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March 11, 1992

James F. Rill, Esq.
Assistant Attorney General
Antitrust Division
10th & Pennsylvania Avenue
Room 3101
Washington, DC 20530

Re: Advanced Reactor Corporation

Dear Mr. Rill:

I write to seek a business review letter, pursuant to 28 CFR §50.6 (1991), with respect to a research and development joint venture to be conducted by Advanced Reactor Corporation ("ARC"), a District of Columbia not-for-profit membership corporation, under the terms of a cooperative agreement with the United States Department of Energy ("DOE"). ARC's members are United States electric utilities and other organizations that serve components of the utility industry in various capacities, such as the Electric Power Research Institute ("EPRI"), a cooperative electric industry research organization to which many of ARC's member utilities also belong.

ARC's goal is to support the development of standardized designs for a new generation of nuclear power plants, Advanced Light Water Reactors ("ALWRs") through a process termed First of a Kind Engineering ("FOAKE"). FOAKE is the sixth of fourteen building blocks comprising the Strategic Plan for New Nuclear Power Plants (the "Strategic Plan") issued by the Nuclear Power Oversight Committee ("NPOC"). NPOC is an ad hoc committee whose membership includes executives from electric utilities, nuclear plant and equipment vendors, and architect/engineer firms. The Strategic Plan represents the consensus of the leaders of nuclear power industry as to what is necessary to restore nuclear power as a viable option for United States electric utilities considering new base-load generating capacity. The Strategic Plan is also consistent with national energy policy; the DOE has expressly endorsed the development of standardized nuclear plant designs as a major part of our National Energy Strategy. Standardized designs are critical to

revival of the nuclear option because they make possible more timely and less expensive nuclear plant construction and permit more accurate advance estimates of nuclear plant construction costs and schedules than would otherwise be possible.

Currently, construction of nuclear plants in the United States is virtually nonexistent; no new plants have been ordered in approximately the past fifteen years. During that period, the supply segment of the United States nuclear industry has subsisted on foreign orders and modifications of existing plants. During the same period, dozens of previously ordered plants have been canceled. Among the reasons that United States utilities have abandoned the nuclear option has been the absence of standardized plant designs and a predictable and stable licensing regime at the United States Nuclear Regulatory Commission ("NRC"). As further explained in the attached memorandum, virtually every nuclear power plant now operating in the United States is unique. Therefore, the costs and schedules for constructing the plants have varied widely and have escalated substantially, as compared to both pre-construction estimates and the actual costs and schedules of earlier plants. As a result, serious consideration of nuclear plant construction by utilities is not now possible unless financial and regulatory uncertainties can be markedly reduced.

ARC seeks to reduce these uncertainties by supporting the development of standardized designs for future nuclear plants through FOAKE. FOAKE will, in part, bridge the gap between the level of design detail required to achieve design certification before the NRC pursuant to 10 CFR § 52 (itself an innovative approach to the regulation of the design and construction of nuclear power plants) and the much higher level of detail necessary to begin site-specific design and actual construction. The entire standardization process will also build on the ALWR Utility Requirements Documents ("URDs"), which generally set forth the needs of United States utilities for design standardization in light of safety, reliability, economic, and regulatory considerations. The URDs and the process of design certification thus provide the foundation for FOAKE.

FOAKE will consist of a competitive, three-phase process in which one or more nuclear plant designs will be selected to receive funding through ARC. The designs involved in the FOAKE program will proceed in two design "tracks." (Each of the competing designs is currently involved in the NRC design certification process.) One design track, the "evolutionary" track, will involve designs similar to the most advanced reactors currently in service. Two such designs, each with a capacity of approximately 1200 MWe, are presently expected to achieve NRC

design certification around 1993: the General Electric ABWR and the ASEA Brown Boveri/Combustion Engineering System 80 Plus. The second design track, the "passive" track, will involve smaller (600 MWe) plants that will utilize new, "passive" emergency core cooling technology. Two passive designs are now moving toward design certification: the Westinghouse AP600 and the General Electric SBWR. These designs are not likely to achieve certification until approximately 1996.

