

# CERTIFIED

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PDR 062185

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SUMMARY/MINUTES OF THE  
ACRS SUBCOMMITTEE MEETING ON THE  
SAFETY RESEARCH PROGRAM  
MAY 8, 1985  
WASHINGTON, D.C.

## INTRODUCTION

The ACRS Subcommittee on the Safety Research Program held a meeting on Wednesday, May 8, 1985 at 1717 H Street, N.W., Washington, D.C., to discuss the proposed NRC Safety Research Program and Budget for FY 1987. The entire meeting was open to the public attendance. Mr. Sam Duraiswamy was the cognizant ACRS Staff engineer for this meeting. A tentative presentation schedule for the meeting is included in Attachment A. A list of documents submitted to the Subcommittee is included in Attachment B.

## ATTENDEES

ACRS: C. P. Siess, (Subcommittee Chairman), W. Kerr,  
J. C. Mark, C. Michelson, D. Okrent, F. J. Remick,  
D. A. Ward, C. J. Wylie, D. W. Moeller (part time),  
and M. W. Carbon (part time).

S. Duraiswamy (Cognizant ACRS Staff engineer).

## Principal

### NRC Speakers:

R. Minogue, C. Kelber, E. Conti, A. Eiss, O. Bassett,  
F. Gillespie, K. Goller, M. Silberberg, R. Curtis,  
G. Burdick, A. Taboada, J. Richardson, W. Morris,  
L. Shotkin, and Z. Rosztoczy.

## EXECUTIVE SESSION

Dr. Siess, the Subcommittee Chairman, convened the meeting at 8:30 a.m., and stated that the purpose of the meeting was to discuss the NRC Safety Research Program and the associated budget for FY 1987 proposed by the Office of Nuclear Regulatory Research (RES), and to gather information for use by the ACRS in its preparation of the annual report to the Commission on the related matter. He said that the Subcommittee had received neither written comments nor requests for time to make oral statements from members of the public.

RES PRESENTATIONIntroduction - Dr. R. B. Minogue

Dr. Minogue said that the FY 1987 NRC Safety Research Program budget is still in the early stages of formulation. The RES-proposed budget for FY 1987 is somewhat higher than that expected to be approved by the Executive Director for Operations (EDO) and by the Commission. The main reason for submitting a higher-level budget is to make sure that adequate discussion is held prior to making the decision on which research should be done and which should be cancelled or deferred. He said that in formulating the research programs for FY 1987, the following guidance provided by the EDO has been applied:

- Do not do small research on everything that needs research. Instead, make selections and eliminate programs, as necessary, based on prioritization so as to meet the allocation of funds and to make sure that research chosen could be done well within the budget allocated.
- Research that is done well has to be timely. It should provide information necessary for use in the regulatory decision-making process.
- Research has to be cost effective and should be managed well.

Dr. Minogue said that the following criteria have been used in deciding priorities for research:

- Major emphasis should be placed on research related to the safety of operating plants.
- Accident prevention research should have a higher priority than the accident mitigation research.
- Programs nearing completion should not be terminated prematurely.
- Research should be performed on issues important to safety from a regulatory perspective.

- Where there already exists a conservative regulatory recipe, research to produce more realistic regulatory base should have a lower priority.
- Research cuts should be avoided where complex international agreements exist, especially those producing leverage on the previous investment.

Dr. Minogue stated that based on the above criteria, research in the following areas had been eliminated:

- Occupational Radiation Protection.
- Advanced Reactors.
- Human Factors research related to advanced control room design and advanced control system concepts.

Indicating that there have been some borderline accidents in some operating plants because of maintenance errors, Dr. Okrent asked why RES is not able to justify a program in the human factors area. Dr. Minogue responded that the work that has been eliminated in the human factors area is not related to the safety of operating plants. Only the work that was aimed at advanced control system concepts and advanced control room design had been eliminated. The work related to the identification and quantification of human errors (in operation and maintenance) that contribute to risk is still in the budget.

