To: US NRC
Washington DC 20555

From: Jane and John Collins
13610 Kishwaukee Vly. Rd.
Woodstock IL 60093

Re: Reclassifying some low-level radioative wastes as "below regulatory concern"

This is a hastily composed attempt to assert that plain common sense should have a place in your proceedings. As opponents of your BRC concept, we could make sweet and reasonable arguments, citing facts such as the exposure levels set by the State of Illinois being only 1 mrem -- as opposed to your willingness to go to 10 mrem -- and try to persuade you to use scientific reason and logic in carefully examining what you are trying to do.

But that's not how you are operating. You are using Alice-In Wonderland' science to simply wish away the reality that no exposure to ionizing radiation can be justified or tolerated. By blithely relabelling these wastes and allowing them to insinuate themselves into our air, water, soil, food, and products made of recycled goods, you are doing us great harm. They may not be of concern to you, but they are of the utmost concern to us.

And you will not be allowed to evade accountability, by saying you were told to do this by Congress. You -- and Congress -- are accommodating the wishes of an industry -- not protecting our health. And we resent this. No longer will we accept the secrecy and lies and assurances that have given us the terrible legacy of places like Hanford. We demand that you protect us from further injury and harm from nuclear wastes. Forget your notion of BRC and start doing your job in an ethical, scientific manner. We will accept no less than this.

August 28, 1990
Chicago Illinois

Jane & John Collins

8/28/90

COMMENTS ON THE NUCLEAR REGULATORY COMMISSION'S "BELOW REGULATRORY CONCERN" POLICY

It is commendable that the Nuclear Regulatory Commission is holding these public Hearings to receive comments from the public on its Below Regulatory Concern Policy. I think that earlier involvement of the Public would have been more valuable.

Because the BRC Policy as stated poses an unaccetable risk to the Health and Safety of the public, it is my recommendation that the NRC should halt all efforts to classify generically certain radioactive waste as "below regulatory concern".

I also think that the NRC should not preempt state's rights to regulate disposal of radioactive waste within their territory. As Commissioner Curtiss stated there is no public health or safety justification to forbid states from requireing all radioactive waste be disposed of only in landfills.

PROBLEMS WITH THE BRC RISK ASSESSMENT

A. In a memo released by the EPA on July 26, 1990 it states that the NRC 's new plan to deregulate disposal of some low-level nuclear wastes would allow unacceptably high radiation exposures and is "not protective of public health".

In its 1988 ERC policy the NRC stated that an annual cancer risk of 1 additional cancer death per 100,000 persons (projected across the U.S. as 2500 persons) is acceptable and will be of little concern to most members of society.

Since proposing ERC the NRC has increased its annual risk assessment for radiation exposure by 2½ times and its lifetime risk assessment by 3¼ times, but the 10 millirem individual dose limit of the 1988 policy proposal remains unchanged in the 1990 final policy statement. The BRC Policy statement also retains the 1 mrem limit for practices involving widespread distribution of radioactive material, which was part of the original 1986 BRC policy, and is presented in the 1990 policy as an interim limit subject to revision.

The 1990 BRC policy admits that, as EPA has said, instead of 1 fatal cancer the 10 mrem per year standard is equivalent to 3.5 in 10,000 lifetime cancer risk, but the NRC has not adopted any upper limit on exposure. Widespread deregulation resulting in exposure on the order of 100 millirems per year would equal 3.5 in 1,000 lifetime cancer risk, or about 1 cancer death amoung 285 Americans exposed.

In fact, the NRC will be able to grant approval to licensees to release radioactivity up to the dose equivalent of 500 mrems/year, and will allow "special exposures" to workers that are much higher than the current limit. This exposure is not optional for workers.

B. "Risk" , as defined in the new BRC Policy statement , for purposed of the policy means the annual or lifetime probability of the development of fatal cancer from exposure to ionizing radiation and is taken as the product of the dose received by an exposed indivisual and a conversion factor based upon the linear, no-threshhold hypothesis".....

In its risk assessment the NRC needs to include other known health effects of radiation, such as non fatal cancers and noncanerous effects, such as damage of cells, genetic and birth defects, and low birth weight pabies, as well decreased immunity to diseases..which would greatly increase the number of people affected by radiation and the risk.

The policy agrees that risks for children and neonatal infants are much greater but does not calculate or include these effects in its risk assessment. Other people at greater risk are the elderly and those already ill with other diseases.

C.a) Sources of health risks listed in the BRC Policy statement include partially decontaminated buildings which could have unrestricted use as homes, schools, etc., as well as consumer products from recyled metals and/or those to which small amounts of radiation are added.

BRC lists several consumer products that may not be exempted under the new rule because deregulating those items which involve external or internal contact with the body, would be "socially unacceptable regardless of how trivial the resulting dose might be." These considerations should also be included in relation to other kinds of waste covered by deregulation which can get into the environment via the food chain and groundwater contaminated from insecure landfills and/or through releases into the air (see attached Environmental information from the Byron nuclear power plant(B) from waste incineration or fires involving ionization type smoke detectors.

b) Serious problems may arise when the NRC uses background levels of radiation as a standard by which to declare man-made radiation levels safe. As more long-lived radioactive materials enter the environment the background radiation continuously increases and it is difficult to distinguish the source of the radiation without careful and extensive monitoring. The Policy statement compares background (natural) radiation with BRC levels, but plans little monitoring, (see Attachment C on Kr-85)

The BRC statement says that the Commission will, "from time to time, conduct studies as appropriate to assess the impact of an exempted practice or combination of exempted practicies." It also says that most monitoring will take place at waste sources, where records will be kept and probably keep track of destinations or any combinations of waste at specific sites, though they won't inspect disposal sites, except at the start. Past experiences at waste sites such as Sheffield, IL, Maxey Flats, Ky. and WEst Valley, N.Y., as well as DOE sites for lowlevel radioactive wastes and bomb manufacture leave serious questions and doubts about how well this will be done.

