(59 FR 4868)

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
P.O. Box 8469
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March 10, 1994

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Bureau of Radiation Protection

56

Dr. Donald A. Cool
Chief
Radiation Protection and Health
Effects Branch
USNRC
Washington, DC 20555

Dear Dr. Cool:

The Conference of Radiation Control Program Directors (CRCPD) Committee of Decontamination and Decommissioning (E-24) has reviewed the "staff draft" of a proposed rule for developing radiological criteria for decommissioning and has the following comments. You will also find enclosed the results of a survey of various state radiation programs (conducted by the E-24 Committee prior to the May workshop in Washington, DC) which provides additional concerns and issues for your consideration.

Having participated in the NRC participatory rulemaking process for developing this draft regulation, the NRC has done a commendable job with public involvement and trying to incorporate the concerns of the public into this proposed draft regulation. NRC's credibility has been greatly enhanced because of this effort, and we strongly believe that this process should continue to be used in the future for similarly controversial issues.

The goal of "reducing the concentration of individual radionuclides which could contribute to residual radioactivity at the site which is distinguishable from background" is a laudable goal and very responsive to public comments and concerns. However, the Committee is very concerned with the issue of whether the proposed goal of 3 mrem/yr and the limit of 15 mrem/yr will be measurable and, therefore, one can verify that the standard has been met. Additional justification is necessary to assure that the proposed standards will, for most facilities, be measurable and therefore can be verified by independent means if necessary.

The "tiered approach" for establishing various increasing limits and levels of institutional control is a very good concept and presents a very practical way of dealing with some of the complex issues that will surely arise when dealing with the variety of site-specific conditions at various licensed facilities. However, there are some concerns with the current proposal.

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- In the past when a numerical ALARA goal has been established, it has been very difficult to justify going above that goal. This will be especially difficult in this case where the ALARA process will have to be conducted as an open, public process. The current proposal is very vague on what the criteria will be for allowing unrestricted release between 3 and 15 mrem/yr. Additional discussion and specificity is required as to the standards for ALARA so that 3 mrem/yr does not become the defacto standard.

- Additional justification and analysis is needed for the 15 mrem/yr. limit for the following reasons: (1) it is outside the 10^{-6} to 10^{-4} lifetime risk range that EPA is somewhat tied to because of CERCLA, (2) it is the same as EPA's high-level waste standard which is based on different conditions and potential pathways, (3) it is higher than the 10 mrem/yr in the recent NRC proposed BRC policy that addressed the cleanup issue but had to be withdrawn due to public concern.

NRC's response to the issue of compatibility is essentially a non-answer. Will Agreement States be allowed to adopt more stringent requirements? This issue is of critical importance to the states and needs to be discussed in much greater detail at other forums involving state regulators.

We agree that the rule needs to provide for meaningful and substantive community involvement in planning, overseeing the decommission activities, and implementation of institutional controls, if necessary. However, we have the following concerns with the current draft proposal:

- The idea of requiring a formal public involvement process is a good one, but before adopting the requirement for a Site Specific Advisory Board (SSAB), there is a need for some additional consideration and discussion of its responsibilities and role. Requiring an SSAB with the proposed makeup could result in politicization of the issue and possibly serve as a springboard for individual agendas.

- There is also a need to consider the need for a more formal public involvement process for determining ALARA when the 3 mrem/yr goal cannot be met.

- The issue of how this public involvement process is staffed and funded needs to be revisited. Licensee funding and staffing is not a very credible way to go.

- Although the concept is necessary, there is a real concern with the enforcement of institutional controls after the license is terminated when it is not possible to release the site for unrestricted use. In addition to the need for enhanced public involvement in decisionmaking, there will also be a need for enforceable requirements that will be assured by continuing public awareness and involvement in the institutional controls that may be established.

Although we agree with the concept of limiting the restricted use risk to the same as that for unrestricted use, it is not clear whether the ALARA goal of 3 mrem/yr will also apply (or for that matter maybe it should apply) for the restricted use scenario. Does the critical population group or max individual risk concept apply during this scenario?

