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Regarding the Draft Supplement to the Generic Environmental Impact Statement on Decommissioning Nuclear Plants

These comments are presented on behalf of the members of the Center for Atomic Radiation Studies (MA), Citizens Awareness Network (New England), Massachusetts Citizens for Safe Energy (MA), MassPirg (MA) and the Toxics Action Center (CT, MA, ME). We appreciate the opportunity to submit these comments for NRC's consideration on an issue having direct impact to the many thousands of our members.

I. Process - Reversed

1. Problem: Prior to 1988, the NRC's regulations required the licensee to submit a detailed decommissioning plan at the beginning of the decommissioning process. This allowed the public to have an understanding of the potential alternatives and impacts of the plan and to make comment before the process began. Unfortunately this process was changed in 1988. Now, at the beginning of the process, the licensee is simply required to submit a simple/vague/general description. Details are not required until the process is nearly completed. This is backwards and locks the community out of meaningful input. Also, this reversed process may well result in wasting the licensee's time and money. Issues not thought through at the beginning may arise.

Solution: Reverse the current process and require a detailed plan, open to public review, at the start. Being considered alternative approaches, qualitative factors, or extended areas of consideration may incorporate these remarks concerning a change in the process in the GEIS.

II. Add "Psychological Impacts" to Environmental GEIS Impact List

1. Problem: Current practice does not list, take into account, psychological impacts among the list of environmental impacts to consider.

Solution: Psychological impacts are clearly public health issues. This category should be added to the list of environmental impacts considered in the decommissioning process. The public will experience less anxiety if the

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decommissioning process - the decommissioning plan - is fully described up front and available to the public for comment and meaningful input. In the same vein, fully funded, democratic community advisory panels need be established at the get-go. They must be independent, be open to all members of the community to participate and have full control of their budget. This will ensure meaningful public participation from the start and will work to ensure less public anxiety and psychological stress.

III. Residual Radioactivity/Contamination Levels

1. Problem: The radiation standards for public exposure, including water pathways, incorrectly assume that man or Mother Nature will not disturb the buried grounds. What assurance can there really be that the shielding provided by feet of dirt will not be removed by man drilling or digging or by Mother Nature via an earth quake, flood, tidal action, etc.? Pilgrim NPS and Seabrook NPS, for example, are on the coast. We all have read predictions concerning rising sea levels, eroding coastlines and increased number and severity of coastal storms.

Solution: Recognize that buried grounds may well be disturbed and to protect public health subsurface radioactivity must be addressed by regulation.

As noted by the State of Maine the current series of regulatory guidance, built around the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) NUREG 1575, does not address the environmental impact of residual radioactive material deeper than 6 inches below the surface. This is an important omission because during the 1970's, for example, the NRC allowed licensees to bury LLRW on site and they did so deeper than 6 inches.

We can well imagine predicted coastal storms, rising tides and the eroding coast line near Pilgrim NPS to eventually wash this material into our waters or remove the top soil allowing the contaminants to blow in the wind. The buried radioactivity must be identified and removed to return the site to its original state and protect future generations.

Nor does the current regulatory guidance address such matters as activated concrete/rebar, internal contamination, and sub-slab contamination. It should do so.

2. Problem: As a result of electric utility deregulation, many nuclear plants are being sold. There is not a requirement in license transfer regulations/guidance for the current owner to provide federal and state regulators with a detailed record and map of waste buried on site and description/location of areas known to be contaminated. This valuable information may be lost.

Solution: As part of the license transfer approval process, require that the current owner provides detailed records and maps of waste buried on site and the location and description of known areas of contamination to both state and federal regulators. These documents must be open to public review.

3. Problem: Now removal of structures/materials ends at the site boundary - however the structures and contaminated materials often extend beyond the site boundary. An outflow pipe into the bay would be an example. The entire pipe should be removed not simply that portion up to the site boundary.

Solution: Removal and remediation of all contaminated structures and materials resulting from the operation of the facility should be required to be removed/remediated - irrespective whether they are on or off site. They resulted from and were part of the operation of the facility.

4. Problems: "Background" level of radioactivity -lack specificity and not site specific.

Background is not clearly defined in NRC regulation/guidance - the exact variables that go into its' calculation are not described.

