UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

BEFORE ADMINISTRATIVE JUDGES:

Lawrence Brenner, Chairman
Dr. Richard F. Cole
Dr. Peter A. Morris

In the Matter of	Docket No. 50-352 50-353
PHILADELPHIA ELECTRIC COMPANY	
(Limerick Generating Station, Units 1 and 2)	September 9, 1982

MEMORANDUM
(PROVIDING SHOREHAM "MEMORANDUM AND ORDER REGARDING SAI AND POTENTIAL CONFLICTS OF INTEREST")

As requested by the Board, the NRC Staff previously has served in this proceeding copies of pleadings and portions of the transcript from the Shoreham operating license proceeding regarding the question of potential conflicts of interest of Science Applications, Inc. (SAI) in the context of the Shoreham proceeding. This material was provided because SAI has also performed work for the Applicant on the Limerick Probabilistic Risk Assessment.

As a follow-up to this information, the Board is providing, under cover of this memorandum, a copy of the "Memorandum and Order Regarding SAI and Potential Conflicts of Interest", issued on September 3, 1982, by the licensing board presiding in the Shoreham proceeding.

FOR THE ATOMIC SAFETY
AND LICENSING BOARD

Lawrence Brenner

Lawrence Brenner, Chairman
ADMINISTRATIVE JUDGE

Bethesda, Maryland
September 9, 1982

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

BEFORE ADMINISTRATIVE JUDGES:

Lawrence Brenner, Chairman
Dr. James H. Carpenter
Dr. Peter A. Morris

In the Matter of	Docket No. 50-322-OL
LONG ISLAND LIGHTING COMPANY	
(Shoreham Nuclear Power Station) Unit 1)	September 3, 1982

MEMORANDUM AND ORDER REGARDING SAI AND POTENTIAL CONFLICTS OF INTEREST

I. BACKGROUND

On June 24, 1982, the Board requested on the record (Tr. 5348-5353, 5420-54) that Staff, LILCO and any other party wishing to comment provide us with an assessment as to any conflict of interest problems which might exist because LILCO's contractor for its Shoreham probabilistic risk assessment (PRA), Science Applications, Inc. (SAI), has also served as a subcontractor for the NRC Staff on certain aspects of the Staff's systems interaction program (Tr. 5350.) As a part of this request, we asked the parties to comment not only upon whether the technical legal standards for avoiding conflicts of interest under government procurement standards had been met, but also whether any questions of propriety or fairness were raised by SAI's participation as a witness in this proceeding on behalf of

LILCO, after having performed certain work for the Staff, and whether any particular care was deemed appropriate to ensure the proper separation between LILCO's preparation of its application and the review of that application by the Staff. (Tr. 5350, 5421.) Additionally, as the Board had only inadvertently learned of this situation, we asked the parties to provide us with some explanation as to why SAI's status as a contractor for the NRC, LILCO and various other utilities had not been disclosed in either this proceeding or in any other proceeding in which SAI has apparently performed at least somewhat of a dual role (Tr. 5351, 5421-5422.)

In response to what we took pains to describe as our "preliminary" information request (Tr. 5421), we received LILCO's July 1, 1982 response, supplemented by a letter dated July 2, 1982, as well as the Staff's interim and final reports on this matter, dated July 1 and July 23, 1982, respectively. No other party sought to comment on our request for information. What follows is a synthesis of the information contained in the Staff's and LILCO's filings.

II. SAI's Activities

SAI has performed work for the NRC Staff in a wide range of areas in recent years. In connection with the Staff's systems interaction program, SAI's Energy Technology & Engineering Group's Accident Consequence Division acted as a subcontractor to Lawrence Livermore National Laboratory in surveying available systems interaction methodologies and in assessing the current state-of-the-art. SAI's principal involvement in this work was through one of its employees who had participated in the WASH-1400 Reactor Safety Study. SAI's work, which was intended to aid the Staff in the development of a methodology for systems interaction studies, resulted

in the publication of NUREG/CR-1859, "Systems Interaction: State-of-the-Art Review."