Proposed Section 20.1401(c) may not adequately address the issue of finality as discussed in the issues section. If a site meets the standards for unrestricted release, the residual radioactivity by definition should not result in significant public or environmental harm. On the other hand, NRC needs to look at the various criteria being used for facilities currently in the process of being decommissioned to ensure that residual radioactivity does not present significant risks compared to the criteria of this proposed rule.

For those sites which are considered acceptable for license termination under restricted conditions, consideration should be given to requiring some sort of liability that would require cleanup to unrestricted release standards if technology improves or conditions change to make this possible. Self insurance should not be an acceptable financial assurance mechanism to satisfy the requirements of 20.1405(c).

The discussion on waste disposal should include consideration that regional LLRW disposal facilities being developed by the states and compacts under the LLRW Policy Act may not accept all waste from decommissioning, particularly very low activity, high volume contaminated soil, and building rubble. Other disposal options need to be acceptable and available.

We agree that these standards should not include a separate standard for radon. However, the standard that is proposed for those sites that may have the potential for a radon problem will be very difficult to meet and probably could not be met for the many contaminated sites which contain NORM only (no source material present). If a site that is licensed, only because it contains some source material could be decontaminated to remove all of the licensed source material, why should it not be treated similarly to a NORM only site? If the source material had not been present to begin with, it would not have been licensed.

The 100 mrem/yr absolute upper limit for license termination with restricted use may not be appropriate because it is identical to the maximum individual public dose limit from licensed activities in Part 20. Licensed activity limits are much more controllable and enforceable than the institutional controls that are being relied upon in this proposal and which may be implemented by some third party. Consideration should be given to some tiered approach that could be based on the halflife of the residual radioactivity. The longer the halflife, the lower the probability that institutional controls will be effective. Therefore, a lower maximum dose for restricted use for long-lived isotopes may be appropriate.

We agree that previously disposed materials under provisions of 20.304, 20.302, and 20.2002 need to be included in determining whether the licensee meets the standards of this proposed rule.

The definition of "residual radioactivity" may be too broad and, therefore, impossible to meet in practice. Inclusion of all licensed and unlicensed radioactive sources used by the license could include technologically-enhanced NORM or even building materials. A suggestion is to replace "unlicensed sources" with "radioactive material associated with the licensed sources."

We agree with the definition of "background radiation" as proposed. However, additional guidance will be necessary to establish statistical uncertainties and lower limits of detection and methods of detection. This definition, as used in the rule, may conflict with the definition of "residual radioactivity", as discussed in the previous comment.

The concept of minimization of contamination in the proposed Section 20.1408 is very good, and we agree it should be required for all new and amended licenses. Consideration should also be given to requiring a preoperational detailed site characterization study for those facilities where environmental releases or unusual occurrences may lead to significant contamination of both the onsite and offsite environment.

We greatly appreciate this early opportunity to comment on your draft proposed rule. We also greatly appreciate the opportunity provided to the CRCPD and the states for their meaningful participation in the process to develop this rule which we believe to be one of very significant impact and of great importance to the states.

Sincerely,

William P Dornsife

William P. Dornsife
Chairperson, CRCPD
Committee on Decontamination and
Decommissioning (E-24)

Enclosure: E-24 Survey

cc: E-24 Members
OED, CRCPD
Margo Oge, USEPA

APPENDIX A.

SURVEY BACKGROUND AND FORM

March 22, 1993

Dear Radiation Control Program Director:

The Committee on Decontamination and Decommissioning (E-24) has been requested by the Board of Directors of CRCPD to develop a survey which will be used to provide the state radiation control program perspective on the issues that the NRC is considering in the development of proposed rulemaking to establish radiological criteria for decommissioning. You are requested to answer the following questions related to the issues that will be the subject of the proposed rulemaking. Your responses will be tabulated and provided to NRC as the CRCPD perspective at the national workshop to be held in Washington DC in early May 1993 as part of the NRC's ongoing participatory rulemaking process. A state consensus on any of these issues will be a very important factor in the NRC's decisionmaking process. Thank you very much for your participation in this important project.