Mr. Ward commented that the planned research on the quantification of human errors and performance is to obtain information for use in the Probabilistic Risk Analysis (PRA). Although PRA could provide some insights to better quantify the risk, it has already been obvious that there is a large contribution to the total risk from human errors and human performance. He believes that the research that is aimed at improving human performance has been eliminated by RES and he does not agree with the RES action. Dr. Minogue responded that improving human performance by imposing certain criteria on

licensees is the responsibility of the Office of Nuclear Reactor Regulation (NRR). He believes that NRR still has a Technical Assistance Program along this line.

In view of the fact that major emphasis should be placed on the safety of operating plants, Dr. Siess asked how the source term research is expected to contribute to the safety of operating plants. Dr. Minogue responded that the results of the source term work will help develop a better understanding of the behavior of systems during severe accidents so as to deal with operations better under such conditions; it will help also to develop better emergency planning. A large amount of money has already been invested in the source term work and it is nearing completion. He believes that to terminate prematurely a program which has started producing some useful information is not a good idea.

Dr. Siess asked when they expect to complete the research on source term. Dr. Minogue responded that there is an effort under way to evaluate the results of the source term work to date in the context of the comments provided by the American Physical Society (APS) and also to evaluate how these results could be applied in the regulatory process. Upon completion of this evaluation, they would be able to predict what additional research would be needed and when the source term work could be completed.

Dr. Siess commented that the ACRS has received very little information about how the results of the source term work will be used in the regulatory decision-making process. In his opinion, how much more information needs to be developed and how well it has to be understood depend on how it is going to be used. Dr. Minogue responded that RES and NRR are working together to determine how the results of the source term work could be used in the regulatory process.

Mr. Ward asked to what extent does RES develop research programs to provide leadership in areas that are not covered in the research programs of the industry. Dr. Minogue responded that they don't have any systematic effort that is aimed at this kind of thing.



RES-Proposed Safety Research Program and Budget for FY 1987 - Mr. E. Conti

Mr. Conti said that the total funding proposed by RES for the FY 1987 NRC Safety Research Program is \$143.7 million to be distributed to the various Decision Units as shown below.

Decision Units	RES-Proposed Funding For FY 1987 (Dollars in Millions)
1. Reactor Engineering	47.6
2. Thermal-Hydraulic Transients	26.6
3. Accident Evaluation	32.2
4. Reactor Operations and Risk	19.0
5. Waste Management, Earth Sciences, and Health	18.3
Total	143.7

The proposed distribution of the funding to various Subelements is included in Attachment C, pages 2 and 3.

With reference to the item "Severe Accidents and Regulatory Implications," that is identified (Attachment C, page 1) as one of the six items that deserve major emphasis, Dr. Okrent asked what are the questions that are important to be answered in this area, and what research programs are or will be planned to answer those questions. He said that he would like to have similar type of information on another item in the list related to "Reactor Operations and Risk".

Since Dr. Okrent felt that the response provided by Mr. Conti was inadequate, he suggested that the Staff provide responses in writing prior to or during the June 5, 1985 Safety Research Program Subcommittee meeting.

Discussion of Various Decision Units

Decision Unit 1 - Reactor Engineering - Mr. A. Eiss

The proposed funding for research in this Decision Unit is \$47.6 million. Mr. Eiss stated that all of the programs in this Decision Unit are directed at prevention of accidents at operating plants with the exception of the Containment program which is directed at the mitigation of the effects of an accident should it occur at an operating plant. He noted that the Chemical Engineering program is not going to be carried out as a separate Subelement. Instead, the work performed under this program will be done under the Aging, and Containment programs. He stated that, as compared to FY 1986, funding for the Program on Non-destructive Examination has been increased by \$1.5 million, and the Plant Aging Program funding has been increased by \$5.2 million.

Dr. Okrent asked whether they plan to perform any seismic-related research on BWR Mark I, Mark II, and Mark III plants and on an ice-condenser plant.

Mr. Richardson responded that they have no plans to look at ice-condenser or Mark I plants specifically because of budget constraints. They are trying to gain some insights by reviewing a PRA for a Mark III containment plant.

Indicating that there are about 18 seismic PRAs being developed by the industry, Dr. Siess asked whether there are any on Mark I and ice-condenser plants among them. Mr. Richardson responded that he would provide the information at a later date.

