DOCUMENTS

concerning

BELOW REGULATORY CONCERN (BRC) POLICY MEETING

OF THE NUCLEAR REGULATORY COMMISSION

SEPTEMBER 20, 1990

- - -

Westin Peachtree Plaza Hotel
Atlanta, Georgia

NEWBERRY & COMPANY
General Court Reporters
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B/10

BELOW REGULATORY CONCERN (BRC) POLICY
MEETING AGENDA

1. 1:00 p.m.

BRC - OVERVIEW	P. Stohr
BRC - DOSE CRITERIA	D. Cool
BRC - IMPLEMENTATION	J. Hickey

2. ORAL STATEMENTS (UP TO 5 MINUTES EACH)

1. Thomas J. Saporito, Jr.
2. Debra Shepard
3. Thomas Clements
4. Lori Laliberte-Carey
5. Adele Kushner
6. Jack Chaney
7. Dennis Bishop
8. Glen Stark
9. Debbie Newman
10. Andrea Smith
11. Warren Whipple
12. ~~Jerry Brown~~
13. Jeff Balch
14. ~~Stu Smiley~~
15. Pamela Blockley-O'Brien
16. ~~Mike Stiefel~~
17. ~~Joseph Hooper~~
18. Joan King
19. David Schonberger

3. 3:30 p.m. (Approximately) BREAK (10 MINUTES)

4. QUESTIONS AND ANSWER SESSION
(Write Questions on designated cards and turn in to the Secretary - Before the Break if possible)

5. ORAL STATEMENTS (UP TO 5 MINUTES EACH)

20. Chang Fuh Lan
21. Rochel Haigh Blehr
22. Glenn Carol Carroll
23. ~~Ellen Spears~~
24. Janet Hoyle
25. ~~Dr. Loren Raymond~~
26. ~~Dr. Bradley Batcheler~~
27. Dr. William Horn
28. ~~Sandy Adair~~
29. Lou Zeller
30. ~~Karen Lohr~~
31. Denise Lee
32. Jan Somers
33. ~~Phil Graves~~
34. Kathryn Kyler
35. Michael Veatch
36. Dr. William Donaldson
37. Dennis ~~Bishop~~ ~~Hoffarth~~
38. Carol Stangler

* (Time permitting)

6. 6:00 p.m. CLOSING Robert Randall

-FINAL-

-10 pages-

BELOW REGULATORY CONCERN POLICY PRESENTATION

J. PHILIP STOHR

SEPTEMBER 20, 1990

GOOD AFTERNOON!

WE HAVE A FULL AGENDA FOR HIS AFTERNOON, SO I'D LIKE TO GET STARTED.

TO START, MY NAME IS PHILIP STOHR. I AM THE DIRECTOR OF THE DIVISION OF RADIATION SAFETY AND SAFEGUARDS FOR THE NRC REGION II OFFICE, LOCATED AT 101 MARIETTA STREET HERE IN ATLANTA. THE MAJOR RESPONSIBILITY OF OUR OFFICE IS INSPECTING NRC LICENSED FACILITIES HERE IN THE SOUTHEAST, AND SOMEWHAT PERTINENT TO OUR DISCUSSIONS TODAY, MY DIVISION INSPECTS RADIATION SAFETY PROGRAMS AT THESE FACILITIES. I WAS ASKED TO CHAIR THIS MEETING WHICH IS BEING HELD TO DISCUSS WITH YOU THE NRC'S BELOW REGULATORY CONCERN POLICY, TO HEAR STATEMENTS FROM MEETING ATTENDEES, AND TO ANSWER QUESTIONS ABOUT THE POLICY. THIS IS THE THIRD OF FIVE SCHEDULED PUBLIC MEETINGS OF THIS TYPE.

BEFORE GOING FURTHER, I WOULD LIKE TO INTRODUCE THE OTHER MEMBERS OF THE NRC STAFF SOME OF WHO WILL SPEAK TODAY AND LATER ATTEMPT TO ANSWER YOUR QUESTIONS.

FIRST, CAROL CONNELL; CAROL IS A SENIOR RADIATION SPECIALIST FROM OUR REGION II STAFF AND HAS A LEAD ROLE IN LICENSING AND INSPECTION OF NON-REACTOR LICENSEES - ALSO PRESIDENT ELECT OF THE ATLANTA CHAPTER OF THE HEALTH PHYSICS SOCIETY. ALSO HERE TODAY ARE PEOPLE FROM OUR HEADQUARTERS STAFF WHO WERE MORE CLOSELY INVOLVED IN THE DEVELOPMENT OF THE POLICY AND WHO SHOULD BE ABLE TO LATER ANSWER ANY QUESTIONS YOU MAY HAVE. HERE TODAY ARE HUGH THOMPSON, JR., DEPUTY EXECUTIVE DIRECTOR FOR NUCLEAR MATERIALS SAFETY, SAFEGUARDS AND OPERATIONS SUPPORT, DR. DONALD COOL, CHIEF OF THE RADIATION PROTECTION AND HEALTH EFFECTS BRANCH, OFFICE OF NUCLEAR REGULATORY RESEARCH; JOHN HICKEY, CHIEF OF THE INDUSTRIAL AND MEDICAL SAFETY OPERATIONS BRANCH, OFFICE OF NUCLEAR MATERIALS SAFETY AND SAFEGUARDS; JAY CUNNINGHAM, CHIEF, RADIATION PROTECTION BRANCH, OFFICE OF NUCLEAR REACTOR REGULATION, AND MARTY MALSCH FROM THE OFFICE OF GENERAL COUNSEL. IN ADDITION THERE ARE SEVERAL OTHER NRC REPRESENTATIVES FROM THE NRC HEADQUARTERS AND REGIONAL OFFICES.

FIRST, I HAVE A FEW ADMINISTRATIVE COMMENTS ABOUT THE CONDUCT OF THE MEETING TODAY.

AS SHOWN ON THE AGENDA, THERE WILL BE TWO NRC PRESENTATIONS IN ADDITION TO MY GENERAL OPENING REMARKS TO DISCUSS, FIRST, THE BASIS OF THE RADIATION DOSE CRITERIA SET IN THE POLICY STATEMENT AND, SECOND, TO DISCUSS HOW THE POLICY WILL BE IMPLEMENTED. AFTER THIS, WE WILL BEGIN THE ORAL STATEMENTS FROM THOSE WHO REQUESTED IN ADVANCE TO MAKE A PREPARED STATEMENT, AND THIS WILL CONTINUE UNTIL ABOUT 3:30 P.M WHICH WILL BE ABOUT HALF-WAY THRU. AS NOTED IN THE FEDERAL REGISTER NOTICE, ORAL STATEMENTS ARE LIMITED TO FIVE MINUTES. WITH

THE NUMBER OF PEOPLE WE HAVE ON THE LIST, IT WILL BE NECESSARY TO HOLD EACH SPEAKER TO THE FIVE MINUTES ALLOCATED. NOT TO DO SO MAY DEPRIVE SOMEONE ELSE FROM THE OPPORTUNITY TO SPEAK. THEREFORE, I ASK FOR YOUR COOPERATION IN THIS. I WILL REMIND THE SPEAKER, IF NECESSARY, BUT I'D PREFER THE SPEAKERS TO MONITOR THEMSELVES AND MAKE SURE THEY MAKE THEIR KEY POINTS WITHIN THE ALLOTTED TIME. IF YOU HAVE WRITTEN STATEMENTS PLEASE GIVE A COPY OF THEM TO THE SECRETARY AT THE DOOR. I WILL LATER CALL UPON PEOPLE IN THE ORDER AS SHOWN ON THE AGENDA WHICH IS THE ORDER IN WHICH THEY PHONED AND REQUESTED TO SPEAK.

THIS MEETING WILL BE TRANSCRIBED AS WILL BE THE OTHER REGIONAL MEETINGS. OUR INTENTION IS TO GATHER ALL THE STATEMENTS AND QUESTIONS, IDENTIFY THE ISSUES RAISED, AND PUBLISH A REPORT RESPONDING TO THE ISSUES RAISED AT THESE PUBLIC MEETINGS. I EXPECT THE COMMISSION WILL CONSIDER THESE ISSUES AS THEY RELATE TO THE POLICY, BEFORE THE COMMISSION APPROVES ANY PRACTICE THAT IMPLEMENTS THE POLICY.