Please complete and return this survey in the enclosed envelope on or before April 23, 1993.

Thank you,

Bill

Bill Dornsife
Chairperson E-24

Conference of Radiation Control Program Directors
Survey on Issues Relating to the Development of Radiological Criteria for Decommissioning

In all of the following questions, you should circle or check your preferred response.

1. Should the NRC:

(a) Establish generic radiological criteria for decommissioning through formal rulemaking.

(b) Establish criteria on a case by case basis using existing guidance.

Explain reason for preference.

2.Which of the following approaches should the NRC take in establishing the decommissioning criteria?

(a) Risk or Dose Limits-Establish limits above which the risks to the public are deemed to be unacceptable.

(b) Risk or Dose Goal-Establish goals below which the risks to the public are deemed acceptable.

(c) Best technology-Best effort emphasizing use of available technology.

(d) Greenfields-Return site to background levels.

(e) Other approach or combination of above. Specify details.

Explain reason for preference.

If preference is risk or dose limit/goal (option a or b above), should the criteria be consistent with EPA's risk range under Superfund which specify a lifetime fatal cancer risk of 10^{-4} to the most highly exposed population group and a general lifetime risk of 10^{-6}? (Note-10^{-4} lifetime risk is about 3 mrem/yr)

Yes No

If no, what specific risk or dose goal/limit should be selected and why?

Should traditional ALARA principals be used to assure that dose or risk goals/limits are better achieved?

Yes No

Should ALARA goals be: (a) site specific-case by case

(b) generic

Should the use of specific types of best demonstrated or available control technologies be recognized as part of these new standards?

Yes No

If yes, identify specific technologies and indicate whether their use should be recommended or mandatory.

Are there any specific technological issues, such as survey techniques or standardized methodologies for risk assessment, which may make one of the above alternative regulatory approaches more attractive or easier to implement?

Yes No

If yes, specify.

3. Should the goal for decommissioning be unrestricted use of the site?

Yes No

Should NRC allow for any exceptions to the unrestricted use condition?

Yes No

If yes, under what conditions?

4. Should sites which have undergone previous decommissioning actions be reevaluated under the new standards?

Yes No

Should sites where previous authorized waste disposal activities were conducted be released for unrestricted use without undergoing evaluation using the new standards?

Yes No

If yes to either question, should any conditions apply? (e.g., specific radionuclides, radioactive halflife, total activity or concentration limits, waste forms, site specific conditions, site end use or long term use restrictions.)

5. How important are costs considerations in establishing decommissioning criteria?

Very important Some importance Should not be considered

If of some importance, how should costs be taken into consideration?

6. For some decommissioning situations (waste properties and/or volumes), should the option of disposing some or all of the waste on site be considered as part of the decisionmaking process?

Yes No

If yes, identify examples of these situations and any additional conditions or restrictions that should apply. (e.g., specific radionuclides, radioactive halflife, total activity or concentration limits, risk/dose assessment, site location (urban vs rural), site end use or long term care or use restrictions.)

How important a role should the existence of an in place waste management infrastructure for handling all of the waste generated in decommissioning play in the decisionmaking process or in the development of criteria?

Very important Some importance Should not be considered

7. Should collective dose to the public be considered in establishing or implementing decommissioning criteria?

Yes No

If yes, how should it be considered?

8. Should the criteria consider the effects from radon releases where appropriate?

Yes No

Explain.

9. What timeframe after decommissioning should be considered in analyses that may support the criteria or their implementation?

Less than 1000 years (Specify) 1000 years Greater than 1000 years (Specify)

10. Should separate criteria be established for protecting specific pathways or resources?

Yes No

If yes, what pathways or resources? (e.g., groundwater)

11. Some sites may include residual contaminants that present both chemical and radiological hazards (mixed waste).

(a) Do you believe that your State can and should develop the necessary criteria and standards to address this situation?

(b) Should NRC and EPA develop joint national standards?

Any additional suggestions for dealing with this difficult issue?

12. Should any existing state standards for cleanup (including those developed for NARM) be superseded by these standards?

