Federal Register
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Thursday, December 22, 1994

Presidential Documents

Title 3—

The President

Presidential Determination No. 95–10 of December 15, 1994.

Presidential Determination To Authorize Transportation for Certain Unaccompanied Minors, Elderly, and Ill Individuals

Memorandum for the Secretary of Defense [and] the Attorney General

It is hereby determined that the Secretary of Defense shall assist the Attorney General under section 501(c) of the Refugee Education Assistance Act of 1980 (Public Law 96–422) by providing transportation for certain unaccompanied minors, elderly, and ill individuals. The Secretary of Defense may agree to expand the range of services and category of individuals as he determines.

The Secretary of Defense is authorized and directed to publish this determination in the **Federal Register**.

William J. Clinton

THE WHITE HOUSE,
Washington, December 15, 1994.

[FR Doc. 94–31652
Filed 12–20–94; 4:03 pm]
Billing code 5000–04–M

Rules and Regulations

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DEPARTMENT OF AGRICULTURE

Animal and Plant Health Inspection Service

7 CFR Part 319

[Docket 87-005-2]

RIN 0579-AA21

Importation of Nursery Stock, Plants, Roots, Bulbs, Seeds, and Other Plant Products

CFR Correction

In Title 7 of the Code of Federal Regulations, parts 300 to 399, revised as of January 1, 1994, on page 177, the table headings of § 319.37–2(a) should read as follows:

§ 319.37–2 Prohibited articles.

(a) * * *

Prohibited article (includes seeds only if specifically mentioned)	Foreign places from which prohibited	Plant pests existing in the places named and capable of being transported with the prohibited article

9 CFR Part 92

[Docket No. 93–006–3]

Importation of Certain Cattle From Mexico; Identification Requirements

AGENCY: Animal and Plant Health Inspection Service, USDA.

ACTION: Final rule.

SUMMARY: We are amending the animal importation regulations to require that certain spayed heifers imported into the United States from Mexico be marked with a permanent, legible "M_x" on the right hip, and that certain steers imported into the United States from Mexico be marked with a permanent, legible "M" on the right hip, rather than on the jaw. These marking requirements are necessary to ensure that all steers and spayed heifers imported into the United States from Mexico, except those imported directly to slaughter or in-bond for feeding and return to Mexico, are clearly identifiable as being of Mexican origin. These marking requirements will facilitate the disease surveillance and traceback activities conducted in the United States under the National Cooperative State-Federal Bovine Tuberculosis Eradication Program.

EFFECTIVE DATE: January 23, 1995.

FOR FURTHER INFORMATION CONTACT: Dr. David Vogt, Senior Staff Veterinarian, Import-Export Animals Staff, Veterinary Services, APHIS, USDA, P.O. Drawer 810, Riverdale, MD 20738. The telephone number for the agency contact will change when agency offices in Hyattsville, MD, move to Riverdale, MD, during January 1995. Telephone: (301) 436–8170 (Hyattsville); (301) 734–8170 (Riverdale).

SUPPLEMENTARY INFORMATION:

Background

The regulations in 9 CFR part 92 prohibit or restrict the importation of certain animals into the United States to prevent the introduction of communicable diseases of livestock and poultry. Subpart D of part 92 (§§ 92.400 through 92.435), referred to below as the regulations, pertains to the importation of ruminants. Sections 92.424 through 92.429 of the regulations contain specific provisions regarding the importation of ruminants, including cattle, from Mexico.

One of the diseases addressed by the regulations is bovine tuberculosis (referred to below as tuberculosis). Tuberculosis is a serious communicable disease of cattle, bison, and other species, including humans, caused by *Mycobacterium bovis*. Tuberculosis in animals causes weight loss, general debilitation, and sometimes death.

Each year, approximately 1 million cattle are imported into the United States from Mexico. The vast majority of those cattle—about 99 percent—are young steers; the remaining 1 percent consists of spayed heifers and intact cattle (i.e., calves, bulls, and unspayed females). The steers and spayed heifers are, with few exceptions, consigned to pastures or feedlots for finish feeding prior to slaughter. Most intact cattle are integrated into herds in the United States for breeding purposes.

The period between 1982 and 1992 saw a significant increase in the number of Mexican-origin cattle found at slaughter in the United States to be infected with tuberculosis. In 1982, 78 samples submitted from slaughtered Mexican-origin cattle showed evidence of tuberculosis; that number rose to 613 in 1992. In 1982, 33 percent of the tuberculosis investigations at slaughter involved Mexican origin cattle; in 1992, that number rose to 81 percent.

That increase in the incidence of tuberculosis in Mexican-origin cattle led the Animal and Plant Health Inspection Service (APHIS) to publish in the **Federal Register** on November 12, 1993 (58 FR 59963–59965, Docket No. 93–006–1), a proposed rule to amend the regulations to require that spayed heifers and intact cattle (i.e., calves, bulls, and unspayed female cattle) imported into the United States from Mexico be branded with an "M" on the jaw using a hot iron, which was the same requirement that applied to most steers imported from Mexico. Based on the comments we received from individuals and organizations opposed to that proposal, as well as public concern that branding on the jaw caused unnecessary distress to cattle, we withdrew the November 12, 1993, proposed rule referenced above and replaced it with an alternative proposal.

In the alternative proposal, which was published in the **Federal Register** on August 24, 1994 (59 FR 43506–43508, Docket No. 93–006–2), we proposed to amend the regulations to require that certain spayed heifers imported into the United States from Mexico be marked with a permanent, legible "M_x" on the right hip, and that certain steers imported into the United States from Mexico be marked with a permanent, legible "M" on the right hip, rather than on the jaw.