Dr. Okrent asked whether it would be relevant if the ACRS wrote a letter to the Commission pointing out the lack of information that exists on the seismic capability of Mark I and ice-condenser plants, and suggesting that something needs to be done to alleviate this situation. Mr. Richardson responded that it would be relevant; however, he is not sure how the Commission would react to that suggestion.

With regard to a proposed program that is aimed at developing a basis for evaluating safe operation of plants beyond design life, Dr. Siess commented that this is an ideal program for the industry to undertake.

Dr. Siess and Mr. Michelson suggested that the Staff change the name of the Plant Aging program to reflect what is actually being done or proposed under this program.

Decision Unit 2: Thermal-Hydraulic Transients - Mr. O. Bassett

The proposed funding for this Decision Unit is \$26.6 million. Mr. Bassett said that funding for the Advanced Test Facility (ATF) program has been increased by \$3.5 million as compared to FY 1986. The Transient Models and Codes program funding has been increased by \$1.3 million. The ATF will be somewhat similar to the one nearing completion at the University of Maryland. They plan to perform a scaling study to determine the technical feasibility of such a facility. Based on the results of that study, they will decide whether to build such a facility at Idaho.

Dr. Siess asked whether the Staff plans to shut down the Semiscale facility. Mr. Bassett responded that Semiscale will be mothballed by the end of 1986.

In response to a question as to how much it would cost to run an Upper Head Injection (UHI) test at Semiscale, Mr. Bassett stated that the people at Idaho Laboratory recommended that no UHI tests be run at Semiscale. They believe that the one-dimensional aspect of Semiscale would not lead to any successful testing; if such tests are to be performed, they believe that they should be done at some other facility.

Dr. Siess suggested that the ECCS Subcommittee explore the details associated with the proposed ATF and provide comments, as necessary, on the need for such a facility.



Decision Unit 3: Accident Evaluation - Mr. O. Bassett

Mr. Bassett stated that the proposed funding for this Decision Unit is \$32.2 million. Funding for the Power Burst Facility (PBF)-Surveillance program has been increased by \$1.5 million as compared to FY 1986. The total NRC contribution for this work is \$2.5 million which will be paid in advance in FY 1986 and 1987. The Department of Energy (DOE) will assume further responsibility for future actions on PBF.

Indicating that, in view of the fact that the Source Term Report (Draft NUREG-0956), which is expected to provide information for arriving at regulatory decisions on severe accidents, is ready to be submitted to the Commission in the very near future, Dr. Kerr asked what is the need for additional research in this area. Mr. Bassett responded that additional confirmatory work in the areas identified in the Source Term Report needs to be done in order to gain more confidence in formulas and computer codes. Certain computer codes used in the calculation of source term are not as sophisticated as other codes and need to be improved. In addition, certain phenomena are not clearly understood owing to lack of adequate data. Therefore, they need additional testing to obtain necessary data to understand such phenomena. Mr. Silberberg stated that they need additional work also to determine what is an acceptable level of uncertainty.

Dr. Siess asked what would be the expected level of funding for research in the severe accident area for FY 1988 and beyond. Mr. Bassett responded that for FY 1988, it would be about \$30 million. Beyond FY 1988, the funding will be in the range of \$15 million to \$20 million.

Decision Unit 4: Reactor Operations and Risk - Mr. F. Gillespie

Mr. Gillespie stated that funding proposed for the research in this Decision Unit is \$19 million. Funding for the Severe Accident Risk program has been increased by \$1.7 million as compared to FY 1986.



Mr. Gillespie said that the work related to data acquisition and retrieval that was conducted under the Subelement on Data and Uncertainties is expected to be transferred to the Office for the Analysis and Evaluation of Operational Data (AEOD) in FY 1986 and 1987. The Source Term Program Office will be transferred to the Division of Risk Analysis as soon as the first draft of the Source Term Report is completed. In the early part of FY 1986, they plan to complete risk profiles on five reference plants (Surry, Zion, Peach Bottom, Grand Gulf, and Sequoyah), using updated source terms, phenomenological models, and design change information. In FY 1987, they plan to obtain more information using the fast-running MELCOR code (assuming it will be available) and try to find out whether the information gathered on the five reference plants could be applied generically to other plants.

