UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

DEC 12 1997

OFFICE OF
SOLID WASTE AND EMERGENCY
RESPONSE

Mr. Raymond P. Berube, Deputy Assistant Secretary
for Environment, Safety, and Health
U.S. Department of Energy
1000 Independence Avenue, S. W.
Washington, DC. 20585

Dear Mr. Berube:

Thank you for the opportunity to comment on the current draft of Department of Energy's (DOE) 10 CFR Part 834 rule addressing *Radiation Protection of the Public and the **Environment.*** The purpose of this letter is to alert you to our overall concerns with the draft 10 CFR 834 rule dated November 1, 1996. After our review, we find that we have serious concerns with the draft rule as currently written. Our principal concern with the draft rule centers on the statutory need for Federal Facilities to be consistent with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, as required under CERCLA Section 120(a)(2). We are also concerned that releases may be allowed under this rule that could result in situations where action under CERCLA is required. In addition, this rule may result in a mixed message being sent to the public since the rule appears to be inconsistent with the Clinton Administration's Superfund Legislative Reform Principles. We request that you evaluate this rule, and certain DOE guidance that raise the same issues, in light of these concerns.

Our principal concerns are discussed below. Attached are staff comments that discuss these concerns in greater detail and raise additional issues.

Consistency with CERCLA:

CERCLA section 120(a)(2) prohibits Federal Facilities from adopting or utilizing any rule, guidance or criteria applicable to CERCLA remedial actions that are inconsistent with EPA CERCLA remedial action requirements. This section makes clear that Federal Facilities are held to the same standards and requirements as non-federal facilities.

The draft rule appears to be inconsistent with CERCLA and the NCP on at least the following issues:

- **Ground water:** The draft rule requires only that MCLs be met at the tap, and only looks at actual users. The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) codifies the expectation that drinking

water be restored to beneficial use throughout the plume for current and potential uses. CERCLA does not limit protection to current actual users.

- **Risk Level:** The draft rule allows for 100 mrem/yr exposure (equates to approximately lifetime 2 x 10^{-3} carcinogenic risk) for a single source. The draft rule also allows for a default cleanup level of 30 mrem/yr exposure which equates to approximately 6 x 10^{-4} risk. These levels are outside the risk range that CERCLA generally interprets as protective (10^{-4} to 10^{-6} risk range.) ***(See attached correspondence from Carol Browner, EPA Administrator, to Shirley Jackson, NRC Commission Chair, 2/7/97.)***

- **Waivers:** The draft rule allows exceedence of the 100 mrem/yr to any dose level DOE considers appropriate. CERCLA does not allow for waiving the requirement for being protective. Also the four criteria used for invoking a waiver under Part 834 appear to be less stringent, and allow for less protective cleanups, than the six circumstances under the NCP that justify waiving of an ARAR.

- **Site specific risk level:** The draft rule uses a process known as "as low as reasonably achievable" (ALARA) to select a site-specific cleanup level. It is not clear how this ALAR4 process is expected to be integrated with the nine remedy selection criteria found in the NCP. The elements of ALAR4 analysis in certain respects appear to be less stringent or provide for less protective cleanups than the nine criteria analysis would yield (for example, ALARA uses what appears to be a broad cost-benefit analysis, in contrast with the more focussed cost-effectiveness test applied under the NCP).

In addition to these apparent inconsistencies with CERCLA and the NCP, it is unclear from the draft whether DOE's intention is to create remedy selection requirements that would apply in addition to NCP requirements at DOE sites, or to create an alternative remedy selection process to operate in lieu of the NCP. DOE is obligated to comply with the NCP in taking response actions under CERCLA. Among other requirements, DOE, in selecting remedial actions, is subject to: the nine NCP remedy selection criteria; the NCP preference for treatment and requirement to utilize permanent solutions to the maximum extent practicable, as applied on a site-specific basis through the NCP remedy selection criteria (40 CFR § 300.430(f)(l)(ii)(E)); the requirement to meet all Federal and State applicable or relevant and appropriate requirements (AR&s), including the requirement to meet the most stringent of multiple ARARs; and the NCP public participation requirements. The draft rule could be read to call into question DOE's obligations in these regards:

- **Preference for Permanent Remedies and Treatment:** Neither the draft rule nor the preamble references the NCP preference for permanent remedies and treatment. The NCP through use of nine remedy selection criteria codifies the

requirements that remedies: utilize permanent solutions and alternative treatment technologies to the maximum extent practicable, and; satisfy the preference for treatment of principal threat waste to reduce toxicity, mobility, or volume, or provide an explanation why the preference was not met.

- **Other standards:** The draft rule contains standards other than the overall dose limits for select media, contaminants, and land uses. In certain cases (e.g., the requirement to meet MCLs at the tap rather than in the aquifer), these standards are inconsistent with those federal standards EPA would apply through the ARARs process. The effect of these standards is unclear, since DOE would be required, in a CERCLA cleanup, to meet all federal and state ARARs, which means it would have to meet the most stringent of multiple ARARs.

- **Public participation:** The draft rule contains limited public notice requirements. Again, the effect and intent of these is unclear, since DOE would be required to comply with the much more extensive public notice requirements of the NCP in selecting and performing a CERCLA remediation.

The above is a general analysis of areas of concern with regard to consistency. Other areas of concern may surface as we continue our analysis.

Since DOE's draft final rule is based upon an existing DOE guidance (DOE Order 5400.5), this guidance appears to raise the same consistency issues with the NCP and CERCLA guidance. We request that DOE carefully review and revise 5400.5 and other associated guidance to ensure consistency with CERCLA.

Future CERCLA Sites:

The effluent standards (discharges to soil columns, ground water, or surface water), doses to individuals of 100 mrem/yr or "temporary" doses of 500 mrem/yr (1×10^{-2})) in DOE's Part 834 rule, in addition to the lack of a separate ground water standard, may lead to the creation of additional CERCLA sites. The potential for creating future CERCLA sites were Federal Facilities to utilize the full flexibility of this rule would seem to be inconsistent with the intent of CERCLA to clean up sites.

Administration's Superfund Principles:

Several of the regulatory approaches in the rule (e.g., MCLs at the tap, dose limits outside of the risk range, waivers to exceed the dose limits, lack of public participation) appear inconsistent with the Clinton Administration's Legislative Reform Principles for Superfund. ***(See attached correspondence from Carol Browner, EPA Administrator, to Thomas Bliley, Chairman*** *of* ***the House Committee on Commerce,*** 5/7/97.) The principles were sent to Congress and other stakeholders to help them better understand the Administration's vision for the future of CERCLA cleanups and for the legislative reforms

that will help shape that future. There exists the possibility that some stakeholders may misconstrue the rule as representing a new, or alternative, Administration position regarding CERCLA reauthorization.

