A Conversation with Frank Zarb

Frank G. Zarb, who became administrator of the Federal Energy Administration (FEA) last December, has emerged as one of President Ford's closest and most influential advisers, meeting with Ford sometimes twice or more daily. In recent weeks Zarb has been particularly conspicuous as the President's representative in intense negotiations with Congress over oil price decontrol, a critical part of the Administration strategy for restraining oil consumption and achieving "energy independence".

Zarb, who is 40, is regarded in government as a capable official with a pragmatic turn of mind. Although he came to Washington from Wall Street, his early background was light years from the eastern financial establishment that has been a traditional reservoir of high officials for both Republican and Democratic administrations. The Brooklyn-born son of a Maltese immigrant who had made his way in this country as a refrigerator repairman, Zarb worked his way through the Hofstra University on Long Island and, while still in his early 30's, became chairman of the executive committee of Hayden, Stone and Co., a New York investment and securities firm. He joined the Nixon Administration in 1971 as an assistant secretary of labor but later moved to the Office of Management and Budget as the associate director overseeing budgeting for energy, natural resources, and science.

Last fall, while Zarb was serving both in the OMB job and as executive director of the interagency Energy Resources Council (ERC), Ford appointed him to succeed John C. Sawhill as FEA administrator. Today, he continues to serve as staff director under the ERC chairman, Rogers Morton, formerly Secretary of the Interior and now Secretary of Commerce. But it is now clear that, if there is anyone who can pretend to so grandiose a title as energy czar it is not Morton but Frank Zarb.

His agency, the FEA, created by Congress in May 1974, represents a provisional bureaucratic arrangement that could (but probably won't) disappear when the act authorizing it expires on 30 June 1976. The agency has some 3000 employees, and its fiscal 1976 budget is expected to be about $190 million if the petroleum regulatory programs—which occupy about two-thirds of all FEA personnel—are continued. Under pending legislation, the FEA would take on some major new responsibilities—as in the proposed strategic oil reserve program and the imposition of thermal standards on all new building construction.

At the moment, the most striking thing about the FEA is the way in which the administrator has taken over as the President's "man-to-see" on energy policy.

On 25 July, Zarb took part in an interview with *Science*, an edited transcript of which follows. Also participating was John A. Hill, a deputy administrator of FEA who, like Zarb, came from OMB, where he also served for a time as associate director for energy, natural resources, and science.—LUTHER J. CARTER

Q: A lot of people are saying that the United States doesn't have an energy policy. Could you sketch out briefly the Administration's program and what it's going to take by Congress to implement it?

ZARB: We've got to do two things. We've got to reduce our consumption by improving our utilization of energy, so that we treat it as a commodity with its real value in our society. Secondly, we've got to bring on additional production to the extent that we can't conserve energy by treating it for its real value. We need to have a balanced program.

We've made some progress, mostly by presidential initiative in both of these areas. The Congress has not passed one piece of energy legislation this year that is of any substance. The Congress appears to be ready now to begin the process of passing some legislation, but I would have to say at the moment we do not have in place important programs in either area—conservation or resource development.

Q: The nation's oil production has been declining even though the price of new oil has increased severalfold over the last few years. Doesn't this shake your faith a bit in the efficacy of raising energy prices as an inducement to more production?

ZARB: Domestic production is declining because of 10 years of neglect. We've had more drilling activity in the last year than we've had in the previous 9 years. I think that we can bring on additional energy production, and we must. But at the same time we need a very serious program for energy conservation. We can't do one and not the other.

Q: With respect to development of new sources—synthetic fuels, nuclear sources—there doesn't seem to be much doubt that the government is going to have to lend a helping hand, a big hand. What are some of the measures you think may be necessary?

ZARB: We need to give the beginning industries a step forward, and that might be through loan guarantees or guaranteed purchase of products for some period of time, or other assistance. We've got to get the early stages out of the way, give them enough life so that 10 years from now they can make a real quantum jump forward. That means gasification, liquefaction, solar, with nuclear being a different form of technology in terms of state of the art.