Dr. Okrent commented that he is not sure whether they can apply the data gathered from the five reference plants generically to other plants because of the non-uniform features of the containments. He does not believe that they will be in a position to provide important answers to other plants.

Dr. Siess commented that, if the data obtained from the five plants are going to be extended to other plants, the uncertainties will be too high and the information will be unreliable.

With regard to the proposed work on Cognitive Modeling in the Human Reliability area, Dr. Okrent and Dr. Kerr asked for additional information.

Mr. Burdick requested a meeting with the ACRS Subcommittee on Reliability and Probabilistic Assessment to discuss in detail the proposed work in the Risk Analysis area.

Decision Unit 5: Waste Management, Earth Sciences, and Health -

Mr. K. Goller

The proposed funding for research in this Decision Unit is \$18.3 million. Compared to FY 1986, funding for the Earth Sciences program has been increased

by \$1.7 million, the High-Level Waste (HLW) Management Program has been increased by \$3.8 million, and the Low-Level Waste (LLW) Management program has been increased by \$1.3 million.

Mr. Goller stated that it is expected that the NRC and the United States Geological Survey (USGS) will sign an agreement in the near future whereby the USGS will take over the operation of the remaining NRC-sponsored seismic networks in the Eastern United States. Under this agreement, the NRC will pay the USGS \$1 million/year for the next 5 years and the USGS will own and operate this network system and furnish NRC with needed seismic data. This arrangement is expected to save the NRC about \$5 million by the end of 5 years.

Dr. Siess asked about the level of funding for Technical Assistance Programs in the Waste Management area in the Office of Nuclear Material Safety and Safeguards (NMSS). Dr. Bell responded that about \$8 million for HLW and about \$3 million for LLW have been proposed in FY 1987.

With regard to the work related to Neutron Dosimetry, Dr. Siess commented that he does not believe that the NRC should do such work. If the NRC believes that the quality or the capability of such instrumentation is not adequate to protect the public health and safety, it should simply set some standards for those things and make sure that they are met by the industry.

#### NRR Comments - Dr. Z. Rosztoczy

Dr. Rosztoczy provided some preliminary NRR comments on the RES-proposed Safety Research Program and budget for FY 1987 (Attachment D, pages 1-3).

Dr. Siess suggested that RES and NRR try to resolve their differences and provide a status report to the Subcommittee during the June 5, 1985 meeting.

#### SUBCOMMITTEE REMARKS

Dr. Siess stated that the next Safety Research Program Subcommittee meeting is scheduled to be held on June 5, 1985. At that meeting, RES will provide updated

information, possibly the Budget Review Group Mark, on the NRC Safety Research Program and Budget for FY 1987. Also, Draft 0 of the ACRS report to the Commission will be discussed. The schedule for providing input to Draft 0 of the ACRS report is May 24, 1985.

Dr. Okrent suggested that the Staff provide a list identifying research programs that will be cut or deferred if the RES-proposed budget is reduced by 10, 15, or 20 percent.

Dr. Siess thanked all participants and adjourned the meeting at 4:30 p.m.

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NOTE: Additional meeting details can be obtained from a transcript of this meeting available in the NRC Public Document Room, 1717 H Street, N.W., Washington, D.C., or can be purchased from ACE-Federal Reporters, 444 North Capitol Street, Washington, D.C. 20001 (202) 347-3700.



4/18/85

TENTATIVE PRESENTATION SCHEDULE  
ACRS SUBCOMMITTEE MEETING ON THE  
SAFETY RESEARCH PROGRAM  
MAY 8, 1985  
ROOM 1046, 1717 H STREET  
WASHINGTON, DC

NOTE: TOTAL PRESENTATION  
TIME INCLUDES:

- ~ 50% for actual presentation
- ~ 50% for Subcommittee Questions and Answers

ACRS Contact: Sam Duraiswamy (634-3267)