ARAR Status of Draft Rule:

It is unclear whether the rule if promulgated would be an ARAR under CERCLA. ARARs must be enforceable requirements, and given the limited applicability of the rule to DOE contractors, it is unclear whether it is legally enforceable for ARARs purposes. DOE should clarify the enforceability of the rule -- including its enforceability by citizens -- so that a judgment can be made whether the rule would be an ARAR.

Summary:

We understand the rationale for developing this rule is to ensure enforceability of standards at your facilities and to take a more holistic approach to cleanups that are planned. While DOE's implementation of this rule and existing guidance may not currently fully utilize the flexibility allowed for in the rule, we think that the draft preamble and rule language sets a standard that is inconsistent with CERCLA. For the reasons identified above, we urge DOE to withdraw its draft final regulation. Failing this, the regulation should delete those numerical and procedural standards that are already addressed by CERCLA, and all other standards which may lead to releases that may result in CERCLA response actions. If you have any questions, please contact Stuart Walker of the Office of Emergency and Remedial Response (703-603-8748).

Sincerely,

James E. Woolford, Director
Office of Restoration and Reuse Office

Sincerely,

Stephen D. Luftig, Director
Office of Emergency and Remedial Response

Enclosure

cc: Larry Weinstock

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON. D.C. 20460

DEC 18 1997

Raymond P. Berube,
Deputy Assistant Secretary
for Environment, Safety, and Health
U.S. Department of Energy
1000 Independence Ave., S. W.
Washington, D.C., 20585

Dear Mr. Berube:

Thank you for the opportunity *to* comment on the Department of Energy's (DOE) proposed draft 10 CFR Part 834 "Radiation Protection of the Public and the Environment," which would codify DOE's environmental Orders for radiation. The Environmental Protection Agency (EPA) expressed major *concerns* with this draft regulation in 'its originally proposed form (Margo T. Oge to Peter N. Brush, June 23, 1993). We find that the current draft (the most recent version reviewed is dated November 12, 1996) does not adequately address *most* of the key issues we previously identified and raises a number of serious new concerns.

This regulation would create conflicts and inconsistencies with existing EPA policy under the Comprehensive Environmental Response, Compensation and Liability Act, as amended (CERCLA), with the Administration's policy for protection of ground water, and with EPA standards established under the Uranium Mill Tailings Radiation Control Act (UMTRCA). It would permit DOE facilities to conduct ongoing operations at risk levels to the public from liquid effluents and from direct radiation that are inconsistent with EPA's policies for risk management and for protection of ground water. It also would create potential conflicts with Agency standards responsibilities under the Atomic Energy Act (AEA) for cleanup of contaminated sites, for recycle of contaminated material, and for waste disposal and management. Creating such conflicts is inconsistent with DOE's commitment to external regulation and is unnecessary. Most of DOE's facilities already are subject to EPA's environmental policies and regulations through the environmental statutes, and the principal effect of promulgating this rule would be to create confusion and consequent delay in carrying out protection of the public and the environment. Enclosure A provides a summary of major concerns we have identified in our review to date and Enclosure B provides additional miscellaneous comments.

A particularly serious concern centers on the need for Federal Facilities to be consistent with CERCLA, as required under Section 120(a)(2). The enforceability of this rule is also not clear, and this may have implications for the consideration of its provisions as "applicable, or relevant and appropriate requirements" (ARARs) under CERCLA. This rule also may present difficulties if releases allowed, under its provisions were to result in situations where action under CERCLA is required. We request that you also evaluate relevant DOE guidance in light of these concerns. In addition, this rule may result in a mixed message to the public, since it appears to be inconsistent with the Administration's Superfund Legislative Reform Principles. The accompanying letter from the Office of Emergency and Remedial Response and the Federal Facilities Restoration and Reuse Office addresses concerns related to CERCLA requirements.

In summary, proposed draft Part 834 would codify upper bounds for site-specific radiation standards that are not acceptable for any carcinogen, including radiation, under the environmental statutes. It would provide broad provisions for exceptions to even these permissive upper bounds, and it would not require a public process for those exceptions. Promulgation of this regulation would allow DOE to provide itself with broad latitude for choosing site-specific levels for cleanup, for waste disposal, and for recycle of contaminated material. Establishment of acceptable levels of environmental exposure to radiation is a responsibility vested in EPA under the AEA, through Reorganization Plan No. 3 of 1970, and under the environmental statutes, most notably CERCLA. This regulation would treat radiation as a pollutant that does not have to meet the same standard of protection as do other carcinogens under the environmental statutes, and, through the flexibility provided for administrative exceptions, would have the effect of circumventing normal public notice and comment procedures for establishing acceptable levels of environmental contamination.

For the reasons identified above we urge that DOE withdraw this proposed regulation and to rely on conformance to existing environmental regulation by EPA for protection of the public and the environment during the transition to external regulation. Although we strongly recommend that DOE withdraw this rulemaking, if DOE still wishes to pursue issuing a regulation, numerical environmental values for cleanup, waste management, liquid effluents, and recycle should be deleted. The Department should substitute Code of Federal Regulations (CFR) references for EPA standards, including regulations established under CERCLA and UMTRCA and, where appropriate, refer to relevant EPA guidance documents for implementation of those regulations. In cases where EPA has not yet promulgated regulations (e.g., for recycled materials), the Department should use the notation "reserved," until such time as the Agency has promulgated the appropriate regulation.

In accordance with agreements reached between the Assistant Secretary for Environment, Safety and Health and the Assistant Administrator for Air and Radiation last December regarding DOE's proposed 10 CFR Part 834 and EPA's proposed 40 CFR Part

196, we are proceeding on the assumption that the Department will not move forward with this draft regulation until these outstanding issues are resolved. To that end, we would be pleased to discuss the Agency's concerns in greater detail, or to explore alternative approaches that you may wish to suggest. The contact for coordinating EPA involvement in such discussions is Lawrence G. Weinstock, Acting Director, Office of Radiation and Indoor Air at (202) 564-9320.

Sincerely,

Lawrence G. Weinstock
Acting Director, Office
of Radiation and Indoor Air

for Cynthia C. Dougherty
Director, Office
of Ground Water and Drinking Water

Craig,& Hooks
Director, Federal Facilities
Enforcement Office

Enclosures (2)

ENCLOSURE A

MAJOR EPA CONCERNS WITH DRAFT 10 CFR PART 834

- **It is inappropriate for DOE to establish generally applicable environmental standards.**

  The Atomic Energy Act (AEA) of 1946 created the Atomic Energy Commission (AEC) and gave it exclusive regulatory authority over certain radioactive materials. Over time, the functions carried out under that authority have been distributed among DOE, EPA and the Nuclear Regulatory Commission (NRC). In 1970, the authority to establish generally applicable standards for protection of the environment from radioactive materials was transferred to EPA by Reorganization Plan No. 3; the responsibility to implement those standards remained with the AEC. Then, in 1974, AEC's residual responsibilities for commercial applications of nuclear energy were given to NRC. Finally, in 1977, DOE inherited the responsibilities of the Energy Research and Development Administration (which in 1974 had received AEC's remaining non-commercial functions).