YOU SHOULD HAVE FOUND AT THE DOOR, AN AGENDA, COPIES OF THE SLIDES USED BY THE NRC SPEAKERS, THE COMMISSION POLICY STATEMENT, A BOOKLET THAT DISCUSSES THE POLICY, AND CARDS UPON WHICH TO WRITE DOWN AND SUBMIT ANY QUESTIONS YOU MIGHT HAVE.

AT ABOUT 3:30 P.M. THEN, WE WILL HAVE A 10 MINUTE BREAK. AFTER THAT A PANEL WILL ANSWER QUESTIONS FROM THE AUDIENCE FOR UP TO AN HOUR OR UNTIL WE RUN OUT OF QUESTIONS. IF YOU WISH TO ASK A QUESTION, PLEASE GET A CARD AT THE DOOR AND WRITE YOUR QUESTION ALONG WITH YOUR NAME, AND ADDRESS IF YOU WISH, AND

GIVE IT TO THE SECRETARIES IN THE REAR. TO THE EXTENT POSSIBLE, I'D SUGGEST DOING THIS EARLY SO WE'LL HAVE TIME TO SORT AND CONSOLIDATE THOSE THAT MAY BE ESSENTIALLY THE SAME TO SAVE TIME FOR ORAL STATEMENTS. ANY QUESTIONS THAT REMAIN UNANSWERED WILL BE REVIEWED WITH OTHER ISSUES AND PUBLISHED IN OUR MEETING REPORT. AT OR BEFORE 4:30 P.M. THEN, WE WILL RESUME THE ORAL STATEMENTS.

TO GET STARTED, I THOUGHT IT WOULD BE HELPFUL TO HAVE SOME UNDERSTANDING OF THE BACKGROUND THAT LED TO THE FORMULATION OF THIS POLICY STATEMENT AT THIS TIME. IN GENERAL THERE HAS BEEN AN INCREASINGLY EXPRESSED FEELING ON THE PART OF THE PROFESSIONAL SAFETY COMMUNITY THAT THE NRC HAS IN SOME CASES BEEN OVER REGULATING THE USE OF VERY LOW LEVELS OF RADIOACTIVE MATERIALS TO THE EXTENT OF POSSIBLY CAUSING A WASTE OF RESOURCES THAT COULD BE BETTER SPENT IN DEALING WITH OTHER MORE SIGNIFICANT SAFETY PROBLEMS. AS I'LL MENTION FURTHER LATER, THE NRC ALSO RECEIVED DIRECTION FROM CONGRESS TO DEVELOP STANDARDS FOR THE EXEMPTION FROM REGULATION OF VERY LOW CONCENTRATIONS OF RADIOACTIVE MATERIAL AS BEING "BELOW REGULATORY CONCERN." AT THE SAME TIME, THERE HAS BEEN INCREASING AWARENESS ON THE PART OF THE COMMISSION THAT PREVIOUSLY, WE HAVE NOT APPLIED A CONSISTENT POLICY IN EXEMPTING FROM FURTHER REGULATORY CONTROL SOME OF THE CURRENTLY EXEMPTED USES OF LOW LEVELS OF RADIOACTIVE MATERIALS. IN ADDITION, AS A GOVERNMENTAL AGENCY THE NRC OBVIOUSLY HAS RESPONSIBILITY TO USE ITS RESOURCES IN THE MOST EFFECTIVE MANNER IN MEETING ITS GOAL OF PROTECTING THE PUBLIC HEALTH AND SAFETY. ANOTHER WAY OF SAYING THIS IS THAT WE SHOULD NOT BE MISFOCUSING A LOT OF RESOURCES ON PURSUING AREAS OF RELATIVELY INCONSEQUENTIAL RISK - NOR SHOULD WE BE REQUIRING THAT OF NRC LICENSEES. THEREFORE IT WAS AN ATTEMPT TO PULL THESE ISSUES TOGETHER AND TO FORMULATE A SOLUTION THAT WOULD

DEAL WITH THEM IN AN OPEN AND STRAIGHT FORWARD MANNER THAT THE COMMISSION FORMULATED THE BELOW REGULATORY CONCERN POLICY.

FRANKLY, THE POLICY IS DRAWING A FAIR AMOUNT OF CRITICISM, SOME OF IT PERHAPS FROM A LACK OF UNDERSTANDING OF THE POLICY'S INTENT. HOPEFULLY THE INFORMATION EXCHANGED TODAY WILL FACILITATE AN UNDERSTANDING OF THE POLICY AND ITS INTENT, EVEN IF THE CRITICISM REMAINS. WHATEVER, IT'S MY OPINION, THAT IT'S HARD TO ARGUE WITH THE LOGIC OF THE NEED TO ESTABLISH AN OPEN, PUBLICLY-UNDERSTOOD POLICY ESTABLISHING CRITERIA FOR DEALING WITH ANY REQUESTS FOR EXEMPTION OF PRODUCTS AND MATERIALS FROM REGULATORY CONTROL AND CLEAN UP OF ANY RESIDUE FROM NO-LONGER-USED SITES, ETC. CONCEPTUALLY THIS IS SIMILAR TO THE DECISION MAKING PROCESS OTHER FEDERAL AND STATE AGENCIES USE ROUTINELY FOR DEALING WITH MATERIALS THAT IN HIGHER CONCENTRATION POSE MORE OF A RISK.

ON THE OTHER HAND, I CAN UNDERSTAND THE INTEREST IN DISCUSSING WHERE THE POLICY ESTABLISHES THE LEVELS FOR CONSIDERING WHEN PRACTICES SHOULD BE CONSIDERED BELOW REGULATORY CONCERN. IN THIS REGARD, AS YOU'LL HEAR LATER IN MORE DETAIL, THE NRC INTENDS TO BE CAUTIOUS IN THE INITIAL APPLICATION OF THIS POLICY TO ANY REQUESTS IT MIGHT RECEIVE FOR EXEMPTION.

AS MANY OF YOU ARE AWARE, THE ATOMIC ENERGY ACT GIVES THE NRC THE RESPONSIBILITY TO REGULATE THE USES OF NUCLEAR MATERIAL IN THE PUBLIC INTEREST AND TO PROTECT THE PUBLIC HEALTH AND SAFETY. KNOWING THAT PROTECTION OF PUBLIC AND WORKER HEALTH AND SAFETY IS THE NRC'S PRIME CONCERN, WHILE REGULATING THE BENEFICIAL, PEACEFUL USES OF NUCLEAR MATERIALS, A PERSON MIGHT ASK WHY NRC IS

PURSUING A BRC POLICY. EVEN IF ONLY VERY SMALL ADDITIONAL AMOUNTS OF RADIOACTIVE MATERIALS ARE RELEASED AS A RESULT OF THIS POLICY, IS THIS APPROPRIATE?

THIS QUESTION GOES TO THE HEART OF THE RATIONALE FOR A BRC POLICY; IF THE OVERALL LEVEL OF PUBLIC SAFETY WOULD NOT BE BETTER WITH THE POLICY THAN WITHOUT IT, THE NRC SHOULD NOT ALLOW BRC EXEMPTIONS. LET ME EMPHASIZE, THE NRC IS CONVINCED THAT THE PUBLIC WILL BE BETTER PROTECTED OVERALL WITH THIS POLICY, ESSENTIALLY BECAUSE IT ENABLES THE PEOPLE USING AND REGULATING RADIOACTIVE MATERIALS TO CONCENTRATE THEIR EFFORTS ON MORE CONSEQUENTIAL RISKS AND SHOULD PRECLUDE THE UNNECESSARY EXPENDITURE OF RESOURCES THAT COULD BETTER BE USED IN DEALING WITH OTHER MORE SIGNIFICANT SAFETY ISSUES, SUCH AS THE ACTUAL CLEANUP OF SOME SITES.