<u>ITEM</u>	<u>SPEAKER</u>	<u>TOTAL PRESENTATION TIME</u>	<u>ACTUAL TIME</u>
I. <u>EXECUTIVE SESSION</u>	--	10 min	8:30 - 8:40am
II. <u>RES PRESENTATION</u>			
a. Introduction	Robert Minogue	10 min	8:40 - 8:50am
b.			
• Status of FY 1986 Budget	Enrico Conti	30 min	8:50 - 9:20am
• Changes to the Decision-Unit Structure, if any			
• Overall Summary of the Proposed Research Budget for FY 1987			
• Budget-Review Cycle Schedule			
c. Reactor Engineering	Guy Arlotto	40 min	9:20 - 10:00am
d. Thermal-Hydraulic Transients	Sam Bassett	40 min	10:00 - 10:40am
*** BREAK ***		15 min	10:40 - 10:55am

ATTACHMENT **A**

**A-1**



May 8, 1985

e. Accident Evaluation	Sam Bassett	40 min	10:55 - 11:35am
f. Reactor Operations and Risk	Frank Gillespie	40 min	11:35 - 12:15pm
• Priorities (NUREG-1115)		20 min	12:15 - 12:35pm
*** LUNCH ***		60 min	12:35 - 1:35pm
g. Waste Management, Earth Sciences, and Health	Karl Goller	40 min	1:35 - 2:15pm
III. <u>NRR COMMENTS ON THE RES-PROPOSED RESEARCH AND BUDGET FOR FY 1987</u>	Zoltan Rosztoczy	30 min	2:15 - 2:45pm
(Address only the Items of Differences Between NRR and RES)			
IV. <u>SUBCOMMITTEE REMARKS</u>		15 min	2:45 - 3:00pm
*** ADJOURN ***			3:00pm

Safety Research Program Subcommittee Meeting  
May 8, 1985

List of Documents Submitted to the Subcommittee

1. Tentative Presentation Schedule.
2. Table 1 and 2 related to Assignments for Review of the NRC Safety Research Program and Budget, dated April 5, 1985.
3. ACRS Report to the Commission on the NRC Safety Research Program and Budget for FY 1986 and 1987, dated June 20, 1984.
4. Letter from Kammerer to NRC Commissioners transmitting Udall Subcommittee's Mark on the NRC Budget for FY 1986 and 1987, dated April 4, 1985.
5. Letter from Minogue to Congress related to Impact Analysis of Further Cuts in NRC Research Program, dated April 4, 1985.
6. Presentation Material provided by the Staff during the meeting.
7. Memo from E. Conti to R. Fraley, dated May 3, 1985, Transmitting RES Responses to ACRS Comments in NUREG-1105.

ATTACHMENT **B**

## FY 1987 BUDGET REVIEWS

### RESEARCH PROGRAM AREA EMPHASIS

- O AGING AND DEGRADATION OF OPERATING NPPs
- O OPERATIONAL AND THERMAL HYDRAULIC TRANSIENTS
- O SEVERE ACCIDENTS AND REGULATORY IMPLICATIONS
- O PLANT OPERATIONS AND RISK ASSESSMENT
- O SEISMIC DESIGN ANALYSIS
- O NUCLEAR WASTE MANAGEMENT

### RESEARCH PLANNING ASSUMPTIONS

### SAFETY ISSUES

### WORK TO BE DONE

### REGULATORY UTILIZATION

ATTACHMENT C

C-1



## NUCLEAR REGULATORY RESEARCH

5/2/85

FY 1987-1988 BUDGET

(DOLLARS IN MILLIONS)