Under the present program, utility/DOE funds will be allocated through a process in which ARC's member utilities will direct their support to the design(s) they believe are most promising. Only the designs which receive an adequate level of utility support will continue to receive FOAKE funding through the final phase of the FOAKE process, during which standardized designs will be developed toward commercial application. (The NPOC Strategic Plan also contemplates post-commercialization standardization, which deals with standardization of operations, maintenance, and the like, but that effort falls outside the scope of FOAKE.)

FOAKE will be managed by ARC, with the input, cooperation, and partial funding of the DOE. The relationship between ARC and DOE, and their respective rights and duties in connection with FOAKE, are set forth in the Cooperative Agreement between ARC and DOE ("DOE Agreement"), a copy of which is being submitted with this letter. Pursuant to the DOE Agreement, ARC will enter into subcontracts with appropriate firms such as vendors of Nuclear Steam Supply Systems ("NSSS") (the primary functional component of a nuclear generating facility) whose designs are in the design certification process and with others, such as architect/engineer firms, to carry out specific tasks necessary to FOAKE.

As currently planned, FOAKE will be financed, over the next five years, by contributions of $100 million from the private sector and $100 million in matching funds from the DOE. Of the private sector funding, $50 million will be in the form of cash contributions from electric utilities. It is expected that much of that money will be provided through EPRI's Tailored Collaboration program. The remaining private funding will be provided by design teams composed of NSSS vendors, architect/engineer firms and others involved in nuclear plant design and construction. Those contributions may be both in cash and in kind. The actual funding scenario may change as the program evolves.

ARC Corporate Structure

ARC's Board of Directors has eighteen members, each of whom is an electric utility executive or director, or an executive from a utility-related organization such as EPRI. Directors serve staggered, three-year terms. New directors will be elected by the directors whose terms have not expired. ARC's articles of incorporation and by-laws have recently been amended to enable those utility members who contribute funds to FOAKE to control the management of the FOAKE program.

ARC now has two classes of members. Those utilities which provide financial contributions to FOAKE are Class I members. Class I members have the power to vote on the membership of the Project Management Board (the "PMB") of ARC. Organizations that are interested in FOAKE but do not contribute financially may become Class II members of ARC. Class II members will not vote. Class II members may become Class I members by contributing in accordance with ARC's Articles of Incorporation.

The PMB will direct FOAKE and will report on FOAKE activities to the Board of Directors and the DOE. The PMB is composed of nine members, who will serve staggered, three-year terms and will be selected from among the officers of Class I ARC members. Class I members vote on PMB membership, and their votes are allocated in proportion to their financial contributions to FOAKE. The PMB will attempt to reach its decisions by consensus. If that is not possible, the PMB will decide matters by vote, with voting power allocated in proportion to the financial contributions of the entities represented by the PMB members.

The conduct of the program will be overseen by an Executive Director. EPRI has responsibility for Technical Program Management and Contract Administration for ARC pursuant to a Memorandum of Understanding. In its role as Technical Program Manager, EPRI will serve several functions including, among other things, day-to-day management on behalf of ARC's member utilities, interfacing with FOAKE contractors, providing personnel and staff support, assisting in implementing ARC's responsibilities under the DOE Agreement, soliciting and managing of agreements with foreign utilities, and coordinating FOAKE activities with the ALWR Utility Steering Committee. EPRI's role as Contract Administration Manager for FOAKE is entirely ministerial; that is, it does not involve policy decisions. The Edison Electric Institute will perform the role of Treasurer for ARC. This role is also ministerial.

The FOAKE Process

The FOAKE process, as described in summary fashion above, will proceed in three Phases. The goal of that process, as stated, will be to support the development of standardized designs for at least one "evolutionary" nuclear plant design and at least one "passive" design.

