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Dear Irwin:

You have asked me to set forth my thoughts as to whether concerns about the greenhouse effect are likely to lead to a significant upsurge for nuclear power. Because I cannot attend the February 2 session, I have written down a quick response.

I think the best that nuclear power can hope for in the next few years, is a somewhat higher level of research on advanced reactor types than might otherwise have been the case. I see virtually no likelihood of an actual increase in power reactor proposals in the United States for several reasons:

1. Nuclear proposals won't be able to compete in the bidding systems and least cost planning analyses that most states will be using to sort out their power supply picture.

2. Even before Chernobyl, the fundamental lesson that Wall Street learned from Three Mile Island was that a group of NRC licensed operators - not appreciably better or worse than any other crew - could convert a \$2 billion asset into a \$1 billion cleanup job in about 90 minutes. Industry efforts to streamline the licensing process - assuming that they are successful at all - cannot alleviate this fundamental lesson. Even if the possibility of future Shorehams and Seabrooks is eliminated, the financial lesson of Three Mile Island will linger on.

3. Nuclear power caused more state commissioners to lose their jobs, their spouses, their health, their hair and their sleep than the next eight leading causes combined. No utility that values its relationship with its regulators can ignore that fact.

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4. What utility executive will dare to go to his (or - dare I suggest - her) Board of Directors to propose that they bet the company on a nuclear unit?

5. Even from an energy policy standpoint, the greenhouse effect does not point strongly toward nuclear power. The dollars spent to build a nuclear unit could produce much larger reductions in carbon dioxide emissions if they went into energy conservation instead. One doesn't need to accept all of the Rocky Mountain Institute figures to see that \$4 or \$5 billion dollars worth of energy conservation can almost certainly displace more carbon dioxide than can 1,000 megawatts of nuclear capacity that probably operates 60-70 percent of the time most years.

6. Without a clear answer to questions of waste disposal, efforts to license a nuclear facility are politically doomed no matter how elegant the technical explanations of the inconsequence of power plant wastes (some of which explanations I agree with).

7. There is no particular encouragement to be had from the bullish statements from President Bush, Admiral Watkins or John Sununu. When Ronald Reagan was elected, the president of the Atomic Industrial Forum said that the industry reaction was "half way between ecstasy and euphoria". The next eight years were, despite the best efforts of the President and his various energy secretaries, the worst in nuclear power's history. The breeder reactor went under; so did reprocessing; the waste repository slipped more than a year for each of the eight Reagan years; more plants were cancelled than were licensed; no new applications were received; the Atomic Industrial forum folded; its president learned that the name of the midpoint between ecstasy and euphoria is unemployment.

In short, we true friends of nuclear power can imagine nothing more antinuclear than another babblingly pronuclear presidency.

If nuclear power is to enjoy a resurgence in the United States, I suspect that it will come about through a slow process consisting of construction of some advanced reactor types abroad, perhaps the building of one or two similar reactors on federal reservations under DOE sponsorship (and what a joke that is at the moment!), and several years of accident free operation coupled with disappointments involving the apparent alternatives. For this scenario to play itself out, at least a decade will have to

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pass before one can expect any serious interest in substantial new nuclear orders in the United States. Some renewal of nuclear interest close to the turn of the century seems to me to be just about a 50-50 proposition, enough to justify a research effort and to provide some support for priority efforts to end to the mismanagement of the nuclear waste dilemma, but not enough to provoke significant change in regulatory policy in the next few years.

Sincerely,



Peter Bradford

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P.S. Focus on "reforming" the nuclear power plant licensing process is a waste of time. In its heyday, that process licensed more power plants than the combined totals in the next five countries. Nuclear power has not thrived recently in totalitarian countries either, and the Reagan commissioners have cut back intervenor protections (never large) to the vanishing point only to find reactor applications vanishing even faster.