We solicited comments concerning our alternative proposal for a 60-day period ending October 24, 1994. We received more than 12,000 comments by that date. They were from private citizens, animal rights organizations, a member of Congress, cattle industry associations, ranchers, representatives of State governments, and a veterinary medical association. We carefully considered all of the comments we received. They are discussed below.

Many commenters did not address the specific provisions of the proposed rule; rather, they either demanded that APHIS discontinue face branding or stated that they supported APHIS' proposal to discontinue face branding of steers. We have, therefore, taken such comments to support that aspect of the proposal that would change the location of the "M" brand on steers from the jaw to the right hip.

A few commenters objected to the proposed rule in its entirety because they felt that APHIS should conduct its disease surveillance activities as it sees fit and should not capitulate to outside pressure to change its methods. We have made no changes in this final rule based on such comments because we believe that the provisions of the proposed rule and this final rule do not negatively affect APHIS' ability to conduct its disease surveillance activities.

Several commenters felt that moving the brand from the face to the hip was no improvement, and that all M-branding should be discontinued. We have made no changes in this final rule based on such comments because we continue to believe, for the reasons discussed below, that some type of permanent marking is necessary to identify cattle imported into the United States from Mexico.

One commenter urged APHIS to keep the location of the brand on the jaw because branding on other locations can markedly reduce the value of the hide. While it is true that marking methods such as hot-iron branding and freeze branding do damage the hides of cattle and would likely result in some loss of value, many private entities such as cattle owners and feedlots routinely brand cattle on areas of the hide that would have trimmed to produce a "clean" hide. Moreover, we do not believe that the economic considerations associated with the placement of the brand on the hip are significant enough to warrant such a change in this final rule, especially given the degree of public support for our proposal to relocate the brand from the jaw to the hip.

Two commenters stated that the location of the brand should remain on the jaw, which has been set aside by some State livestock agencies for "government" brands. They argued that brands on the hip would be less visible and could be easily confused with registered ownership brands—a number of which are similar to the "M" or "M_x" mark—or feedlot brands. The same location specified for the "M" or "M_x" mark has been used by APHIS for the placement of "S" brands under the brucellosis regulations in 9 CFR part 78 since 1983, and we are unaware of any identification problems resulting from that requirement. In terms of the visibility of the "M" or "M_x" mark, the mark will be predictably located on each animal, so we believe that State and Federal animal health personnel will be able to readily discern the mark when necessary. Therefore, we have made no changes in this final rule as a result of those comments.

One commenter stated that the anatomical reference point specified for location of the brand on the hip—between the fourth to seventh coccygeal vertebrae—is on the moveable part of the tail and could not accommodate a 2- to 3-inch brand. Although the regulatory text of the proposed rule called for the placement of the "M" or "M_x" mark on the "right hip, high on the tailhead," the anatomical reference point specified for the placement of the mark was, as pointed out by the commenter, incorrect. To remedy that error, we have changed the specific anatomical reference point to "over the junction of the sacral and first coccygeal vertebrae" in the regulatory text of this final rule. Another commenter stated that the specified area is concave on thin cattle, which would result in incomplete, unreadable brands on such cattle. We do not believe that the concavity of the area near the tailhead on most cattle would be pronounced enough to result in an appreciable number of unreadable brands. Additionally, if an animal were to be offered for importation with an unreadable "M" or "M_x" mark, that animal would be refused entry.

One commenter stated that the placement of the brand on the hip would make it possible for a person to modify the brand by, for example, branding an additional line or symbol close to the "M" or "M_x"; having done that, the person could attempt to portray the modified brand as an ownership brand in order to disguise the animal's Mexican origin. Certainly an "M" or "M_x" mark could be altered, just as any private or regulatory brand could be altered. However, because we are requiring that the "M" or "M_x" mark be placed in a specific location that is not likely to be used for marking by private entities, we do not believe that the commenter's concerns will be a problem. As mentioned above, the "S" brands applied to brucellosis-exposed cattle under the regulations in 9 CFR part 78 are placed in the same location near the tailhead as the "M" and "M_x" marks are to be placed, and we are

unaware of any attempts to modify those "S" brands during the 11 years they have been used. Additionally, we believe that State brand registries and State animal identification regulations will help to discourage persons from taking the actions envisioned by the commenter. We have, therefore, made no changes in this final rule as a result of that comment.

One commenter urged APHIS to expand the scope of the marking requirements to include intact Mexican cattle because such cattle are often integrated into domestic herds for breeding purposes, thus heightening the potential for the Mexican-origin cattle to expose domestic cattle to disease. As we explained in the proposed rule, we believe that the small number of intact cattle imported into the United States from Mexico each year, plus the fact that the interstate movement of intact cattle is regulated under the brucellosis regulations in 9 CFR part 78, make it significantly easier for APHIS to trace the movement of Mexican-origin intact cattle following their entry into the United States. Therefore, we do not believe that it is necessary to permanently identify such cattle as being of Mexican origin.

One commenter urged APHIS to expand the scope of the marking requirements to include cattle imported from Mexico in bond for feeding and return to Mexico under § 92.427(e) of the regulations because such cattle are not always returned to Mexico since the U.S. Customs Service stopped collecting the bond as a result of the North American Free Trade Agreement. We are aware of the potential problems with the in-bond program and are currently reconsidering the regulations governing the program. We do not, however, believe that expanding the marking requirements to include in-bond cattle is necessary at this time. If, at some point, we determine that such a change is necessary, the change would be proposed as part of a separate rulemaking.