Q: I know that there was an OMB [Office of Management and Budget] task force on synthetic fuels. That report has gone to the President, hasn't it?

ZARB: No, the first draft has been given to the Energy Resources Council and the ERC now will take that information and develop it into a policy document with options to submit to the President.

Q: Hard decisions on this are some time off?

ZARB: Not too many more weeks. I would say in the next several months.

Q: I'd like to ask about the realtionship between FEA and the Energy Research and Development Administration. Where do ERDA's responsibilities stop and FEA's begin with respect to development of new technologies?

HILL: That's a question FEA and ERDA are working on. We in FEA absolutely agree that research and development is an ERDA responsibility. But we think other agencies in town—both FEA and the Environmental Protection Agency—have a role in commenting on both the economic and environmental [aspects of new energy development]. And I think we both have a responsibility to make our views known to ERDA on both counts.

It starts getting fuzzy when you've got a proven technology that's not going anywhere for some reason. Heat pumps are a proven technology with tremendous conservation capacities.

They've known that in Europe for 25 years, and smart people in this country have known it for 10 years. But you don't see heat pumps in this country. We tend to think this is an FEA problem to deal with, to try to break down whatever barriers there are and design any kind of policy change you might need.

Q: What about the area of synthetic fuels?

HILL: Clearly ERDA has a responsibility to do the pilot and demonstration programs on synthetic fuels. A lot of people in FEA feel that is, then, the FEA role to take the technology and try to commercialize it. ERDA feels that they've got the commercialization responsibility, too. And they have a legitimate argument. I was in OMB at the time ERDA was created. One thing we kept telling the Congress was that the ERDA authorizing legislation, and any substantive legislation about any particular programs, ought to maximize the thrust toward commercialization. Our thinking there was, let's don't build an agency that sinks a lot of money into potential hangar queens, things that work nice and puff and blow black smoke but don't have any use because they're too costly or environmentally bad. They [at ERDA] translate this into a commercialization responsibility, and I don't think we necessarily do that here.

Photo by Jack Schneider, FEA

Frank G. Zarb

There are substantial questions about the breeder. And this agency is going to keep looking at that. I do think we ought to go ahead and build a first demonstration facility, because we will never answer these questions in a hard sense until we do it.

Q: Some people have expressed the concern that, in this desire to press the commercial application of new technology, ERDA and FEA might in effect freeze it at less than an optimal level. What about this?

HILL: I think that's exactly what happened in the case of the light water reactor and the Atomic Energy Commission. They ran some of them as demonstrations, ran a few at commercial scale, and bang, they were through doing R & D and they were all commercial, trying to get everybody to build them. In retrospect, in my mind, it would have been [better] to start commercializing but also to have kept their R & D investment going on for another 4 or 5 years, because there was a problem. And there still are some problems—not big ones; but if we didn't have them today we'd be a hell of a lot better off.

Q: I read the speech you [Zarb] gave at the Commonwealth Club in San Francisco recently, and you came on very strongly as an advocate of nuclear power. I think for understandable reasons that neither the Nuclear Regulatory Commission nor ERDA feel that they can play this kind of advocacy role. Is this what it comes down to, that FEA is going to be the nuclear advocate?

ZARB: Well, it's got to be the nuclear quarterback because there is no place else in government. That doesn't mean that we have to be an advocate to the extent that some would say you have to take an extreme position. . . . I think we can take a balanced position. We have to report to the President what the criticisms are of nuclear power, report to him progress on what ERDA and NRC are doing to solve some of the outstanding problems, and listen to the people who are concerned with nuclear power. We ought to listen to those people who are critics because much of what they say is correct. But we don't need to stop the development of this technology to enjoy the benefits of what they're saying.

Q: On solar energy, I understand the FEA has prepared a fairly ambitious proposal. What do you have in mind?