THE POLICY'S APPROACH TO SAFETY REGULATION HAS IN FACT, BEEN PART OF THE COMMISSION'S STATUTORY MANDATE FROM THE OUTSET OF OUR REGULATORY PROGRAM. THE ATOMIC ENERGY ACT PROVIDES FOR EXEMPTION OF QUANTITIES OR USES OF RADIOACTIVE MATERIALS THAT WILL NOT CONSTITUTE AN UNREASONABLE RISK TO THE PUBLIC HEALTH AND SAFETY AND THE ENVIRONMENT. SINCE THE BEGINNING OF REGULATION OF THE USE OF RADIOACTIVE MATERIALS, CERTAIN USES HAVE BEEN EXEMPT FROM REGULATORY CONTROL. SOME OF THESE USES, SUCH AS URANIUM GLAZES AND THORIUM IN GAS MANTLES, PREDATE THE NUCLEAR AGE. OTHER EXEMPTIONS FROM REGULATORY CONTROL, INVOLVING MAN-MADE RADIOISOTOPES, PERMITTED NEW BENEFICIAL USES OF RADIOACTIVE MATERIAL IN CONSUMER PRODUCTS SUCH AS SMOKE DETECTORS. STILL OTHER EXEMPTIONS ACKNOWLEDGED THE REALITY THAT THORIUM AND URANIUM ARE PRESENT NATURALLY IN SOME

CONCENTRATION IN ALMOST EVERY SUBSTANCE ON THE SURFACE OF THE EARTH. ALTHOUGH EXPERIENCE HAS SHOWN THAT THESE REGULATORY EXEMPTIONS HAVE NOT RESULTED IN ANY KNOWN SIGNIFICANT RISK TO THE PUBLIC, THEY WERE NOT BASED ON ANY CONSISTENT CRITERIA FOR RADIOLOGICAL DOSE. THE NRC's BELOW REGULATORY CONCERN POLICY STATEMENT PROVIDES LICENSEES AND THE NRC STAFF GUIDANCE ON AN ACCEPTABLE RADIATION DOSE LEVEL TO BE USED WHEN REVIEWING RISKS ASSOCIATED WITH CERTAIN ACTIVITIES INVOLVED IN THE USES OF NUCLEAR MATERIALS. THE POLICY SPECIFIES AT WHAT LEVEL THE RISKS ARE SO LOW THAT THE ACTIVITY NEED NOT BE FURTHER CONTROLLED BY THE REGULATOR TO PROTECT PUBLIC HEALTH AND SAFETY. THE EXEMPTIONS THAT ARE ALREADY IN PLACE, SOME OF WHICH I'VE JUST MENTIONED, WILL BE EVALUATED AGAINST THESE CRITERIA, AND WILL BE TIGHTENED, AS NEEDED, TO ASSURE A CONSISTENT AND PROPER LEVEL OF PROTECTION.

IN 1985, CONGRESS DIRECTED THE NRC TO DEVELOP STANDARDS AND PROCEDURES AND TO ACT UPON PETITIONS TO EXEMPT WASTE STREAMS WITH VERY LOW CONCENTRATIONS OF RADIONUCLIDES FROM REGULATORY CONTROLS. THIS LEGISLATION REFERRED TO THESE LOW CONCENTRATIONS AS "BELOW REGULATORY CONCERN." IN 1986, THE COMMISSION ISSUED A POLICY STATEMENT TO PROVIDE PROCEDURES FOR PROCESSING PETITIONS FOR SUCH WASTE DISPOSAL.

IN ADDITION TO EXEMPTIONS FOR WASTE STREAMS, THIS POLICY WE'RE DISCUSSING TODAY WILL ALSO BE USED FOR CONSUMER PRODUCTS AND DECONTAMINATING AND DECOMMISSIONING NUCLEAR FACILITIES. CURRENTLY, DECOMMISSIONING IS REVIEWED ON A CASE-BY-CASE BASIS USING REGULATORY GUIDANCE THAT HAS EVOLVED WITH TIME. THESE CRITERIA NEED REVISION TO REFLECT THE STATE-OF-THE-ART ABILITY TO

CALCULATE EFFECTIVE RADIATION DOSES THROUGH MULTIPLE PATHS AND RELATE THESE TO RISK. IT SHOULD BE UNDERSTOOD THAT FROM A PRACTICAL VIEWPOINT YOU CANNOT DECONTAMINATE TO ZERO. THE ULTIMATE PHYSICAL LIMIT IS OBVIOUSLY THE PRESENCE OF NATURAL RADIOACTIVE MATERIAL DUE EITHER TO THORIUM AND URANIUM PRESENT IN ALMOST EVERYTHING AROUND US AS WELL AS COSMIC RAY INDUCED RADIOACTIVE ELEMENTS.

THE COMMISSION HAS RECENTLY ESTABLISHED RULES REQUIRING DECOMMISSIONING FUNDING FOR ALL LARGE FACILITIES AND MOST MID-SIZE ONES. TO ENSURE THAT FUNDS ARE ADEQUATE, SOME TARGET LEVEL OF LOW RESIDUAL RADIOACTIVITY MUST BE DEFINED. DEFINING A LIMIT BASED ON BRC, GIVES CONSISTENCY WITHIN A MORE GENERAL EXEMPTION POLICY AND READILY TO A CERTAIN LEVEL OF RISK.

THIS POLICY COULD PERMIT SOLID MATERIAL CONTAINING LOW LEVELS OF RADIOACTIVITY, NOT PREVIOUSLY EXEMPTED FROM LICENSING, TO BE DISPOSED OF IN OTHER THAN A LOW LEVEL WASTE DISPOSAL SITE, E.G., A PUBLIC LANDFILL. NOTE THAT I SAID NOT PREVIOUSLY EXEMPTED FROM LICENSING. THAT'S BECAUSE IT SHOULD BE RECOGNIZED THAT MANY [redacted] THINGS PLACED IN NON-NUCLEAR WASTE DISPOSAL SITES CONTAIN THORIUM AND URANIUM ALREADY EXEMPTED DUE TO THEIR LOW CONCENTRATION. BECAUSE RADIATION AND RADIOACTIVE MATERIAL ARE PERVASIVE IN OUR ENVIRONMENT, PRACTICALITY EVENTUALLY REQUIRES AN EXEMPTION LIMIT. CHAIRMAN CARR HAS NOTED THAT WE RUN THE RISK THAT THE WASTES REQUIRING DISPOSAL IN A LICENSED FACILITY ARE CLEANER THAN THE ENVIRONMENT WE ARE TRYING TO PROTECT.

DR. COOL WILL DISCUSS THE DOSE CRITERIA IN DETAIL LATER, BUT I'D LIKE TO POINT OUT NOW THAT THE COMMISSION USED TWO APPROACHES TO DEVELOP THE DOSE

CRITERIA. ONE APPROACH WAS BASED ON RISKS, WHEREIN LOW DOSE LEVELS WERE IDENTIFIED WHOSE ASSOCIATED HYPOTHETICAL RISK WAS LOW COMPARED TO OTHER RISKS THAT SOCIETY CONSIDERS ACCEPTABLE. AT THE LEVELS OF DOSE CRITERIA CHOSEN IN THE POLICY, IT SHOULD ALSO BE NOTED THAT CURRENT REPORTS FROM THE NATIONAL ACADEMY OF SCIENCES AS WELL AS THE UNITED NATIONS SCIENTIFIC COMMITTEES STATE THAT THE POSSIBILITY THAT THERE ARE NO RISKS CANNOT BE RULED OUT.

ALTERNATIVELY, THE OTHER APPROACH WAS TO IDENTIFY DOSE LEVELS AT WHICH SOCIETY DOES NOT SPEND RESOURCES TO AVOID, SUCH AS CHANGES IN NATURAL BACKGROUND DOSE AND PRACTICES THAT INCREASE OUR EXPOSURE TO NATURAL BACKGROUND. IN FACT, THE VARIATION IN BACKGROUND RADIATION IN THE U. S. IS CONSIDERABLY GREATER THAN THE DOSE LIMITS IN THE COMMISSION POLICY. THE POLICY'S INDIVIDUAL DOSE OF 10 MREM/YR FOR SMALL, LIMITED NUMBERS OF PEOPLE IS COMPARABLE TO THE DIFFERENCE BETWEEN THE INCREMENTAL RADIATION ASSOCIATED WITH LIVING IN A BRICK HOUSE VS. A WOOD HOUSE; AND THE ONE MREM/YR CRITERIA FOR LARGE NUMBERS OF PEOPLE CORRESPONDS TO THE INCREMENTAL RADIATION CAUSED BY A CHANGE IN ELEVATION OF ABOUT 200 FT. TO PUT THESE NUMBERS IN PERSPECTIVE FOR EXAMPLE, THE AVERAGE DIFFERENCE IN NATURAL BACKGROUND RADIATION BETWEEN ATLANTA AND DENVER IS SEVERAL TIMES GREATER THAN THIS AND RANGES SOMEWHERE AROUND 50 MREM/YR. JUST IN THE ATLANTA AREA ITSELF DIFFERENT LOCATIONS CAN VARY BY UP TO THAT MUCH.