Two commenters pointed out that APHIS currently has two proposed rules that have not yet been finalized that would render most M-branding unnecessary. The first proposed rule, published in the **Federal Register** on May 9, 1994 (59 FR 23810–23817, Docket No. 93–014–1), would establish comprehensive quarantine and surveillance requirements for Mexican cattle offered for importation into the United States. The second proposed rule, published in the **Federal Register** on November 12, 1993 (58 FR 59959–59962, Docket No. 93–084–1), would require the individual identification on a health certificate of imported Mexican-origin cattle being moved interstate. The commenters noted that the quarantine measures, movement restrictions, and documentation requirements contained in those proposed rules are similar to the restrictions currently placed on cattle imported from Mexico for slaughter in accordance with § 92.429 of the regulations or in bond for temporary entry in accordance with § 92.427(e) of the regulations. The commenters argued that if APHIS believes that it is not necessary to brand in-bond and immediate slaughter cattle, then it should not be necessary to brand Mexican cattle affected by the two proposed rules. Both of the proposed rules mentioned by the commenter are still being considered by APHIS and have not been finalized. Because the provisions of those two proposals have not been promulgated in final regulations, they have no regulatory effect; we cannot make any changes in this final rule that are based on the provisions of other proposed regulations. However, a similar comment was received in response to the May 1994 proposed rule mentioned above (Docket No. 93–014–1), so the suggestion of exemptions from the branding requirement for cattle affected by the provisions of that proposed rule will be considered and discussed in any final rulemaking related to that proposed rule.

One commenter stated that branding is unnecessary because the official Mexican Ministry of Agriculture and Water Resources (SARH) blue eartag required by the regulations in § 92.427(d) can be used to identify Mexican-origin cattle. We agree that the blue SARH eartag is an important identification tool, but we remain concerned that eartags can be lost or removed. With the an "M" or "M_x" mark present, we could still determine an animal's country of origin if its eartag were lost or removed. Additionally, we believe that it is less likely that someone would remove the SARH tag from an "M" or "M_x" marked animal in an attempt to conceal the animal's Mexican origin, so the SARH tag, with its value as a traceback tool, is more likely to remain on the animal.

Some commenters stated that because APHIS has acknowledged that freeze branding can be used to identify cattle imported from Mexico, APHIS should respond to the public opposition to hot-iron branding by prohibiting hot-iron branding and requiring the use of freeze branding. Similarly, another commenter felt that freeze branding should be the standard identification method and hot-iron branding should be allowed only if the exporter has submitted a written justification for using hot-iron branding. Although we acknowledge that freeze branding can work as a means of identifying cattle imported from Mexico, we also recognize that freeze branding has its limitations. First, a freeze brand takes 18 to 21 days to become visible, and there may be some exporters of cattle for whom branding that far in advance of offering their cattle for entry into the United States is not a viable option. Second, freeze brands are not visible on white or light-colored hair, and there will certainly be cattle offered for importation that have white or light-colored hair at the location specified for the placement of the "M" or "M_x" mark. Because APHIS will not allow cattle with unreadable brands into the United States, requiring the use of freeze branding would have the effect of prohibiting the importation of certain cattle based on their coloring. Therefore, we believe that hot-iron branding should remain an option for exporters of cattle from Mexico.

Another commenter stated that freeze branding will not be an effective means of identifying Mexican-origin cattle because so many of those cattle have light-colored hair or white spots. As discussed above, we acknowledge that freeze branding is not going to be an option for all cattle in all cases. The regulations require a distinct, permanent, and legible "M" or "M_x" mark on certain cattle offered for entry; we believe that it is reasonable to expect that the exporter of the cattle will keep that requirement, as well as the advantages and limitations of hot-iron branding and freeze branding, in mind when selecting a marking method.

Many commenters stated that APHIS should discontinue branding in favor of using microchips to individually identify Mexican-origin cattle. Some of the commenters pointed to studies that indicated that microchip technology would be well-suited to APHIS' stated goals of disease surveillance and traceback. We agree that microchips are useful, but several factors prevent us from changing the regulations to require their use. We continue to believe that an identification method must be distinct, permanent, and legible; microchips fail to fully satisfy those three criteria. In terms of distinctness, we believe that the identification should be readily visible, which microchips, clearly, are not. In terms of permanence, a microchip implanted in an animal could be removed or could migrate to other parts of the body. In terms of legibility, information can be readily stored on and retrieved from microchips, but there

is no universal chip reader that can access the information stored on chips produced by different manufacturers.

In addition to the many suggestions that APHIS use microchips to identify Mexican-origin cattle, numerous commenters offered other alternatives to M-branding. Those commenters suggested that APHIS use: Stickers, bells, ribbons, tail cropping, ear notching, tags, ear tags, magic markers, paint, indelible dye, stamps on the tails, and rings on the tails. As is the case with microchips, none of these suggested identification meets our criteria for distinctness, permanence, and legibility. Paints, dyes, stamps, and markers can fade or be obscured; stickers, bells, ribbons, and rings can be lost or removed; and notching or cropping, although permanent, are not readily and distinctly visible or legible.

One commenter noted that the proposed new text of § 92.427(c)(2) makes no mention of freeze branding, even though it eliminates the requirement for hot-iron branding. The commenter asked that freeze branding be mentioned, even encouraged, in the revised regulatory text of § 92.427(c)(2) in order to inform persons who have read only the regulations, and not the supplementary information provided in the proposed rule and this final rule, that freeze branding may be used to identify cattle imported into the United States from Mexico. We agree that the marking methods acceptable to APHIS should be set forth in the regulations and have changed the regulatory text in this final rule to explicitly state that the "M" or "M_x" mark may be applied with a freeze brand or hot iron.

