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Conventional versus Nuclear Power

The intense economic competition presently existing between conventional and nuclear power is bringing benefits to this nation on a scale that in the next decade may exceed a billion dollars a year. The pace of technological advance in power generation has been especially fast during the past 2 years. In this period the cost of generating nuclear power has been cut drastically and the cost of producing conventional power has also diminished.

It is instructive to analyze statements on the matter by Philip Sporn, a leading spokesman of the electrical industry. In 1962, when Sporn estimated future costs of nuclear and conventional power, he flatly stated that nuclear power was not competitive with conventional energy. He also estimated that in the period 1973–78 nuclear power would cost between 6.17 and 6.89 mills per kilowatt-hour, whereas costs of conventional power would vary from 3.9 mills in favorable areas to 5.6 mills in high-cost fuel zones. Thus, in 1962 a leading expert considered that even after 15 more years nuclear power would not be competitive.

In 2 years the outlook has changed surprisingly. The General Electric Company has entered into a contract to build a nuclear installation at Oyster Creek in New Jersey. This plant, to be completed in 1967–68, is expected to deliver power at a cost as low as 3.66 mill/kw hr. Sporn has prepared a new analysis of the competitive status of conventional and nuclear power, and his views are different from those of 2 years ago. He is unwilling to accept the Oyster Creek plant costs as typical, contending that the General Electric Company has priced its plant too low, for competitive reasons, and perhaps has been too bold in guaranteeing performance. Even so, he concedes that there has been "an impressive . . . reduction in total energy costs" for nuclear power during the past 2 years.

In his report Sporn also emphasizes the continuing improvements in the conventional approach to power, and he credits these, at least in part, to the competition between the two major sources of energy. In his own company, a plant using low-priced coal, to be completed in 1967, is expected to deliver power at 3.59 mill/kw hr, a cost below his earlier estimate of what might be achieved in the period 1973–78.

Perhaps the most impressive feature of Sporn's analysis is the change in his view of the energy competition. He now believes that this competition has reached the stage where nuclear power "is capable of joining this battle armed only with its own remarkable record of achievement and the promise of advancing further the established record of cost and performance without justification for, or need of, Federal assistance."

It appears that another federal review of the energy situation is inevitable and may occur during the next session of Congress. Up to the last year or so, subsidies have been necessary to enable nuclear energy to compete. In the light-water reactor field that need is no longer clear, since the Oyster Creek plant will be constructed without direct government support. Nevertheless, it is to be hoped that Congress will move cautiously in changing the rules of the game. We are witnessing a beneficial competition which should not lightly be interfered with. In addition, development of breeder or advanced converter reactors should be given high priority. Success in this effort would have tremendous long-term significance. Our nuclear scientists and engineers should be given every encouragement and incentive to maintain their record of superlative achievement.—PHILIP H. ABELSON