  Based on this division of functions under AEA authority, it is clear which agency has the responsibility to establish generally applicable standards for the environment and which the responsibility to implement those standards. The function transferred to EPA is to establish ". . .generally applicable standards for the protection of the general environment from radioactive materials. " The President's message transmitting Reorganization Plan No. 3 specified that the former AEC retained the responsibility only for the "implementation and enforcement" of these radiation standards. We conclude that DOE's responsibilities for AEA materials in the environment, which are derived from the AEC, include implementing EPA's environmental standards, but do not include carrying out EPA's responsibility to establish generally applicable environmental standards for the environment. 10 CFR Part 834 would, in a number of areas, in effect *establish* generally applicable environmental standards.

- **Part 834 does not require control of individual sources of radiation exposure at levels consistent with EPA risk management policy.**

  Section 834.101 "Dose limits for members of the public" would permit DOE to authorize exposure from any single source at up to 100 millirems in a year, in the absence of significant (> 30 mrem/y) contributions from other sources. This corresponds to a lifetime risk of $2x10^{-3}$. This risk is an order of magnitude greater than EPA would consider protective under the Clean Air Act (CAA), the Safe Drinking Water Act (SWDA), or the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). (Although Part 834 uses a lower value, 30 mrem/y, for evaluating exposure conditions (§834.102), that value is not a limit; it only triggers a requirement to evaluate contributions from non-DOE sources.) Although individual sources may operate at lower "ALARA" levels, the arbitrary and ill-defined nature of ALARA makes only the upper bound clearly enforceable.

In addition. upon request from contractors or Departmental elements, DOE may authorize temporary dose limits for exposure of the public of up to 500 mrem/y. without prior public notice or comment. DOE has indicated informally that it intends to limit the duration of such exemptions to no more than two years. However, as is the case for so many of the provisions in Part 834, the rule itself is open ended; it specifies no time limit or other limiting criteria for such "temporary" dose limits. Depending on the rime period involved, this could create significant inconsistency with CERCLA. For example, 500 mrem/yr corresponds to a lifetime risk of approximately 10^{-2}; this is two orders of magnitude greater than EPA considers protective.

- **Part 834 is inconsistent with existing CERCLA regulations and guidance.**

Cleanup of the majority of DOE's nuclear sites is governed by CERCLA. &source Conservation and Recovery **Act** (RCRA) or State law. It' is therefore inappropriate for DOE to establish cleanup levels and waiver provisions that are different from (and less protective than) those that EPA applies. We have commented above on the failure of Part 834 to require the levels of protection required by EPA under the environmental statutes. Part 834 also would allow waivers from the basic levels of protection so as to permit unrestricted release of sites for public use, This is inconsistent with CERCLA policy, which requires that if a site cannot be cleaned up to a protective level for reasonably anticipated future land uses, then a more restricted land use should be imposed rather than relaxing the level of protection. This policy is affirmed in the Administration's CERCLA reauthorization position on land use. Part 834's provision for waivers from basic levels of protection to permit unrestricted use based on cost-benefit analysis or practicability are therefore not acceptable.

- **Part** 834 **does not satisfy EPA ground water policy.**

Section 834.215, "Ground water protection" does not contain or reference any numerical standards for ground water and the cleanup standards in Section 834.301 do not contain ground water limits. The §834.214 requirement for conformance to MCLs does' not apply to ground water that is a current or potential drinking water source, only to drinking water itself. Under §834.301(e) DOE could release property with contaminated ground water at levels up to 100 mrem/y. (Although Section 834.301 requires *drinking* water protection to the MCLs, this applies only at the wellhead, rather than in the aquifer, and only for current or projected use, not "potential use.")

Under Part 834, DOE apparently also would decide which. ground waters are potential sources of drinking water. This would conflict with EPA's Ground Water Protection Strategy and Superfund policy that this is a decision for State and local governments, as well as with the Comprehensive State Ground Water Protection Programs (CSGWPPs) that States are developing in consultation with EPA. It also would be inconsistent with Superfund's approach of determining potential sources of drinking water through use of "EPA Guidelines

for Ground-Water Classification" when there is no EPA-endorsed CSGWPP in a State. (Part 834 recognizes the States only to the extent of adopting as an "*objective*" of its groundwater protection management plans ".. .not to be inconsistent with State groundwater protection goals" [italics added] .)

- **Part 834 misapplies EPA's UMTRCA regulations.**

The §834.302(b) concentration criterion for radium in subsurface soil (15 pCi/g of radium-226) misuses a standard developed for the circumstances specific to the UMTRCA sites to which it applies. It is not a health-based standard, and should not be applied to situations that differ substantively from those for which it was derived. EPA requested deletion of this inappropriate application of its regulations in its previous comments.

§834.20l(a)(4)(i) would raise the standard for radon in ambient air in EPA's 40 CFR Part 192.02 by a factor of six and change the point of compliance from the waste boundary to the facility boundary. Further, EPA's 0.5 pCi/l standard applies to any location at or outside the waste boundary, not to the average around the site boundary. It is unacceptable for DOE to establish regulations that relax existing EPA standards.

- **Part 834 would allow DOE to release elevated levels of liquid radioactive wastes into soil columns, sewers, and ground water.**

Section 834.211 "Liquid discharges to the environment" would allow releases at levels as high as 100 mrem/y, and Section 834.212 "Discharge to soil columns" permits DOE to continue such discharges if they do not impact *an existing* drinking water source. These provisions could result in levels 25 times the MCLs at the point of discharge or in ground water. This is inconsistent with EPA's ground water protection policy, and could create additional Superfund Sites. (This policy emphasizes protection of ground water as a resource, e.g., it states that reaching a specified fraction of the MCL or another appropriate reference point would be considered a failure of prevention.)

- **Part 834 would allow DOE to release radioactively contaminated equipment and material at unacceptably high levels.**

Section 834.305 "Release of equipment, material, and small items" would permit release of equipment, material, and small items under limits permitting up to 30 mrem/y for "likely" scenarios and 100 mrem/y for unlikely "worst case" scenarios (and at even higher values for "limited" releases with 5-year reviews). These values exceed international standards by large factors. In addition, establishment of these levels would **bypass ongoing EPA and NRC** cooperative work on scrap metal and circumvent the established Interagency Steering Committee on Radiation Standards (ISCORS) process, in which DOE is a participant. DOE

has stated its intent to only release such items at contamination levels corresponding to a few mrem/y. This rule contradicts that intent.