Yes No

Should these standards be Division 1 compatibility?

Yes No

13. Any other comments or issues that NRC should consider as part of this proposed rulemaking process?

Name of person completing survey

State

Title

APPENDIX B

ADDRESS AND RESPONDERS

APPENDIX B
LIST OF ADDRESSEES AND RESPONSES

*	ALABAMA		MONTANA
	ALASKA	**	NEBRASKA
	ARIZONA	*	NEVADA
*	ARKANSAS	*	NEW HAMPSHIRE
*	CALIFORNIA	**	NEWJERSEY
*	COLORADO		NEW MEXICO
	CONNECTICUT	**	NEW YORK
	DELAWARE	*	NORTH CAROLINA
	DISTRICT OF COLUMBIA	*	NORTH DAKOTA
*	FLORIDA		OHIO
*	GEORGIA		OKLAHOMA
	GUAM	*	OREGON
*	HAWAII	**	PENNSYLVANIA
	IDAHO		PUERTO RICO
*	ILLINOIS		RHODE ISLAND
	INDIANA	*	SOUTH CAROLINA
*	IOWA		SOUTH DAKOTA
	KANSAS	*	TENNESSEE
*	KENTUCKY	**	TEXAS
*	LOUISIANA	*	UTAH
	MAINE		VERMONT
*	MARYLAND		VIRGIN ISLANDS
*	MASSACHUSETTS	*	VIRGINIA
*	MICHIGAN	*	WASHINGTON
*	MINNESOTA	*	WEST VIRGINIA
*	MISSISSIPPI		WISCONSIN
	MISSOURI		WYOMING

* Single Responses
** Double Responses

APPENDIX D

RESULTS OF ANALYSIS

1 Criterion

Generic Site vs. Site Specific

Responses

Generic = 28
Site Specific = 6
Total = 34

Responses Basis

Generic - Equity, consistency, public acceptability, existing state reg., uniformity, ease of implementation

Site Specific - State reg., variable background, unique sites and cost effectiveness

Arialyst Conclusions/Comments

1. Question well articulated and understood by responders.

2. There seems to be a confusion between criterion being generic vs. implementation being generic. Perhaps this question should be keyed to generator classes.

Overall Conclusion

States would like a "Generic Criterion"

GENERIC CRITERION
IS
PREFERRED

2a Criterion

Responses

Risk/Dose Limits	=	17.5
Risk/Dose Goal	=	5
Best Technology	=	6
Green Field	=	5.5
Others	=	0
Not Answered	=	0
Total	=	34

Response Basis

Risk/Dose Limit - Should be 10m/yr, reconcile limit (when dollar factor) with green fields, combine limit and goal, limit with ALARA, historical consistency, government responsible to get limit, public acceptability, ease of regulation, avoids unlimited litigation, fair to consider risk not equal to zero, cost and benefit.

Risk/Dose Goal - Imprecise dose/risk calculation, cost/benefit consideration, natural for ALARA and goal → background, available technology and cost-effectiveness, best fit with current guidance, avoids endorsing current technology, will not change.

Best Technology - Imprecision in dose/risk calculation technology availability and cost-effectiveness, publicly acceptable, can go beyond current technology, risk controversial.

Greenfields - State law to the effect, either accept limit or cleanup, public sensitivity, Best.

Analyst Conclusions/Comments

Question well articulated and understood.

Overall Conclusion:

"Limit" favorite with "goal" "Best Technology" and "Greenfields" nonsignificant and equal minorities.

LIMIT FAVORED
GOAL/BACT/GREENFIELD
SIGNIFICANT (AND EQUAL) MINORITY

2b Superfund Risk Adopted - mr/yr (~3 mr/yr)

Response

Yes	=	15
No	=	11
No response	=	8
Total	=	34

Responses Basis

Yes: NESHAP Consistency, 3 mr/yr = Goal (Not Limit = 25 m/y), disagree that 10^{-6}/y = 3 mr/yr, consistency with state regulation, 10^{-3} - 10^{-4}/y appropriate starting point then approach goal = 10^{-6}/y, improve risk evaluation method.