A thorough analysis of multiple and cumulative exposures and synergistic effects needs to be made to ensure the health and safety of the public in relation to any BRC Policy implementation.

c) Ionization type Smoke Detectors show the dangers of BRC dergulation of Consumer products. According to BRC Policy, "Some products such as smoke detectors contain small quantities of radioactive materials that pose such a low risk that they have been widely distributed without continuing regulatory controls," and listed as #5 in benefits of the BRC policy is "increased assurance of a consistent level of safety for consumer products containing radioactive material under the Commision's jurisdiction."
(see Attachment A, FEb. 7, 1980 letter to the EDitor from the League of Women Voters of Rockford about ionization type smoke detectors.)

The clear warning labels which the BRC Policy says may be provided for consumer products have not been provided for Smoke detectors and other derregulated consumer products in the past, and it is doubtful that they will be issued in the future under the BRC policy.

The NRC continues to confuse the public about dangers from radiation exposure when it compares flying in an airplane and living in a brick house with the dangers from particultae radiation of a long lived transuranic element like Americium which is an Alpha emitter and may be ingested or inhaled and give continual radiation exposures within the body for a lifetime.

D. The BRC policy seems to bring little benefit to the American public. Health costs if calculated correctly outwegh benefits of consumer products (most of which can be replaced by safer alternatives), or the opportunity to use more products made from radioacitive metals or have access to contaminated buildings.

STates, municipalities and counties are very concerned about the effect on their waste disposal problems. Keeping toxics out of the waste stream is one of their primary concerns in siting landfills or use of incineration. Household Hazardous Waste programs to remove toxics will not take radioactive materials. See attached information for Winnebago County,

The benefits seem to be for the nuclear power industry , which is predicting the saving on waste disposal from power plants alone of nearly $1 billion over the next 20 years if the BRC Policy is implemented. By the year 2020 waste from reactors, including decommission sites will increase sharply accounting for 99% of all low-level commercial waste radioactivity according to NRC data.

The NRC is ignoring the option of storing waste at present nuclear sites after the plants are closed which could solve many of the problems that are pushing the need for the BRC Policy.

The DOE will cut costs by partial clean up of sites, and both the DOE and the nuclear power industry can cut costs of monitoring, packaging and shipping wastes due to less stringent requiremnts.

~~Perhaps~~ Because of these facts Congress should repeal the processing of the Low Level RAdioactive WAste Policy Amendments which direct the NRC to implement this policy.

Thank you for the opportunity to present this information.

Betty Johnson

Betty Johnson, Chair of the
Natural Resources Committee of the
League of Women Voters of Rockford

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1907 Stratford Lane
Rockford, IL 61107
February 7, 1980

To the Editor:

Because of recent sales promotion of ionization type smoke detectors in Rockford the League of Women Voters of Rockford would like to restate some of the hazards of ionization smoke detectors.

The League of Women Voters approves the use of smoke detectors as a means of minimizing and preventing fires but believes that the citizens of Rockford should realize that there are two types of smoke detectors. Both the photoelectric and the ionization smoke detectors are available in battery and plug in styles. We believe that photoelectric smoke detectors are preferable because:

1) 75% of fires in the home begin as smoldering fires, and photoelectric smoke detectors react faster than ionization smoke detectors to this kind of fire.

2) Ionization smoke detectors contain radioactive Americium-241(Am-241), which is similar to plutonium in its toxicity as a carcinogen at extremely low levels of exposure.

The uptake of Americium in plants, from which it goes into the human chain, and absorption from the human gastro-intestinal tract is greater than for plutonium.

Am-241's radioactive half-life is 458 years, so it poses a long term hazard to future generations.

The official maximum permissible body burden for Am-241 is 50 nanocuries for an adult, and the average ionization type smoke detector contains 3000 nanocurie

3) Workmen producing these units and anyone handling them are exposed to radiation, as are firemen when they are presentduring fires and cleanup workers.

The "alpha recoil action" on americium surfaces inside the detector foil forces small clusters of atoms to break away from the source, releasing particles of respirable size inside the metal foil covering,from which they may escape if the covering is damaged or melted.

4)Fire damage to these detectors and product defects have not been adequately tested, and they are not clearly labeled to warn of potential hazards and to insure proper use and disposal.

Because of concern about the dangers of this type of detector, the Nuclear Regulatory Commission, which licenses them, is now proposing new regulations which will require labels on the packages and containers stating the amount and type of radiation they contain.

5) Am-241 should be disposed of in a repository for radioactive waste and not in some local landfill or elsewhere in this community, where a buildup can cause serious health effects of cancer and genetic defects.

10 nanocuries per gram is the maximum waste level of Am-241 that could have been disposed of in the low level radioactive waste dump at Sheffield, IL before it was closed down, according to Michael Hines of the IL Dept. of Public Health.

For these reasons we urge you to consider a photoelectric smoke detector for your home. If you have further questions about ionization smoke detectors, contact the League of Women Voters for more information and/or your representatives in local, state, and national government.