SAI also prepared for and participated in one review meeting of the Indian Point 3 Systems Interaction Study, again as a subcontractor for Lawrence Livermore National Laboratory. SAI's role in this review was as an expert reviewer to provide comments on the study to the NRC Staff. It recommended that the Staff place primary reliance on probabilistic risk assessment for this study; however, the Staff did not adopt SAI's recommendations during this initial phase of this study. The contract between Lawrence Livermore and SAI has been inactive since December, 1981 due to a lack of funding,and SAI does not anticipate that it will participate in the Indian Point Systems Interaction Study in the future.

SAI is still assisting the Staff in reviewing selected Light Water Reactors for systems interactions. SAI has also performed services for the Staff regarding PRAs, including helping to write the National Reliability Evaluation Program (NREP) PRA procedures guide as a subcontractor to Brookhaven National Laboratory and serving as a subcontractor to Sandia Laboratory for a detailed review of the Zion and Indian Point risk studies. Additionally, SAI is currently under consideration to perform several other studies for NRC as either a prime contractor or a principal subcontractor.

SAI's work for LILCO was performed by its Engineering Technology & Engineering Group's Power Engineering Services Division. LILCO's involvement with SAI began in either late 1979 or early 1980, and during 1980 SAI provided LILCO with information on PRA's in general and SAI's capabilities

in particular. SAI was awarded the contract for phases I and II of LILCO's PRA in April, 1981, after competitive bidding.

The Shoreham PRA was performed by a different division of SAI than that which performed SAI's state-of-the-art review of systems interactions as a subcontractor to Lawrence Livermore for the Staff. These divisions report to separate Operations Managers and, at least until recently, were situated in different locations. There was no exchange of technical information between these divisions on their respective studies and the work done by SAI on each of these projects was done without knowledge of the performance requirements for the other study. LILCO's filing also states that no member of the SAI staff participated in both the Lawrence Livermore Laboratory sponsored review of Indian Point and the Shoreham PRA.

The parties did not address the propriety of the separation of information and/or SAI staff participation in connection with other systems interaction work which SAI performed, either directly or indirectly, for the NRC Staff.

III. CONFLICTS OF INTEREST

LILCO concludes that no conflict of interest results solely from SAI's performance of work for utilities, particularly LILCO, and SAI's performance of work for the NRC Staff, either directly or as a subcontractor for another consultant. In its view, "[i]t is appropriate for the NRC Staff or its contractor to seek the expert views of one of the handful of preeminent organizations in the field." LILCO believes that the only bearing of SAI's prior systems interaction work for the Staff is whether the testimony of SAI's witness in this proceeding is consistent with the views given Staff by other SAI experts.

The NRC Staff takes a somewhat different approach to reach a conclusion similar to that of LILCO. The Staff recites generally the process which NRC and DOE use to ensure that no conflicts of interest exist in the contracts which these agencies award, and then comments on whether its contracts with SAI are relevant for consideration in this proceeding.

While the Staff does not expressly so state, the contracts which it has awarded to SAI directly have presumably passed muster under the NRC's contracts review process. The Staff does not address what steps are taken to ensure that conflicts of interest are avoided in the award of subcontracts under the contracts which NRC awards to prime contractors. We note that under the NRC's procurement regulations, particularly 44 CFR §§ 20-1.5410 and 20-1.5404-1(f) (set out as a part of Attachment 1 to Staff's July 23, 1982 filing), NRC's review of its contracts does include such considerations. We believe it would have been helpful for the Staff to have included some comment in its filing either to the effect that the NRC review of its direct and indirect contracts with SAI had revealed that no conflicts of interest exist, or that certain steps had been taken to either avoid or mitigate the effects of any such potential conflicts. See generally Section 170A of the Atomic Energy Act of 1954, as amended, 42 USC § 2210a(b). While the award or denial of Staff contracts is outside the scope of this Board's jurisdiction, we believe such information would have been useful to its consideration of the effects in this proceeding of these contractual contacts.

The Staff and LILCO both seem to agree that the work done for Staff by SAI most directly relevant to this proceeding is the above-described

"state-of-the-art" review of PRA methodology which SAI performed as a subcontractor for Lawrence Livermore. As framed by the Staff, "[t]he primary question is what effect, if any, the SAI position that PRA methodology should be employed in conducting systems interactions analyses might have had on the Staff's position in the Shoreham proceeding." The Staff continues, "[t]he issue in the context of a licensing hearing is to determine whether actual biased input has been presented to the Staff and, if so, whether the Staff has relied upon such input." The Staff then concludes that as the Staff has not relied upon LILCO's draft Shoreham PRA (performed by SAI) as a basis for licensing or in formulating its position in this proceeding on the adequacy of LILCO's consideration of potential systems interactions at Shoreham, it does not believe the fact of SAI's PRA work for the Staff under its contract with Lawrence Livermore National Laboratory to be material to this proceeding.