- **Part 834 would establish waste standards that permit risks exceeding those permitted under existing standards for commercial low level waste (LLW).**

  Part 834's waste standard (25 rnrem/y TEDE) would allow individuals to be exposed to risks up to 70% greater than those permitted under NRC's existing LLW rules (10 CFR Part 61) for commercial facilities. (NRC's "Branch Technical Position" states that its Part 61 is equivalent to 15 mrem/y TEDE. Based on an independent analysis, EPA agrees.) DOE's assertion of equivalence is based on the assumption that doses to the public are exclusively due to direct radiation (gamma) exposure. This is almost never the case for exposure of the general public at a properly managed LLW disposal site.

- **Part 834 provisions for public participation are inadequate.**

  Public participation in selection of site-specific standards is not required and public notice is given only after the decision. This is inconsistent with Administration policy, as exemplified by Superfund guidance and the Executive Order on Environmental Justice. DOE indicates only that "it is anticipated that the ALARA process for DOE sites will be coordinated with local groups" (preamble, p. 51). This inadequacy is particularly important in view of the extreme flexibility proposed in these regulations. The existence of other DOE participation programs is not a substitute for failure of this regulation to explicitly require public participation in these standards decisions.

  Similarly, Best Available Technology for Radioactive Effluent Control (BATREC) for facilities would be selected based on the conclusion of a selection process that takes into account "technology, economics, public policy, and other parameters." This process would not be reviewed by the public. The amount of groundwater or surface water contamination allowed would therefore continue to depend on internal DOE decisions.

- **DOE's use of the Price-Anderson Amendments Act (PAAA) as the basis for changing its environmental Orders to rules is inappropriate.**

  The PAAA indemnifies DOE contractors from public liability for nuclear *accidents,* not routine releases. (The purpose of the Price Anderson Act is to address liability for the consequences of failures of *safety,* not environmental releases or contamination from routine operations.) As noted in the DOE report Implementation of DOE Requirements, Report No. 8 (Feb., 1995): "As a sort of quid-pro-quo, and, driven by pressure from parties who viewed the [PAAA] as too protective of the nuclear industry, the 1988 PAAA added a requirement for DOE to impose civil penalties and authority to initiate criminal proceedings on contractors for willful violations of, DOE nuclear *safety* requirements" [emphasis added].

DOE has in place mechanisms to ensure compliance with its environmental Orders. The above-cited report also states that "[Under the DOE Order system, remedies are available to enforce compliance through contractual vehicles, Stop Work Orders, Contract Termination and the Award Fee process.. . " DOE admits the reason progress on complying with its Orders has been slow is the sheer volume of requirements and standards in its Orders.

In summary, DOE already has the tools with which to enforce its environmental Orders and PAAA simply adds a requirement to seek civil or criminal penalties against their contractors for facility *safety* violations. PAAA is not a mandate to change DOE Orders to enhance enforcement of *environmental* regulations governing routine operations. EPA believes that it is essential to maintain the distinction between facility safety and environmental regulation. This distinction also is fundamental to the orderly transition of DOE to external regulation, as recommended in the Final Report of the Advisory Committee on External Regulation of DOE Nuclear Safety, *Improving Regulation of Safety at DOE Nuclear Facilities,* December 1995.

- **Part 834 would move DOE away from rather than toward external regulation, and would create conflicts with EPA's efforts regarding cleanup, recycle, and waste management.**

Establishment of acceptable levels of radiation exposure in the environment is the responsibility of EPA, and the Secretary has publicly endorsed continuing external environmental regulation of the Department's, facilities by EPA, **as** well as the future transfer of current DOE responsibilities for worker protection and facility safety to external regulators (OSHA and NRC). Under this regulation DOE would now take the initiative to establish its own rules for cleanup, for waste disposal and management, and for recycle. EPA has previously requested that DOE delete those parts of Part 834 that address these EPA environmental responsibilities (letter, Margo T. Oge to Peter N. Brush, June 23, 1993). Part 834 would create inconsistencies with existing CERCLA regulations that already are applicable to the vast majority of DOE sites, as well as inconsistencies with EPA policy and efforts regarding cleanup of contaminated sites, for waste disposal and management (including Yucca Mountain), and for recycle of contaminated material. Creating these new regulatory conflicts would be inconsistent with DOE's commitment to external regulation..

ENCLOSURE B

Additional Staff Comments

1. DOE waste management requirements should specifically state that waste facilities will be designed so that groundwater releases will not result in contamination of underground sources of drinking water beyond the MCLs. This is the current national approach to ground water protection and will ensure that DOE disposal 'sites do not require future EPA CERCLA action.

2. The "point of compliance" in §§834.101 and 834.102 is the nearest actual member of the public to the DOE activity. At some DOE sites this individual is miles from the site boundary. This point of compliance is significantly less protective than the potentially nearest member of the public, an individual that could in the future reside on public property adjacent to an operating facility and be exposed to residual offsite contamination from prior releases permitted under this provision. Similarly, the point of compliance for waste management would allow groundwater contamination in excess of MCLs to extend for tens of miles depending on the location of the nearest member of the public.

3. As written, Part 834 would allow additive doses of 25 mrem/y for each of the five different types of waste identified by DOE. For example, the regulation would apparently allow exposures of 75 mrem/y if a single disposal facility co-mingles three types of waste.

4. §834.102 contains a requirement to evaluate exposures from radiation sources other than those of DOE origin when the doses from DOE sources exceed 30 mrem in a-year and doses from non-DOE sources can exceed 30 mrem in a year to the same 'individual. No basis is provided for this value, which differs from that applied by EPA to comparable situations.

5. §834.1(c)(6): It is unclear why "DOE-administered activities associated with past, present, and future exploration and mining operations conducted on DOE-managed uranium lease tracts" are excluded from these proposed requirements.

6. The use of supplemental standards in §§834.301(d) and (e) is inappropriate. Although the term "supplemental limits" as used in Part 834 is similar to the term "supplemental standards" in 40 CFR §§192.21 and 192.22, the DOE's use of waivers in Part 834 'is inconsistent with the use of waivers in Part 192. The flexibility in Part 192 was appropriate for cleaning up UMTRCA sites, since remedial action was required to achieve specific residual concentrations (such as 5 pCi/g in soil) without regard to land use. However, the dose limits in Part 834 allow different residual concentrations depending upon the land use.

7. The use of ALARA in Part 834 is artificially truncated by limiting collective dose assessments to the vicinity of a site. This is inconsistent with recommendations of the International Commission on Radiological Protection, International Atomic Energy Agency, and proposed guidance to Federal agencies for protection of the general public from exposure to radiation. In addition, the reporting requirement for collective dose truncates all environmental exposures and new intakes beyond the first year. This is incomplete, misleading, and does not conform to recommendations in proposed Federal guidance.

8. §834.223(b)(2) does not provide adequate assurance of protection of the public from high level NORM wastes, such as the K-65 wastes. It would permit use of surface impoundments covered with riprap or use of shallow burial in concrete vaults.

9. §834.223(b) and (c): DOE should specify the potential risk considerations and how it plans to utilize this provision in its response actions, such as at the Niagara Falls Storage Site/Tonowanda and at the West Valley Demonstration Project.