ZARB: Solar energy can be encouraged in two ways. One is additional R & D money, which I think the federal government is prepared to give wherever the need is demonstrated. Second is helping create a market for this particular industry. One option being considered is that, in all federal construction, a feasibility analysis would be done to determine whether solar energy [equipment] should be installed as the buildings are constructed. This will create a market for a new industry that is seeking to develop its volume, to bring down prices, and thereby to bring [solar technology] within reach of other elements of the commercial sector as well as the individual home.

Q: Would there be any conversion of existing buildings?

ZARB: Could be. That's one of the areas being examined.

Q: I'd like to touch on environmental issues. I'm under the impression that something of an adversary relationship has developed between FEA and the EPA, with the controversy over strip-mining legislation a case in point. Given your different missions, is this inevitable? Even desirable?

ZARB: It's inevitable that we're going to have areas of disagreement on a continuing basis. What is not necessary is to have polarization by virtue of that [disagreement]. In the Clean Air amendments, for example, [EPA administrator] Russ Train and I spent many hours together and finally came up with a set of amendments we could both support.

I think that given an opportunity we could continue to do that. But we're always going to have opposing points of view. We can start out that way, but that doesn't mean we can't sit down and work out these differences in the best interests of both sides.

Q: As far as the western coal moratorium is concerned. How do you stand on that? Would you lift that moratorium in the absence of strip-mining legislation?

ZARB: I understand that there's a court case right now and that [lifting the moratorium] can't be done until that case is resolved. My view of that would be to do it in an orderly way. I would like to see federal rules promulgated for strip mining on public lands as soon as possible. I was also willing to publicly endorse stripping out the reclamation portion of the strip mine bill and getting that passed right away this session.

Q: As far as the general strip mining bill, the impasse is as great now as it's ever been with the environmental side [opposed to yours].

ZARB: I'm not sure that's true. I think that, if anything, the reverse is true. We do have isolated areas of agreement. We are in isolated areas of disagreement. I think if we concentrate on those areas of disagreement and talk about them openly and directly rather than by press conference, we might get the job done. And it's as simple as that. People with good will getting into the room and hammering out the issue, looking at each other's data, and examining the data that we have and showing how we got there.

Q: About the National Environmental Policy Act. Do you think that there are any amendments or revisions that might be necessary, particularly with respect to demonstration plants, new technology demonstration?

ZARB: I don't know the answer to that question. It hasn't been proved to me yet, at least in the areas I've looked at. Now there may be areas that have been looked at other than those I've been examining. There may be some small changes required or some exemptions required to get demonstrations moving along faster. That's a possibility. But I haven't come to that conclusion yet and would like to examine all the facts.

Q: Coming to the future energy mix, I know that the Ford

Foundation report last year indicated that there would be some options. Say you have these difficult areas—the outer continental shelf, oil, nuclear, western coal development, and so on. According to the Ford analysis you could elect to go with some and defer others. Do you think we have that kind of flexibility or are we going to have to move in all areas?

ZARB: We're probably going to have to move in all areas, but we ought to make sure that we've given enough attention to all areas and not exclusively stick an overwhelming amount [of money] in one technology or the other. In my view, we're going to have to go down a multiple track here to get it all done. I think the environmental community agrees with us although they don't say so publicly too often.

Q: This goes to FEA's future. As I understand it, the law that created you expires next June. Some people say that your agency, with 3000 employees, has got plenty to do in times of long gas lines, worrying about problems of allocation, but that in normal times you really don't do more than generate numbers about energy supplies and put out press releases because you don't have the legislative authority to do enough. Could you speak to this?

ZARB: Well, two-thirds of my people are assigned to the regulatory and compliance area. Under the law we need as many as possible for auditing and otherwise investigating all segments of the petroleum chain. As long as we have a federal price control and five federal allocation acts, we're going to need that kind of presence. On the other side of the question, we need to have a center point in government where all of these energy questions come to a focus. And if the Congress is going to continue to call upon us for a burst of data in our analytical work, and second, to do the regulatory and compliance work, and insist on controls, then we're going to have to have the kind of agency that we have. I'm sure we start enough trouble around town so that a lot of people would like to get rid of us, both in and out of the industry.

