ue or simply to sell optimism (at $735 per copy) to worried, oil-short European governments. The first Petrostudies report reads like "disinformation," Goldman said.

"The CIA is right to say that the Soviets have lots of problems in their oil fields," Goldman explained, "and the Swedes are right to say the Soviets have a huge potential which is not being utilized." But it is wrong to expect any dramatic change in the world oil market because of what is happening in Russia. Goldman expects that the Soviets will continue to have trouble producing oil, and he even agrees with the CIA that production rates may level off in the next few years. However, Goldman thinks the Soviets will deal with shortfalls by imposing conservation measures and substituting other forms of energy—notably gas, which the Soviet Union has in abundance.

Dienes thinks the CIA report contained only minor errors and seems "almost exactly on the nose" now in its forecast of Soviet oil production rates. He believes the peak may have occurred already, or will occur in 1980. However, he does not expect as rapid a decline as does the CIA. He believes the CIA has understated Soviet reserves, but not significantly.

Despite their vast reserves and centralized authority, the Soviets will not be able to respond quickly to the crisis, Dienes argues, because there are few opportunities for conservation or fuel substitution. New oil fields are remote from the centers of population and will require massive investments of equipment and labor before they will yield any fuel. The Soviets lack the machinery and the expertise these sites demand, and Dienes argues that the Soviet government is too cautious to make the decisions that must be made quickly to avert a production slump. When asked about Petrostudies' optimism, he answered, "It's totally idiotic; they can't even read Russian correctly."

Arthur Meyerhoff, a petroleum geologist who serves as a consultant with the Soviet oil ministry, says that the CIA's predictions are working out "perfectly . . . they've been remarkably accurate." Meyerhoff himself has had "a running gun battle" with the authors of the Petrostudies report, for he thinks they have overstated Soviet proved reserves by a factor of 5. The Soviets have vast resources, he says, but they will not be able to tap them rapidly because they lack the drills and pipes necessary for working in deep reservoirs and cold climates.

Decisions Near on Diesels

The Environmental Protection Agency (EPA) will soon make two decisions that could have a major bearing on how fast the "dieselization" of the American automobile fleet proceeds and on the magnitude of the health risks associated with diesel engine emissions.

First, Administrator Douglas M. Costle must act on a request by the auto industry, and by General Motors in particular, for a 4-year waiver of the nitrogen oxides (NO_x) emission standard for 1981-model diesel cars of 1 gram per vehicle mile (down from 2 grams per mile for 1980 models). Then Costle will have to decide what the standard for particulate emissions for diesels shall be, this action to be heavily influenced by the NO_x standard.

The question of NO_x and particulate standards for diesel cars is one of the big issues to confront EPA, and probably is no less important than the SO_2 emission standards for new coal-fired power plants issued last summer.

Given the present state of auto emission control technology, a tightening of the NO_x and particulate standards to the levels now scheduled or proposed could frustrate General Motors' hopes for diesels. GM wants diesel cars to become a steadily growing part of its overall production—the goal is for them to represent at least 17 percent of the cars GM manufactures by the 1985 model year. Less than 5 percent of GM's 1980 cars will be diesels.

Diesels get 25 to 30 percent better gasoline mileage than gasoline-powered cars, and GM is counting on them to help it meet the 1985 fuel economy standard of 27.5 miles per gallon without dropping all of its larger—and more profitable—models in favor of small cars. On the other hand, diesels give rise to public health questions, including the possibility that fine particulates from diesel exhausts cause lung cancer.

According to EPA, light-duty diesel vehicles emit 30 to 100 times more particulates per mile than do catalyst-equipped cars operated on unleaded fuel. Moreover, EPA says that by 1990 diesel engines could be powering 25 percent of the light-duty vehicle fleet, compared to 0.4 percent today.

Conclusive evidence that particulates from diesels cause cancer is lacking, and GM points to a British study that found that the cancer incidence among diesel bus drivers, conductors, and mechanics was not unusually high. But extracts of diesel particulates have been found to be mutagenic in the Ames salmonella/microsome test and to cause changes in vitro in mammalian cells and skin cancer when painted on mice. EPA has under way a sizable research effort on the possible carcinogenicity of diesel particulates.

As the official responsible for establishing the NO_x and particulate standards, Costle must cope with some anomalies in the Clean Air Act that tend to pull him in two different directions. The standards for NO_x and particulates are intimately related because the exhaust gas recirculation system that controls NO_x emissions also increases particulate emissions. But, although the act says that the industry must bear the burden of proof in showing that a partial and temporary waiver of the NO_x standard is safe, it leaves it to EPA to establish a particulate standard that is technically and economically feasible and not governed by speculative health risks.

Consequently, should Costle deny a waiver of the NO_x standard, GM would be in a strong position to attack the proposed particulate standards as infeasible. The Environmental Defense Fund (EDF) is nevertheless calling for a denial. Robert Rauch, an EDF attorney, argues that the validity of strict particulate standards could be defended on the strength of some past court decisions upholding the agency's right to set power plant emissions on a "reasonable extrapolation of technological development." Such a regulatory strategy would—if successful—delay or slow down dieselization pending the development of control technologies capable of reducing both NO_x and particulate emissions to acceptable levels.

The inside word at EPA is that Costle will waive the NO_x standard in favor of a less stringent interim standard but that the waiver will not be for the 4 years requested and may be limited in other ways. According to one well-placed source, Costle believes the shift to diesels is inevitable and will not be stopped on grounds of an unproved cancer hazard.

—LUTHER J. CARTER

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