Background now is different from when the site was originally built - return to background should mean to the original, pre-facility, number.

The background level varies from facility to facility. There appears to be a false assumption that there exists a "generic" background level. Pilgrim NPS, for example, is located in a sandy area. There is virtually no radon. Therefore using a national radon level "average" in calculating background at Pilgrim NPS would be wrong.

Solution: Background must be precisely defined - each component of what goes into the formula spelled out and justified. Background should be site specific. Return to background should mean to the pre-facility, original, number.

5. Problem: NRC/EPA radiation standards for public exposure are not adequately protective of public health - although, EPA's recommendations are better.

The current proposed standards do not adequately take into account accumulative exposures to radiation over time, the interactive effect of exposures of radiation with other toxins, and demographic realities - such as many in the population do not share the characteristics of "reference man" - healthy, white, thirty-year old males.

Solution: Standards should be adjusted more conservatively to account for the following. (1) Many in the population are babies, old, sick or impaired. The standard should be set to protect the most vulnerable - not the least vulnerable - current practice. (2) The population has been cumulatively exposed to radiation over time and from multiple sources. (3) The population has been exposed to chemical toxins - some act synergistically with radiation.

These points are especially important because around some, perhaps all, reactors there is already evidence of radiation-linked damage to the population. For example, around Pilgrim NPS there are documented footprints of radiation-linked disease - elevated thyroid cancers, leukemia, reproductive disorders etc. The already exposed/damaged population should be handled with "kid gloves" - more stringent clean-up standards.

Additionally more radiation is being allowed into the marketplace due to the recent ruling that allows more recycling of radioactive waste - metals. This increases the possible total exposure the public may receive. Therefore, if you add exposures in the marketplace you should subtract exposure allowed to remain at the decommissioned site. Protecting public health is the point and to do so the grand total of possible exposure must be looked at and reduced.

6. Problem: NRC talks solely about radiation in decommissioning. However other environmental impacts must be taken into account. People may be sickened by chemical contaminants and chemical contaminants often work in concert with, may be intensified by, radiation. We agree with the State of Maine in their commentary made at the Boston Scoping Session.

Decommissioning is not just about radiation. In fact, it may well be that at (any) site the potentially significant environmental impacts are traditional concerns such as pH and other "conventional" contaminants --- PCBs, heavy metals and painted concrete.

Solution: True clean-up, true protection of public health requires addressing and requiring clean-up of both radioactive and chemical contaminants.

III. Emergency Planning

1. Problem: Currently, "contractual arrangements with State and local governments for emergency preparedness programs can be eliminated once activities at the facility can no longer exceed the U.S. Environmental Protection Agency (EPA) Protective Action Guidelines at the site boundary" - NUREG - 1628. Simply emergency planning ends when operations/electric generation at the facility stops. However, the spent fuel remains on site and risk to the public remains with the potential of a spent fuel accident - example, fire.

Solution: Emergency Planning should remain until the spent fuel (potential danger to the public) has left the site.

V. Financial Assurance

1. Problem: Price-Anderson provides liability protection in event of an accident or release of radiation from an operating nuclear power plant. After the operating license is terminated, Price-Anderson liability coverage ends.

Solution: It needs to be clarified who exactly is responsible for health consequences arising from radiation at a decommissioned nuclear power plant after Price Anderson liability coverage ends and what financial assurance must exist that monies will be there.

2. Problem: The nuclear industry is lobbying for monies remaining in the decommissioning fund to go to the licensee. If allowed, it would be unfair and dangerous.

Solution: To insure both fairness and that there is not a financial incentive to the licensee not to perform a thorough clean up, NRC must act to ensure that any remaining monies in the decommissioning fund are required to go to ratepayers.

3. Problem: The current definition of decommissioning does not appear to account for the reality that spent fuel will remain on site for the indefinite future. NRC currently requires funds to pay for designated radiation related costs, only. The Licensee incurs other costs such as the management of spent fuel, dismantling non-radioactive structures, and restoring the site to "greenfield" in the decommissioning process. GAO 99-75 estimates that 15-20% costs of decommissioning will go to SPF and other non-radiation tasks.

