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March 9, 1994

TO: The Secretary of the Commission
U.S. Nuclear Regulatory Commission
Washington D.C. 20555

Attention: Docketing and Service Branch

Re: Comment of the Western States Legal Foundation
NRC Staff Draft Rule - Decommissioning of NRC-Licensed Facilities

Dear Secretary:

Please find attached the Comment of the Western States Legal Foundation to the NRC Staff Draft Rule for Radiological Criteria for Decommissioning of NRC-Licensed Facilities. The comment was also uploaded to the NRC BBS as filename <veilcom> at approximately 1:05 am on March 9, 1994. This is a confirming copy of the comment.

Very truly yours,

WESTERN STATES LEGAL FOUNDATION



MICHAEL J. VEILUVA

MJV: 3985.01
Enclosure

cc: Jacqueline Cabasso

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COMMENT OF THE WESTERN STATES LEGAL FOUNDATION
TO THE NRC STAFF PROPOSED RULE

RADIOLOGICAL CRITERIA FOR DECOMMISSIONING OF
NRC-LICENSED FACILITIES

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Comment Submitted By:
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Comment Date: March 8, 1994
UPLOADED ON NRC BBS 3/9/94 1:05 am est

INTRODUCTION

Western States Legal Foundation (WSLF) is a non-profit environmental and peace foundation which, since 1982, has participated in administrative proceedings, litigation, and grass-roots activities to further the end of the nuclear arms race, conversion of military activities, and the cleanup of federal facilities engaged in nuclear weapons production. WSLF is a member of the Military Production Network (MPN), and a founding member of the Global Anti-Nuclear Alliance (GANA). The author of this comment is currently serving on the NACEPT subcommittee assisting the EPA in parallel rulemaking to establish radioactive site cleanup standards.

WSLF participated in the San Francisco NRC workshop in San Francisco in 1993, and submitted a set of written talking points addressing the issues identified in the comments to the staff rule.

GENERAL POLICY ISSUES

The public perception of risk from radioactive wastes is more pronounced than perhaps any other risk posed by hazardous or toxic pollution. Much of this perception is fostered by the dramatic effects wrought by the Hiroshima and Nagasaki bombs, and the accident at the Chernobyl nuclear plant in Ukraine. In addition, decades of unnecessary government secrecy and coverup hid from the public deliberate and accidental exposures to American citizens from atomic bomb tests, simulated weapons experiments, uranium mining, and medical tests. The task of federal agencies such as the NRC and EPA to overcome the

years of justifiable distrust is indeed daunting.

In everyday life, citizens knowingly encounter risks by driving to work, eating, or submitting to medical X-rays. These are voluntary risks which are willingly submitted to, usually on the basis of an individual cost-benefit decision, however unconscious that may be. The difference with radioactive wastes and contamination is the public's perception that these risks are involuntary, that is, imposed from above by government activities usually hidden from the public. The present unpopularity of nuclear power in general will also generate a hefty measure of distrust over decommissioning and the disposal of wastes. The wastes generated by NRC-licensed facilities will be viewed by many as the product of illegitimate, or at best, questionable human activity.

Substantial debate continues on the health effects of low level radioactive wastes. In light of the continuing scientific uncertainty regarding the calculation of dose-based limits, regulatory agencies should adopt dose limits which are as conservative as possible. Even if the weight of scientific opinion favors a higher limit, the rule drafters must consider the relative intolerance by the public to traditional cost benefit analysis in matters of radioactive materials.

The need for conservatism is based not only on scientific uncertainties. Many workshop participants from industry stressed the need for consistency with current occupational or safety standards based on existing regulations, which usually means an "acceptable" limit of 100 mrem. Such arguments, however, overlook the fact that decommissioned sites are no longer in the control of either the operator nor the regulating agency. The industry position also fails to take into account that over the span of thousands of years, human uses will change and alter the environment, and groundwater movement and vegetation may result in the concentration of radioactivity in "hot spots." While we cannot expect operators to clean sites "beyond background," it is entirely appropriate and economically just to expect such users to clean as close to background as feasible.

The "conservative" approach to goal-limits is particularly applicable in the case of environmentally sensitive or "critical" lands such as watersheds, drinking water sources, and wildlife areas. Native American lands, under any scheme, should be afforded particular consideration based on the special spiritual status given lands by Native Americans, and promises made by federal officials when the lands were taken for weapons or production purposes.

The decommissioning rule also must be forward-looking. Present assumptions of technology, cleanup costs and monitoring must critically viewed in light of the fact that in many cases, residual radioactivity will remain on site for thousands of years. Already, NRC is undertaking the laborious process of reviewing past instances of unrestricted use releases of sites which, in light of present standards, may have been inappropriate. Moreover, future licenses should be given a standard that they can reasonably expect will not be yet moved farther forward, thereby shifting unexpected costs to the user or the public. Only a

background goal, and/or limits as close to background as possible, will accomplish this.

The NRC rule should be understandable, consistent, and afford the greatest degree of public participation as early in the decommissioning process as possible. As applied, it should strive to achieve economic justice while maximizing public health. The rule also will provide important criteria for other agencies and states in setting health-based limits, as well as international decommissioning and cleanup efforts. A stringent decommissioning rule will set an example for other nations to follow.