One commenter noted that although the proposed rule would allow the use of freeze branding or hot-iron branding to mark spayed heifers, an unpublished APHIS ovariectomy protocol that requires the M-branding of certain spayed heifers—even though that requirement is not published in the regulations—appears to require that a hot iron be used to apply the brand. The protocol states that the "M_x" mark on spayed heifers must be a "distinct, permanent mark which is legible on the right side of the tailhead as defined in Title 9, Code of Federal Regulations, Part 78." The commenter stated that there is no definition of "distinct," "permanent," or "mark" in those regulations, but there are definitions of different types of brands associated with the APHIS brucellosis eradication program that describe the brands exclusively, or predominantly, as being applied with a hot iron. The commenter felt that the protocol should be reworded to make it clear that freeze branding and other methods may be used to apply the "M_x" mark on spayed heifers. The protocol to which the commenter is referring is part of the cooperative services agreement between APHIS and a private sector veterinarian that provides for APHIS veterinary medical officers to monitor ovariectomies performed on heifers located in Mexico prior to their importation into the United States. The protocol does not state that hot-iron branding must be used or that freeze branding may not be used; the "distinct, permanent mark" language was meant to allow both methods without specifying either. The revised text of § 92.427(c)(2) now clearly states that either freeze branding or hot-iron branding may be used, so even if the protocol were construed to prohibit freeze branding, the regulations would preempt the protocol and freeze branding would be allowed.

Some commenters stated that APHIS should develop faster, more accurate tests for the diagnosis of tuberculosis and work to eradicate tuberculosis in Mexico, which would eliminate the need to brand cattle from Mexico. We agree that eradicating tuberculosis in Mexico would eliminate the need for branding cattle from Mexico, but that goal has not yet been attained. Researchers from APHIS, other Federal agencies, and private entities are constantly working to develop better ways to diagnose and prevent the spread of diseases, including tuberculosis. Additionally, APHIS and the Mexican Government, along with the livestock industries in the United States and Mexico, are cooperating in a joint effort to eradicate tuberculosis in Mexico.

Some commenters felt that since APHIS proposed to end the face branding of cattle from Mexico, it should also change the provisions of its regulations in 9 CFR parts 50, 51, 77, 78, and 80 that allow or require face branding. We have received similar requests and are giving them serious consideration. However, any changes to those regulations would have to be part of a separate rulemaking proceeding.

Some commenters had the impression that APHIS knowingly allowed tuberculosis-infected cattle to be imported from Mexico and was using the M-brand to identify and track those cattle. Those commenters felt that APHIS should test all cattle offered for importation into the United States from Mexico for tuberculosis before allowing the cattle into this country. Other commenters understood that APHIS does indeed require cattle offered for importation from Mexico to be tested or, in the case of cattle imported for immediate slaughter under § 92.429, accompanied by a certificate stating that they have been examined and found free from evidence of communicable disease, before allowing the cattle into this country. Those commenters did, however, state that APHIS should do a better job of testing or alter its methods to include a 60-day pre-entry quarantine followed by a tuberculosis test for cattle offered for importation into the United States from Mexico. As mentioned above, we are considering rulemaking that would establish additional quarantine and testing requirements similar to those mentioned by the commenter. Until such time as additional quarantine and testing requirements are put in place, we will continue to utilize the available tools and methods in our efforts to prevent the entry into the United States of tuberculosis from Mexico.

One commenter stated that while APHIS has said that M-branding is necessary to facilitate the disease eradication and surveillance objectives of the National Cooperative State/Federal Tuberculosis Eradication Program, it has failed to establish how M-branding actually serves those objectives. Because of that failure, it follows that there is no rational basis to support the expansion of M-branding to spayed heifers and those provisions of the proposed rule dealing with the branding of spayed heifers should be withdrawn. We believe that we have established the need for M-branding in previous rulemakings. The permanence of branding is perhaps the key factor in our reliance on M-branding; other identification methods can be lost, removed, or obscured. As we have stated before, M-branding is the only permanent, readily visible means we have to identify cattle imported into the United States from Mexico. We believe that the higher incidence of tuberculosis in Mexico makes it necessary for us to be able to identify such cattle when searching for the origin of a tuberculosis-infected animal. If we can determine that a diseased animal originated in Mexico, we will not waste time and effort searching for its herd of origin in the United States. Conversely, if the animal is not M-branded, we can concentrate our disease traceback efforts to those cattle that are more likely to be of U.S. origin. We continue to believe that M-branding serves the needs of our tuberculosis eradication efforts.

In addition to the comments discussed above, some of the commenters raised issues that are not within the scope of the proposed rule and, in some cases, are not within APHIS' regulatory purview. Those

issues related to: The treatment of calves by veal producers, the treatment of geese by fois gras producers, the treatment of chickens by poultry producers, horse roping for sport in Mexico, rodeos in Mexico and the United States, the use of bovine growth hormone in dairy herds, banning shetitah (the slaughtering of animals for food in the manner prescribed by Jewish law), conditions at zoos in the United States, government spending to promote fur exports, the transportation of farm animals and the care of animals injured during movement, "factory farming," and the welfare of laboratory animals. Because such comments are outside the scope of the proposed rule, no changes have been made in this final rule as a result of those comments. Any regulatory changes related to those issues within APHIS' regulatory purview would have to be proposed as part of a separate proposed rule.

Therefore, based on the rationale set forth in the proposed rule and in this document, we are adopting the provisions of the proposal as a final rule, with the changes discussed in this document.

Executive Order 12866 and Regulatory Flexibility Act

This rule has been reviewed under Executive Order 12866. The rule has been determined to be not significant for the purposes of Executive Order 12866 and, therefore, has not been reviewed by the Office of Management and Budget.

Cattle imported from Mexico account for about 1 percent of the total U.S. cattle population, which in 1991 stood at 99.4 million head. The average price per head for cattle from Mexico in 1991 was $350, with the total value of imported Mexican cattle exceeding $361 million for the year. During 1991, approximately 1 million live cattle were imported into the United States from Mexico.