Solution: Definition of decommissioning, and requirements for financial assurance, should be revised to include the post operation costs of spent fuel and cleaning up of non-radioactive structures.

4. Problem: It is not clearly spelled out how NRC determines that there is financial assurance - the precise criteria are not defined.

Solution: NRC needs to define performance thresholds on how they assess/grade financial assurance from licensees - establish regulations that define

methodology of NRC's review of assurance; exactly what is acceptable; what NRC will do if a licensee does not make the grade.

VI. Decommissioning Alternatives

Rubblization

1. **Problem:** As pointed out by the State of Maine in testimony presented at the Boston Scoping Session, May 17, 2000, the "rubblization option" has not been analyzed to see whether or not it is acceptable under the National Environmental Policy Act (NEPA) - it has not been covered under existing GEIS, nor in any other EIS of record.

Solution: Rubblization has to be analyzed prior to its' use.

2. **Problem:** Rubblization essentially turns a former power plant site into an unlicensed low-level, and possibly high-level, waste dump.

Solution: (1) The Federal and State LLRW/HLW dumpsite requirements should be followed in assessing the suitability of allowing rubblization at a plant. (2) If it meets those requirements all features required for low-level waste dumps, such as state and local voter approval, protective liners and monitoring wells should be required at "rubblized" plants.

Entomb/Rubblization/Third party

Currently there is a requirement that all decommissioning operations be completed within 60 years. The NRC is pursuing approval of an alternative option (ENTOMB) which would provide for a 100 to 300 year dismantlement delay. In Entombment LLRW is "secured" and compartmentalized in the reactor building below grade. This can also be accomplished through the "Barny Rubble" approach. The nuke is then sealed to cool out for up to three hundred years.

Upon granting of the License Termination of the Part 50 license (10 CFR 50.82 "The License Termination Plan) the utility walks away from all custodial responsibilities along with all health and environmental liabilities for the ENTOMB site. The utility currently can make "an arrangement" under 10 CFR 20 (E) for all further custodial care and oversight to be carried over to a "independent third party" even for a "conditional" or "restricted" release site with the entombment of the radioactive waste (including Greater Than Class C).

NRC has established unrestricted release at 25 millirem per yr. This includes drinking water. Also, NRC may terminate a license under restricted conditions with residual radioactivity not to exceed 100 mrem/yr. (to the average member of the critical group) and 500 mrem/yr. (if the other levels are not technically achievable).

After license termination, NRC is no longer responsible for regulation or oversight. All custodial responsibility and liability is to be assumed by the "independent third party" as arranged under 10 CFR 20 (E). As yet this "third party" is not specified.

Third Party problems/questions that need specific answers/definition

1. Other than through an agreement and cash payoff made between the utility and an unspecified "third party" approved by NRC, how is the independent third party" left in charge of the site's custodial-care in perpetuity to be selected, re-certified and regulated after NRC regulatory oversight is terminated?
2. What is to prevent a third party from simply packing up and disappearing or declaring bankruptcy, and simply leaving the mess to the local community and state?
3. Given that the NRC and the EPA are in dispute over current radiation standards for the License Termination Plan, has the EPA signed off on a Memorandum Of Understanding (MOU) with NRC that they are willing to accept the oversight and regulation as "governmental custodian" of these independent third parties for the next 300 years?
4. Can NRC provide examples or profiles of candidates for "third party" custodial oversight of a facility selected for the ENTOMB option?
5. In reality, isn't it the state and/or the local communities by default the given third party?
6. It seems clear how this is very tidy arrangement for the utility and the NRC to exit the mess they have created and terminate their responsibilities and liabilities for these radioactive sites. Other than a dubious cash payoff, what is the incentive for a state or an affected community or any other "legitimate" third party to take over these long-term monitoring and custodial responsibilities from a utility and the NRC?

Conclusion

We suggest NRC extend the Scoping Process to allow more public input and that more decommissioning issues be placed under the GEIS.

Thank you in advance for your consideration,



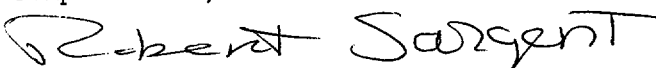
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