ALSO, THERE ARE MANY OTHER PRACTICES CHARACTERISTIC OF OUR SOCIETY THAT RESULT IN EXPOSURES OF SEVERAL MREM/YR ABOVE BACKGROUND TO CERTAIN MEMBERS OF SOCIETY. THESE INCLUDE THE USE OF PHOSPHATE FERTILIZER, COMBUSTION OF FOSSIL FUEL, THE USE OF TV'S AND VIDEO DISPLAY TERMINALS, AND ANY NUMBER OF INDUSTRIAL

MINING AND SMELTING PRACTICES. TAKING A BROAD VIEW OF THE OVERALL SITUATION AS IT PERTAINS TO WASTE DISPOSAL, ONE MIGHT ASK IF IT'S REASONABLE TO REQUIRE MATERIAL WHICH MAY CONTAIN LESS RADIOACTIVITY THAN FERTILIZER, COAL ASH, OR SMELTER SLAG TO BE SENT TO A LICENSED RADIOACTIVE WASTE DISPOSAL SITE JUST BECAUSE IT ORIGINATED IN A FACILITY LICENSED TO USE RADIOACTIVE MATERIAL, SUCH AS A HOSPITAL, UNIVERSITY OR EVEN A NUCLEAR POWER PLANT.

BEFORE WE MOVE ON TO THE OTHER SPEAKERS, I'D LIKE TO EMPHASIZE TWO THINGS UP FRONT WITH REGARD TO THE IMPLEMENTATION OF THE POLICY. FIRST, THE BRC POLICY WILL NOT IN ITSELF ALLOW ANYONE TO ENGAGE IN NEW EXEMPT PRACTICES. RULEMAKING OR LICENSING ACTIONS WILL FIRST BE REQUIRED. DECISIONS ON THESE ACTIONS WILL BE MADE ONLY AFTER DETAILED STAFF ANALYSIS AND CONSIDERATION OF PUBLIC COMMENT. SECOND, PRACTICES THAT MIGHT BE EXEMPTIONS ARE NOT "UNCONTROLLED." LICENSEES GRANTED EXEMPTIONS WILL BE REQUIRED TO MEET APPROPRIATE CONSTRAINTS BEFORE TRANSFERRING THE MATERIAL TO EXEMPT STATUS.

I'D LIKE TO NOW TURN THE MICROPHONE OVER TO DR. DONALD COOL WHO WILL DISCUSS IN DETAIL THE BASES OF THE RADIATION DOSE CRITERIA IN THE POLICY STATEMENT. AFTER HIM, JOHN HICKEY WILL DISCUSS [redacted] HOW THE POLICY WILL BE IMPLEMENTED.

IMPLEMENTATION OF THE BRC POLICY

FOR PRESENTATION AT PUBLIC MEETINGS ON THE
BRC POLICY, AUGUST-SEPTEMBER, 1990

Prepared by John Hickey, Chief
Operations Branch
Division of Industrial and
Medical Nuclear Safety, NMSS
Telephone: (301) 492-3425

I am John Hickey from the NRC Office of Nuclear Material Safety and Safeguards in Washington, D.C. I will be talking about implementation of the BRC policy. I will address two questions:

- What will be the impact of the BRC policy?
- Now that the policy has been issued, what should you do?

[SLIDE 7]

As you have heard, the BRC Policy provides a regulatory framework for four types of practices: decommissioning, distribution of consumer products, waste disposal, and recycling. All of these practices involve transfer of low level radioactive material from regulated to unregulated status, and all have been going on for many years. A reasonable question would be:

- How are things going to change as a result of the BRC Policy?

In the short run, there will be very little change. The policy is not self-implementing. It does not authorize licensees to do anything new. Contrary to what you may have heard, the policy does not permit disposal of hazardous radioactive waste in landfills. It will have to be implemented through rules and licensing actions. We will not approve a rule or licensing action associated with the BRC policy until we conduct a careful review to assure that strict criteria are met.

In the long run, the BRC Policy is the beginning of a process which will apply a consistent, radiation risk basis to exemption decisions. We can expect that most waste disposal practices and consumer product authorizations involving transfer of radioactive material to unregulated status will be evaluated in light of the policy. We believe that most existing practices do meet the criteria and will not change. Cases which do not meet the BRC criteria may have to be modified, or justified using traditional "as low as is reasonably achievable" methods. Also, the BRC Policy will be used to establish cleanup standards for decontamination of nuclear facilities. We are interested in having existing contaminated sites cleaned up as expeditiously as possible, and we believe that definitive cleanup standards will encourage this.

I would like to illustrate these points by going through several examples.

[SLIDE 10]

But first, let me remind everybody of the dose criteria in the policy. In order for a practice to be considered BRC, it should meet individual dose criteria of 10 millirems per year, or 1 millirem per year for practices with widespread impact, and a collective dose criterion of 1000 person-rem per year. Therefore, you can expect any activity involving decommissioning, waste disposal, or consumer products to be scrutinized to see whether it meets these dose criteria.

Let me first take the example of decontaminating and decommissioning a contaminated facility. NRC has about 8,000 licensees, and the Agreement States have another 14,000 licensees. Most have sealed sources or short-lived materials only, so they don't have a significant decommissioning problem. However, NRC must deal with a number of cases every year where determinations must be made as to whether contaminated facilities have been adequately cleaned up. But, current NRC regulations do not specify acceptable cleanup levels for contaminated facilities, and they do not relate contamination levels to dose. One of our highest priorities will be to establish such regulations. In the meantime, we have cleanup guidance published in Regulatory Guide 1.86 and other documents.

These guidelines specify that contaminated areas and equipment should be cleaned up to certain levels of residual contamination. They cover a wide variety of isotopes, and are not readily convertible to dose numbers. However, our preliminary calculations show that for several common radionuclides, such as tritium or cesium-137, the projected doses will be about 1 millirem per year or less. Therefore, in many cases there may not be any significant change in cleanup criteria. On the other hand, for some radionuclides, licensees may in some cases have to do additional cleanup which would not have been required prior to the BRC policy. The bottom line is that we will have a consistent, stable basis for deciding how much cleanup is necessary. This will benefit both the regulated industry and the public.

Next, let's discuss waste disposal. Most radioactive waste is now sent to licensed radioactive waste disposal facilities. There is a misconception that we are going to arbitrarily permit a portion of this waste to go to local landfills, and that it will pose a hazard to local residents. This is not true. Any waste that we approve for disposal in local landfills must have extremely low levels of radioactive contamination, and it will not pose a hazard. There are already some limited provisions in our regulations for exempt disposal of waste containing very low levels of radioactivity. For example, section 20.306 of our regulations allows medical and research facilities to dispose of scintillation fluids and animal carcasses contaminated with very low levels of tritium and carbon-14 without regard to radioactivity. The animal carcasses may not be disposed in any manner that would permit their use in food for humans. This is important because many of our exemptions will include restrictions as may be appropriate to a particular situation. I will come back to this point in a moment.

When we developed this rule, we estimated the potential maximum radiation doses to any exposed members of the public resulting from exempt disposals would be less than 1 millirem per year. So this is an example of an existing rule that is consistent with the BRC Policy.

Another example of a regulation which permits exempt disposal is section 35.92. This regulation allows medical facilities to hold short-lived waste for 10 half-lives, and dispose of it as ordinary trash if there is no detectable radioactivity with all shielding removed.

In addition to these examples of current regulations, NRC is considering petitions from the academic community which would allow additional exempt disposal of specific types of slightly contaminated wastes. Also, we could receive additional petitions. So it is likely that in the future we could approve additional types of waste for exempt disposal. Note that all proposed rules, including those associated with petitions, are published for public comment, so all interested parties have an opportunity to comment on proposals.

[SLIDE B-2]

With respect to consumer products, you are all probably aware that we have already approved smoke detectors, luminous wrist watches, thorium lamp mantles, and several other less common products which contain small amounts of radioactive material. We do not currently have any proposals for new types of products, but we will consider them if they are proposed. However, we will be going back and reviewing whether currently authorized consumer products meet the BRC criteria. You can see from this table that, for example, smoke detectors appear to meet the criteria. In the meantime, currently authorized products can continue to be distributed.