We are amending the animal importation regulations to require that certain spayed heifers imported into the United States from Mexico be marked with a permanent, legible "M_x" on the right hip, and that certain steers imported into the United States from Mexico be marked with a permanent, legible "M" on the right hip, rather than on the jaw.

Three primary considerations led APHIS to conclude that the marking requirements contained in this rule will not have an economic impact on any U.S. entities, large or small. First, all steers imported into the United States from Mexico, except those steers imported for immediate slaughter or in-bond for feeding and return to Mexico, were already required to be identified with an M-brand. For these steers, which represent 99 percent of the cattle imported into the United States from Mexico, only the location of the "M" has changed.

The second consideration follows from the first: That is, although there had been no provisions in the regulations requiring spayed heifers to be permanently identified as being of Mexican origin, spayed heifers represent less than 1 percent of the cattle imported into the United States from Mexico. Thus, requiring certain spayed heifers to be marked with an "M_x" prior to arriving at the U.S. port of entry will have an insignificant effect on exporters or importers of spayed heifers from Mexico.

The third consideration is that the cost of marking the cattle, which is negligible, will be borne by the Mexican exporter of the cattle.

Therefore, we expect this rule will have no significant economic impact on any large or small entities because its provisions will not significantly increase or decrease their cost of doing business.

Under these circumstances, the Administrator of the Animal and Plant Health Inspection Service has determined that this action will not have a significant economic impact on a substantial number of small entities.

Executive Order 12778

This rule has been reviewed under Executive Order 12778, Civil Justice Reform. This rule: (1) Preempts all State and local laws and regulations that are inconsistent with this rule; (2) has no retroactive effect; and (3) does not require administrative proceedings before parties may file suit in court challenging this rule.

Paperwork Reduction Act

This rule contains no information collection or recordkeeping requirements under the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 *et seq.*).

List of Subjects in 9 CFR Part 92

Animal diseases, Imports, Livestock, Poultry and poultry products, Quarantine, Reporting and recordkeeping requirements.

Accordingly, 9 CFR part 92 is amended as follows:

PART 92—IMPORTATION OF CERTAIN ANIMALS AND POULTRY AND CERTAIN ANIMAL AND POULTRY PRODUCTS; INSPECTION AND OTHER REQUIREMENTS FOR CERTAIN MEANS OF CONVEYANCE AND SHIPPING CONTAINERS THEREON

1. The authority citation for part 92 continues to read as follows:

Authority: 7 U.S.C. 1622; 19 U.S.C. 1306; 21 U.S.C. 102–105, 111, 114a, 134a, 134b, 134c, 134d, 134f, 135, 136, and 136a; 31 U.S.C. 9701; 7 CFR 2.17, 2.51, and 371.2(d).

2. In § 92.427, paragraph (c)(2) is revised to read as follows:

§ 92.427 Cattle from Mexico.

* * * * *

(c) * * *

(2) Each steer imported into the United States from Mexico shall be identified with a distinct, permanent, and legible "M" mark applied with a freeze brand, hot iron, or other method prior to arrival at a port of entry, unless the steer is imported for slaughter in accordance with § 92.429 or in bond for temporary entry in accordance with § 92.427(e). Each spayed heifer imported into the United States from Mexico shall be identified with a distinct, permanent, and legible "M_x" mark applied with a freeze brand, hot iron, or other method prior to arrival at a port of entry, unless the spayed heifer is imported for slaughter in accordance with § 92.429 or in bond for temporary entry in accordance with § 92.427(e). The "M" or "M_x" mark shall be not less than 2 inches nor more than 3 inches high, and shall be applied to each animal's right hip, high on the tailhead (over the junction of the sacral and first coccygeal vertebrae).

* * * * *

Done in Washington, DC, this 16th day of December 1994.

Lonnie J. King,

Acting Administrator, Animal and Plant Health Inspection Service.

[FR Doc. 94–31464 Filed 12–21–94; 8:45 am]

BILLING CODE 3410–34–P

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9 CFR Part 94

[Docket No. 94–083–2]

Change in Disease Status of Portugal Because of BSE

AGENCY: Animal and Plant Health Inspection Service, USDA.

ACTION: Affirmation of interim rule as final rule.

SUMMARY: We are adopting as a final rule, without change, an interim rule that amended the regulations by adding

Portugal to the list of countries where bovine spongiform encephalopathy (BSE) exists, because the disease has been detected in native cattle in that country. The interim rule prohibited or restricted the importation of certain fresh, chilled, and frozen meat, and certain other animal products and animal byproducts from ruminants which have been in Portugal. The interim rule was necessary to reduce the risk that BSE could be introduced into the United States.

EFFECTIVE DATE: January 23, 1995.

FOR FURTHER INFORMATION CONTACT: Dr. Kathleen Akin, Senior Staff Veterinarian, Import-Export Products Staff, National Center for Import-Export, Veterinary Services, APHIS, USDA, room 755, Federal Building, 6505 Belcrest Road, Hyattsville, MD 20782, (301) 436–7830.

SUPPLEMENTARY INFORMATION:

Background

In an interim rule effective September 9, 1994, and published in the **Federal Register** on September 15, 1994 (59 FR 47235–47236, Docket No. 94–083–1), we amended the regulations in 9 CFR part 94 by adding Portugal to the list of countries where BSE exists in § 94.18.

Comments on the interim rule were required to be received on or before November 14, 1994. We did not receive any comments. The facts presented in the interim rule still provide a basis for the rule.

This action also affirms the information contained in the interim rule concerning Executive Order 12866 and the Regulatory Flexibility Act, Executive Order 12778, and the Paperwork Reduction Act.