Q: Some government officials have said that we need a department of energy and natural resources. How do you feel about that?

ZARB: I think that's probably the direction that we're ultimately going to head someday, but we have too much to do in the next year to get our lives complicated with reorganization questions because that begins to sap everybody's time and attention.

NSF: Defense of Closed Peer Review System Not Persuasive

Peer review, as practiced by the National Science Foundation (NSF), is under intense scrutiny by the House subcommittee on science, research, and technology which recently completed 2 weeks of hearings on the subject. NSF did not make a very persuasive showing.

The issue was openness. At a time when the Congress is embracing openness as an antidote to Watergate, NSF stands firm for confidentiality. To open the peer review process to public, or even congressional scrutiny, could destroy it—because it is based on confidentiality. Good scientists will not make candid—meaning negative—assessments of each other's work if they have to operate in the open, or so the NSF argument goes. Several scientist witnesses before the subcommittee attested to that fact, presenting positions that have been heard before. But many of the congressmen were not readily convinced. However, they are not about to rush in and dismantle peer review at NSF. Having heard from about two dozen witnesses, they will sort out a lot of information before taking any action.

In evaluating NSF's manner of using peer review, one must make a distinction between what some persons call confidentiality and others see as secrecy. NSF's definition of confidentiality seems to go beyond the bounds, inasmuch as the agency maintains not only that it cannot reveal to Congress or the public the content of peer reviewers analyses of grant applications, but also that it cannot reveal the names of the peers who reviewed specific grants. [Under a recent ruling by the National Science Board which governs NSF (*Science*, 11 July), verbatim copies of peer reviews will be made available to the principle investigator on an application upon request. However, the ruling applies only to reviews received by NSF *after* 1 January 1976, and the identity of the peers will still be secret.] Confidential information, confidentially given, lends itself at the very least to what one subcommittee member called the "perception of secrecy."

NSF director H. Guyford Stever and his advisers do not see it that way. They insist that to release the names of NSF's peers would lead to disaster. "Suppose," said one NSF spokesman, "that a rejected applicant knew the identity of the scientists who reviewed and turned down his application. He could write his congressman and challenge their competence. We'd be under great pressure."

Arguments such as that one lost much of their effect, if they had any, when John F. Sherman, vice president of the Association of American Medical Colleges and former deputy director of the National Institutes of Health (NIH), testified about the way peer review works at NIH. By the time he was done, the NIH system which itself has come under criticism for being a closed operation, began to look like a paragon of openness compared to NSF. His testimony became something of a point of reference throughout the rest of the hearings.

NIH, Sherman testified, assigns all grant applications to one of some 50 or 60 review panels, called study sections, of 12 to 15 members each. The names of each of the members are public, and a majority of applicants not only know to which study section their grant was assigned but also who reviewed it. Picking up on Sherman's description of that aspect of the NIH procedure, subcommittee chairman James W. Symington (D–Mo.) asked whether a rejected applicant could call each of his reviewers to ask why they faulted the proposal, or protest their judgment, or otherwise "make waves." "Indeed, they could," said Sherman calmly, adding that very few do so however.

In contrast to NIH, NSF handles only a small portion of its grant applications exclusively by review by an official panel. In 44 percent of the cases, individual reviewers are selected by powerful NSF staff personnel, called program officers, who seek peer review comments by mail. These peers are chosen on an ad hoc basis, and never meet together in person (NIH study sections each meet 3–4 times a year). Their written comments on a given grant proposal go back to the program officer who can use them as he sees fit. Unless the applicant is on close terms with the NSF program officer, he never knows what the reviewers said.

The names of individuals on the few per-