RADIOLOGICAL CRITERIA

EPA staff engaged in parallel rulemaking for radiation cleanup standards have indicated that they are leaning toward establishing an excess risk threshold of 1×10^{-4} , or a dose limit of approximately 5 mrem above background. This single dose limit is preferred to the NRC staff's proposed goal of 3 mrem and limit of 15 mrem (or 3×10^{-4} excess risk), since it is more protective of human health and the environment. It is not certain, however, that EPA will ultimately adopt a 5 mrem dose limit in the written proposed rule.

The goal/limit regulatory structure is second best to the more conservative limit now under consideration by the EPA staff. However, the use of a "goal" is better than no goal at all if the enforced regulatory limit is to be in excess of 5 to 10 mrem. In many instances, regulators should have the discretion to require cleanup to the goal where there are no practical impediments, and environmental and safety goals are being furthered. On its face, the NRC's choice of dose-based limits appears to be based in part on genuine health concerns (sec. 20.4102), but also recognizes that technological and cost limitations may in many instances foreclose a strict limit based on background levels. There is sufficient regulatory precedent for a lower limit of 10 mrem (40 CFR Part 61, EPA air emission standard), and 4 mrem (40 CFR Parts 141 and 142, EPA standard for drinking water). Given the long term unregulated and unmonitored status of sites released for unrestricted use, WSLF believes that a unrestricted use standard of 4 mrem is appropriate.

The use of dose-based limits is more acceptable than technology-based rules, if the predominate purpose of the rule is protection of human health and environmental risk. It should be kept in mind, however, that the incremental goal of 3 mrem above background is driven largely by present technological limitations, and that "background" includes a significant proportion of man-made radioactivity from fallout as well as the Chernobyl explosion (as recognized by the proposed sec. 20.1003). The 15 mrem limit is also a rule of convenience. WSLF believes that there is sufficient precedent for limits which correspond to 10^{-6} lifetime risk, including those within existing CERCLA schemes.

As set forth in the beginning of this comment, only background based goals and limits accomplish the tasks of long term certainty and protection to public health and the environment. Any deviation from this objective must fully disclose the uncertainties, economic criteria, and technological issues built into the proposed rule. Notwithstanding the

foregoing, the NRC staff is to be commended for proposing a goal and limit structure which is more conservative than the 50 to 100 mrem approach favored by industry, even if the proposed limit is not as stringent as the present informal indications by EPA staff.

The need for conservative limits is driven by the peculiar risks associated with many radioactive materials, which do not degrade in the same manner as conventional wastes, and may have half-lives of tens of thousands of years. In addition, certain isotopes are subject to concentration by natural phenomena (such as runoff) as well as by vegetation and animal uptake. We also note that air and groundwater modeling of environmental radiation (such as AIRDOS) is constantly being revised. Since these sites will be used for an infinite variety of unmonitored and unregulated uses over the next centuries to millennia, a risk-based objective of 1×10^{-4} is the largest acceptable risk that should be considered as a limit, particularly given the variations in modeling assumptions. The NRC staff has appropriately noted that decommissioning standards should be more stringent than occupational limits or standards for ongoing operations, since in these instances, the site user is subject to continuous monitoring and regulation. We must assume that in the case of a site released for unrestricted use, that site will not be revisited and may ultimately lose its identity as an NRC-licensed site in the stream of commerce.

On its face, the 15 mrem limit is further based on the NRC's linear model of relating dose to risk. This is a major assumption that should be frankly acknowledged in the draft rule, which should also describe alternative dose-risk models to assist in comparisons.

WSLF is concerned about using "critical group" assumptions in the calculation of risk, since such definitions may disguise the actual degree of residual radioactivity at a particular site, and relies on the predictive powers of the regulators over the extreme long-term. The "critical group" definition presumes that the land use of the affected site remains constant, or more restrictive, in perpetuity.

LAND USE RESTRICTIONS

At the heart of the proposed rule is the working interface between the "critical group" limit of 15 mrem and the imposition of land use restrictions where the licensee is unable to obtain release of the site for unrestricted use within the 15 mrem limit. The EPA is presently considering a similar structure for its proposed cleanup rule. Ultimately, both NRC and EPA will adopt some form of rule which permits releases of land which would not otherwise meet the "unrestricted use" criteria under present controls. These rules will probably rely on a selection of "active" land use controls, such as monitoring or physical custodianship, and "passive" controls such as deed restrictions and mandatory zoning designations.

A major limitation to the widespread use of land use restrictions is the lack of clear regulatory and statutory authority for use of such restrictions as a substitute for full cleanup.

Any aggressive program of authorizing releases subject to land use restrictions must ensure consistency with state and local land use ordinances, as well as laws precluding unreasonable restraints on alienation of land.