Further, for this action, the Office of Management and Budget has waived the review process required by Executive Order 12866.

List of Subjects in 9 CFR Part 94

Animal diseases, Imports, Livestock, Meat and meat products, Milk, Poultry and poultry products, Reporting and recordkeeping requirements.

PART 94—RINDERPEST, FOOT-AND-MOUTH DISEASE, FOWL PEST (FOWL PLAGUE), VELOGENIC VISCEROTROPIC NEWCASTLE DISEASE, AFRICAN SWINE FEVER, HOG CHOLERA, AND BOVINE SPONGIFORM ENCEPHALOPATHY: PROHIBITED AND RESTRICTED IMPORTATIONS

Accordingly, we are adopting as a final rule, without change, the interim rule that amended 9 CFR 94.18 and that was published at 59 FR 47235–47236 on September 15, 1994.

Authority: 7 U.S.C. 147a, 150ee, 161, 162, and 450; 19 U.S.C. 1306; 21 U.S.C. 111, 114a, 134a, 134b, 134c, 134f, 136, and 136a; 31 U.S.C. 9701; 42 U.S.C. 4331, 4332; 7 CFR 2.17, 2.51, and 371.2(d).

Done in Washington, DC, this 16th day of December 1994.

Lonnie J. King,

Acting Administrator, Animal and Plant Health Inspection Service.

[FR Doc. 94–31465 Filed 12–21–94; 8:45 am]

BILLING CODE 3410–34–P

NUCLEAR REGULATORY COMMISSION

10 CFR Part 72

RIN 3150–AF02

List of Approved Spent Fuel Storage Casks: Addition

AGENCY: Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The Nuclear Regulatory Commission (NRC) is amending its regulations to add the Standardized NUHOMS Horizontal Modular System to the List of Approved Spent Fuel Storage Casks. This amendment allows the holders of power reactor operating licenses to store spent fuel in this approved cask under a general license.

EFFECTIVE DATE: January 23, 1995.

ADDRESSES: Copies of the environmental assessment and finding of no significant impact, as well as, the public comments received on the proposed rule are available for inspection and/or copying for a fee at the NRC Public Document Room, 2120 L Street, NW. (Lower Level), Washington, DC. Single copies of the environmental assessment and the finding of no significant impact are available from the individuals listed under the next heading below.

FOR FURTHER INFORMATION CONTACT: Mr. Gordon E. Gundersen, Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission, Washington, DC 20555, telephone (301) 415–6195, or Dr. Edward Y. S. Shum, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555, telephone (301) 415–7903.

SUPPLEMENTARY INFORMATION:

Background

Section 218(a) of the Nuclear Waste Policy Act of 1982 (NWPA) includes the following directive: "The Secretary [of the Department of Energy (DOE)] shall establish a demonstration program in cooperation with the private sector, for the dry storage of spent nuclear fuel at civilian nuclear reactor power sites, with the objective of establishing one or more technologies that the [Nuclear Regulatory] Commission may, by rule, approve for use at the sites of civilian nuclear power reactors without, to the maximum extent practicable, the need for additional site-specific approvals by the Commission." After subsequent DOE technical evaluations and based on a full review of all available data, the Commission approved dry storage of spent nuclear fuel in a final rule published in the **Federal Register** on July 18, 1990 (55 FR 29181). The final rule established a new Subpart K within 10 CFR Part 72 entitled "General License for Storage of Spent Fuel at Power Reactor Sites."

Irradiated reactor fuel has been handled under dry conditions since the mid-1940s when irradiated fuel examinations began in hot cells. Light-water reactor fuel has been examined dry in hot cells, since approximately 1960. Irradiated reactor fuel has been stored continuously at hot cells under dry conditions for approximately two decades. The NRC's experience with storage of spent fuel in dry casks is extensive as described in the proposed rule to establish 10 CFR Part 72, Subpart K (May 5, 1989; 54 FR 19379). Further, the United States has extensive experience in the licensing and safe operation of independent spent fuel storage installations (ISFSIs). By the end of 1994, six site-specific licenses for dry cask storage will have been issued: Virginia Power's Surry Station, issued July 2, 1986; Carolina Power and Light's (CP&L) HB Robinson Station, issued August 13, 1986; Duke Power's Oconee Station, issued January 29, 1990; Public Service of Colorado's Fort St. Vrain facility, issued November 4, 1991; Baltimore Gas and Electric's (BG&E) Calvert Cliffs Station, issued November 25, 1992; and Northern States Power's (NSP) Prairie Island Nuclear Generating Plant, issued October 19, 1993. All except NSP have commenced operation and loaded fuel. At the end of 1994, dry storage spent fuel inventories of these utilities are as follows: 500 assemblies at Virginia Power, 60 assemblies at CP&L, 530 assemblies at Duke Power, 1480 fuel elements at Public Service of Colorado, and 190 assemblies at BG&E. NSP plans to begin storing fuel soon. In May 1993, Consumers Power's Palisades Station commenced operation and loaded fuel under the provisions of the general license in 10 CFR Part 72, Subpart K. At

the end of 1994, approximately 168 assemblies are stored at Palisades.