Dawn Parks

Dawn Parks, President
League of Women Voters of Rockford

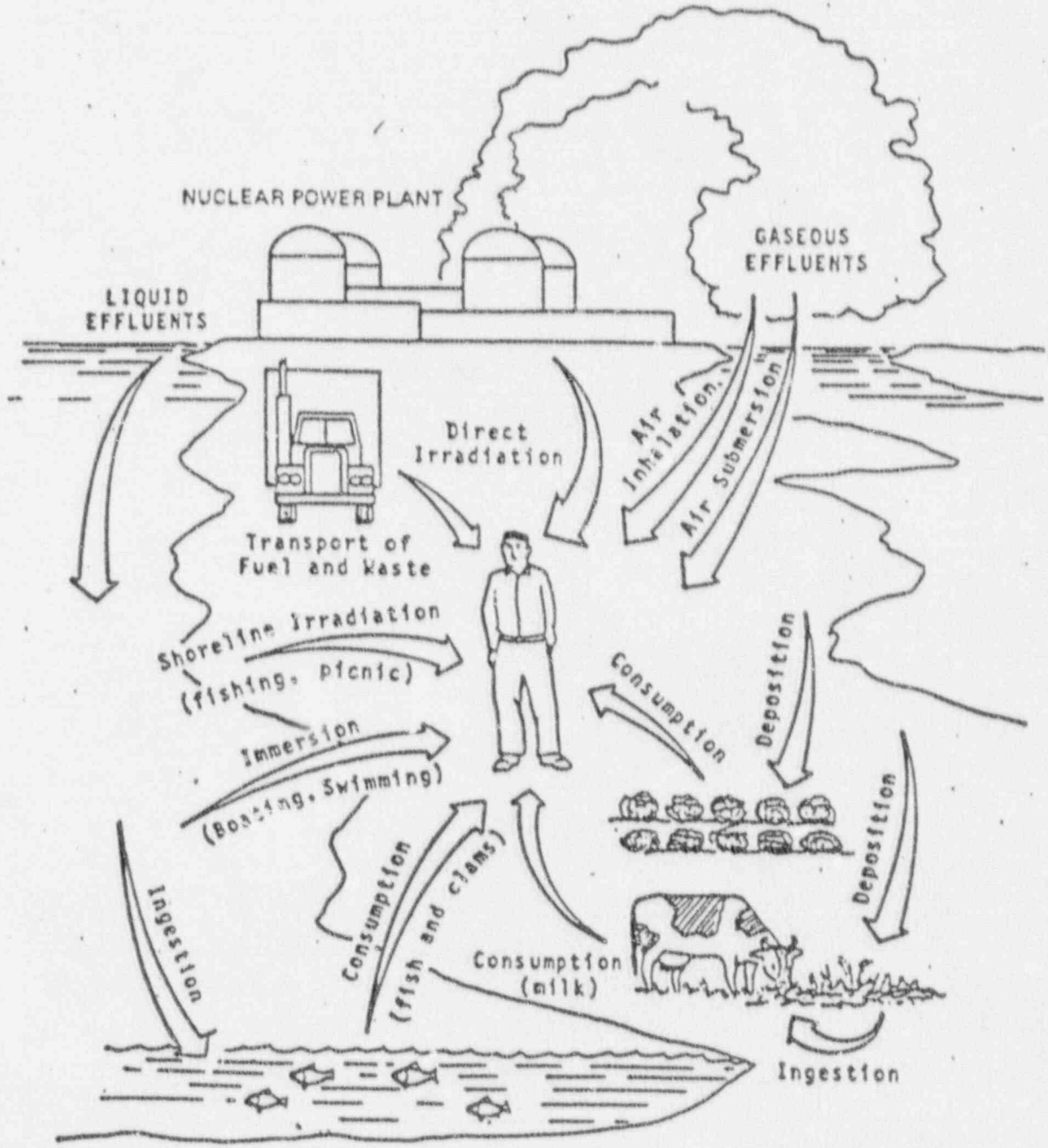

Fig. 5.3. Exposure Pathways to Man.

Nuke plant warning is spelled out

By DAWN PARKS
President, League of Women Voters of Rockford
and BETTY JOHNSON
Chairman, Natural Resources and Energy Committee

Because of recent reported releases of the radioactive gas Krypton-85 (Kr-85) from the Three Mile Island nuclear power plant and ensuing statements from the Nuclear Regulatory Commission (NRC) minimizing the danger of these releases, the League of Women Voters of Rockford thinks it important to clarify the long-term danger of releases of Kr-85. A complete review of the hazards of Kr-85 are detailed in one of the contentions in the League's petition for leave to intervene in hearings on the operating license for the Byron nuclear power plant.

It is important that Kr-85 be contained because its ionizing radiation can cause cell damage, cancer and genetic defects in future generations. Kr-85 has a radioactive half life of 10.7 years, which means that it remains dangerous for over 200 years. When released into the atmosphere, it has worldwide distribution and build-up with no means of removal except by decay. The problem this presents is illustrated by the fact that ordinary Krypton, an inert, non-harmful gas that has been widely used for years in industry and medicine, has become so contaminated with Kr-85 from nuclear facilities and explosions that radiation protection now must be provided workers using this gas.

• • •

ABSORPTION OF ENERGY from beta and gamma ionizing radiation of Kr-85 can cause tissue damage and adverse effects both by external and internal radiation, and the effects are cumulative. External radiation doses from Kr-85 after inhalation are distributed throughout the body with non-radioactive Krypton where they concentrate in body fat and give repeated beta and gamma doses until (if) they are eliminated from the body.

