UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

January 22, 1981

MEMORANDUM FOR: The Files

FROM: Thomas E. Murley, Director
Division of Safety Technology

SUBJECT: THE SAFETY GOAL ISSUE IN HISTORICAL PERSPECTIVE

The draft report on "The Safety Goal Issue in Historical Perspective" by Mazuzan and Walker adds very little to the current effort by the Commission to develop a safety goal and, if it is released in its current form, will generate controversy that may well cloud the entire effort.

The authors seem to proceed from a preconceived thesis that the AEC subordinated safety to development of nuclear power and thereby suppressed any serious effort to develop a safety goal. I don't believe that thesis can be supported from the historical record. One certainly cannot draw that conclusion from the draft report, with its very heavy dependence on secondary sources (e.g., Green, Bupp and Dearien, Rolph Fuller, and Okrent) whose credentials for objectivity and historical accuracy are not universally acknowledged. In six instances, the authors cite their own work, some of it yet in preparation, as the source for some of their assertions. This approach to history is not in the tradition of objective scholarship with which I am familiar.

There are at least three areas to my knowledge where the authors have either gotten their facts wrong, incomplete or selected them in such a way as to promote their thesis.

(a) The Origins of the Reactor Safety Study

On June 18, 1965, Chairman Seaborg sent a letter to Congressman Holifield, Chairman of the JCAE, which stated in part,

> "It would be useful of course to have reliable analyses of the probability of a major accident. Without question, the probability is very low, but our efforts to define it have only served to convince us that there is as yet no valid basis on which to make meaningful calculations"

Nevertheless, the AEC continued to consider the need for such a study, and in a December 4, 1970, letter from Commissioner Larson to Senator Gravel the following commitment was made:

> "On the basis of present information and experience, the Commission plans to have a study made and a report prepared covering the subject area included in WASH-740. We expect the study would be underway in the next year or so."

In June, 1971, the Commission approved staff proposals for two studies. RDT was to carry out a study of the risks from normal operation of nuclear plants and fuel cycle facilities and REG was to carry out a study of the risks from accidents in nuclear plants.

After Chairman Schlesinger arrived in August 1971, he discussed the safety study with members of the JCAE in Geneva, and Chairman Pastore sent a letter to Schlesinger on October 7, 1971, endorsing the notion of a comprehensive assessment of the safety aspects of nuclear reactors. The statement by the authors on page 15 that "WASH-1250 did not provide the quantitative assessment of risk Senator Pastore had suggested," completely misses the point that WASH-1250 was never intended to study the risk from accidents. That study, to be done by the REG staff, never got off the ground until Chairman Schlesinger asked Professor Benedict of MIT early in 1972 if he would help organize the study. This led to a contract with Professor Rasmussen of MIT to direct the study which resulted in WASH-1400.

(b) Goal of WASH-1400

On the bottom of page 18, the authors state that, "WASH-1400 attempted to establish a quantified risk acceptance criterion, but it appeared that as many questions were raised by the effort as were resolved."

It was never a goal of WASH-1400 to establish a quantified risk acceptance criterion. There are probably a few dozen staff in NRC who could have cleared up that error had they been asked.

(c) Safety Research Program

On pages 11 and 14, the authors correctly note that the regulatory staff and the ACRS consistently prodded the AEC to speed up and better fund the safety research program. They assert that the reason for the lagging safety research program was the failure by RDT to vigorously pursue it because it would compete with funds for developing breeder reactors. I don't believe an examination of the facts will support that assertion.

The attached table shows a history of the AEC water reactor safety research budgets for FY 1963-75. Starting in FY-1965, the Division of Reactor Development and Technology consistently requested substantial increases in the safety research budgets. The Commission and OMB consistently reduced these requests throughout the 1960's and early 1970's. Thus, it was due to the policy of the Administration and the Commission, and not due to RDT priorities, that the safety research budget was held to levels lower than the regulatory staff and ACRS felt were needed. It was not until the ECCS Hearings in 1972-73 revealed the serious lack of research data that the Commission and Administration supported increases in the safety research budget, beginning in FY 1974.

If the authors are indeed interested in producing a factual, even-handed history of the safety goal issue, I suggest they take the time to do

some more homework and interview key participants during the past 25 years, in addition to correcting the obvious factual errors in the draft.

Thomas E. Murley, Director
Division of Safety Technology

cc: NRR Division Directors
R. Bernero

AEC WATER REACTOR SAFETY RESEARCH BUDGETS FOR FY 63--FY 75

($ MILLIONS)

	63	64	65	66	67	68	69	70	71	72	73	74	75
DIVISION REQUEST	9.4	11.7	16.0	18.0	25.4	32.8	36.9	35.6	30.9	30.8	32.3	32.0	52.4
COMMISSION CUT	-2.0	-0.8	-2.9	-4.1	+1.5	-7.0	-5.1	-5.1	-4.8	-10.0	-2.4	-0-	-0-
OMB CUT	-0-	-1.0	-2.3	-0.5	-3.0	-0-	-2.5	-3.6	-3.9	-0-	-0-	-0-	-5.0
CONGRESSIONAL CUT	-0-	-1.0	-0-	+0.7	-0.4	+0.6	-3.1	-0-	-0.5	+5.0	+2.8	+7.2	-0-
REALLOCATION	-1.0	-1.6	-0.2	-1.2	-3.4	-2.3	-1.7	-0.9	-0-	+0.6	-0-	+1.0	-0.2
ACTUAL SPENT	6.4	7.3	10.6	12.9	20.1	24.1	24.5	26.0	21.7	26.4	32.7	40.2	47.2

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January 19, 1981

MEMORANDUM FOR: Thomas E. Murley, Director
Division of Safety Technology

FROM: Richard H. Vollmer, Director
Division of Engineering

SUBJECT: SAFETY GOAL ISSUE IN HISTORICAL PERSPECTIVE

This is in response to your January 12, 1981 memorandum regarding comments on George Mazuzan's paper on historical perspective.

Based on a brief review, I find that the paper does not accurately reflect my view or analysis of the events and the perspective regarding safety goals that occurred in the last 25 years. As an historian, Mr. Mazuzan has the unique opportunity in this case of having available to him not only all of the documents related to the safety goal issue; but also many of the individual regulatory, industry, and Congressional staff that were involved. It appears to me that his research was narrowly focussed and selective in that he referenced relatively few documents and did not interview people who were involved in the regulatory process over the years. Had he done this, I believe that the paper would have been written with a much more balanced perspective.

The paper implies that the nuclear community has conspired to foist nuclear energy on the public. Further, the paper is written with the preconceived notion that over the last 25 years those in all levels of government and industry that were making decisions in nuclear power clearly recognized that a specific safety goal was needed but that such a goal always remained elusive. This inability to reach such a goal is expressed in the paper as a general weakness and lack of resolve on the part of the regulators. Based on my experience as a member of industry trying to license plants and then as a regulator, I heartily disagree. For the first 15 years of the regulatory program, these are unwarranted criticisms, and in the most recent 10 years, as the consciousness of the need for a safety goal has evolved, there has been reasonable effort toward developing the goal.

In my view the paper as it stands will not constructively aid the Commission in its development of a safety goal. Therefore, it should either be rewritten or dropped.

Richard H. Vollmer, Director
Division of Engineering

cc: D. Muller
M. Ernst

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