As a result of the growing use of dry storage technology, the NRC has gained over 35 staff years of experience in the review and licensing of dry spent fuel storage systems. In addition, the NRC draws upon the knowledge and experience of outside scientists and engineers recognized as experts within their respective fields in the performance of the independent safety analysis of the system and component designs submitted by applicants for dry cask licenses or certification. Reviews of numerous applications seeking site-specific licenses, certificates of compliance, or approvals of topical reports, have been conducted over the past eight years. More recently, the NRC published a notice of proposed rulemaking in the **Federal Register** on June 2, 1994 (59 FR 28496), which proposed to amend 10 CFR 72.214 to include one additional spent fuel storage cask (i.e., the VECTRA Technologies, Inc., Standardized NUHOMS Horizontal Modular Storage System) on the list of approved spent fuel storage casks that power reactor licensees may use under the provisions of a general license issued by NRC in accordance with 10 CFR Part 72, Subpart K. The Standardized NUHOMS consists of two systems: (1) The NUHOMS–24P holds 24 specified pressurized-water reactor spent fuel assemblies and (2) The NUHOMS–52B holds 52 specified boiling-water reactor spent fuel assemblies.

Subsequent to the expiration of the 75-day public comment period on August 16, 1994, NRC received a request, dated August 11, 1994, for a 6-week extension of the comment period from Connie Kline of the Sierra Club on behalf of 12 citizen groups. The extension request asserted that several proprietary documents related to this rulemaking were not available to the public for approximately 2 weeks at the beginning of the comment period. The NRC granted the request on August 29, 1994 (59 FR 44381) by extending the public comment period to September 30, 1994.

VECTRA Technologies, Inc. (formerly Pacific Nuclear Fuel Services, Inc.) submitted to the NRC a Safety Analysis Report (SAR) entitled "Safety Analysis Report for the Standardized NUHOMS Horizontal Modular Storage System for Irradiated Nuclear Fuel," NUH–003, Revision 2, dated November 1993. Subsequently, VECTRA Technologies, Inc. provided additional information to the NRC related to the SAR. In March 1994, the NRC issued a draft Safety Evaluation Report (SER) entitled "Safety Evaluation Report of Pacific Nuclear Fuel Services, Inc. Safety Analysis Report for the Standardized NUHOMS Horizontal Storage System for Irradiated Nuclear Fuel" approving the SAR. The NRC issued a draft Certificate of Compliance by letter to Mr. Robert D. Quinn from Mr. Frederick C. Sturz dated April 28, 1994. These documents are part of the docket and record that support the proposed rule published in the **Federal Register** on June 2, 1994 (59 FR 28496).

The objective of 10 CFR Part 72 is to protect the public health and safety by providing for the safe confinement of the stored fuel and preventing the degradation of the fuel cladding. The review criteria used by the NRC for review and approval of dry cask storage under 10 CFR Part 72 consider the following factors: siting, design, quality assurance, emergency planning, training, and physical protection of the fuel. Phenomena such as earthquakes, high winds, tornados, tornado driven missiles, lightning, and floods are included in the review of a specific system, either for a certificate of compliance or a site-specific license. In addition, applicants must demonstrate to NRC's satisfaction that their proposed dry cask system will resist man-made events such as explosions, fire, and drop or tipover accidents.[1]

Based on further NRC review and analysis of public comments, both the SER and Certificate of Compliance for the Standardized NUHOMS were modified. Section M contains a description of changes to the SER and Certificate of Compliance in response to public comments. The NRC finds that the Standardized NUHOMS, as designed and when fabricated and used in accordance with the conditions specified in its Certificate of Compliance, meets the requirements of 10 CFR Part 72. Thus, use of the Standardized NUHOMS, as approved by the NRC, will provide adequate protection of the public health and safety and the environment. With this final rule, the NRC is approving the use of the Standardized NUHOMS under the general license in 10 CFR Part 72, Subpart K, by holders of power reactor operating licenses under 10 CFR Part 50. Simultaneously, the NRC is issuing a final Certificate of Compliance to be effective on January 23, 1995. A copy of the Certificate of Compliance is available for public inspection and/or copying for a fee at the NRC Public Document Room, 2120 L Street, NW. (Lower Level), Washington, DC.

[1] The design bases for these events and accidents are contained within 10 CFR Part 72.

Public Responses

In response to the proposed addition of the Standardized NUHOMS, 239 comments in 27 letters with one supplement were received from individuals, public interest groups, an environmental group, an association, industry representatives, a city, states, and one Federal agency. One commenter withdrew his comments. Many of these letters contained similar comments that have been grouped together and addressed as a single issue. All comments have been grouped into 15 broad issues designated A through O. A summary of the comments and an NRC analysis and response to those comments is included for each broad issue. The NRC has identified and responded to 89 separate issues that include the significant points raised by each commenter.

A number of comments were related to the disposal of high-level waste and the use of dry cask storage technology in general, rather than to the acceptability of this particular cask. Examples of these comments include:

—The Federal Government's failure to resolve questions about the permanent storage of nuclear waste leaves both the plant and public with limited options: additional storage in pools, additional storage in dry casks, or plant shutdown. The Federal Government has an obligation to resolve the issue of permanent or interim storage. It would be difficult to overstate the need for dispatch in doing so, as hundreds of American communities will eventually face this problem.

—It is not fair to the public of Ohio to link Toledo Edison Company's attempts to continue the safe storage of its nuclear fuel with insistence by others that the NRC shut down Davis-Besse and every other nuclear plant in the country.

—Only dry storage casks that are compatible with future DOE interim or permanent storage operation, including transportation, should be approved for use under the general license and listed in 10 CFR 72.214.

These comments deal with broad policy and program issues relating to the storage and disposal of high-level radioactive waste, including the DOE's repository program and as such are beyond the scope of this rule. However, there is a summary of relevant information on many of these broad issues in Group G. Many comments were directed at the Standardized NUHOMS–24P with only a few comments being specific to the Standardized NUHOMS–52B.

Many commenters discussed topics that were not the subject of this rulemaking and thus were not specifically addressed by the NRC staff as a part of this final rule action. These comments express opposition to the use of dry cask storage and included the following suggestions and topics:

(1) Nuclear plants generating radioactive waste should be shut down.