10. In several Subparts of Part 834, it appears that the temporary 500 mrem/y overall limit can be' authorized in situations where it would be completely inappropriate (e.g., for cleanup, or for release of property, see references to 834.101 in 834.301(b); and §834.301(f)(1) does not appear to restrict supplemental standards to conform with §834.102(a)).

OSWER Staff Comments on 10 CFR Part 834

(Based on the November 1996 version of DOE's draft final 10 CFR Part 834)

General

The regulation would create serious inconsistencies with existing EPA regulatory schemes (including CERCLA) as well as with ongoing EPA rulemakings. It would also permit DOE facilities to conduct remedial activities and ongoing operations at risk levels to the public from liquid effluents and from direct radiation that are inconsistent with EPA's policies for ground water and environmental risk management.

The key point, however, is not just consistency, but agreement about what is considered protective and the presentation of a consistent message from the: Federal government that such a threshold should not be exceeded.

1. **Part 834 does not satisfy EPA groundwater policy.**

Section 834.215 "Ground water protection" does not contain any numerical standards (e.g., MCLs) and the Section 834.301 cleanup standards do not contain groundwater limits. Under §834.301(e) DOE could release property with contaminated ground water at levels up to 100 mrem/yr (the primary MCL is 4 mrem/yr). (Although Section 834.301 requires *drinking* water protection to the MCLs, this applies only to meeting MCLs "in the finished (tap) water at the treatment facility" (see pg. 42 of the preamble to Part 834), rather than in the aquifer, and only for current or projected users, not potential or reasonably expected.) As a result of this regulation, owners of private wells may drink water contaminated above the MCLs, and some future public water systems may have to pay to clean up water contaminated by the DOE. A letter from the Association of Metropolitan Water Agencies to Vice President Al Gore on May 14, 1997 suggests that local water authorities are not willing to pay the price for meeting MCLs at the tap for radiation contamination.

Under Part 834, DOE apparently also would decide which ground waters are potential sources of drinking water without significant reliance on state determinations. This would be inconsistent with EPA's GW Protection Strategy and Superfund policy that EPA will generally defer to Agency-endorsed Comprehensive State Ground Water Protection Programs (CSGWPPs) that States are developing in consultation with EPA (see "Final Comprehensive State Ground Water Protection Program Guidance" EPA 100-R-93-001, December 1992, and OSWER Directive 9283.1-09 "The Role of CSGWPPs in EPA Remediation Programs," April 4, 1997). It also would be inconsistent with Superfund's approach of determining potential sources of drinking water through use of "EPA Guidelines for Ground-Water Classifications" (Office of Ground-Water Protection, November 1996) when there is no EPA-endorsed CSGWPP in a State. (The closest Part

834 gets to recognizing the States is to adopt as an "objective" of its groundwater protection management plans "...not to be inconsistent with State groundwater protection goals" [italics added].)

With over 50 percent of the U.S. population relying on ground water for their drinking water, this critical public health and environmental concern should be addressed. Part 834 does not seem to even mitigate the formation or expansion of radioactively contaminated plumes. EPA's Administrator has stated that "the administration believes that where full restoration of ground water is technically impracticable, the sources of this contamination should be removed, treated, or at a minimum contained to ensure that the contamination does not continue to migrate." *(Administrator Browner's testimony to the Senate Environment and Committee on 4/23/96).*

Part 834 requirements should require that operating and waste facilities will be designed so that groundwater releases will not result in contamination of current or potential sources of drinking water above the MCLs, and that in situations where this has occurred DOE will remediate the contaminated groundwater. This is the current national approach to groundwater protection and will ensure that DOE facilities and disposal sites do not require future EPA CERCLA action.

2. Part 834 does not require control of individual sources of radiation exposure at levels consistent with EPA (particularly CERCLA's) risk management policy.

Section 834.101 "Dose Limits for Members of the Public" would permit the DOE to authorize exposure from any single source at up to 100 mrem in a year. This corresponds to an increased lifetime cancer risk of 2×10^{-3}. **This risk is at least 20 times greater than EPA would usually consider protective under the CAA, the SWDA, or Superfund.** (Although Part 834 uses a lower value, 30 mrem/yr, for evaluating exposure conditions (834.102), that value is not a limit; it only triggers a requirement to evaluate contributions from non-DOE sources.) In addition, although individual sources may operate at lower "ALARA" levels, the open-ended nature of ALARA makes only the upper bounds clearly enforceable.

Under CERCLA, where ARARs are not available or are not sufficiently protective, site-specific remediation levels for carcinogens are generally set using the 10^{-4} to 10^{-6} risk range. (see 40 CFR 300.430(e)(2)(i)(A)(2)). It should be noted that "Once a decision has been made to take an action, the Agency has expressed a preference for cleanups achieving the more protective end of the range (i.e., 10^{-6}), although waste management strategies achieving reductions in site risks anywhere within the risk range may be deemed acceptable by the EPA risk manager. Furthermore, the upper boundary of the risk range is not a discrete line at 1×10^{-4}, although EPA generally uses 1×10^{-4} in making risk management decisions" (see OSWER Directive 9355.0-30 "Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions," April 22, 1991).

In addition, upon request from contractors or Departmental elements, DOE may authorize temporary dose limits for exposure of the public up to 500 mrem/yr, without prior public notice or comment. The rule specifies no time limit or other limiting criteria for granting such "temporary" dose limits. This could create significant inconsistency with CERCLA requirements. **500 mrem/yr corresponds to a lifetime risk of approximately 10^{-2} this is at least two orders of magnitude greater than EPA would generally consider adequately protective.**

3. Preference for Permanent Remedies and Treatment

Neither the Draft Regulation nor the preamble references the NCP requirements to: satisfy the preference for treatment of "principal threat waste"[1] to reduce toxicity, mobility, or volume, or provide an explanation for the Record of Decision at the site why the preference was not met, and; utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable.

The Administrator has stressed EPA's commitment to permanent remedies rather than relying on institutional controls to effect short-term risk reduction, stating that "erecting a fence to prevent human exposure provides comparable risk reduction benefits in the short-term as achieved by treating, removing or reliably managing hazardous waste, even though the latter solutions are much more *effective* . . . over the long term. Because the cost of the fence is much less, however, than treatment, removal or reliable management, the latter alternatives are not likely to be considered cost-reasonable . . . This methodology is a short-sighted approach". *(Excerpt from Administrator Browner Testimony to House Commerce Committee 10/26/95)*

4. Part 834 cleanup waiver provisions are inconsistent with existing CERCLA regulations and guidance, as well as the Administration's CERCLA reauthorization position.

Part 834 would allow waivers (for unrestricted release of sites for public use) from its inadequately protective 100 mrem cap on four broad bases: 1) unreasonable cost, 2) greater environmental harm, 3) greater worker risk, and 4) alternative exposure scenarios. These are inconsistent, as written, with existing CERCLA policy and the Administration's position on CERCLA reauthorization.