No: Hate superfund - use 10 mr/yr (MEI Dose), risk guidance uncertain, make it consistent with everyday risk (10^{-6}/mr/yr), use ICRP/NCRP (100 m/yr or fraction thereof), 10^{-5}/yr plenty, 10 mr/yr consistent with risk limits (revised if needs be), background radiation makes it different from EPA-case, Best Technology and Best Effort, use reasonable goal instead use ALARA Dose/Risk to set limit, goal should be based on background variation.

Analyst Conclusions/Comments

a. More background needed to explain various lifetime risks, their qualifications and risk equivalence of dose before question can get meaningful response.

b. Confusion exists, even equal response between yes and no should not be read as neutral. Plain confused response.

Overall Conclusion

SUPERFUND
RISK
RESPONSE
INCONCLUSIVE

2c. Use ALARA

Response

Yes	= 31
No	= 2
No Response	= 1
Total	= 34

Response Basis

Yes - 100 mr/yr goal = ALARA
No - With < 100 mr/yr goal, definition vague and nonimplementable.

Analyst Conclusions/Recommendations

1. Question understood and responded well.

2. Overwhelming vote for ALARA.

Overall Response

USE ALARA

2d ALARA Should be

Response

Generic = 7
Site Specific = 24
No Response = 3

Total = 34

Response Basis

Generic - plants with 100 mr/yr should use generic ALARA
- plants with < 100 mr/yr should use site specific criterion

Site Specific - plants with 100 mr/yr will show good faith to public with ALARA (not a requirement), use some general consistency in case-by-case application to a certain extent, flexibility to address case-by-case applications, generic things will change.

Analyst Conclusions/Comments

- Confusion seems to reign about criteria being generic vs. implementation being generic.
- Perhaps classes of generator having different/same ALARA procedure is the issue.

Overall Conclusions

- Nominal vote is overwhelmingly

ALARA SHOULD BE SITE SPECIFIC

2e Best Technology Approach

Response

Yes = 15 = (8 + 1 + 6)
No = 12
No Response = 7

Total = 34

Response Basis

Yes - No specifics in rulemaking, use RIFS. Name no specific technology, obtain technology via ALARA, be sensitive to cost consideration, mandate (vs. recommendation) for case-by-case application.

No - Only via ALARA (ex., soil washing), sites are unique and standard technology prescription will handicap; avoid specific technology.

No response - Am not sure, do not understand

Analyst Conclusions and Comments

- BACT as a prescription seems foreign to some responders. Question requires clarification.
- Responder more motivated by politics rather than technical merit.
- They like recommended rather than mandated technology.

Overall Conclusions

- Given the close vote and suspected confusion, the conclusion is

BCAT
RESPONSE
INCONCLUSIVE

2. Technology Issues, Risk Assessment (RA), Survey Technique (ST), etc.

Response

Yes = 12 (RA (Soil) Survey Monitor, others, none) (3 + 3 + 5 + 1)
No = 15
No Response = 7

Total = 34

Response Basis

Yes - Standardize risk assessment, soil survey, monitoring, existing techniques adequate, case-by-case review using RIFS, no specifics in rulemaking, optimization as considered by ICRP, will help tying it down.

No - Case-by-case application via current technology, unique to sites.

Analyst Conclusions/Comments

- Question not clear, confusion exists.

Overall Conclusions

RESPONSE CONFUSED/ INCONCLUSIVE

3a Unrestricted Use

Response

Yes	=	31
No	=	3
No response	=	0
Total	=	34

Response Basis

Yes - In most cases, case-by-case restriction, prohibitive situations may exist, achievable?

No - Tag deeds, creates absurd rule.

Analyst Conclusions/Comments

Question clear but response mixed.

Overall Conclusion

UNRESTRICTED USE
YES, BUT
SOME EXCEPTIONS

The question should be reworded.

