordhaus: "Well, would you put up a bond?"

Boyhan: "A bond? A B-O-N-D?"

Nordhaus: "Yes."

Albuquerque Urban Progress had suggested P&W put up a $10 million performance bond, to be forfeited if the mill pollutes the air or water beyond reasonable standards. But company representatives Boyhan and Blosser agreed a bond would be "prohibitively expensive to get." And of course too risky.

QUESTION: Are meteorological conditions in the Rio Grande valley favorable for a pulp and paper mill?

ANSWER: Probably not. Henry L. Jacobson, chief meteorologist, U. S. Weather Bureau, Albuquerque Sunport, told a public meeting last month that the valley is singularly prone to pollution problems. During 70% of the nights, a temperature inversion sets in, acting as a very low roof over the entire valley, effectively turning the valley into a long, narrow tunnel. Through this tunnel, air flows southward, drawn down by gravity at 2 to 10 miles per hour. If there is a southerly wind, air will flow northward to Santa Fe, as it does about 37% of the time. Assuming no wind, however, during inversions when the "roof" is on, noxious gases cannot escape skyward and will funnel down the valley into Albuquerque and beyond. Inversions usually last 17 hours, but in winter they can last 5 to 10 days. During short inversions, Jacobson said, gases from P&W would drift 50 to 100 miles down the valley, and during longer inversions Albuquerque air would load up with sulfides and smell worse than "normal."

Additional scientific testimony suggests Albuquerque's inversion problem cannot be overcome given our present technology. Two Sandia Corp. analysts, R. E. Luna and H. W. Church, have prepared a graph showing how far noxious gases would drift down the valley if various amounts of sulphur were added to the air by a pulp mill. Their method is to assume a normal inversion and calculate total volume of air trapped under the "roof." Then they assume the pulp mill is emitting *only* the ideally low ½ pound of total reduced sulphur per ton of dry pulp—the presently unattainable standard set for 1975 by Oregon and Washington. (In other words, Luna and Church assume the best pollution controls.) They then calculate how many pounds of actual sulphur the mill will emit per day—200 pounds, when the mill reaches its expected capacity. They calculate the concentration of sulphur that will be found in air trapped under the inversion-layer "roof"—hydrogen sulphide detectable at concentrations of one part per *billion.* (Boyhan agrees with this figure.)

Conclusions: The smell will reach at least to Los Lunas (20 miles south of Albuquerque) between 5 and 25% of the time. And it will be worse, of course, until technology permits P&W to meet the ½ pound TRS standard, worse if the inversion is longer than normal, worse if any of P&W's equipment malfunctions.

One other fact the graph shows: the smell of a pulp mill is not as strong in the immediate vicinity of the plant itself. By putting a high smokestack on the mill, the smell can be kept above ground for 2 to 7 miles from the mill. That is why P&W can blithely claim their mill won't smell "at the property line." It probably won't. But 5 to 50 miles beyond it definitely will smell.

QUESTION: What will paper mill requirements do to New Mexico's forests?

ANSWER: Boyhan told the Rio Grande Sierra Club the mill would be "primarily utilizing, if not almost exclusively, waste chips and saw dust." P&W's feasibility study cites this as a contribution to the state since these by-products presently are burned. But a prominent pulp and paper mill consultant told *The Review;* "There are different kinds of sawdust. It will be necessary to segregate the sawdust at the mills. Will this be practical? I don't really know, but I doubt it. The usability of sawdust would depend on the kind of paper produced. I'm not at all sure it would be practical or economical. They'd have to take a truckload here and a truckload there. It doesn't make sense. Anyway, the sawmills still will have to burn the bark."

An alternative use for the sawdust is suggested by Duke Lumber Company. They would like to develop a particle board plant which would utilize most of the chips and

sawdust within a 70-mile radius of Albuquerque, and their plan would not require segregation of the sawdust.

Even if P&W uses some sawdust, their operations will require cutting at least 50,000 cords of "round wood" per year. 1.5 cords must be cut for every cord delivered. Sustained-yield timbering practices permit cutting 1.5 cords per acre per year. Thus, cutting 50,000 acres of forest per year would be required by P&W.

The Sierra Club view of such cutting: "While it is true that New Mexico has fairly extensive timber resources, the arid climate and resultant slow replacement growth in cut-over areas require extreme care in harvesting timber. It would seem prudent to investigate the P&W timber requirements very carefully to ensure the long-term health of New Mexico forests."

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