design requirements would be resisted.

Very much in point is whether new supertankers should be built with double bottoms, at a cost 10 percent or so greater than that of a tanker built with a single bottom (with oil cargoes loaded "to the skin"). For the United States unilaterally to demand such a structural feature for foreign as well as U.S. tankers is a delicate matter, especially since there is some question whether under international law the United States has the right to establish or license offshore terminals beyond its 3-mile territorial limits. The Coast Guard's attitude about imposing such requirements is decidedly cautious. Yet a double bottom could prevent a calamitous spill in the event of a grounding, both by preventing the rupture of the inner bottom containing the oil and by making the ship less susceptible to breaking up.

● *The "landside" problems associated with (though not unique to) large-scale delivery of oil by supertankers and offshore terminals.* When 2 million barrels or more of crude per day start flowing from an offshore terminal, this may precipitate a major growth of refineries and petrochemical works immediately onshore. If a concentration of such industries already exists in the onshore area, the new industrial growth could put the local environment under intolerable stress. Any major refinery-petrochemical complex causes air and water pollution, and, in addition, requires thousands of acres of land.

For instance, if a deepwater terminal were built off the mid-Atlantic coast, the landside impact could be enormous. Any traveler taking the New Jersey Turnpike from Wilmington, Delaware, to New York can see what a blighting effect refineries and petrochemical plants already have had on part of this region. Yet the huge mid-Atlantic market for petroleum products is supplied mostly by refineries elsewhere in the United States, for the output of refineries in Delaware and New Jersey is not nearly sufficient to meet the demand. All that it might take to induce the oil companies to expand refinery capacity up to the limit of regional demand would be the establishment of an offshore terminal for supertankers, as has indeed been proposed.

The U.S. Army Corps of Engineers, in its recent study of where deepwater terminals might be located, identified one mid-Atlantic coast site 13 miles off northern New Jersey and another in the Delaware Bay, 6½ miles off Big Stone Beach. The latter site is one where the Delaware Bay Transportation Company, a consortium formed by Shell and several other oil companies, would be building a terminal even now if its plans had not been flatly opposed by the state of Delaware.

In adopting its Coastal Zone Act of 1971, the Delaware Legislature established a permit system to control industrial growth in the state's coastal areas, then went beyond this by forbidding outright any new heavy industry in this area and any offshore terminals for oil or other bulk commodities. The philosophy underlying the act is that Delaware wants to strike a balance between allowing heavy industrial development in the Wilmington area and keeping the rest of Delaware free from industrial blight and attractive for tourism and public recreation.

Briefing

AEC Begins Shaping Federal Energy Policy

In keeping with President Nixon's latest dictum on the nation's energy problems (*Science*, 13 July), the Atomic Energy Commission is rapidly assuming a new role in the shaping of federal energy policy that extends far beyond th AEC's traditional ken. As evidence of the agency's lengthening reach, the White House has assigned AEC commissioner William O. Doub to conduct a sweeping diagnosis of infirmities in the federal government's tangled regulatory mechanisms for energy. An unusual assignment for an AEC commissioner, the study is expected to be finished by February and may recommend yet another reorganization of the federal bureaucracy.

At the same time, the White House has handed AEC chairman Dixy Lee Ray the responsibility for suggesting how best to spend an extra $100 million on energy R & D in the current year, and has asked the AEC to come up with a comprehensive national energy R & D plan for inclusion in the fiscal 1975 budget.

With the concurrence of the White House, Ray has picked Alvin M. Weinberg—now on leave from Oak Ridge National Laboratory, where he has served as director since 1955—to direct the drafting of this plan. This process is bound to be watched closely not only by researchers on the prowl for funds, but also by environmentalists and commercial interests. Its objective is nothing less than to set relative priorities for research into coal, nuclear, and geothermal energy; if the plan is heeded by federal budget-makers, it will influence the evolution of the nation's energy system for at least the next 10 to 20 years.

Although Weinberg's appointment as a "special consultant" for R & D has not yet been formally announced, he has already moved into an AEC office in Washington and has plunged into a round of preliminary meetings with, among others, H. Guyford Stever and other top officials of the National Science Foundation. As administrator of the NSF, Stever is now, ostensibly, the President's science adviser. But the extent of his supervision over the AEC's broad new research planning activities —particularly if they are to be directed by a luminary of Weinberg's independent bent—remains unclear. In any case, the NSF moved late in August to assert its territoriality in the field of R & D planning, setting up a new Office of Energy Policy.

The AEC's companion project, Doub's survey of regulatory affairs, promises to be unusual in several respects. In contrast to the secretiveness of the Administration's first major analysis of the executive branch (performed by the so-called Ash commission, headed by Roy L. Ash, now director of the White House Office of Management and Budget), Congress has been advised that both it and federal agencies will be fully consulted and that views of the public will be solicited.

In a news conference, Doub said that one of the operating assumptions behind the study was that Congress would approve the President's current proposal to reshuffle the energy establishment, although the study might reveal the need for still further reshuffling that may or may not require congressional consent. Doub repeatedly promised that the diagnosis would remain independent of agency biases, including the AEC's.—A.L.H. and R.G.