With respect to recycling, our current applications are very limited, and we have no new proposals. One current example is the recycle of calcium fluoride, slightly contaminated with uranium from a fuel plant, which is used in a steel production process. The steel itself is not contaminated, and the projected doses to a limited number of steel workers from this activity are a few millirems per year or less. So it appears to be consistent with the BRC Policy.

This, in brief, has been a summary of where we are now, and where we are going with BRC. You may be asking, "what should I be doing"?

[SLIDE B-14]

If you are a licensee, and you identify a need for exempt disposal of a certain class of waste, or a new consumer product, you can petition NRC for a rulemaking to authorize such a practice. The policy statement spells out the information that you will have to provide. In brief, the following will have to be covered:

- Evaluation of individual and societal impacts
- Uses of the radioactive material
- Pathways of exposure
- Quantities of radioactivity
- Potential for accidents and misuse
- Quality assurance and reporting requirements
- Constraints and conditions

The constraints and conditions are important, as I mentioned before. For example, we may require that a certain type of waste must be incinerated, disposed of at a specified location, or disposed of so that it cannot be used in food.

NRC will consider the information submitted and if our evaluation is favorable, we would approve the exempt practice.

And what if you are not a licensee? You may reasonably concerned about adequate protection of public health from exempt practices. I would like to make two points. First of all, opportunity for public comment will be provided on all regulations and licensing actions which differ from previous generic exemptions. Second, approval of a BRC or exempt practice does not mean that NRC will remove all regulatory controls. Exempt radioactive materials are produced by licensees, and those licensees will continue to be tightly regulated by NRC. Licensees will be inspected to insure that they dispose of radioactive material properly and maintain proper records. We will also check to make sure that consumer products are safely constructed, and if so required labeled. Decommissioned facilities will be closely inspected to assure that they have been properly decontaminated.

In summary, the BRC Policy will be implemented such that you can be assured of adequate protection of public health and safety. We will not approve disposals of contaminated waste in landfills unless the contamination levels are extremely low, and we determine after a careful review that our BRC criteria will be met. Members of the public will be given opportunity to comment on any proposed rule changes. If you are a licensee, you will receive timely notification of any regulatory changes which may affect you. NRC will continue to tightly regulate licensees to assure that exempt practices are safe. In this manner, we will meet our obligation to assure protection of the public health and safety. Thank you.

DON COOL

(FIRST SLIDE) *#1 Objectives*

Let's start by reviewing once again what the objectives of the Nuclear Regulatory Commission's Below Regulatory Concern policy statement are. Our objective is, first and foremost, to continue to meet our mandate for public health and safety. And then, within that objective, to establish a broadly applicable risk base framework within which we can make decisions with regard to what materials require the full range of controls for public health and safety and which kind of materials may not need that full range of controls and, therefore, may be partially or totally exemptible. Obviously, not every atom of radioactive material can be regulated. Everything, including our own bodies, is radioactive. Thus the Commission is faced with the decision of when controls are needed to assure public health and safety.

(NEXT SLIDE) *#2 Conditions for Exemption*

To meet those objectives, the Commission has established several conditions under which an exemption may be the appropriate regulatory approach. The first condition, of course, is that the public health and safety must be adequately protected. And then, for a given practice or activity, to determine that either the application of regulatory controls does not result in any significant change to the dose as a result of that practice, or that the costs of the controls that could be imposed is not balanced by the reductions of dose or risk that would actually be achieved. I should note that these defined elements are not significantly different from the criteria that the NRC has either explicitly or implicitly used in making exemption decisions in the past. Furthermore, these conditions are similar to the international thinking on the area of exemptions, such as that of the International Atomic Energy Agency. What this means is that an exemption is the appropriate approach if there is really no way available to reduce exposures, or, if there is a way, that it is not worthwhile when compared to the amount of hypothetical risk eliminated. These conditions can also be thought of as an exemption being the appropriate approach when further regulatory controls are either ineffective or inappropriate.

(NEXT SLIDE) *#3 Examples of Natural Exposure*

To implement the basic conditions, and to try and determine on a quantitative basis what sorts of practices may actually be candidates for exemptions, the Commission looked at several different bases and frameworks of reference for the dose criteria. As you are aware, ionizing radiation is part of our natural environment. It's here in this room in the air that we breathe and the food that we drink. And going beyond the simple magnitudes of everyday exposure, there are significant variations in our radiation exposure from place to place and from time to time.

(NEXT SLIDE) *#4 Basis of Dose Criteria*

The Commission has taken this unavoidable fact into account in

looking at what sort of doses might be appropriate for its criteria. The Commission has also considered whether or not there is an ability to measure, that is detect, the levels of radiation or radioactive materials that we may be talking about, because one of the things that we will need to do is to determine through inspection and enforcement that any practice that might be a candidate for exemption in fact meets the conditions, constraints, or requirements that we have established.

In addition, the Commission has also looked at the risk estimates and analyses that have been done by various nationally and internationally recognized groups with regard to the risk of ionizing radiation, such as those published by the National Academy of Sciences in the Biological Effects of Ionizing Radiation report (also known as BEIR V) that came out in December of last year.

(NEXT SLIDE) *#5 Policy Dose Criteria*

Given those bases for quantitative criteria, the Commission has established two separate individual dose criteria: a 10 millirem per year for those practices which would be very limited in the number of individuals that might be exposed; and a 1 millirem per year criteria for practices which would have a more wide-spread distribution, practices where a large number of individuals could potentially be exposed.

In addition to the individual criteria, Commission has also determined that it's appropriate to consider the total societal impact of the exemption. The Commission has determined that an appropriate value is 1,000 person-rem per year over the entire population, including all of the individuals that may be exposed.

One of the things to remember in looking at the individual dose criteria is that these criteria are the values which apply to what we call the critical group, that individual or small handful of individuals which receive the maximum exposure. For example, at a stationary site, the limited number of people might be a family living on the site and using that site for a farm. Contrary to some of the opinions we have heard, the dose criteria are not the values which would apply to everyone associated with the practice. Rather, we expect that most all of the individuals associated with a given practice would receive exposures significantly less than these maximum criteria.

There are several common misconceptions about our policy that I would like to try and clarify. First, the dose criteria are not intended to discourage good health physics or radiation protection practices or the application of improved technology for radiation protection. Such improved technology will be invaluable in, for example, the decontamination and decommissioning of commercial nuclear facilities, and the Commission encourages its continued development and use.

Second, the dose criteria are not a way to simply, as some people have put it, "linguistically detoxify" materials that should be controlled. Materials that require controls will continue to be controlled and

regulated, and sites which need to be cleaned up will be cleaned up.

Third, although the policy, and this chart, would, perhaps, seem to indicate that a critical group dose of up to 100 millirem per year could be exempted, the Commission has stated that it intends that only under unusual circumstances would an exemption be considered that could cause exposures exceeding a small fraction of this level. 100 millirem per year is the level which the Commission has adopted as the dose limit for members of the public, from both licensed activities and any exempted activities.

(NEXT SLIDE) *#6 Pie Chart*

To reiterate what I alluded to a few moments ago, radiation is part of our environment: Cosmic radiation from space; and radioactive materials in the air that we breathe; from the food that we eat and drink; and from the various soils and building materials used in construction and other activities. According to the National Council on Radiation Protection and Measurements, the average exposure to a person in the United States is something on the order of 360 millirem per year, or nearly one millirem per day, including the average dose from radon. Of that, approximately 82 percent, or 300 millirem, is natural radioactivity from the environment around us. The rest of the dose, about 18 percent or 60 millirem, is from various man-made sources, the bulk of which are medical exposures.

Smaller amounts of exposure comes from various consumer products including things like some building materials, water from taps, television receivers and various other things. Lastly, there is the "other" category, which includes fallout, the nuclear fuel cycle, and various other activities.

(NEXT SLIDE) *#7 Comparison to Background*

How do these numbers compare to the numbers which the Commission has selected as the criteria for maximum individuals under this policy statement?

First, in comparison with the actual magnitudes of exposures we all experience, it is appropriate to start by looking once again at the dose for natural background, which is something on the order of 300 millirem per year; or for medical exposure, which is about 50 millirem per year. These values are considerably larger than the NRC individual critical group dose criteria.

The NRC dose criteria are, in fact, comparable to something like a chest x-ray, which you might have for screening if your doctor suspects a heart attack.

