# MAY 1 6 1983

NOTE TO:	Harold R. Denton, Director Office of Nuclear Reactor Regulation
FROM:	Frank H. Rowsome, Assistant Director for Technology, Division of Safety Technology
SUBJECT:	BACKGROUND FOR S. M. STOLLER INTERVIEW
Reference:	Letter of S. M. Stoller to Dircks, "Standards of Performance Study" EDO Control #13107 (attached)

Background: The letter implies that the California Public Service Commission is considering applying to SONGS-1 a formula in which the rate of return on equity is a function of unit availability, equivalent availability, or capacity factor. The intent, where this has been done elsewhere, has been to build in an economic incentive for high station availability. Such a program could be a great improvement over the situations many utilities face (including our own PEPCO as of 1979) in which replacement power for forced outages could be automatically passed on to the rate payers, but capital investments to make cost effective improvements in generating station availability could not easily be incorporated in the rate base.

ANO-1 was subject, in 1978-79, to a rather punitive formula in which the rate of return on equity falls a point should the unit availability fail to reach or exceed 85%. Detroit Edison, in the late 70's, had a four-step function for rate of return based upon the average availability of all their base load and load following units.

#### Issues Raised in Stoller Letter

- "What, if any, would be the concerns of the NRC relative to the Q1. application of a performance standard program to a nuclear unit?" and
- "What adverse effects on safety issues could you foresee that may Q2. result from the implementation of a standards-for-performance program?"

#### Thoughts on A18A2

In general, amplified economic incentives for high availability can have both positive and negative effects on safety, although neither are likely to have a strong influence upon safety. In the positive direction, reduced frequency of spurious trips and forced shutdowns tend to reduce the frequency of initiating events that challenge safety systems and could precipitate accidents. A regulatory climate in which there are positive incentives for capital improvements to enhance availability tend to enhance

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On the negative side, a penalty for voluntary shutdowns to deal with degraded performance in equipment important to safety could have a undesirable effect on safety, e.g., shutdown for leaking pressurizer relief valves, reactor coolant pump seals, etc. Generally shutdowns are formally required by license technical specifications for safety significant problems, but there are always some marginal situations not explicitly covered by technical specifications. Of particular concern would be sharp thresholds in unit availability. If a plant were operating very near a threshold at which the rate of return on equity were to change substantially, there might be a strong incentive to keep the plant running despite known or suspected safety problems. Thus we would be less concerned about a formula in which the economic incentives were a smooth, continuous function of productivity than we would about a step function with large steps at precise levels of productivity.

- 2 -

We would not like to see a nuclear plant owner/operator defer a major outage for safety related repairs such as replacement of deteriorating steam generators. Therefore, we would be more comfortable with an incentive formula that encouraged rather than discouraged programmed outages to make cost-effective improvements in unit availability. Perhaps an "income averaging" provision would help to encourage such cost-effective improvements in long term availability.

Q3: "Would the existance of such a program cause any change in NRC's approach to, surveillance of, or requirements imposed upon a particular plant?"

#### Thoughts on A3

Such a program probably would have little effect on our surveillance or enforcement practices, although we would want to be alert to a lowered willingness of licensees to shutdown to deal with safety problems. Another way to structure the program to avoid undesirable negative impacts on safety might be to reflect NRC fines for non-compliance in the productivity formula. The NRC might have to re-examine its schedule for fines if we observed that a productivity incentive program were making it profitable for a licensee to cut corners with respect to safety to achieve high productivity.

Q4: "Would you have any thoughts as to the applicability of standards of performance program to SONGS-1 based upon your knowledge of outstanding regulatory issues, e.g., arising from the current SEP discussions?

### Thoughts on A4

DOL (PM W. Paulson, X27214) tells me that SEP is ongoing, the plant has been down for the better part of a year; that seismic fixes, fire fixes (alternate shutdown), and EQ fixes look very expensive and controversial. Also about 6000 steam generator tubes have been sleeved and the life

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expectancy of the steam generators is in doubt. The future economics of SONGS-1 look to be very troublesome. This may be a major headache for Southern California Edison Company and the California Public Utilities Commission. I do not know how this bears upon Stoller's exploration of productivity incentives, though it is clearly pertinent.

# Original Signed by

Frank H. Rowsome, Assistant Director for Technology Division of Safety Technology

Attachment: As stated

cc w/o attachment: T. Speis W. Paulson-

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