Phase 1 will consist of gathering information from which to develop objective criteria to guide the FOAKE program and to judge the progress of competing designs, and also of developing the organizational infrastructure that will support Phases 2 and 3 of FOAKE. For example, during Phase 1, ARC will gather information concerning scope and cost estimates, licensing and development risks, and the degree of compliance with ALWR URDs for each competing design. Phase 1 infrastructure development will include defining the end point of FOAKE, developing procedures for incorporating lessons learned in future plants, determining interim performance milestones to judge plant design progress, and resolving the structure of the utility oversight and conflicts review processes for Phases 2 and 3.

Phase 1 of FOAKE will be directed by the PMB, working closely with the DOE. Non-voting representatives from EPRI and the DOE will also participate in the activities of the PMB in Phase 1.

Phase 2 will result in the selection of "winning" designs that will receive Phase 3 funding. It is anticipated that at least one design in each track will ultimately be chosen for such funding. During Phase 2, the PMB will draw up requests for proposals ("RFPs"). The RFPs will embody criteria based on the information developed during Phase 1. Separate RFPs will be prepared and issued for each design track. An evaluation panel will be established for each design track to prepare the solicitations and evaluate the bids. Each RFP evaluation panel will consist of a subgroup of utility representatives, drawn from the PMB, whose companies wish to play a role in supporting the development of FOAKE for the chosen design during Phase 3. In addition, there will be a DOE representative and an EPRI representative on each RFP evaluation panel, but these representatives will have no voting rights.

At the end of Phase 2, ARC will award FOAKE development subcontracts to at least one design team. Whether more than one design will be selected for Phase 3 of the FOAKE effort will depend on the number of utilities that choose each design, the amount of money necessary to complete FOAKE, the extent of vendor participation, and the negotiation of suitable subcontracts with

the successful design team(s). The final selections will be made by the pooled judgment of ARC's Class I member utilities. Utility funding targeted to a design which was not selected by the DOE and ARC would be transferred to the winning design(s) in that track. Not all vendors may choose to participate in Phase 3. For example, a vendor whose design requires the least amount of FOAKE (because of progress in design certification or sales of similar units to foreign utilities) may decide that it does not require ARC's help in funding the completion of FOAKE for that design.

During Phase 3, FOAKE will produce detailed engineering output for those designs which have been chosen at the end of Phase 2. Utility Sponsor Groups will be established under ARC for each of the designs selected. These groups will consist of a senior representative from each ARC member organization contributing to the FOAKE development on that design. In addition, a senior representative of the plant design team, an EPRI representative, and a DOE representative will participate on each Utility Sponsor Group as non-voting members.

Some utilities that are Class I members of ARC, or affiliates of such utilities, may have ongoing relationships with firms involved in plant design. For example, two Class I members, Duke Power Company and The Southern Company, each have affiliates that are involved in designing a portion of plants which will be involved in the FOAKE program. Because these utilities are represented on the PMB, their participation could conceivably bias the process of determining FOAKE criteria and selecting winning designs during Phase 2. In addition, vendors involved in the FOAKE program have approached certain ARC member utilities seeking direct support of their designs in exchange for equity interests in those designs (although no utility is believed to have accepted such an offer). For reasons discussed in the enclosed memorandum, ARC does not believe that such interests currently call into question the fairness of the FOAKE selection and development processes. However, ARC recognizes that conflicts of interest must be avoided.

ARC has addressed this issue by drafting explicit conflict-of-interest procedures for Phase 1. These procedures call for full disclosure of any potential conflicts of interests, after which the issue will be reviewed either by the PMB or a special committee of the PMB with DOE participation. No firm that has a conflict will be permitted to participate unless PMB or the special committee finds, with DOE concurrence, that: (1) the conflict cannot be avoided, (2) the firm's participation is in the best interest of the FOAKE program despite the conflict, and (3) appropriate steps have been taken to mitigate the con-

flict to the extent possible. In addition, no Class I member of ARC (or any affiliate of a Class I member) will be awarded FOAKE contracts during Phase 1. Also, no contractor or subcontractor that does any work in which Federal funds are used during Phases 1 and 2 of FOAKE will be permitted to do such work during Phase 3 unless the PMB or special committee, with DOE concurrence, reviews any potential conflicts of interest and approves of the involvement. These procedures will be re-evaluated during Phase 1 and additional procedures will be adopted for Phases 2 and 3 to avoid any conflicts based on other significant relationships between Class I members and other firms involved in FOAKE. Conflict of interest procedures for Phases 2 and 3 have been proposed and will be acted upon by May 1992.