(NEXT SLIDE) *#8 Comparison to Variations*

Similarly, the individual dose criteria were selected keeping in mind

the variations in natural background and natural exposure which we all experience. I have already discussed the fact there are relatively large variations in natural background depending on where you are in the country, and that there can be variations of something on the order of 10 millirem per year simply on the basis on the kind of house that you choose to live in.

Likewise, taking a round trip flight on an airplane from coast to coast is associated with an increased radiation dose on the order of 5 millirem, simply because of the increased altitude.

The Commission has determined that comparisons such as these give a good perspective on what sorts of individual dose levels could be considered for the maximum individuals under this policy statement.

We also recognize that there is a range of debate over the appropriate values for limiting the exposure of individuals. The EPA, for example, has used a value of 10 millirem for the airborne pathway of exposure from nuclear facilities, and a value of 4 millirem for a drinking water pathway. The NRC has selected values in this same range of debate as the appropriate criteria for the maximum exposure from all of the pathways combined.

(NEXT SLIDE) *#9 Quantitative Risk Perspective*

From a quantitative standpoint, what does the individual dose criteria mean in comparison to the risk assessments that have been done by nationally and internationally recognized experts, such as the National Academy of Sciences and United Nations?

The 10 millirem per year average corresponds to an annual risk of fatal cancer of 1 in 200,000. This compares to the annual risk of fatal cancer from all causes here in the United States for an average individual of something on the order of 400 per 200,000. Over the course of a lifetime, our risk of fatal cancer is on the order of 20 percent. In other words, your chances of dying of cancer are about 1 in 5. In comparison, the maximum hypothetical risk under this policy statement is on the order of one quarter of one percent of the existing risk of cancer for someone in the United States.

I should also note that, although all of us tend to speak about the calculated hypothetical health effects as real, the National Academy of Sciences noted in their BEIR V report that these extrapolations and calculations are not certain, and that doses comparable to natural background may, in fact, not cause any health effects.

As a result, the Commission believes that the hypothetical or potential effects which may be attributable to this policy statement will not be measurable or discernible within the context of the exposures which are already present and the variations of those exposures which exist in the US population.

(NEXT SLIDE) *#10 Basis for 1 millirem*

One of the questions that is often asked is how the Commission would prevent a multitude of different exemptions from exposing someone to an unacceptable dose. The individual and collective dose criteria, which apply to a single practice, were selected with this problem in mind. The Commission specifically selected an individual dose level of 1 millirem per year for practices where larger numbers of people might be exposed so that even if there were multiple practices that exposed the same individual to the maximum extent, the dose would still be on the order of 10 mrem. It is hard, using the 1 millirem criteria, to conjure up combinations where any member of the public could be threatened by the total of all of the exemptions.

The Commission also has several other mechanisms in place to address the question of multiple exposures. These include the broad definition of "practice" which will preclude a large number of exemptions being granted, and a commitment to reexamine on a periodic basis, the exemptions that have been granted. In this way, we can benefit from further experience with regard to how exemptions may be requested of the Commission, and how exemptions may aggregate over the course of time as we look at the various applications of this policy statement.

(NEXT SLIDE) *#11 Specific Actions Planned*

What will the NRC do now that this policy statement has been published? Although this is a final policy statement, it does not represent an end in itself. The policy statement does not exempt any material from regulatory control. It does not mean that radioactive waste which previously had to be disposed of in a licensed facility may now be disposed of in a in some other manner. Instead, the Commission must develop regulations and regulatory guidance in implementing the policy statement to look at those specific practices which may be considered acceptable for exemptions from regulatory control.

The Commission also intends to go back and look at all of the exemptions that have been made over the past 30 to 40 years under our various Atomic Energy Act authorities, and determine whether or not those exemptions meet the test of the new policy statement, or whether further changes need to be made in order to assure a consistent level of protection.

The Commission will also consider petitions for exemption from regulatory control and we plan to publish information and proposals in the Federal Register in order to ensure the public, you folks, have an opportunity for continued input into the decision-making process.

As I said a moment ago, the policy statement does not represent the end of the process. The preparation and approval of an exemption is also not an easy or certain process. A great deal of information must be collected and considered before any decision can be made, and simply because someone applies for an exemption does not mean that an

exemption would be granted.

(NEXT SLIDE) *#12 What NRC will do*

When we start to look at a new proposal, the first thing that we will need to do is analyze the proposal to determine whether or not the risk is acceptable and within the criteria of the policy statement.

After we have completed that analysis, we will need to establish conditions, constraints, and requirements to determine whether or not the risks which we deem to be acceptable at the time the exemption is granted will continue to be met over time.

After establishing the conditions and constraints, the Commission intends to inspect and enforce, in order to verify that those conditions, constraints and requirements continue to be met by licensees in the transfer of material from a controlled to an uncontrolled status. One of the things that we have been asked on numerous occasions is how the NRC can assure that someone will not simply release material from control, outside of the context of the policy statement. The Commission intends to pursue this as it would pursue any other violation of our regulations. Violations can result in both civil and criminal actions, and organizations or individuals have, in the past, been fined and/or imprisoned as a result of violations of NRC regulations.

The Commission also intends to periodically review, over of the course of time, all the exemptions which may have been granted to determine that the public health and safety has been adequately protected and to assure that a build-up of materials is not resulting in exposures in excess of our criteria.

(NEXT SLIDE) *#13 Conclusion*

To wrap up this particular segment, I would like to remind you that the Commission has developed this policy statement in full recognition of the fact that its mandate is to protect public health and safety. Exempting items or materials is something that the Commission has done in the past. Likewise, it must be recognized that it is not possible to control or regulate everything, and there may be certain types of things which are, de facto, now under control, and for which it is not really appropriate to continue those controls.

For example, I know that a lot of you are concerned with the disposal of radioactive waste. I am too. The problem that we face is that the present regulatory structure imposes a ceiling, such as the maximum quantities that are considered as low level waste, but does not define a floor. If we were to take this to its logical conclusion, then everything we dispose of, including all of our household trash, etc., would need to be regulated as radioactive waste because everything is radioactive to some extent. I think you would agree with me that this is simply not practical.

We therefore believe that a policy is necessary to establish a broad framework in order to make decisions on the appropriate controls for radioactive material. However, that does not mean is that materials which need to be controlled will cease to be regulated. Wastes that contain radioactivity in sufficient quantities to require controls will still be controlled, and will be disposed of properly as low-level waste. The Commission is committed to the proper regulation of these materials, consistent with the risks they pose, and has developed this policy to establish the framework for developing and evaluating those regulations.

John Hickey, who is Chief of the Operations Branch in our Division of Industrial and Medical Nuclear Safety, Office of Nuclear Material Safety and Safeguards, is now going to briefly address some of the details with regard to implementation of the policy.

BELOW REGULATORY CONCERN PUBLIC MEETING

September 20, 1990

Westin Peachtree Plaza Hotel

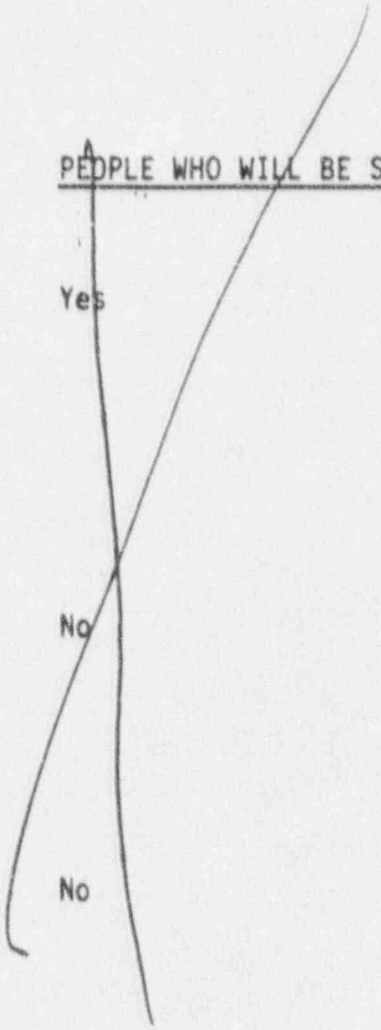
Peachtree Battle/Dunwoody Room

8th Floor

Peachtree and International Boulevards

Atlanta, Georgia

NAME AND ADDRESS	PEOPLE WHO WILL BE SPEAKING
1. Thomas J. Saporito, Jr. Executive Director, NEAP P. O. Box 129 Jupiter, FL 33468-0129	Yes
2. Peter Jordan NUS Corporation Clearwater, FL 34619	No
3. Brian Pullan SRB Technologies 2580 Landmark Drive Winston-Salem, NC 27103	No



