

critical." But they also believe that there is "a substantial possibility" that the decision will be reversed.

If it isn't, the alternative is more federal money to compensate for the interim losses.

Losses over the next two years are projected at \$400 million for the Penn Central alone. And if the creditors win their fight to be compensated with cash, rather than \$500 million and stock in the new rail corporation, the cost of acquisition could increase even more dramatically. □

OSHA turns attention from safety to health

A SUBTLE CHANGE in priorities is taking place in the Occupational Safety & Health Administration (OSHA) as the agency shifts more of its attention, people, and money toward programs dealing with health hazards.

Not as great a ratio of workers dies from occupational health hazards as OSHA originally thought, an official says—a Bureau of Labor Statistics survey for 1972 says that six of every 100 occupational fatalities can be traced to illnesses rather than accidents—but health's time apparently has come.

Why the change in emphasis?

"The National Institute of Safety & Health (NIOSH) is charged under the law with publishing an annual list of known toxic substances found in American workplaces," says an OSHA spokesman.

"In 1972, they listed 8,000. In 1973, the list grew to 25,000. And if we're going to make a dent in that, we've got to get started."

To get off dead center, OSHA is currently involved in a crash program intended to promulgate standards for some 16 "substances" for which NIOSH delivered criteria documents as

long as two years ago. Among the 16 are ultraviolet radiation, electromagnetic pulses, heat, noise, carbon monoxide, sulfur dioxide, lead, beryllium, and others.

Teamwork—In addition to efforts to get these 16 sets of standards on the books, OSHA has also entered into a \$3.5 million, 30-month contract with NIOSH for the development of standards for 400 more substances thought to be toxic.

"A team of 48 people—24 from OSHA, 24 from NIOSH—is working now to take these 400 substances—for which we now prescribe only threshold limits—and to develop full-blown standards with requirements for monitoring, medical records, medical exams, and other regulations."

Standards for the first 40 substances will be released all at one time. The rest will trickle into law as standards for each are developed, the spokesman says. "And eventually they will affect almost every industry in the country."

Along with the shift to health hazards has come a reorganization of the standards staff "along more functional lines," the spokesman says. And some 40 new people have been added in the standards office itself.

"Once you promulgate standards, naturally, you increase the number of inspections against those standards," the spokesman says. "And with the shift to health hazards, we're trying to upgrade the number of industrial hygienists on our staff."

Originally, OSHA planned to have at least one hygienist in each of 60 area offices. "But now we're shooting for two," the official says, "because not only will more inspections have to be made but inspectors will also have to go back to some places once the new standards are in force." □

group dropped from December's anticipated gain of 13% to an actual 2% gain. Business hires, expected to increase 9%, finished only 3% higher, including MBAs who had been projected for a 13% increase.

Strong recruiting efforts were noted in the petroleum, building materials and construction, food and beverage processing, packaging, and metals industries, and by the federal government. □

Shortage of capacity to hurt petrochemicals

TWO WORDS might be used to sum up the situation in petrochemicals for the next few years: "not enough."

There will not be enough ethylene, from which several major plastics are produced. There will not be enough propylene, from which plastics, surfactants, and pesticides — to name a few products—are produced. And there will not be enough benzene, from which other plastics and rubber goods are produced.

Those two words—not enough—don't actually give a clear picture of what the industry will face. But the complexity of the industry has even the experts puzzled as to which particular products might be curtailed and which might escape unscathed by shortages.

The petrochemical industry starts, of course, with several organic raw materials such as crude oil, natural gas, or naphtha. And from these it makes several major products, such as ethylene, propylene, benzene, and butadiene. These in turn lead to dozens of other products and those into dozens upon dozens of others. The ultimate result: thousands of products that range from drugs and fibers to antifreeze and surfactants.

Few outside the industry understood this process until the

Arab oil embargo began. Then, fearing a drastic reduction of its feedstocks, the petrochemical industry began to broadcast its story. That story in a nutshell: the industry uses 10% of the nation's natural gas and 4% of its petroleum. These raw materials are upgraded by 300,000 workers at 1,900 plants into more than \$20 billion of products each year.

Neither the embargo, however, nor the energy crisis brought on the shortage of petrochemicals. It was simply a matter of not enough capacity to meet ever-growing demand.

Capacity — New plants have since been proposed and construction has started on many. The shortages, however, don't appear to be over yet. Richard J. Huges, vice president, Union Carbide Corp., New York, has summed up the situation: "The combination of capacity shortages and shortages of some feedstocks and other raw materials means that some petrochemical products will continue to be in short supply for several years to come. Several plastics will be short, including polyvinyl chloride, polystyrene, polyethylene, and phenolics. A shortage of ethylene capacity will limit production of important industrial chemicals such as ethylene oxide, ethylene glycol, and ethyl alcohol. Isopropanol, acetone, and phenol will be in limited supply due to a shortage of benzene and propylene."

To meet such shortages, the industry will spend more than \$5 billion on capital expenditures this year versus \$4.1 billion last year. But it takes three to five years to locate, design, construct, and start up a petrochemical plant. Thus those plants that are needed now would have to have been planned in 1970, when the industry was going through a rather bleak period with low profits and

overcapacity. Furthermore, when the plants being built today are complete, demand will have soared to new levels. So, some experts say, even today's building program won't meet the demands of the future.

But balancing this attitude is the fact that the chemical industry has gone through some severe periods of overcapacity in the past. That bitter experience is well-remembered by many companies in the industry, and may temper a rush to add capacity.

All of this leads industry experts to several conclusions. Today's announced plant additions might not be enough to meet future demand; as raw material prices increase, so will prices of petrochemical products and their end products; these developments, in turn, will provide the basis for a substantial improvement in earnings for petrochemical producers, compared with those of recent years.

Between 1960 and 1966 the average return on assets in chemicals and allied products was 11.4%, and income grew an average 9.5% each year. From 1966 through 1972, however, average return on assets fell to 9%, and income growth averaged only 3.5% annually.

So any higher earnings generated by price hikes will quite likely be needed for expansion to meet growing demand. □

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