3b. Exceptions, Unrestricted Use

Response

Yes, Conditional	=	27 (Condition - see below)
No	=	7
No response	=	0
Total	=	34

Response Basis

Yes - Consider practicality/cost, okay for isolated sites with access control, okay if access restricted, consider individual dose carefully. Continued licensee ownership and control, if technology not available and cost too high, restricted use, e.g., park, wildlife, deed marked and tagged, site marked, when unrestricted release prohibited, when impossible to clean, risk/cost tradeoff lopsided. Case-by-case application, long-term care provided, land use controlled, other hazard material on-site, cost/benefit does not justify release, zoning, cost/risk tradeoff, radiological control exist and not credited to be decommissioned, radiological monitoring exists, large quantity/low activity RAM.

No - None

Analyst Conclusions/Comments

Question clear, but response mixed.

Overall Conclusions

UNRESTRICTED USE
YES,
WITH EXCEPTIONS

4a. Previously Cleaned Site - Grandfathered

Response

Yes, grandfathered

(No in survey) = 16

No, do not grandfather
(Yes, in survey) = 18 (for conditions see below)

No response = 0

Total = 34

Response Basis

Yes - All quoted parameters to be influential in the determination, all sites should be reviewed, may be, case-by-case evaluation by considering waste hazard vs. public hazard vs. long-term control, if serious risks exist, who would pay, depends on prior standard used and material disposed. If previous limit is five to ten times less restrictive than new ones; nuclide chemical form, concentration, availability to man, if radiologically controlled and not declared "decommissioned", add radiation monitor.

No - Depending on site usage, type of source activity and exposure.

Analyst Conclusions/Comment

- The question is clear; responder struggling with unrestricted vs. conditionally restricted vs. unrestricted.

Overall Conclusions

- Some confusion exists. Vote is

GRANDFATHERING - YES OR NO EQUALLY VOTED WITH INCONCLUSIVE OUTCOME FOR PREVIOUSLY DECOMMISSIONED SITES

4b Previous Disposal Site to be Grandfathered

Response

Grandfathered (Yes in survey)	= 17
Not Grandfathered (No in survey)	= 17 (Conditions (see below)
No response	= 0
Total	= 34

Response Basis

Similar to those in 4.

Analyst Conclusions/Comments

Question reasonably clear and received. The votes are equally split.

GRANDFATHERING - YES OR NO EQUAL VOTE
AND INCONCLUSIVE OUTCOME
FOR PREVIOUS DISPOSAL SITES

5. Cost important

Response

Very = 11
Some = 17 (in what way; see comments)
No = 5

Total = 34

Response Basis

All Responses - Consider cost during implementation after achieving goal; use cost in risk/cost benefit; use ALARA after attaining dose goal; use cost as basis for exemption through ALARA as reasonable cost; cost evaluation for decommissioning vs. no access, no usage even for fauna; consider risk cost trade off before decommissioning, cost should be via ALARA as "reasonable cost", do not justify sites just for money; consider cost before choosing decommissioning option; no cost of human life available; license should not be issued without cost hazard index evaluation; conduct cost/benefit analysis at each site; do total risk assessment; cost via ALARA vs. long-term care; use cost in implementation not in setting criteria.

Analyst Conclusions/Comments

- "Cost" concept should be clarified regarding individual licensee project cost in ALARA for example vs. programmatic cost for regulation. Wording should be similarly modified.

- Vote equal and reflects some confusion.

Overall Conclusions

COST CONSIDERATION
IS THOUGHT TO BE SOMEWHAT IMPORTANT -
"HOW" IS NOT FOCUSED WELL

6a Disposal On-Site Should be Considered

Response

Yes, when	=	19 (for when. See below)
No	=	10
No response	=	5
Total	=	34

Response Basis

Yes - Do it only if standard is met; large volume (mostly NARM) with additional requirements e.g., deed tag, risk assessment, demography; consider all items quoted in survey questionnaire; use in implementation, not in setting limits; very low activity, short $T_{\frac{1}{2}}$ material, high transportation risk; engineering control, geology, hydrology; dose assessment considering all pathway; continue license monitoring; all quoted factors and cost; if the simple rule of simplicity in meeting criterion is met; for $T_{\frac{1}{2}} < 90d$ and incinerated waste; large area; $T_{\frac{1}{2}} < 10$ years, dose < 1 mr/yr; capable of immobilization on-site, diffuse NORM; refer to GTE Case (New Hampshire); consider control and risk over time; address long-term liability, last option; low activity, low mobility, short $T_{\frac{1}{2}}$, risk, < risk from undisturbed soil, standard risk assessment; consider nuclide form, concentration, availability to mass transport.

