

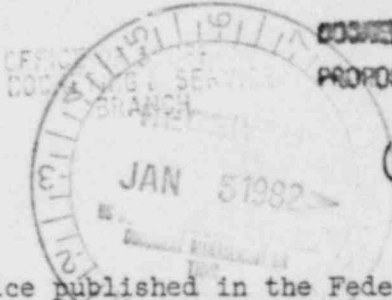
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Secretary of the Commission
U.S. Nuclear Regulatory Commission
attn: Docketing and Service Branch
Washington, D.C. 20555



DOCKET NUMBER
PROPOSED RULE PR-2, 19, 20, 21, 30, 40, 51, 61, 70, 73, 170
(46 FR 38081)

Sir:

This letter is in reply to the notice published in the Federal Register Vol. 46 No. 142 of July 24, 1981, inviting public comment on proposed amendments to the Nuclear Regulatory Commission's rules to provide specific requirements for licensing of land disposal of radioactive wastes. I understand that the comment period has been extended to December 31, 1981 and I hasten to submit these comments with the postmark of that day.

The proposed rule making stands to become a landmark governing the disposal of low-level radioactive wastes as it, together with its detailed 4-volume Draft Environmental Impact Statement, represents the fruit of considerable and long-time effort of the Commission's staff, embodying their philosophy of government and experience with controlling the nuclear community.

As a member of that community I have personally felt the heavy hand of this control, its slow and inscrutable working, which, with all the good intentions and byzantine ritual of decision making, discourages and kills private initiative due to the mismatch of relaxation times between legalistic government action and the financial ability of the "regulated" to survive long enough to benefit from the action.

The present document substitutes recordkeeping and many layers of surveillance for technology available yet poorly understood by both regulators and the lay public. It substitutes "common sense" and proof by delay and survival for sound technical understanding and will invariably succeed to kill what it purpotes to regulate and make safe.

I shall direct my comments toward two areas: The licensing process and the Waste disposal technology, both subject of the proposed rulemaking which is with detailed emphasis overdoing the former what it lacks with respect to the latter.

The establishment of a disposal site and the operation of a disposal facility for low-level radioactive wastes is a serious enterprise requiring responsible people. The requirements for establishing such facilities urgently needed by the nuclear utility industry and others, as laid down by the proposed document, will de facto eliminate any private enterprise from the contention and reserve it to utility consortia and branches of the "government" which can prove financial capabilities for the long times contemplated and can afford the financing of the legal circus surely to develop upon the promulgation of the proposed document. Indeed much emphasis is placed on the establishment of this financial capability which is clearly seen as needed to keep the hordes of lawyers and "experts" in business who will migrate, like a minstrel show from hearing to hearing as site after site in endless revolution attempts to attain the required 5-yearly extension of its existence permit. Personal experience regarding to these types of "public hearings" carried out presently by the Commission encourages me to nothing but scepticism, as such hearings typically drag on

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not for months but years, consult "experts" who make a career of it or house wives and people not at all familiar with the issues, who however qualify as concerned citizens and discuss subjects far afield.

The present document requires site preparation surveys that effectually drag on for at least a decade per site. The documentation for each is bound to fill more pages than NUREG 0782. De facto this must be cleared with the "eventual owner" of the site, for unless such commitment is there ahead of time the entire preparation survey effort may be for naught. This pre-commitment is difficult to obtain as political currents may encourage the eventual "owner" to rescind its willingness to inherit the site.

Prior to the issuance of the construction license public hearings would be held as per 10CFR Part 2. Intervenors will be sure to emerge and the preparation for the hearings, with the viewing of the preparatory documentation etc. by the lawyers of the intervenors, the legal extensions granted during the "discovery phase" etc. drag out the process for months, say nothing about the actual hearings.

Subsequent to the issuance of the license the land disposal facility is constructed and waste receipt and disposal operations start. At intervals specified in the license, the normal term for materials licenses is currently 5 years, the licensee would be required to submit a license renewal application.... A public hearing would be offered. i.e. the song and dance would start all over again after hardly enough time to start up, and closing of the facility would be discussed. And this every five years! I have a hard time seeing how the facility could make enough money, leave alone profit, to support this.

One the licensee finds out that there is no business warranting the operation, and he applies for closing the site, he has to submit a final closure plan for review and approval. "A public hearing would be offered". I wonder whether he will still be around after this, unless the licensee is himself government. The "generator" of the waste, will, of course, be required to finance the disposal of his waste and the revenues from the fees he pays will have to keep the "licensee" in business. The costs of disposal, I foresee, will become so exorbitant as to greatly discourage the "generator" to send anything for disposal. He will rather store his stuff at his own site till he dies.