Beta radiation (also alpha) is particulate radiation which does not penetrate body tissue as deeply as gamma radiation, but it causes more damage than gamma radiation. An external dose of beta particles damages skin and surface organs and an internal dose from inhalation or ingestion harms internal organs. Gamma rays (also x-rays) are pure energy and have no mass. Either external or internal exposure is type of radiation penetrates the body deeply and can do damage throughout any internal organs that are exposed. It is important to realize that medical x-rays, with proper equipment and shielding, are concentrated on one small area of the body for very brief periods of time and they have important benefits that

Rockford Register Star
Feb. 24, 1980

ORDINARY VALUES and estimated radiation doses are based on external doses received, which does not take into account the more dangerous internal absorption or concentration. According to Dr. Allen Brodsky, a Nuclear Regulatory Commission (NRC) expert, gases (such as Kr-85) inhaled from clouds of radioactive steam produce a dose about 130 times greater than that from external gamma radiation. The NRC estimates that the maximum accumulated doses from the Three Mile Island accident in the week following the accident were 80 millirems, but doses to the lung may have been as high as 10,000 millirems.

Nuclear power plants release Kr-85, not only during accidents, but also during "normal" plant operations. The technology is available for a 99 percent containment of Kr-85, using four methods, one of which is a low-cost solvent extracting process, but nuclear power plants do not use them because they feel the benefit is not worth the cost. The League of Women Voters believes area residents should be aware that present plans for the Byron plant do not include using these available technologies to contain Kr-85 emissions, and that this failure is one of several reasons why the League is opposing the granting of an operating license for the Byron nuclear power plant.

Testimony to the Nuclear Regulatory Commission on the "Below Regulatory Concern" policy. For the Chicago Area, held at the Holiday Inn O'Hare, Tues. Aug.28, 1990.

by Robyn Michaels

Good afternoon, ladies and gentlemen. My name is Robyn Michaels. I am a graduate student of Urban Planning and Policy at the University of Illinois at Chicago. I was a founding board member of the Uptown Recycling Station, one of the first community based recycling centers in the country.

I didn't go to college until I was 30 because I was making a good living and owned my own home. I had a set of security. It was a trip to Africa in 1985 that made me decide to attend college. I wanted to know how people made decisions about protecting the natural environment.

I majored in cultural anthropology because of its holism: that is, I knew there were psychological, economic, historical, philosophical, sociological, and political factors behind most communities' decision-making. Although my minor ended up being international/intercultural studies, I took 15 credit hours in environmental science.

Thus, my education and knowledge is recent. I learned about habitat & natural area conservation, solid waste, and, the bottom economic line, energy issues. I had a prior interest in factors causing population growth, and that is an issue intertwined with all the others.

My gut reaction to allowing the disposal of 'low-level' nuclear waste as though it were non-hazardous, was amazement that someone involved in the profit from 'low-level' waste got this far with this dangerous scheme. I've been taught that all landfills leak at some point. Usually, they start leaking after the operator is no longer legally responsible. Yet even the idea of being legally responsible for citizens being harmed by toxins is an oxymoronic thought.

My specialization in planning and policy is educational policy in community development. In my research, I've found that politicians and administrators have been gravely concerned about the low level of scientific literacy of U.S. citizens for about 30 years (since the USSR launched Sputnik). Our leaders, and I use the term facetiously, hope that by making Americans scientificly literate, we'll come up for a cure for natural laws. That is, we'll come up with solutions that go beyond the bounds of nature, like making poison non-poisonous! The knowledge we get from knowing science is that matter is neither created or destroyed, but we can make matter poisonous, and, due to laws of physics, there is a net energy loss in making poisons non-poisonous!

To put the matter simply, nuclear waste, in any concentration, comes as close to being a universal solvent as we can get. It can't be contained, and shouldn't be produced. We really don't need poison to live. The perpetrators of this industry have taken advantage of a nation kept ignorant of the real danger of nuclear materials. Yet many of the people you see here managed to survive the education they were given. They educated themselves, and, in a way, we speak as representatives for our communities which are generally less informed.

We've torn ourselves away from our TV sets and Madonna, our jobs and mundane aspects of our lives, to tell you that we don't want to glow in the dark, and we don't want our children's children to glow in the dark---and we don't want our friends' children, many of whom are struggling in developing countries, to glow in the dark. We don't allow drug dealers to poison us, why should we allow the nuclear industry to do so?

This is a matter of real science, and appropriate technology. Because we have the capacity to produce as much poison as any other country, it doesn't make us intelligent. For the amount of money the nuclear industry spends on flimflaming us, they could have developed solar and wind products to satisfy many consumer needs. When I was in Africa, I saw televisions powered by the sun. If they can do it in places with no technology and no infrastructure, we can certainly do it here. If the issue is the amount of products that have to be produced to satisfy the number of consumers there are, the issue is then a population issue with economic theory. Industries will soon have to get comfortable with the concepts of zero and negative population growth if they want to have any consumers, but that's another issue.

To sum up, I am aghast that such a policy as "Below Regulatory Concern" would be considered seriously. I can only imagine that you have very poorly trained scientists on the staff of the NRC, and that none of you drink or bathe in water.

THE COMMONWEALTH OF MASSACHUSETTS
LOW-LEVEL RADIOACTIVE WASTE MANAGEMENT BOARD
100 Cambridge Street, Room 903
Boston, MA 02202
(617) 727-6018

MICHAEL S. DUKAKIS
GOVERNOR

JOHN A. MAYER JR
CHAIRMAN

CAROL C. AMICK
EXECUTIVE DIRECTOR

**Testimony presented on behalf of the
Massachusetts Low-Level Radioactive Waste Management Board
by Executive Director Carol C. Amick
to the U.S. Nuclear Regulatory Commission
at a public meeting on its BRC Policy Statement
in Chicago, Illinois on August 28, 1990**

The Massachusetts Low-Level Radioactive Waste Management Board is the lead agency in the Commonwealth charged with the responsibility of managing low-level waste. The Board was created by the passage of M.G.L. c. 111H, the Low-Level Radioactive Waste Management Act, and is aggressively taking actions consistent with the Governor's Milestone '90 certification to fulfill the mandates of federal law, P.L. 99-240.