No - Unless continued license and monitoring site should not be released; political consideration; consider only if risk to move waste is high; long-term liability consideration fuels this option; long-time storage for decay acceptable.

Analyst Conclusion/Comments

How does this relate to overall standard setting should be clarified. Confusion exists in many minds.

Conclusion

The overall conclusion is that

ON-SITE DISPOSAL HAS MORE PROPONENTS THAN OPPONENTS (2/1 RATIO) BUT DATA MAY BE MISLEADING

60 In Plant Waste Management Capacity Influential

Response

Very	=	13.5
Some	=	12.5
No	=	5
No response	=	3
Total	=	34

Response Basis

Very - If management makes it safer; transport and disposal cost high; depends on who does the management, need one stop shopping and one sheet of music.

Some - May be a separate issue, transportation/disposal cost important.

No - None

Analyst Conclusions/Comments

How does this relate to overall standard setting should be clarified. Confusion exists in many minds, the stated bases does not support the conclusion in many cases.

Overall Conclusions

The overall conclusion is that

ON-SITE DISPOSAL HAS MORE PROPONENTS THAN OPPONENTS (2/1 RATIO) BUT DATA MAY BE MISLEADING

7 Collective Dose Considered

Response

Yes	=	16.5
No	=	14.5
No response	=	3
Total		34

Response Basis

Yes - Only if large population and individual dose met; if unrestricted use allowed; not applicable if dose goal is adopted; limiting factor in public perception; Dose overall pathways - 1-2 mr/yr; same as in EPA fuel cycle standard; if to a selected region of interest, no two levels for New York vs. Maine; part of unrestricted release criterion; as one of many factors; individual dose overriding; consider societal cost/morbidity

No - Establish risk limit first; do not include background; independent case-by-case evaluation only for public comfort; individual dose overriding; where would it end.

Analyst Conclusions/Comments

People seem to know what collective doses do up to a point; the understanding could be improved.

Overall Conclusion

The conclusion is

THE RESPONDERS ARE EQUALLY SPLIT BETWEEN CONSIDERING COLLECTIVE DOSES OR NOT; MOST SEE THIS TO HAVE A MINOR ROLE

3 Radon Considered

Response

Yes		
No	=	26
No response	=	6
	=	2
Total	=	34

Response Basis

Yes - Exceptions because of uncertainty; radon significant contributor; poor ventilation and water supplies. Include collective occupancy consider all sources of radiation; only if decommissioning activity cause radon release "appropriate" = what; why not; RN-input severe; treat similarly to UMTRA in norm-regu ns; consider total morbidity; incorporate in dose to public criterion, consider UMTRA (20 pCi/m^2) or NESHAP (2 pCi/m^2) limits; RN-220 will probably run the show.

No - EPA develop standard separately; establish RN-risk first. Do not include backyard in standard; radon releases not significant; depends on particular site.

No comment - Tough issue; cannot require licensee to clean up where others do not have to.

Analysts Conclusions/Comments

Tough problem; responder's basis and prescriptions obscure and mostly irrational.

Overall Conclusion

The conclusion is that:

RADON CONSIDERATION NOMINALLY IS OVERWHELMINGLY YES FOR INCLUSION, BUT BASIS IS VERY SHAKY AND NEEDS RECHECKING

9 Time Frame for Analysis

Response

< 1,000 Y	=	10
= 1,000 Y	=	8
> 1,000 Y Cohat	=	1
No response	=	15
Total		34

Response Basis

(< 1,000 yr) 100 year, radiation decays; max 500 y; source and activity should decide; case-by-case evaluation, uncertainty increases with time; for sites with adm. control 50 years; consider specific Radionuclide involved; time for radiotoxicity/activity to decay to relative toxicity of dirt; consider 200 years.