-- While ARARs may be waived under CERCLA, the requirement for overall protection of human health and the environment (generally 10^{-4} to 10^{-6}) may not (40 CFR 300.430, see

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[1] **'Principal threat wastes are those source materials considered to be highly toxic or highly mobile that generally cannot be reliably contained or would present a significant risk to human health or the environment should exposure occur. They include liquids and other highly mobile materials or materials having high concentrations of toxic compounds.**

also OSWER Directive 9355.0-30 "Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions." April 22, 1991). Waivers out of dose limits already outside of the risk range are inconsistent with the use of waivers under CERCLA. EPA's Administrator has criticized a similar provision during testimony concerning CERCLA reauthorization, by stating "Worse still. S.8 establishes a new 'mega' technical impracticability waiver from the fundamental requirement to protect human health and the environment in addition to the existing (and continued) waiver from applicable or relevant and appropriate requirements (ARAR) waiver for technical impracticability.... Under this process, cost would receive more emphasis in deciding not only the method of protection for a site, (likely to be cheap exposure controls such as fences), but whether to protect at all." *(Administrator Browner's testimony to the Senate Environment and Public Works Committee on 3/5/97).*

-- Under CERCLA policy, if a site cannot be cleaned up to a protective level (i.e., within the 10^{-4} to 10^{-6} risk range) for the "reasonably anticipated future land use" because it is **not cost-effective or practicable** based, among other things, on an analysis of adverse effects on the environment or workers), then a **more restricted land use should be chosen that will meet a protective level.** (This may include use as a waste management area (OSWER Directive No. 9355.7-04 "Land Use in the CERCLA Remedy Selection Process," May 25, 1995, pp. 8-9).) This policy reflects the Administrator's CERCLA reauthorization position on land use. Waivers of the required level of protection that are based on cost-benefit analysis or practicability are therefore not acceptable. (The Hanford and Rocky Flats sites have correctly applied this policy to select 15 mrem/yr remediation decisions using a variety of land uses: rural residential, industrial/commercial, recreational, and waste management.)

-- §834.301 (e)(3) would allow a waiver when DOE determines that "the *scenarios or assumptions* used to establish the Authorized Limits do not apply to the property." This provision does not make sense; sites must be remediated to protective levels regardless of whether certain scenarios or assumptions apply. In addition, since DOE did not develop a Regulatory Impact Analysis for Part 834, it is not clear where the particular *scenarios and assumptions* are spelled out in detail.

The use of supplemental standards in §§834.30l(d) and (e) is also inconsistent with their use under UMTRCA standards (40 CFR 192). Although the term "supplemental limits" as used in Part 834 is similar to the term "supplemental standards" in 40 CFR §§192.21 and 192.22, the DOE's use of waivers in Part 834 is inconsistent with the use of waivers in Part 192. The flexibility afforded by supplemental standards in Part 192 was appropriate within the context of cleaning up UMTRCA sites since remedial action was required to achieve specific residual concentrations (such as 5 pCi/g in soil) without regard to land use. However, the dose limits in Part 834 allow different residual concentrations depending upon the land use. to achieve the same dose limit. Also, DOE may choose not to release a site or portion of a site.

5. Part 834 misuses EPA's UMTRCA regulations.

The §834.302(b) concentration criterion for radium in subsurface soil (15 pCi/g of radium-226) misuses a standard developed for the circumstances specific to the UMTRCA sites to which it applies. It is not a health-based standard, and should not be applied to situations that differ substantively from those for which it was derived. EPA requested deletion of this inappropriate use of its standards in its previous comments.

-- The criterion for subsurface soil was derived as a practical measurement tool for use in locating discrete caches of high activity tailings (typically 300-1000 pCi/g) that were deposited in subsurface locations at mill sites or at vicinity properties. The subsurface soil criterion in Subpart B was originally proposed as 5 pCi/g **(46** FR 2562). The final regulation was changed, not because the health basis was relaxed, but rather in order to reduce the cost to DOE of locating buried tailings, *under the assumption that this would result in approximately the same degree of cleanup at the Title I sites as originally proposed under the 5 pCi/g criterion* (48 FR 600 and FEIS p. D-5 1). The use of a 15 pCi/g subsurface criterion allowed DOE to use field measurements rather than laboratory analyses to determine when buried tailings had been detected. Thus, it was not developed for situations where significant quantities of moderate or low activity materials are involved. It is only appropriate for use when contaminated subsurface materials are of high activity and are not expected to be significantly admixed with clean soil.

-- There commonly exist cleanup situations that involve significant quantities of moderate to low activity materials, or where some forms of remediation would create such materials to be left on the site. Use of the 15 pCi/g criterion under such circumstances would not satisfy the risk objectives achieved under Subpart B for uranium mill tailings. It would, therefore, be inappropriate to promulgate this criterion as a general standard for cleanup of subsurface contamination.

§834.201(a)(4)(i) would, raise the standard for radon in ambient air in EPA's 40 CFR Part 192.02 by a factor of six and change the point of compliance from the waste boundary to the facility boundary. Further, EPA's 0.5 pCi/l standard applies to any location at or outside the waste boundary, not to the average around the site boundary. This is a further example of the draft rule's misusing and distorting EPA standards to yield potentially unprotective results..

6. Part 834 would establish waste standards that permit *risks* exceeding those permitted under existing standards for commercial low level waste (LLW).

Part 834's waste standard (25 mrem/yr TEDE) would allow individuals to be exposed to risks up to 70% greater than those permitted under NRC's existing LLW rules (10 CFR Part 61) for commercial facilities. Previously, in the preamble to the high-level waste rule (40 CFR Part 191; December 20, 1993; 58 FR 66402), EPA has noted that the dose limit of 25

mrem/yr to the whole body or 75 mrem/yr to any critical organ, which was used in a previous high-level waste rule (September 19, 1985; 50 FR 38066) corresponds to the same level of risk as that associated with a 15 mrem/yr EDE. (NRC's "Branch Technical Position" states that its Part 61 is equivalent to 15 mrem/yr TEDE).

These findings are consistent with those resulting from an analysis conducted on surface soils to compare the dose level allowed under standards expressed in terms of EDE with the dose levels allowed under the critical organ approach to dose limitation, in which EPA analyzed the estimated effective dose equivalent levels that, would result if sites were cleaned up to the numerical dose limits used in these standards.' The analysis indicates that if sites were cleaned up under a 25/75/25 mrem/yr dose limit, the residual contamination would correspond to approximately 10 mrem/yr EDE. For sites cleaned up under a 25/75 mrem/yr dose limit. the residual contamination would correspond to approximately 15 mrem/yr EDE.

As written, Part 834 would allow additive doses of 25 mrem/yr for each of the five different types of waste identified by DOE. It appears that the rule would allow, for example, exposures of 75 mrem/yr if a single disposal facility co-mingles three types of waste. This may result in risks that warrant a CERCLA response action.