The Management Board is comprised of nine persons who are charged under the law to act in the public interest as they fulfill their low-level waste planning and management responsibilities. The professional training and experience of Board members, explicitly mandated by Chapter 111H, includes such areas as local government administration, engineering, radiological health, business management and environmental protection.

Some Board members have technical expertise in the use of radioactive materials and the low-level waste which can be produced; other Board members do not have a scientific background in radioactive materials and waste issues, but instead reflect different areas of expertise and alternate views of concern.

Because of this diversity of backgrounds and views, each Board member represents the "public's interest" in a different way. It is difficult for this diverse board to reach 100 percent agreement on BRC, but with honest input and discussion, they make every effort to derive an educated consensus opinion.

The Management Board has a baseline position on BRC which was communicated to the Commission in a letter to Chairman Carr dated May 10, 1990. The letter explains that Massachusetts law, Chapter

111H, contains several provisions allowing the state to manage materials and practices of all waste currently regulated as low-level waste, including waste which may be declared BRC in the future. These provisions of Chapter 111H are founded on the principles of managing low-level waste on the basis of the state's economic concerns (such as matters of facility utilization and allocation), and on the basis of guarding against the potential liability of the Commonwealth for personal injury and property damage.

The Board was pleased that Chairman Carr's response acknowledged the Commonwealth's authority to manage and regulate waste for non-radiologic health purposes. Chairman Carr's latter states:

> The Commission acknowledges the fact that many State and local laws and resolutions prohibit any BRC waste from being disposed of in local landfills. Yet the Commission is authorized by the Atomic Energy Act, as amended, to exempt certain classes or quantities of material from licensing requirements when it makes a finding that the exemption will not constitute an unreasonable risk to the health and safety of the public. In this regard, we recognize the importance, on the one hand, of maintaining uniformity in matters affecting basic radiation protection standards, and, on the other hand, of providing the flexibility necessary to accommodate significant but unique concerns of a particular State or locality. The need for uniformity of basic radiation protection standards, however, does not affect a state or locality's ability to regulate radioactive materials for purposes other than radiological protection or to choose a site or technology when acting in a nonregulatory proprietary capacity.

(Letter to Board Chairman John A. Mayer from Kenneth M. Carr, June 21, 1990)

While the Management Board has this fundamental position on the Commonwealth's regulatory and management authority over all waste, other BRC-related issues remain perplexing. However, the Board does agree 100 percent that to have thrust this new policy upon the states, at a time when states are trying to accomplish the goals and fulfill the mandates of P.L. 99-240, adds unnecessary complications to an already extremely complicated issue. Other state low-level waste boards, agencies and authorities share this opinion.

The BRC policy complicates the activities of the Management Board in the following ways:

1. The BRC issue has drawn the Board's attention away from other aspects of low-level waste management.

* Unfortunately the Board's staff is very small and we are constantly responding to numerous daily inquiries on BRC from citizens, local officials and state legislators. This public inquiry response has taken valuable time from our major task of meeting the 1990 Milestone commitments.

* The Commonwealth's current fiscal difficulties, which are being experienced in many other industrial states as well, have meant a temporary reduction in state appropriations for low-level waste programs. This situation clearly demonstrates the necessity of directing the Management Board staff to concentrate on those activities which will enable Massachusetts to fulfill the mandates of federal law.

2. The BRC issue has generated significant confusion and misunderstanding among the public.

* The public is confused and perplexed. This confusion is causing greater distrust of the NRC and misunderstanding, anxiety and distrust of Management Board activities. Increased negativism on the part of the public will complicate the Boards' ability to meet the objectives of P.L. 99-240, especially in the extremely difficult phase of facility siting.

* The BRC issue has encouraged grassroots recrganizing in Massachusetts and other states to promote local by-laws and ordinances against disposal of BRC waste in local landfills. While such local ordinances are not totally inconsistent with Massachusetts state law (M.G.L. c. 111H prohibits low-level waste disposal in landfills), some groups are using the BRC issue to organize against future facility siting and other Management Board activities.

3. The BRC issue has created a political environment in which rational discourse of the Board's mandates are more difficult.

* About a dozen Massachusetts communities have adopted

ordinances or resolutions opposing the landfilling of BRC waste. The discussion of these proposals in the municipalities has forced some local elected officials to take political stands on low-level waste issues because of pressure from local constituents.

* A bill with a similar intent is currently under consideration in the Massachusetts Legislature, confusing legislators who had understood that such a landfill ban already exists in state law.

* Congress mandated in the 1985 Amendments Act that NRC develop a policy for wastes and practices which could be considered below regulatory concern. Yet now some of its members are attacking the NRC and have filed legislation (Senator Mitchell and others) to eliminate the BRC policy.

* The differences of opinion on the BRC issue are dividing, instead of unifying, state leaders among states. Governors must talk to governors; state low-level waste leaders must communicate with their conterparts in other states. But the BRC issue creates very different standards for waste acceptance, and will reduce the cooperation among states, rather than enhance it.

Questions about how states in existing compact regions whose opinions about BRC differ have already been raised in discussions of waste disposal facility access. The wide interpretation of different policies will serve only to confuse and stall compacting activities.

In order to fulfill the mandates of P.L. 99-240, Massachusetts, like many other states, has other, more important issues to address than BRC. For example:

* The present Management Board agenda includes evaluating the economic validity of constructing a disposal facility for an annual volume of 25,000 to 30,000 cubic feet of waste, which is predicted to be the Massachusetts volume by 1996.