	<u>FY 1985</u>	<u>FY 1986</u>	<u>FY 1987</u>	
<u>REACTOR ENGINEERING</u>	\$ <u>39.1</u>	\$ <u>40.3</u>	\$ <u>47.6</u>	:
MECHANICAL/STRUCTURAL ENGINEERING	<u>12.5</u>	<u>13.5</u>	<u>15.0</u>	
CONTAINMENT INTEGRITY	4.5	4.4	4.6	
SEISMIC MARGINS	5.5	6.3	7.6	
MECHANICAL EQUIP QUALIFICATION	2.5	2.8	2.8	
PRIMARY SYSTEM INTEGRITY	<u>17.6</u>	<u>17.2</u>	<u>18.5</u>	
REACTOR VESSELS	9.0	8.4	8.9	
PIPING - STEAM GENERATORS	5.6	6.5	5.8	
<u>NONDESTRUCTIVE EXAMINATION</u>	3.0	2.3	3.8	+1.5
ELECTRICAL EQUIPMENT INTEGRITY	<u>9.0</u>	<u>9.6</u>	<u>14.1</u>	
<u>PLANT AGING</u>	4.4	5.6	10.3	+5.2
ELECTRICAL EQUIPMENT QUALIFICATION	3.2	3.6	3.3	
CHEMICAL ENGINEERING	1.4	0.4	0	
<u>THERMAL HYDRAULIC TRANSIENTS</u>	<u>23.8</u>	<u>21.7</u>	<u>26.6</u>	
INTEGRAL FACILITIES	<u>16.3</u>	<u>12.0</u>	<u>14.8</u>	
SEMISCALE	4.3	2.9	0.5	
FIST	0.7	0.3	0.2	
<u>ADVANCED TEST FACILITY</u>	0.3	0.5	4.0	+3.5
MIST	5.3	3.4	4.5	
2D/3D	4.6	3.2	3.6	
ROSA-IV	1.1	1.7	2.0	
SEPARATE EFFECTS	<u>2.3</u>	<u>3.2</u>	<u>4.0</u>	
<u>TRANSIENT MODELS AND CODES</u>	<u>5.2</u>	<u>6.5</u>	<u>7.8</u>	+1.3
<u>ACCIDENT EVALUATION</u>	<u>40.1</u>	<u>30.7</u>	<u>32.2</u>	
<u>PBF- SURVEILLANCE</u>	0	0.5	2.0	+1.5
SEVERE ACCIDENT ANALYSIS	5.3	3.5	4.2	
DAMAGED FUEL	12.2	9.1	8.3	
CONTAINMENT LOADING	8.8	6.6	7.2	
FISSION PRODUCT SOURCE TERM	11.5	11.0	10.5	
ADVANCED REACTORS	2.3	0	0	

C-2



# NUCLEAR REGULATORY RESEARCH

FY 1987-1988 BUDGET

(DOLLARS IN MILLIONS)

	<u>FY 1985</u>	<u>FY 1986</u>	<u>FY 1987</u>
<u>REACTOR OPERATIONS AND RISK</u>	<u>17.0</u>	<u>16.5</u>	<u>19.0</u>
RELIABILITY AND RISK METHODOLOGY	3.8	4.0	3.2
DATA AND UNCERTAINTIES	1.4	2.1	2.7
REGULATORY & INSPECTION APPLICATIONS	8.4	6.9	7.9
<u>SEVERE ACCIDENT RISK</u>	3.4	3.5	5.2 + 1.7
 <u>WASTE MGMT, EARTH SCIENCES &amp; HEALTH</u>	 <u>13.3</u>	 <u>11.8</u>	 <u>18.3</u>
<u>EARTH SCIENCES</u>	4.5	4.5	6.2 + 1.7
HEALTH EFFECTS	2.2	2.5	2.2
<u>HIGH LEVEL WASTE MANAGEMENT</u>	5.0	3.0	6.8 + 3.8
<u>LOW LEVEL WASTE MANAGEMENT</u>	1.6	1.8	3.1 + 1.3
TOTAL	<u>\$133.3</u>	<u>\$121.0</u>	<u>\$143.7</u>

21.5

C-3

NRR COMMENTS ON FY 87 RESEARCH BUDGET

- ° NRR HAS JUST RECEIVED THE FY 87 RESEARCH BUDGET. REVIEW IS UNDERWAY IN THE NRR DIVISIONS. NRR COMMENTS WILL BE PREPARED BY MAY 24, 1985.
- ° SO FAR WE HAVE IDENTIFIED: (1) TWO PROGRAMS WE HAVE REQUESTED, BUT ARE NOT INCLUDED IN THE BUDGET; AND (2) A NUMBER OF PROGRAMS WHICH ARE OF RELATIVELY LOW PRIORITY.