The Staff adopts a similar posture with respect to work done by NUS Inc., another contractor who performed work for the Staff on PRA methodology and who also performed PRA work for both LILCO and the Applicant in the Limerick proceeding.

While the Staff agrees with LILCO that questions of bias on the part of SAI in working for both the Staff and LILCO might properly be directed to SAI witnesses if the Staff had relied on SAI's work, it believes there to be no need for such inquiry in the Shoreham proceeding, as the Staff's decision not to rely on SAI's position is stated to have rendered this matter immaterial.

The Staff's conclusion that its decision not to rely on the work performed for it by SAI renders this matter immaterial also appears to be the

basis for its conclusion that it was under no obligation to disclose this relationship to the Board and parties in either this proceeding or in any other proceeding, such as Limerick, in which a similar situation exists. In support of this position, the Staff asks us to "[s]ee generally Tennessee Valley Authority (Browns Ferry Nuclear Plant, Units 1, 2, and 3), ALAB-677, 15 NRC ___ (1982); Duke Power Co.(McGuire Nuclear Station, Units 1 and 2), ALAB-143, 6 AEC 623, 625 (1973)," two cases which generally set forth the continuing obligation of parties to a licensing proceeding to apprise the Board and parties of recent developments which are material and relevant to those matters in issue in a proceeding.

We do not believe the "relevance and materiality" standards set forth in those cases to be directly applicable in a situation such as this, however, where what is at issue is a matter of the fundamental fairness of the conduct of parties to a proceeding. Pursuant to 10 CFR § 2.718, this Board "has the duty to conduct a fair and impartial hearing under law", which we believe includes the responsibility to impose upon all parties to a proceeding the obligation to disclose all potential conflicts of interest. We believe that the Staff begs the question when it states that such potential conflicts need not be disclosed due to their lack of materiality, since fundamental fairness clearly requires such disclosure so as to enable the Board to determine the materiality of such information.

In the matter presently before us, we believe that the disclosure of this information on the record has cured any defects in the fairness of this proceeding which may have existed. The Board and all parties had the

opportunity to cross-examine either LILCO's or the Staff's own witnesses as to bias in this regard after this potential conflict of interest was discovered and raised by the Board, even though neither took advantage of this opportunity. Indeed, in light of obvious disparity between the views of the Staff[1/] and the SAI witness [2/] as to the utility of PRA's in determining potential systems interactions and the voluminous testimony we have had from all sides, we do not believe that good cause exists to justify further inquiry into this matter.

All parties are directed, however, to continue to apprise this Board as to any potential conflicts of interest which might be later discovered.

1/ See, e.g., NRC Staff Testimony of Themis P. Speis, Walter P. Haas, Marvin W. Hodges, C. E. Rossi, James H. Conran, Sr. and Robert Kirkwood on Safety Classification and Analysis of Structures, Systems and Components, ff. Tr. 6357, at 31-34; Tr. 6407.(Conran).

2/ See, e.g., Testimony of Edward T. Burns, George F. Dawe, George Garabedian, Pio W. Ianni, Vogin Joksimovich, Robert M. Kascsak, Paul J. McGuire, Paul W. Rigelhaupt and David J. Robare for the Long Island Lighting Company Regarding Suffolk County/Shoreham Opponents Coalition Contention 7B and Shoreham Opponents Coalition Contention 19(b), ff. Tr. 4346, at 80-81.

IT IS SO ORDERED.

THE ATOMIC SAFETY AND LICENSING
BOARD

Lawrence Brenner, Chairman
Lawrence Brenner
ADMINISTRATIVE JUDGE

James H. Carpenter, Member
James H. Carpenter
ADMINISTRATIVE JUDGE

Peter A. Morris/by L.B., Member
Peter A. Morris
ADMINISTRATIVE JUDGE

Bethesda, Maryland
September 3, 1982