NAME AND ADDRESS	PEOPLE WHO WILL BE SPEAKING
4. James McLeod Southern Company Services P. O. Box 2625 Mail Bin B222 Birmingham, AL 35202	No
5. Mr. McNeer Director, Nuclear Waste and Management Virginia Dept. Waste Management 11th Floor Monroe Bldg. 101 North 14th Street Richmond, VA 23219	No
6. Debra Shepard Campaign for Prosperous Georgia 1083 Austin Avenue, NE. Atlanta, GA 30307	Yes
7. Allen Anthony Ed Lohr Martin Army Hosp.	No
8. Tim Blauwell Hazelton Labs	No

NAME AND ADDRESS	PEOPLE WHO WILL BE SPEAKING
9. Thomas Clements Greenpeace Action 20 13th Street Suite 100 Atlanta, GA 30309	Yes
10. Lori Laliberte-Carey 608 Treecrest Parkway Decatur, GA 30035	Yes
11. Robert H. Smith Southern Electric Institute P. O. Box 2625 Birmingham, AL 35202	No
12. Adele Kushner Route 2 - 182A Alto, GA 30510	Yes
13. Jack Chaney 99 Baker Road Marshall, NC 28753	Yes
14. James Gilchrist P. O. Box 3425 Charlottesville, VA 22903	No

NAME AND ADDRESS	PEOPLE WHO WILL BE SPEAKING
15. Sid Spencer TVA	No
16. Dan Kane Paul Early NMS Medical Physics Consultation 2262 Northwest Parkway Suite M Marietta, GA 30067	No
17. Dennis Bishop 419 A E. Ponce de Leon Decatur, GA 30030	Yes
18. Glen Stark 20 13th Street Atlanta, GA 30309	Yes
19. Debbie Newman 1804 Condor Drive Marietta, GA 30066	Yes

NAME AND ADDRESS	PEOPLE WHO WILL BE SPEAKING
20. Andrea Smith Partnership in Peace (no address)	Yes
21. Warren Whipple (no address)	Yes
22. Jerry Brown 2887 Alabama Hughway Rome, GA 30161	Yes
23. Jeff Balch 830 Hamlin Street Evanston, IL 60201	Yes
24. Charles McKinney South Carolina Electric and Gas Company P. O. Box 88 Jenkinsville, SC 29065	No

NAME AND ADDRESS	PEOPLE WHO WILL BE SPEAKING
25. Stu Smiley 112 Sterling Ct. Alpharetta, GA 30201	Yes
26. Pamela Blockley-O'Brien International Fellowship of Reconcilation C/O D-23 Golden Valley Douglasville, GA 30134	Yes
27. Mike Stiefel Martin Marietta Engineering Systems P. O. Box 2003 Oak Ridge, TN 37831-7256	Yes
28. Joseph Hooper 3931 Peachtree Road Atlanta, GA 30319	Yes
29. Joan King Route 1, P. O. Box 1037 Sautee, GA 30571	Yes

NAME AND ADDRESS	PEOPLE WHO WILL BE SPEAKING
30. David Schonberger C/O Emory University P. O. Box 21554 Atlanta, GA 30322 Representing: 1. Students involving Resources and the Environment and 2. Georgia Environmental Project	Yes
31. Chang Fuh Lan C/O Duke Power Company Radiation Protection Dept. P. O. Box 33189 Charlotte, NC 28242	Yes
32. Rochel Haigh Blehr 2570 Sunny Lane Marietta, GA 30067	Yes

NAME AND ADDRESS	PEOPLE WHO WILL BE SPEAKING
33. Glenn Carrol 139 Kings Highway Decatur, GA 30030	Yes
34. Ellen Spears 92 Piedmont Avenue Atlanta, Georgia 30303	Yes
35. Janet Hoyle P. O. Box 88 Glendale Springs, NC 28629	Yes
36. Dr. Loren Raymond P. O. Box 88 Glendale Springs, NC 28629	Yes
37. Dr. Bradley Batchelor P. O. Box 88 Glendale Springs, NC 28629	Yes
38. Dr. William Horn P. O. Box 88 Glendale Springs, NC 28629	Yes

NAME AND ADDRESS	PEOPLE WHO WILL BE SPEAKING
39. Ms. Sandy Adair P. O. Box 88 Glendale Springs, NC 28629	Yes
40. Mr. Lou Zeller P. O. Box 88 Glendale Springs, NC 28629	Yes
41. Ms. Karen Lohr P. O. Box 88 Glendale Springs, NC 28629	Yes
42. Ms. Denise Lee P. O. Box 88 Glendale Springs, NC 28629	Yes
43. Ms. Jan Somers 1588 Edinburgh Drive Tucker, GA 30084	Yes

NAME AND ADDRESS	PEOPLE WHO WILL BE SPEAKING
44. Phil Graves Greg Edwards Quadrex 109 Flint Road Oak Ridge, TN 37830	Yes
45. Kathryn Kyler 60 Jefferson Circle Athens, GA 30601	Yes
46. Ms. Stacy Lange 5493 Covent Way Lithonia, GA 30058-5568	(Will not be attending - but she will receive a copy of the transcript.)
47. Ann Corwin Creative Loafing 750 Willoughby Way Atlanta, GA 30312	(will not attend, but wants a package)
48. Patricia Richardson 324 Arizona Ave., NE. Atlanta, GA 30307	No

NAME AND ADDRESS	PEOPLE WHO WILL BE SPEAKING
49. Michael Veatch Route 1 P. O. Box 315 Trion, GA 30753	Yes
50. Dr. William Donaldson East Georgia College 237 Thig Drive Swainsboro, GA 30401	Yes
51. Dennis Hoffarth 152 Flora Avenue, NE Atlanta, GA 30307	Yes
52. Laverne Cash Quadrex Company	No
53. Elaine Bradford Quadrex Company	No
54. Carol Stangler	Yes

NAME AND ADDRESS	PEOPLE WHO WILL BE SPEAKING
55. Tim Rein 2493 Crockett Dr. Marietta, GA 30067	No

BELOW REGULATORY CONCERN PUBLIC MEETING

September 20, 1990
Westin Peachtree Plaza Hotel
Atlanta, Georgia

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Jeff Balch	3248 N. Hoyne Chicago, IL 60618
Alan Dynia	2502 Woodridge Dr Decatur Ga. 30033

BELOW REGULATORY CONCERN PUBLIC MEETING

September 20, 1990
Westin Peachtree Plaza Hotel
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JEFF CHEEK	FULTON COUNTY PLANNING 141 PRYOR ST, STE 5001 ATLANTA, GA
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~~Lou~~ Lonnie Gilchrist	
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BELOW REGULATORY CONCERN PUBLIC MEETING

September 20, 1990
Westin Peachtree Plaza Hotel
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Paul Burks	Rm 401 254 Washington St SW Atl GA 30334
Louis Zeller	1301 HWY 208 MARSHALL NC 28753
THOMAS L. COLVIN	4110 SOUTH 465 EAST Apt #65 SALT LAKE CITY, UTAH 84107-1824
Cate Morrill	C/O CDG 1083 Austin Ave Atl. Ga 30307
~~KEVIN W. TEASLEY~~	

BELOW REGULATORY CONCERN PUBLIC MEETING

September 20, 1990
Westin Peachtree Plaza Hotel
Atlanta, Georgia

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Lorella Weld	1118 Red Oak Cove Tucker, GA 30084

BELOW REGULATORY CONCERN PUBLIC MEETING

September 20, 1990
Westin Peachtree Plaza Hotel
Atlanta, Georgia

NAME	ADDRESS
AMERICAN PRO-ACTIVE PARTY RALPH JONES	5112 Post Rd. Winston GA 3018[illegible]
Terry Martin Winston-Salem Journal	402 Deese Road Monroe, NC 28110
Jon Richards EPA, Reg 4	345 Courtland St NE Atlanta, Ga. 30365
Alisa Hornstein	1369 Wessyngton Rd Atl, Ga 30306
Thomas Cowles	NRC-DC
Glenn Carroll	139 Kings Highway Decatur GA 30030
Robert Parsenparin	729 PDL Ct Atl 30308