ATTACHMENT D

D-1

PROGRAMS WHICH ARE NOT INCLUDED IN THE  
FY 87 RESEARCH BUDGET

- UPPER HEAD INJECTION VERIFICATION TESTS - WE HAVE REQUESTED A SET OF TESTS IN SEMISCALE. THIS TEST SERIES IS NOT INCLUDED IN THE BUDGET, NEITHER HAVE WE RECEIVED A PROPOSAL TO PERFORM THESE TESTS AT ANOTHER FACILITY.
- THERE IS NO FUNDING PROVIDED FOR OCCUPATIONAL RADIATION PROTECTION RESEARCH AND STANDARDS DEVELOPMENT. THE FOLLOWING PROGRAMS HAVE BEEN REQUESTED AND ARE NEEDED:
  1. DEVELOPMENT OF A RADIATION PROTECTION PROGRAM DATA BASE. (IT WOULD BE USED TO TRACK RADIOLOGICAL TRENDS AND IDENTIFY PROBLEMS AND POTENTIAL PROBLEMS.)
  2. STUDY OF THE NET RISK OF USING RESPIRATORS, CONSIDERING THE BALANCE OF DECREASED RADIATION RISK AND INCREASED NON-RADIATION RISK.
  3. DEVELOPMENT OF REGULATORY GUIDES TO CONFORM TO THE 10 CFR 20 REVISION IF AND WHEN IT IS MADE EFFECTIVE.



## POTENTIAL LOW PRIORITY PROGRAMS

- AGING OF ELECTRICAL EQUIPMENT - UNDER ELECTRICAL EQUIPMENT INTEGRITY THE AGING PROGRAM SHOWS A LARGE INCREASE FROM THE CURRENT LEVEL OF \$4.4 M TO \$10.8 M BY FY 87. WE WOULD LIKE TO HEAR MORE ABOUT THE PURPOSE AND PLANNED ACCOMPLISHMENTS OF THIS PROGRAM. SHOULD THE INDUSTRY SPONSOR PART OF THIS PROGRAM?

- SEVERE ACCIDENT - BY FY 87 THE SEVERE ACCIDENT RESEARCH PROGRAM SHOULD BE FOCUSED ON A FEW OUTSTANDING ISSUES. CONTINUATION OF ALL EXISTING PROGRAMS IS NOT NEEDED. THE BUDGET PROJECTION DOES NOT REFLECT THIS CHANGE. THE PROPOSED \$45 M BUDGET APPEARS TO BE EXCESSIVE.

- LAST YEAR NRR REVIEWED THE NEED FOR A NEW THERMAL HYDRAULIC TEST FACILITY. RESEARCH NEEDS IDENTIFIED IN OUR SEPTEMBER 12, 1984, MEMORANDUM DID NOT JUSTIFY A NEW FACILITY. CONTINUED TESTING IN EXISTING FACILITIES WAS PROPOSED TO SATISFY KNOWN CONCERNS. CLOSE FOLLOW-UP ON THE UNIVERSITY OF MARYLAND PROGRAM WAS RECOMMENDED. IT MAY PROVIDE AN ALTERNATIVE SOLUTION TO NEW INTEGRAL FACILITIES. IT IS NOT CLEAR WHAT THE PURPOSE OF THE NEW FACILITY PROPOSED IN THE RES BUDGET IS, NOR IS IT CLEAR WHAT BENEFITS THIS FACILITY WOULD HAVE OVER EXISTING FACILITIES. WE NEED MORE INFORMATION BEFORE WE CAN PASS A JUDGMENT ON THIS PROPOSAL.

- CODE DEVELOPMENT AND ASSESSMENT - DEVELOPMENT OF THE THERMO HYDRAULIC CODES (TRAC AND RELAP) SHOULD BE COMPLETE PRIOR TO FY 87 WITH ONE EXCEPTION: THE BWR PLANT ANALYZER. MAINTENANCE OF THESE CODES, CORRECTIONS TO THE CODES, AND ADDITIONAL VERIFICATION OF THE CODES BY NEW TEST RESULTS IS NEEDED. HOWEVER, THE PROPOSED \$11.8 M BUDGET FOR TRANSIENT MODELS AND SEPARATE EFFECT TESTS IN ADDITION TO THE VARIOUS INTEGRAL TEST PROGRAMS APPEARS TO BE EXCESSIVE.