* The state's fiscal situation has slowed completion of all the tasks outlined in Milestone '88 and Milestone '90. In addition, an anti-tax group has succeeded in collecting enough signatures to put a tax and fee roll-back initiative petition on the November State Election ballot. Approval of that petition by the electorate may threaten the passage by the Legislature of a Capital Budget (bonded revenues) to assist the Management Board in future siting activities. Approval of the referendum may also

lessen the chances for passage of legislation filed by the Management Board to assess fees on radioactive materials users and waste producers.

* The need exists to inform the public about the activities of the Commonwealth in fulfilling federal mandates, in siting facilities for the storage, treatment or disposal of low-level waste, and in completing other statutory responsibilities.

* The process of any potential future negotiation with a local community selected to host a disposal facility requires further preparation.

These are some of the Management Board's concerns. These are some of the important issues for Massachusetts. The Board does not need to be saddled with another problem -- BRC -- which will continue to cause confusion and damage to the state's low-level waste management activities.

We therefore urge you to rethink your action on BRC with respect to each of the parties, including all of the states, who must fulfill responsibilities under federal law.

REMARKS BY SENATOR JEROME J. JOYCE
TO THE NUCLEAR REGULATORY COMMISSION
AUGUST 27, 1990

Mr. Chairman, members of the NRC, the BRC policy concerns me for several reasons. First, I believe adoption of a BRC standard will interfere with the efforts of the states and regional compacts to develop new facilities for the disposal of low-level radioactive waste. Second, I fear that any policy that will allow significant quantities of radioactive waste to be disposed in sanitary landfills will make siting and development of new solid waste disposal facilities impossible.

But my most serious concern with the BRC policy is that it threatens state's right to protect their citizens from radiation hazards by making the BRC policy items of compatibility, thereby limiting the regulatory authority of the state to prohibit unrestricted disposal of radioactive materials.

The BRC policy itself is not an item of compatibility for Agreement States.

However, the NRC Policy Statement implies that decisions of the NRC to deregulate radioactive waste will be binding on the states by saying

that Agreement States will enforce compatible State regulations, and that the Commission is concerned that inconsistent regulation of BRC wastes could result in "differing levels of risks to the public and the environment through the application of different residual radioactive criteria in the cleanup of contaminated sites."

Requiring states to adopt NRC's BRC rules would deprive states of the latitude to decide what kind of waste shall be disposed of in what type of facility. There is ample legislative history to support the view that states are not prohibited from imposing more stringent standards. Certainly the legislative history does not indicate that Congress shares NRC concern that some states might reduce the risks to the public and the environment by adopting regulations that are more stringent than NRC's.

NRC has not established why States should be precluded from requiring more stringent standards for waste disposal. The policy statement reflects NRC's concern that "inconsistent regulation of [BRC] could result in differing levels of risk to the public," but the Commission has not explained why this is a problem. No compelling reason has been given for depriving individual staes of the right to be able to reduce the risks associated with the disposal of low-level radioactive waste by adopting regulations or standards that are more stringent than the standards adopted by the NRC.

As I said earlier, this BRC policy is potentially damaging to the progress made by several states and compacts to fulfill their responsibility under the federal LLW Policy Act to develop disposal facilities. Most states working to comply with this Act have found it necessary to do more than demonstrate that their plans for facilities are merely adequate to protect the public health and safety. Rather, states have found it necessary to assure that risks to their citizens as a result of low-level radioactive waste disposal have been minimized. For example, in Illinois, the facility being developed for the Central Midwest Compact is to employ the use of engineered barriers, even though NRC has determined that shallow land burial is adequate. I fear, however, that progress in Illinois and other states will be thwarted if the States do not have the ability to adopt regulations that are more stringent than NRC's.

The development of new solid waste landfills is also threatened by the BRC policy. If, as a result of NRC's BRC determinations, states are prohibited from excluding radioactive waste from solid waste disposal facilities, public protests and outrage may make it virtually impossible to site new facilities. And with the rapidly diminishing landfill space in this country, this would cause a very real and serious problem for countless communities.

The State of Illinois is already on record as being a strong opponent of this policy. In several letters to the NRC, the State has explained its opposition, and a month ago the Director of the Illinois Department of Nuclear Safety appeared before a Congressional subcommittee which heard testimony from many opponents of the policy. I understand discussions have begun on possible Congressional action to reaffirm the states' rights to regulate low-level radioactive waste to best protect the public.

I find it extremely curious that the NRC did not actively seek public comment before issuing the controversial policy statement. Nearly two years ago, the Commission did invite comment on what it called "preliminary views concerning a policy exemption." However, the NRC did not solicit public comment before issuing the policy statement in June. Then, two months after issuing the policy statement, the NRC belatedly announced that it would hold hearings.

I urge you today to withdraw this policy statement which would allow certain radioactive wastes to be disposed in solid waste landfills, incinerators and sewer systems. And I also urge you to work on new standards for determining safe radiation exposure levels.

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To: United States Nuclear Regulatory Commission
Washington DC 20555

From: The McHenry County Defenders
132 Cass St.
Woodstock IL 60098
Jerry Paulson, Executive Director

Re: BRC policy/deregulation of radioactive waste

RESOLUTION OF THE MCHENRY COUNTY DEFENDERS AGAINST DEREGULATION OF RADIOACTIVE WASTE

("BELOW REGULATORY CONCERN")

WHEREAS, the United States Congress and the United States Nuclear Regulatory Commission (NRC) have approved the concept of deregulating heretofore radioactive waste to the status of nonradioactive waste (waste "Below Regulatory Concern," "BRC");

WHEREAS, such deregulated radioactive waste will go to landfills, sewers, waste recovery plants, incinerators and any other facilities for solid, liquid or hazardous waste, which are neither designed nor intended to take radioactive waste;