ARC has also addressed the possibility of individual conflicts of interest that may arise during the FOAKE program. Each member of the PMB, the Executive Director of ARC, and any employee or consultant who participates in the awarding or administration of contracts with Federal funds must annually submit a statement disclosing all facts relevant to determining whether that individual has a conflict of interest. As with the provisions for organizational conflicts, any possible individual conflicts must then be reviewed and approved by the PMB or special committee. These procedures will continue during Phases 2 and 3.

Intellectual Property

FOAKE is expected to generate a variety of intellectual property, including patents, copyrights and trade secrets. ARC will own all such intellectual property. It is intended that these rights will be granted to ARC contractors in return for royalties to be negotiated with the design teams. It is further intended that Class I members, EPRI, and DOE will receive royalties generated by licensing the intellectual property.

Under the DOE Agreement, the DOE has substantial rights in FOAKE-generated intellectual property. The agreement provides the DOE with a nonexclusive, nontransferable, irrevocable, paid-up license in all FOAKE inventions; a proportional share of revenues generated by sales or licensing of intellectual property to utilities other than Class I ARC members and affiliates of domestic Class I members; and "March-in-Rights," under which the DOE may require ARC to license FOAKE technology to responsible applicants if ARC has not taken adequate steps to protect and develop the technology, or if necessary to public health or safety. The Federal Government also has the right to release certain technical data five years after the termination of the agreement between ARC and the DOE.

FOAKE-related agreements impose certain restrictions on the use and availability of intellectual property; however, they do not divide markets, create monopolies, or otherwise encourage or permit anticompetitive activities. First, the DOE Agreement requires that any products based on FOAKE patents must be manufactured substantially in the United States. (ARC expects to follow the same policy with respect to non-patent intellectual property, although this is not explicitly provided by the DOE Agreement.) This provision is consistent with Federal policies regarding United States competitiveness and does not restrict such manufacture to any particular firms, whether domestic or foreign.

The agreement between ARC and the DOE also provides that intellectual property developed through FOAKE will be licensed to the vendors associated with the plant designs chosen at the end of Phase 2, and that royalties will be paid to Class I ARC members, EPRI, and the DOE. This provision does not limit the rights of the design teams to sub-license FOAKE intellectual property as they see fit. Moreover, because FOAKE intellectual property will be highly design-specific, winning design teams will not be bestowed with any market power beyond any which might be inherent in the plant design itself.

Finally, ARC's agreements with both EPRI and the DOE require the parties to refrain from publishing or otherwise disclosing certain information relevant to FOAKE-developed intellectual property without the permission of the other parties. This restriction is directly related to the purpose of FOAKE; it preserves the value of the information until the intellectual property can be appropriately developed, protected and exploited.

I have enclosed copies of the ARC-DOE agreement, the ARC-EPRI agreement, a roster of Class I members of ARC, a listing of ARC's Board of Directors, and a memorandum which our firm has prepared. This memorandum contains a detailed recitation of the facts regarding FOAKE and ARC, a preliminary assessment of the product markets affected by the FOAKE process and a legal

analysis. We are, of course, available to provide any further information you require. David J. McGoff, Associate Deputy Assistant Secretary for Reactor Deployment of the United States Department of Energy, directed the negotiation of the ARC-DOE cooperative agreement and is knowledgeable regarding the DOE's efforts to support further development of nuclear power in this country and ARC's role in implementing FOAKE.

Very truly yours,

Michael I. Miller

MIM/kml

cc: Mark Schechter