In some instances, the requirement of cleanup to "unrestricted use" has imposed prohibitive economic burdens on users, and the unnecessary "bulldozing and paving" of marginal lands which are neither environmental sensitive, nor suited for agricultural or residential uses. Moreover, in some instances the "capping" of lands violates the "do no harm" rule by destroying all viable use. The use of land use restrictions is further consistent with the recognition that reliance on transportation and land disposal of low level wastes may prove, in the long run, futile. Consequently, in some instances, on site storage and monitoring is preferred over transportation and temporary storage.

On the other hand, widespread inappropriate reliance on passive land use restrictions as a substitute for full cleanup could pose an even greater threat to human health and the environment. The rule, as presently drafted, places great emphasis on exposure to a hypothetical "critical group", while not taking into consideration surrounding land uses, the sensitivity of the existing environment, or the presence of groundwater sources. The rule is also highly dependent upon the adequacy of institutional land use controls. While most transfers of land to private users can be controlled by traditional mechanisms such as recorded covenants or deed restrictions (most states already have statutes requiring deed notices for hazardous waste sites), transfers to public agencies are more problematic. In one local instance, a former site for fallout experiments was conveyed for use by a county government, which subsequently "forgot" that the property ever held radioactive materials. The draft rule must address in greater detail the mechanisms to ensure that local governments retain the "institutional memory" necessary to prevent the site from ultimately being used as an elementary school or residential redevelopment area.

The draft rule addressing land use restrictions should be expanded beyond the "critical group" formulation. Any proposal incorporating a future restricted use, based on passive controls, should incorporate consideration of the following factors:

- (1) proximity of the site to groundwater or drinking water sources;
- (2) the immediately surrounding land uses, the density of such uses, and whether such proposed use will conform to existing lands use schemes and general plans;
- (3) whether the proposed use will be public or private;
- (4) the precise identity of the materials remaining on the site, and in particular their longevity and concentration;
- (5) the sensitivity of the immediate and surrounding environment, including proximity to oceans, waterways, and other habitats;

(6) the cost and feasibility of active land use controls such as monitoring and periodic site review.

WSLF submits that in many cases, reliance on passive land use restrictions in lieu of cleanup to the regulatory limit will be inappropriate. These situations include:

- (1) Restoration of Native American lands;
- (2) Sites bordering waters of the United States or oceans;
- (3) Sites which are a potential source of drinking water contamination;
- (4) Sites bordered by moderate to high density residential development.
- (5) Sites within "critical areas" as recognized by federal or state statutes, such as:
 - (a) watersheds and 100-year flood plains;
 - (b) seismic risk and subsidence areas;
 - (c) fish or wildlife habitats.

Passive land use restrictions are more appropriate in instances where the surrounding land uses are predominately commercial or industrial, the proposed use is consistent with existing local government schemes; and the environmental impact from transportation and disposal of the material would exceed the risk of continued presence of the materials on site.

All land use restrictions should be memorialized in documents recorded in the appropriate chain of title, and which should indicate on their face the absolute amount of residual radioactivity remaining on the site. Licensees should be prepared, in the instance of transfers to public agencies, to obtain surety bonds or execute indemnification agreements. In the case of private transfers, the licensee should contribute to a fund to cover local government or agency expenses in continuing monitoring, as well as a possible insurance fund or "shared risk" pool. As much as possible, the licensee should bear the cost of maintenance of private and public land use controls, as is the case in most areas of land use development.

The NRC must, as a prerequisite to adopting land use restrictions as policy, work with local agency representatives to develop consistent land use ordinances which set aside restricted lands as a special zoning class.

The proposed staff rule correctly notes that the availability of land use restrictions is highly dependent upon the mechanism for public participation in the decommissioning process.

PUBLIC PARTICIPATION IN THE DECOMMISSIONING PROCESS

WSLF is encouraged by the staff proposal to adopt SSABs (sec. 20.1407) whenever the licensee requests a restricted use release. While the licensee should "foot the bill" for the convening of a SSAB (including the retention of technical expertise for that SSAB), the licensee should not have control of the selection of participants. WSLF believes that the federal agency should determine, or at least be consulted on, the selection of SSAB participants. WSLF believes that federal participation may prevent the arbitrary exclusion of otherwise necessary participants in some instances. Moreover, review and judicial recourse may be more viable in the instance of selection of SSAB members by public agencies instead of a private user.

WSLF disagrees with the staff rule to the extent SSABs are limited to instances where the licensee notifies the NRC that it intends to seek a restricted land use release. The convening of an SSAB should include significant sites where the licensee notifies the agency that decommissioning will result in residual levels in excess of the 3 mrem goal, and where one or more of the "sensitivity" factors (such as presence of a drinking water source) is present. An SSAB should almost always be employed in the case of Native American lands, sites surrounded by high density residential uses, ocean or waterfront sites, or sensitive ecosystems, unless the licensee gives adequate assurance that the 3 mrem goal can be met at the outset of the process. In addition SSAB's should be utilized where there is a cognizable risk to employees engaged in the decommissioning process, or to workers and population groups during transport of materials.

The expenses of the SSAB should be borne by the licensee. The SSAB must be given access to all licensing and environmental compliance documentation and application materials. The licensee should also bear the cost of a consultant which the SSAB may employ at its discretion.

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