WHEREAS, deregulated radioactive materials, once mixed into the solid waste stream, could contaminate raw materials, recycled products and could interfere with efforts to recover materials from the waste stream for reuse or sale as products, such as compost or R.F.D.;

WHEREAS, it has been estimated that more than 30% of the volume of what is currently considered "low-level" radioactive waste could be deregulated by the US NRC;

WHEREAS, evidence is growing that exposure to low levels of ionizing radiation have greater negative health effects than previously assumed by national and international agencies;

WHEREAS, radiation and chemicals have synergistic effects on the environment and human health, and such exposures to both may result from deregulation of nuclear waste;

WHEREAS, the primary motivation for this change appears to be a desire to reduce the costs for the disposal of waste produced by the nuclear industry;

WHEREAS, the actual saving realized in the short term will be marginal and will be more than offset by the increased hazard to public health resulting from the radioactive contamination of our ground water, our streams, lakes, rivers and our air;

THEREFORE, BE IT RESOLVED that the MCHENRY COUNTY DEFENDERS hereby declares that the mixing of any radioactive waste with non-radioactive waste is a methodology of waste disposal that could be a threat to the health and safety of the citizens of McHenry County and therefore calls for the prohibition of the acceptance of radioactive waste deregulated or otherwise at any solid, liquid, or hazardous waste facilities.

THEREFORE, BE IT RESOLVED that the Executive Director take all necessary and appropriate action to implement and make effective this Resolution.

THEREFORE, BE IT RESOLVED that the MCHENRY COUNTY DEFENDERS call for the US Congress to rescind Section 10 of the 1985 Low-Level Radioactive Waste Policy Amendments Act [P.L. 99-240] which requires the Nuclear Regulatory Commission to set BRC standards.

THEREFORE, BE IT RESOLVED that the MCHENRY COUNTY DEFENDERS urge the US NRC to halt all activities that will result in deregulating radioactive waste and materials (BRC).

Resolution approved by the Board of the McHenry County Defenders on November 20, 1989

Submitted to US NRC at BRC hearing, August 28, 1990

DATE: August 28, 1990

FOR: U. S. Nuclear Regulatory Commission Hearing
Holiday Inn- O'Hare, Rosemont, Illinois

BY: Catherine T. Quigg, Research Director
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BRC: BELOW REGULATORY CONCERN

When the Russians beamed radiation at the U.S. Embassy in the 1970s, Americans were understandably alarmed. Now comes the U.S. government with new ways to beam radiation at its own citizens.

Under its new expanded BRC policy, the U.S. Nuclear Regulatory Commission has found a way to give each American citizen the radiation equivalent of up to five chest X-rays each year, causing up to 12,500 extra cancer deaths each year. The NRC views the additional cancers as being "of little concern to most members of society." We might well ask the NRC why the American public would be so concerned about the cancer risk to a few Embassy employees-- but feel no concern when thousands more face the risk of cancer deaths; to say nothing of cancer injuries under its new policy. Which brings up the fact that the NRC fails to discuss risk of cancer injuries from its expanded BRC policy.

Cancer deaths and injuries impact not just its victims. Families and friends of victims suffer emotionally. The economic cost alone can devastate a family.

The present radiation protection system fails to take account of multiple exposures. Radiation regulations treat each source of radiation as though it were the only source, rather than considering the cumulative impact of all sources on individuals or on the population as a whole. The same individual could be subjected to overlapping radiation exposures from a number of NRC exempted practices, each contributing up to 100 millirem, and thus suffer a cumulative exposure far greater than 100 millirem. Because the NRC has no monitoring plans or equipment in place to enforce BRC policy, it will have no way of knowing individual or collective radiation exposures for any of its exempt practices.

(MORE)

The proposal to allow certain radioactive waste to be reclassified as ordinary garbage for landfill burial is fraught with hazards to the public health and safety. The drinking water of the nation will be at serious risk of radioactive contamination. Moreover, sales personnel, garbage and landfill workers will be a great risk from occupational radiation exposures, especially since there will be no monitoring of radioactive merchandise in quantity, declassified radioactive waste or the workers themselves for radioactivity. Workers' unions should be up in arms at this new policy, if they aren't already. Opposition to the Bartlett balefill landfill in Illinois should take on a whole new dimension as activists realize that their feared toxic waste dump will also be radioactive.

Considering the mounting evidence that low doses of radiation cause significantly more cancer injuries and deaths than previously conjectured, the NRC should busy itself with changing its regulations to lower the public's radiation dose--rather than plans to increase that dose. There should be no federal pre-emption of state laws against BRC waste and no exemptions of radioactive materials for disposal in the marketplace or landfills.

Just because the NRC failed to properly regulate the disposal of radioactive smoke detectors and got away with it, dose not mean the public is willing to accept a stream of radioactive consumer products in the marketplace and at their local landfills. The camel should never have been allowed to get its nose under the tent.

The expanded BRC plan proves the ethical and moral bankruptcy of the NRC and those in Congress who passed the Low Level Radioactive Waste Policy Act of 1980 and its 1985 Amendments Act mandating the expanded BRC policy. Both laws should be repealed. The NRC should refuse to implement any law which contradicts and interferes with its own primary mandate to protect the public health and safety--a mandate which should supercede ill-conceived and dangerous Congressional legislation. There is no way the NRC staff can protect the public health and safety by putting it at greater risk of cancer injuries and deaths from increased radiation exposure. They should so inform Congress.