Anyone in any way involved in this activity, has to be prepared to face the inevitable bureaucratic non-compliances which are associated with byzantine rules of record-keeping that no human can fulfill. Whether warranted because of public safety or not, he exposes himself to perpetual litigations about fines for non-compliance, public moral outrage at the hearings and the threat of losing permission to receive wastes for disposal - his way of staying in business. Yet at the same time he is not permitted to close the place down and walk away in frustration. Unless he is government he must be insane to submit to such torture without end.

Now, why does the regulatory agency find it necessary to propose these procedures? It clearly stems from lack of self-confidence of the agency relative to the technical matter, its paranoid fear of the public and inherent distrust, potentially justified, of anybody crazy enough to try to submit himself to these rules.

Now let us look at the other side of the picture. I am more qualified there as radiochemist.

The document states: ".....remaining radioactivity is at a level that does not pose a danger to public health and safety." It deliberately avoids the cri-

terion in technical terms, for which the nuclear community has been waiting for more than a decade. It leaves the interpretation of this phrase forever to the lawyers and laymen of the day, who will argue it ad infinitum during the various public hearings. There are enough technical data to set such limit and have it done with. I urge the commission to adopt one such. I propose some fraction of the specific activity of some commonly mined uranium ore, or the equivalent to the highest-specific-activity topsoil accessible to the public within the continental United States, whereby the equivalency can be defined specifically for each isotope and mixture of isotopes. Such a simple definition would settle the question once and for all and put some floor under the discussions, admittedly at the expense of the legal community.

Radiocative waste can be made to defend itself and can be stored in such a way that the paths to the biosphere are small enough as to be of no consequence. Typically the present document places the emphasis on site and site structure. More effectively the waste form itself could be made, and should be made in a way so as to localize the radioactivity and not release it, no matter what the disposal site hydrology and disposal practice. The method cited in the document is typically the most unreliable and obsolete method of solidifying liquids i.e. solidification with urea formaldehyde, a technique long recognized as unsatisfactory by the technical community. Solidification of aqueous wastes by incorporation into plastic matrixes, renders the radioactivity solid, virtually immobilized and unleachable, requiring less stringent site criteria. If formed in large enough blocks, typically up to 50 cu ft and larger, they would also discourage the inadvertent intruder, as it would require considerable effort to move or break up such waste forms. Waste treatment by volume reduction and subsequent solidification into plastic can effectively deal with liquid wastes. It can also accommodate wastes composed of pulverized or granular solids. Consideration must be given to sufficient cross linking of the plastic to give the structure sufficient rigidity and cohesive strength to counter osmotic pressure and swelling which can destroy the effectiveness of asphalts and other weak matrixes. Absorbents as mentioned in 61.56(a)(3) are definitely unsatisfactory, representing obsolete technique. Leaching water will readily liberate the radioactive material from such matrixes and render them mobile.

The proposed rules place some weight onto the container of the waste, 61.56(b)(1). The typical container for low-level wastes are steel barrels. In the disposal site environment these containers are prone to rust, even in the desert if buried, and thus cannot really be relied on to not leak or give structural strength to the wastepile in the burial trench. Non-deformability of the waste form itself and efficient backfilling of the voids in the pile will avoid sinkhole formation causing rainwater and surface-water to be funnelled into the filled trenches.

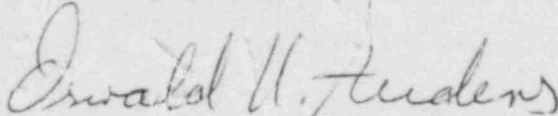
I am very much in support of segregation of wastes by relative toxicity and hazard. I believe that a somewhat more sophisticated, potentially computerized, scheme, than that suggested in the document, can simplify procedures, save land and render less of it in need of perpetual care. For classification the amount per package and halflife as well as type of radiation emitted would be the important parameters. With segregation goes the requirement of stability and ageability. For solidification products the compressive strength, leachability, radiation resistance and biodegradability should be established prior to interment to provide for proper classification. Only unsuitably packaged wastes need to be placed into expensive vaults. The price would discourage the generator from sending such to the disposal facility.

I believe the document places too much consideration on the inadvertent intruder.

His needs are readily taken care of by placing the required cap onto the burial trench thick enough to divert surface water and remain unaffected by the freeze thaw cycle. No truly "inadvertent" intruder would burrow to more than 7 ft under the ground without considerable deliberation and knowing what he is doing. He can be sufficiently warned by a big enough monument e.g. concrete block 30 ft on edge, with inscription in deep relief announcing the inactive waste disposal site and its proper use e.g. as a golf course etc.

I hope that the above comments can still be considered for making the proposed addition to 10 CFR a workable document with which free enterprise and the nuclear establishment can live.

Very truly yours,



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