7. Part 834's ALARA criteria for site-specific cleanup levels are inconsistent with CERCLA's criteria for selecting site-specific cleanup levels.

DOE sets overall dose limits (100 mrem/yr is a risk of approximately 2×10^{-3}) that represent risk levels that are greatly in excess of those allowed by CERCLA for its threshold criteria of *overall protection of human health and the environment* (risk range of 10^{-4} to 10^{-6} for carcinogens, with 1×10^{-4} the usual upper bound, and a preference for cleanups at the more protective (10^{-6}) end of the risk range (see the following guidance for further discussion: OSWER Directive 9355.0-30 "Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions," April 22, 1991).

DOE allows the waiver of its overall dose limits to allow individuals to be exposed to an undetermined amount of radiation, while CERCLA does not allow waiving of its threshold criterion of *overall protection of human health and the environment.*

In addition to overall dose limits, DOE has developed within Part 834 specific standards for certain media, contaminants, and land uses. In certain cases, these standards are inconsistent with those federal standards EPA would apply through the ARARs process (for example, the draft rule allows attainment of MCLs at the tap for ground water

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'"Comparison of Critical Organ and EDE Radiation Dose Rate Limits for Situations Involving Contaminated Land" Office of Radiation and Indoor Air; April 1997.

protection. whereas EPA would typically require attainment under CERCLA and the NCP in the aquifer).

The effect of these standards is unclear, since DOE would be required, in a CERCLA cleanup, to meet all federal and state ARARs (such as State Water Quality Standards), which means it would be required to meet the most stringent of multiple ARARs.

Additional key rule provisions of uncertain effect are the ALAR4 provisions. Under the ALARA process, DOE could start at the most unprotective dose limit allowed (100 mrem/yr) and use an ALARA process to determine if site-specifically a more stringent level will be chosen. This approach is inconsistent with the CERCLA preference for cleanups at the more protective end of the risk range. It is also unclear how the ALARA process would be integrated with the NCP remedy selection criteria, which DOE would have to apply in remedies selected under CERCLA. It is clear that ALARA is not an adequate substitute for these criteria:

- ALARA does not include a specific requirement to judge the ability of a remedy to maintain reliable protection of human health and the environment over time, once cleanup has been completed. CERCLA's primary balancing criterion of *long-term effectiveness and permanence* does.

- ALARA does not require judgment of the ability of a remedy to accomplish a *reduction of toxicity, mobility, or volume through treatment* of the contaminant at the site. This is required as part of CERCLA's primary balancing criteria.

- DOE has previously used the cost provisions of its ALARA process in its internal Order guidance, to conduct site-specific cost-benefit analyses. CERCLA uses a more focussed cost-effectiveness evaluation instead of cost-benefit analysis. Under CERCLA, a remedial alternative must meet the threshold requirements (protectiveness, compliance with ARARs). Its overall effectiveness is then evaluated based on the following three balancing criteria: (1) long-term effectiveness and permanence, (2) reduction of toxicity, mobility, or volume through treatment, (3) short-term effectiveness. "Overall effectiveness is then compared to cost to ensure that the remedy is cost-effective. A remedy shall be cost-effective if its costs are proportional to its overall effectiveness" (see *55* FR 8850).

EPA has previously opposed during CERCLA reauthorization use of a cost-benefit analysis procedure in remedy selection that was similar to the ALARA process in DOE's Part 834 rule, stating that "H.R. 1022, the 'Risk Assessment and Cost-Benefit Act of 1995,' requires the selection of remedies for cleanup actions based on a cost benefit test.... under the provisions of H.R. 1022, cost becomes the primary remedy selection criterion, potentially superseding all other remedy selection criteria, including the protection of human health or

the environment, or the preferences of affected citizens." *(Deputy Assistant Administrator Fields' testimony to the Committee on Commerce on 5/23/95).*

8. **Part 834 would allow DOE, to release elevated levels of liquid radioactive wastes into soil columns, sewers, and ground water and thus could potentially create additional Superfund Sites.**

Section 834.211 "Liquid discharges to the environment" would allow releases at levels as high as 100 mrem/yr, and 834.212 "Discharge to soil columns" permits DOE to continue such discharges if they do not impact an existing drinking water source. These provisions could result in levels 25 times the MCLs at the point of discharge or in ground water, respectively. This is inconsistent with EPA's "Ground Water Strategy for the 1990's" and with EPA's "Ground Water Protection Strategy," and could potentially create additional Superfund Sites. (These strategies emphasize protection over remediation, e.g., they state that reaching the MCL or another appropriate reference point would be considered a failure of prevention.)

9. **Point of Compliance**

The "point of compliance" in §§834.101 and 834.102 is the nearest actual member of the public to the DOE activity. At some DOE sites this individual is miles from the site boundary. This point of compliance is significantly less protective than the potentially nearest member of the public, an individual that could in the future reside on public property adjacent to an operating facility and be exposed to residual offsite contamination from prior releases permitted under this provision *(or* reside on the property if the property is planned to be released.)

As written, Part 834 would allow groundwater contamination in excess of MCLs to extend for tens of miles depending on the location of the nearest member of the public. This is inconsistent with the CERCLA approach expressed in the NCP, where "for ground water, remediation levels should generally be attained throughout the contaminated plume, or at and beyond the edge of the waste management area when waste is left in place" (see 55 FR 8713, March 8, 1990).

10. **Land Use Terminology**

DOE uses new terminology for different land uses. For example, in §834.301(b)(l)(ii), DOE uses the terms "worst plausible use scenarios" and "actual and likely use scenarios." It is unclear what these new terms mean. This terminology is inconsistent with the terminology used in current Superfund guidance OSWER Directive No. 9355.7-04, Land Use in the CERCLA Remedy Selection Process, May 1995. The OSWER Directive uses the term reasonably anticipated future land use. DOE should use language similar to that

used by CERCLA guidance or explain that this different terminology is consistent with CERCLA guidance in its application.

11. **Period of Compliance**

§834.301 "Release of property" 'does not specify the period of compliance after completion of the remedial action. DOE apparently would assess the dose to the individual in the first year only, even for property to be released to the public. This is inconsistent with the CERCLA approach to assess the ingrowth of radioactive decay products, which may lead to higher risks from residual radioactive contamination in future years than at the completion of the remedial action (see the following guidance for further discussion: "Risk Assessment Guidance for Superfund Volume I Human Health Evaluation Manual (Part A)", EPA/540/1-89/002, December 1989, pg. 10-24.)