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TESTIMONY BEFORE THE NUCLEAR REGULATORY COMMISSION CONCERNING THE PROPOSED "BELOW REGULATORY" CONCERN RADIOACTIVE WASTE POLICY

submitted by

David A. Kraft, President NEIS
August 28, 1990

Nuclear Energy Information Service is an Evanston-based, non-profit energy education organization with 300 active members. While we strongly oppose the NRC's policy of "below regulatory concern," we must congratulate the agency on its strategy of scheduling a public meeting without advance public notice or education on the issue, and then requiring people to sign up in advance to speak at the public meeting, inconveniently scheduled in the middle of a work day to minimize the ability of the public to participate in the process. This amazing insensitivity shown the public by NRC provides one of the reasons why NEIS and over 20 other organizations around the country are the suing the NRC on its BRC policy.

The recent intention of the Nuclear Regulatory Commission to classify a substantial portion of what is now considered to be hazardous, "low-level" radioactive wastes had its beginning in another failed radioactive waste policy: the "Low-Level" Radioactive Waste Policy Act of 1980, and its subsequent 1985 amendments. And just as other parts of that law have shown to be poor policy, so too is the concept of deregulating radioactive wastes.

The NRC's notion that hazardous radioactive wastes can be "acceptably" disposed of in landfills, incinerators such as those proposed for Robbins and Bedford Park, down sewers, along roadsides, in recycling and scrap metal centers has been challenged vociferously by the current scientific thinking on the hazards of exposure to low levels of radiation; by national and international agencies of stature equal to or exceeding that of the NRC; by numerous state and local governments whose task to protect the health and safety of their citizens is threatened by such a reckless policy; and by hundreds of private organizations nationwide, who argue that a policy that finds acceptable the additional deaths of between 2,800 and 12,000 people each year so that the nuclear industry can supposedly save an estimated $600,000,000 over 20 years is not only unacceptable, but criminal.

Objections to this policy are legion, from both within and without the NRC:

— the proposed NRC standards for BRC radioactive wastes of 10

mrem/yr/waste stream are below those standards deemed acceptable by the International Atomic Energy Agency, the National Committee for Radiological Protection and Measurement, the Environmental Protection Agency, and even the Illinois Department of Nuclear Safety;

— the proposed 10 mrem standard was severely criticized in a memo from Robert Bernero, then acting director of the Nuclear Regulatory Commission's own Office of Nuclear Material Safety and Safeguards, dated September 8, 1988. This memo was sent from ONMSS to the legendary Victor Stello;

— the EPA's Office of Radiation Programs found seven major criticisms of the NRC policy and standards, and state unequivocally that, "...this [standard of 10 mrem] is too high a level for a blanket deregulation criteria, and is not protective of the public health."

— the NRC's own Victor Stello even states that "The dose to an individual will be a function of dose rate, occupancy times, and pathways of exposure. Depending on the assumptions made, dose estimates can often vary by a factor of 100." (Source: memo from Victor Stello, Jr., then Executive Director for Operations, to NRC Commissioners, Oct. 5, 1987.)

— the NRC decisions on deregulation come six months after the National Research Council concluded in its BEIR V Report of December, 1989, that hazards from exposure to low levels of ionizing radiation had been underestimated by a factor of between 4 to 14; four months after the International Committee on Radiological Protection concluded that worker exposure to low level radiation should be reduced 250%, from 5 rem/yr to 2 rem/yr; and after studies on exposures to airline pilots and stewardesses concluded that they may be exposed to excessive amounts of low-level radiation. Good timing, NRC!

Although this tremendous amount of information indicates that the policy is flawed, it is important to note that the policy does not truly meet the NRC's own professed goal of "reduced costs and overall risks to the public from managing certain types of slightly radioactive waste in a manner commensurate with their low radiological risks." This indicates the true reason for the policy -- to save the nuclear industry money, resulting in another dose of subsidized, socialized nuclear energy policy. The policy will actually drive up costs of LLRW disposal in Compacts where the costs for future LLRW disposal will be fixed (such as is the case in the Illinois-Kentucky Compact), offsetting any perceived savings from reduction in wastes designated for LLRW disposal.

The NRC inconsistently states elsewhere in the policy that "the Commission will not consider whether a [BRC] practice is justified in terms of **net** societal benefit," again proving that BRC represents not a cost saving to society, but further another subsidization of the nuclear power industry. Although money is the least important concern for NEIS, using the NRC's number of 3.5 cancer fatalities per 10,000 people (which EPA states is at least 3 times too low a figure, and, if

Victor Stello was right, may be up to 100 times too low), a rough calculation of the cost to society reveals that BRC will result in:

- as much as $250,000,000 in medical treatment costs for the last year of life alone of the expected 12,412 cancer fatalities;
- as much as $109,000,000 in lost wages from deceased wage earners among this group, not including the lost money of economic multiplier effects;
- increased costs of medical treatments for the fatal and non-fatal cancers resulting from BRC policy; increased insurance and workers' compensation costs to individuals and employers;
- an incalculable amount of money in lost wages and productivity of people who develop non-fatal cancers, or other radiation induced medical problems, such as depressed immune system functioning, etc.

NEIS has seen figures that indicate that as many as 4,100 Illinoisans may die from cancer, with an equal number expected to contract non-fatal cancer from the BRC policy which will not even achieve the NRC's stated goal of reducing costs for LLRW disposal in Illinois, due to our fixed-cost fee system. Even if we subscribed to the notion of such mercenary tradeoffs, this would be totally unacceptable.

In 1945, after WWII, the victorious Allies tried, found guilty, and imprisoned and executed people whose job it was to inflict random pain and death on unsuspecting civilian populations. This was called justice.

In 1990, the NRC wants to inflict from 2,800 to 12,000 additional cancer deaths, and many more non-fatal cancers on the American public so that the nuclear industry can ostensibly save a little money. This is called American nuclear policy.

How will history judge these actions and us as a people if we do not oppose the BRC policy?