= 1,000 yr. None

> 1,000 yr. Up to 10,000 years

No position Depends on many thing including $T_{\frac{1}{2}}$ of material; none clean up if risk assessment shows problem. Depends on type of facility and nuclides; 10 x $T_{\frac{1}{2}}$ of longest isotope; be consistent with LLRLW rules appropriate for nuclides; none support return to background; variable based on material and type of nonremovable contamination.

Analyst Conclusion/Comments

a. Some confusion exists regarding what analysis or timeframe are we talking about; how does it relate to the standard?

b. Nonresponse - too high; most want "variable" timeframe base on some or other criteria. Perhaps an "other" column could be included in survey.

Overall Conclusion

The conclusion is

THE GROUP IS INCLINED TOWARDS SHORTER (< 1,000 YEARS) TIME WITH A VARIABLE TIMEFRAME BEING PREFERRED; SOME CONFUSION EXISTS

10 Separate Pathways Considered

Response

Yes (What)	=	17
No	=	13
No response	=	4
Total	=	34

Response Basis

Yes - Predominant pathway; for longlived soluble isotopes use soil and groundwater limit; radon, x-rays, other pathways combined; groundwater; natural resources affected soil, air, vegetation, groundwater, etc.; agriculture product; surface water, air → particulate; crops, air, dust; groundwater if drunk; surface runoff, aquatic biota; air, water food but would be regulated by EPA if site released; land use; ingestion vegetables → milk → meat.

No - Single comprehensive model desirable, already exist in local, state and federal regulations.

No response - Need more information.

Analyst Conclusions/Comments

Group understanding of the question poor; the unfocused basis statements indicate that.

Overall Conclusions

The overall conclusion is that:

THE GROUP IS SLIGHTLY IN FAVOR OF CONSIDERING SEPARATE PATHWAYS; THE CONCLUSION IS SUSPECT BECAUSE OF THE CONFUSION FACTOR

12. Supercede Existing Standard (including NARM)

Response

Yes	= 14.5
No	= 13.5
No response	= 6
Total	= 34

Should these standards be Division 1 Comp.

Yes	= 14
No	= 14
No response	= 6
Total	= 34

Response Basis

Yes - if less stringent, if state statutes not included; do not include NORM.

No - Do not address/revive BRC; state can be more restrictive.

No response - Look at individual cases; nonagreement state.

Analyst Conclusions/Comments

Supreme confusion exists.

Overall Conclusion

The overall conclusion is that

NOMINALLY THE GROUP IS DIVIDED BETWEEN SUPERCEDE OR NOT AND DIVISION 1 COMPATIBILITY OR NOT; THE DATA AND CONCLUSION SHOULD BE THROWN OUT AND PROBLEM REWORKED.

11 Who Develops Mixed Waste Criterion

Response

State	= 5
NRC/EPA	= 26
Others (Who)	= 0
No response	= 3
Total	= 34

Response Basis

All - Feds No!! States should formulate if Feds do not do it; cooperate with Feds, gotta give a little, take a little; simplify RCRA, NRC/EPA address BRC for treatment residues, Feds should do it consulting state agency for input; Feds should own and manage NARM, SNM and byproduct; stop generating (MW) now; cooperate with states, get a little give a little; keep states informed. Nationwide consistency; develop better procedure to identify hazardous waste as radwaste; simplify RCRA; include DOE in the deliberation; prevent generation.

Analyst Conclusions/Comments

Keyed in the topic but their understanding of rationale limited.

Overall Conclusions

The overall conclusion is

NRC/EPA SHOULD HANDLE (MW) CRITERION WITH SOME STATE INVOLVEMENT/CONSULTATION

13 Other Remarks

Responder Comments

See comments in Item 13 in Appendix C.

Final Remarks

Not considered Mississippi, Louisiana and Illinois (came in late) and J. K. Dehmel (SC&A) comments (partial, different format, does not fit)