12. **Units of Measure**

In the absence of ARARs, cleanup levels at CERCLA sites are generally expressed in risk, rather than millirem, as a unit of measure. CERCLA guidance recommends the use of slope factors in the HEAST tables when estimating cancer risk from radioactive contaminants. Although on average, DOE's dose limit of 100 mrem/yr corresponds to a risk of approximately 2 x $l0^{-3}$, the risk from this dose limit may vary by an order of magnitude or more depending upon the radionuclide present as a contaminant at the site and the selected land use. 'For example, a site where either Tc-99 or Pm-147 was the sole contaminant, if cleaned up to DOE's 100 mrem/yr dose limit for residential use, risk from the residual radioactive contamination would be approximately 7 x 10^{-3}, not 2 x 10^{-3}). The risk allowed under DOE's 500 mrem/yr dose limit would be approximately 3 x 10^{-2}. Also, if estimates of the risk posed by radiation were to increase, DOE's millirem standards would be even further outside the 10^{-4} to 10^{-6} risk range than they are today. Since millirem and risk are calculated using different approaches, DOE's use of millirem to establish cleanup levels is inconsistent with CERCLA's use of risk based on slope factors.

13. **Basis for 30 mrem/yr Evaluation Tool**

§834.102 contains a requirement to evaluate exposures from radiation sources other than those of DOE origin when the doses from DOE sources exceed 30 mrem in a year and doses from non-DOE sources can exceed 30 mrem in a year to the same individual. No basis is provided for this value.

14. **Role of 500 mrem/yr Dose Limit**

In several sections of Part 834, it is not clear whether or not use of the temporary 500 mrem/yr overall limit can be authorized (e.g., for cleanup, or for release of property).

15. **Exclusion of Uranium Lease Tracts**

It is unclear why "DOE-administered activities associated with past, present. and future exploration and mining operations conducted on DOE-managed uranium lease tracts" (§834.1(c)(6)) are excluded from these proposed requirements.

16. **High Level NORM wastes**

There does not seem to be any rationale that shows that §834.223(b)(2) provides an adequate assurance of protection of the public from high level NORM wastes. such as the K-65 wastes. This section would permit use of surface impoundments covered with riprap or use of shallow burial in concrete vaults.

17. **Worker Doses to Members of the Public**

DOE may be exempting from Part 834's requirements the doses to many members of the public. On pp. 23-24 in the preamble to Part 834, DOE states that Part 834 would not be applicable to those individuals related to a DOE activity. DOE states "for example, electrical workers who may be working on power lines going into a DOE complex would be considered 'occupationally exposed persons' subject to DOE occupational protection regulations in 10 CFR Part 835" and thus allowed to receive exposures to radiation equivalent to those received by DOE employees. **DOE's occupational standards (10 CFR 835202(a)(l)) would allow these persons not employed by either DOE or its contractors, to be exposed to 5 rem/yr (5,000 mrem/yr which corresponds to an incremental cancer risk of approximately a 1 x 10^{-1}).**

On pg. 24 in the preamble to Part 834, DOE states that its Part 835 occupational standards apply within DOE site boundaries even if the land is leased to "private individuals or organizations'*, if DOE maintains administrative and radiological control of the site. It would appear that DOE would allow doses to workers at a leased site, of up to 5 rem (5,000 mrem/yr). For example, if a portion of a DOE site were leased as a shopping mall, workers at the stores would be considered persons to which DOE's 5 rem/yr (5,000 mrem/yr) dose limits might apply.

DOE appears to be misusing occupational standards by applying them to persons who are not DOE workers or DOE contractors. DOE occupational standards are better suited for application to environments where: radiation is widely used; the knowingly exposed population is cognizant of the hazards of such exposure; the population is trained in the use of personal protective devices to protect itself in the event. The population in an occupational setting is self-selected and aware of the potential risks, it is unlikely workers at a business which leased land from DOE or persons performing any function related to a DOE activity will be quite as aware. Therefore, DOE's application of occupation standards

(Part 835) to persons that are not DOE employees appears inconsistent EPA's approach under CERCLA of remediating sites to levels that are protective of human health (10" to 10^{-6}), even when assuming an industrial/commercial land use.

18. **Additional DOE Guidance**

Pages 71-75 of the preamble list a series of guidance documents recommended for showing compliance. The majority were developed by DOE. Without reviewing them, it is uncertain whether these DOE documents will disclose further inconsistencies with EPA (particularly CERCLA) regulations or guidance.

Department of Energy
Washington, DC 20585

February 6, 1998

Lawrence G. Weinstock, Acting Director
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U.S. Environmental Protection Agency
401 M. Street SW
Washington, DC 20460

Dear Mr. Weinstock:

We received your letter of December 18, 1997 and the accompanying December 12, 1997 letter from EPA's Office of Solid Waste and Emergency Response transmitting comments on our draft final rule, 10 CFR Part 834, "Radiation Protection of the Public and the Environment." We appreciate the effort that went into preparation of the comments, and will provide a detailed response within the next few months.

We are evaluating your comments to consider where modification to Part 834 may be appropriate. Although we have not completed this evaluation, we believe that some of your concerns have or will be addressed in the guidance documents that will be issued with the rule's promulgation. We also believe that many of the comparisons and analyses that were provided in your comments are inappropriate or in error. This may be due to an incomplete understanding of DOE's radiation protection system and the decision processes associated with the rule requirements (e.g., the "as low as reasonably achievable" process).

In any event, many of the comments are inconsistent with basic radiation protection principles that have been successfully applied worldwide. We have been working with EPA and other federal agencies for over a decade to come to interagency agreement on overall Federal radiation protection principles and approaches. Over this period the Department has been very supportive of EPA's efforts to update the existing (1960) federal radiation guidance. Part 834 is consistent with this effort, with NRC's 10 CFR Part 20, and with the updated Federal Radiation Protection Guidance which EPA proposed in December 1994.

There are a number of possible regulatory approaches for ensuring protection of the public and the environment. Certainly there may be particular approaches preferred by EPA. But for the Department of Energy, we have determined that a preferred, and we believe cost-effective, approach is the one set forth in Part 834. The rule implements a systems approach for ensuring public and environmental protection. Unlike many of EPA's standards it addresses all sources of radiation from all pathways at all sites. We believe the rule to be consistent with the recommendations of the Vice President's National Performance

Review which calls for development of multi-media approaches for addressing complex environmental problems.

The Department takes seriously its Atomic Energy Act responsibilities to protect the public and the environment, and is committed to maintaining and improving the quality of its environmental, health, and safety programs. The promulgation of 10 CFR Part 834 is an important element in this effort. We continue to be concerned that delays in the promulgation of Part 834 will impede our abilities to effectively address our responsibilities. We, therefore, are interested in addressing and resolving, where possible, the critical issues in a timely manner.

By this interim response we again wish to express our appreciation for your efforts in reviewing the draft final rule. We will provide a detailed response shortly.

Sincerely,

Raymond P. Berube
Deputy Assistant Secretary
for Environment

cc. Cynthia C. Dougherty, EPA
Craig E. Hooks, EPA
James E. Woolford, EPA
Stephen D. Luftig, EPA