BELOW REGULATORY CONCERN PUBLIC MEETING

September 20, 1990
Westin Peachtree Plaza Hotel
Atlanta, Georgia

NAME	ADDRESS
Richard Holbrook	2380 Bolton Rd #8 Atl Ga 30.
Shawn Freedman	2527 Skyland Trail Atl. 303
Suzanne Smiley	112 Sterling Ct. Alpharetta GA 3002
Paul Simpson	3412 Ross Drive, East Point, GA
Alan Flaherty	2570 Sunny Lane, Marietta, GA 30067
David Schamberger	2234 Serpentine Dr Atl 3034

BELOW REGULATORY CONCERN PUBLIC MEETING

September 20, 1990
Westin Peachtree Plaza Hotel
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PETER S. JORDAN	NUS CORP. 2650 MCCORMICK DR CLEARWATER FL 34619
Hugh Esco	Georgia Environmental Project 424 Moreland Ave NE Atlanta GA 30307 404 - 521 - 3731
ELMER L. WILHITE	36 LONG-WOOD Dr. Aiken, SC 29803
CHARLES McKINNEY	
Allen Brown	Univ. of Georgia Athens GA 30602
FRANK INGRAM	NRC
John Kennerly	1711 Vander Ridge Ln Knoxville, TN, 37919

BELOW REGULATORY CONCERN PUBLIC MEETING

September 20, 1990
Westin Peachtree Plaza Hotel
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Paul T. Reichert	4811 Warrington Ave # Phila PA 19143
Tim Hanwelt	1 Hazleton Labs Plc Corning Glass Ltd. Vienna, VA 22182
Brian Savory	1511 Wingate Way ATL, GA 30350
JOHN MEDLIN	221 N CANDLER ST DECATUR GA 30030
M. López-Otín	USNRC -
Denise Bee	Rt 2, Box 286, Wadesboro, NC 28170

BELOW REGULATORY CONCERN PUBLIC MEETING

September 20, 1990
Westin Peachtree Plaza Hotel
Atlanta, Georgia

NAME	ADDRESS
Jim Klika	380 Westlake Dr Oxford GA
Angie Perrotta	380 Westlake Dr. Oxford G
Mara Dumpkin	1433 Fairbanks St SW Atl.
[signature]	1722 Carentry Rd Decatur Ga.
Stephen Wingeier + Dawn Zeitlin	603 A Seminole Ave NE Atl. Ga 3030
Todd Phillips	370 Alberta Ter C-4 Atlanta GA 30305
L Lunsford	1804 Meadowdale Ave 3030 k

STATEMENT FOR NUCLEAR REGULATORY COMMISSION (NRC)

RE: Below Regulatory Concern (BRC) policy statement

From: Andrea Kay Smith, Partnerships In Peace, 95155 Executive Park, Atlanta, GA 30347

Date: September 20, 1990

When a NRC spokesman said "the information and opinions gathered during the five hearings would not be used to change or recind the BRC policy", I questioned what value my statement could make. I considered the lost pay from taking off work today. I considered the part we all play in changing our future together; peacefully coexisting. I realized it's important we communicate one-to-one; people-to-people.

I understand why you want to relax the control of low-level radioactive waste. It's the quick fix that ignores our children and the future generations that want to live on planet Earth.

Release the illusion that the NRC will save money by this action. That's not the reason you want to deregulate, because you know all the money in the world isn't of value when loved ones are subjected to ***ANY LEVEL,*** high or low, of radioactivity. We all understand the danger of free radicals in our molecular structure. An increase in toxicity is NOT SAFE to any of us.

It's also an illusion for the NRC to portray the BRC decision as a policy statement to avoid compliance with the Administrative Procedure Act (APA). It's obvious this supposed policy statement can be implemented as a rule, even offering exemptions to the nuclear industry.

It's frightening to read in our local newspaper 9/18/90 that Plant Vogtle, a nuclear power plant run by Georgia Power had a "potentially dangerous loss of power" and then discover the state of Georgia generates some of the largest amounts of so-called low-level radioactive waste in the U.S. The very waste the NRC can deregulate. This is our backyard.

I believe the NRC can work with the Department of Energy (DOE) and work with informed environmentalist for the best interests of our people and life on the planet. I speak to you as a concerned citizen. I appeal to your love of your children and your family to consider what powerful positions you hold as individuals in the NRC. Let's work together and implement solutions of concerted conservation & efficiency.

Andrea Kay Smith

GREENPEACE ACTION

20 13th Street N.E. • Atlanta, Georgia 30309 Thomas Clements
Telephone (404) 876-8256 • FAX (404) 892-7601

NUCLEAR REGULATORY COMMISSION MEETING
ON "BELOW REGULATORY CONCERN"
TOM CLEMENTS
SOUTHEASTERN NUCLEAR CAMPAIGNER
GREENPEACE ACTION
SEPTEMBER 20, 1990

Greenpeace Action stands firmly opposed to the idea or implementation of any type of "Below Regulatory Concern" policy as being considered by the Nuclear Regulatory Commission or the Department of Energy. The BRC policy is nothing more than a bailout of the nuclear industry and will save nuclear waste-makers money while placing the public at risk. We promise to fight this policy at every step of the way to insure that health and safety of U.S. citizens are placed above short-term profit by a few.

I am not sure why you are holding this meeting today. It should have been held before any type of BRC policy was implemented, but what can one expect of the Nuclear Regulatory Commission. The NRC is little more than an advocate for the nuclear power industry, so holding a meeting after the decision was made is totally in fitting with the character of the NRC. Your true colors are showing - you do not respect the opinions of the American public and have done your best to create a non-democratic process regarding BRC.

The public has spoken out loudly at the previous BRC hearings, just as we are doing here today. If you do not listen and respond, your credibility will suffer further erosion and I feel certain that Congress will act to remove your power to enact any type of BRC rule. I urge everyone to contact thier Congressional representatives and ask that this absurd policy be overturned. Legislation is moving through Congress now that would kill the 1990 BRC policy - ask that the bills be strengthened and that the right to make a BRC policy be removed forever.

I want to submit for the record a letter from Dr. Karl Morgan. (attached) He has asked that I pass on his coomments to the NRC. Dr. Morgan, noted health physicist and former chair of the International Commission for Radiological Protection and former Director of Health Physics Division at Oak Ridge National Laboratories criticizes the BRC policy and has calculated that there would be 10,000 - 20,000 additional cancers and other damage per year in the U.S.

1984 Castleway Drive
Atlanta, Ga. 30345
September 10, 1990

Mr. Tom Clements
Greenpeace Action
20 13th St. NE.
Atlanta, Ga 30309

Dear Mr. Clements:

Thank you for sending me the information regarding the NRC's proposed action on BRC regarding radioactive material. I regret that I will be unable to attend the scheduled meeting of NRC in Atlanta to discuss this issue but would like to make a few observations which I hope you will see are passed on to the Commission.

A BRC of 1000 person-rem could be a dangerous underestimate of risk to the public. On page 16 of the NRC BRC Policy Statement the example is given in which this limit might be applied to only 15 seperate cases with an estimated 5 to 10 excess cancers. There are two things wrong with this: 1) the cancer coefficient is taken at only 3 health effects/10,000 person rem to 117 HE/10,000 P.R. and 2) The choice of the number 15 is absurdly low.

Regarding 1) Excess cancers is not the only risk of radiation exposure (see The Bulletin of Atomic Sc Alice Stewart, Sept 1990). Even the pro-nuclear ICRP sets the fatal cancer risk at 5×10^{-4}/rem and since the total cancer risk is at least twice the fatal cancer risk, the lower cancer risk should be no smaller than 10^{-3}. But data from many research studies (e.g. Mancuso, Stewart + Kneal study of Hanford workers, Modan's study of persons treated with x-rays for ringworm, etc) indicate the fatal cancer risk is greater than 10^{-3} f/rem. On this the 5 to 10 excess health effects should be

7 (5 to 10) x 2 fatal cancer + other radiation damage.

Regarding 2. From past records I believe the number of cases in the US in the next 10 years will be closer to 15,000 than to 15. Thus we have

[> (5 to 10) 2 f. c + other rad. damage] x 1000

=> 10,000 to 20,000 cancers + other radiation damage.

If NRC were to make the limit of application of the 1000 person-rem rule to 15 cases in the year 2000, this proposal would be far more reasonable

Best personal regards

Sincerely

Karl Z. Morgan