(2) The production of radioactive waste should be stopped when the existing spent fuel pool (and off-load-reactor capacity) is full.

(3) A formal hearing should be required at each site using dry storage casks.

(4) The Davis-Besse plant should be shut down.

(5) The use of nuclear power should be stopped and existing sites cleaned up.

(6) Palisades experienced problems in using the VSC–24 cask.

(7) Alternative forms of power should be used.

Finally, many commenters expressed concern over the ability of dry cask storage designs, presumably including the Standardized NUHOMS, to store spent fuel safely. The following responses to these comments reflect a small but important portion of the NRC's review of health, safety, and environmental aspects of the Standardized NUHOMS to ensure that the cask is designed to provide protection of the public health and safety and environment under both normal conditions and severe, unlikely but credible, accident conditions. Dry cask storage systems are massive devices, designed and analyzed to provide shielding from direct exposure to radiation, to confine the spent fuel in a safe storage condition, and to prevent releases of radiation to the environment. They are designed to perform these tasks by relying on passive heat removal and confinement systems without moving parts and with minimal reliance on human intervention to safely fulfill their function for the term of storage. The NRC staff has concluded that the methods of analysis are conservative and assure that the design has appropriate margins of safety under both normal and accident conditions.

Analysis of Public Comment

A. A number of commenters raised issues relating to cask handling and the ability of the cask to withstand drop and tipover accidents.

A.1. *Comment.* Several commenters wanted the transfer cask containing the Dry Storage Canister (DSC) to be analyzed for the maximum possible drop, regardless of whether that drop can occur inside or outside the spent fuel building. One commenter alleged that a drop of the transfer cask into the spent fuel pool would damage fuel assemblies in the pool. Another commenter was concerned about jamming the transfer cask in the spent fuel pool. What would happen to the cask if jammed fuel could not be extricated? Would the entire 40 ton transfer cask be left in the fuel pool?

Response. Use of the Standardized NUHOMS inside the fuel handling building would be conducted in accordance with the 10 CFR Part 50 reactor operating license. These cask handling operations, including loading, retrieval, and training, must be evaluated by the general licensee as required by 10 CFR 72.212(b)(4) to ensure that procedures are clear and can be conducted safely. Load handling activities and possible load drop events with structural and radiological consequences related to transfer cask drops inside the spent fuel building are subject to the provisions of 10 CFR 50.59. Thus, the licensee must determine whether the activities involve any unreviewed facility safety question or any change in facility technical specifications. The transfer cask and DSC designs were evaluated by the NRC against the criteria for controlling heavy loads that are found in NRC's NUREG–0612,[2] "Control of Heavy Loads at Nuclear Power Plants," and American National Standards Institute (ANSI) N14.6, "Special Lifting Devices for Shipping Containers Weighing 10,000 Pounds or More." The lifting yoke associated with the transfer cask is a special purpose device designed to ANSI N14.6 criteria to ensure that the yoke can safely lift the wet transfer cask containing the DSC out of the spent fuel pool and can safely lift the dry transfer cask and DSC to the transport trailer. Pursuant to 10 CFR 50.59, for those reactor plants with a shipping cask drop analysis, the licensee must verify that the shipping cask drop analysis adequately describes the consequences of a postulated transfer cask drop and that no unreviewed safety question exists. For those reactor plants that may lack a shipping cask drop analysis, each licensee must perform a transfer cask drop analysis pursuant to 10 CFR 50.59.

Specific requirements for lifting the transfer cask are contained in the Certificate of Compliance and SER. However, movement of the transfer cask in the spent fuel pool building must, as required by 10 CFR 72.212(b)(4), be evaluated by the licensee pursuant to 10 CFR 50.59. The possibility of jamming a transfer cask while in the spent fuel pool is one of many issues to be evaluated under 10 CFR 50.59.

A.2. *Comment.* One commenter asked why the transfer cask with the DSC can be lifted to 80 inches outside the spent fuel pool building when it has to be unloaded and inspected for damage if it drops from above 15 inches. Why not limit the height to 15 inches?

Response. The transfer cask with the DSC rides on the transport trailer at a height of greater than 15 inches and therefore was analyzed for a drop from that height (80 inches). A drop from a height between 15 and 80 inches does not pose a public health and safety hazard. However, to ensure safety the NRC requires the DSC to be unloaded and inspected for damage.

A.3. *Comment.* One commenter asked about the tipover analysis or drop analysis result.

Response. The tipover, end drops, and horizontal drop analyses form part of the structural design basis for the Standardized NUHOMS design. The designer, VECTRA, described these drop and tipover analyses in SAR, Section 8.2.5. The NRC's evaluation of the vendor's analyses is described in SER, Section 3.2.2.3E. The NRC found the results of these analyses to be satisfactory, because the calculated stresses were all within the allowable criteria of the American Society of Mechanical Engineers (ASME) Code.

A.4. *Comment.* Several commenters, citing Section 1.1.1 of the draft Certificate of Compliance, requested that the postulated cask drop accident in the plant fuel handling area be included in the list of parameters and analyses that will need verification by the system user (for the 10 CFR 50.59 safety evaluation).

Response. As stated in Section 1.1.1 of the draft Certificate of Compliance, a holder of a 10 CFR Part 50 license before use of the general license under 10 CFR Part 72, must determine whether activities related to storage of spent fuel involve any unreviewed facility safety issues or changes in facility technical specifications as provided under 10 CFR 50.59. Fuel handling including the possible drop of a spent fuel cask is among the activities that are required to be verified. Fuel handling operations, including spent fuels and fresh fuels, are routine within the nuclear power

[2] Copies of NUREG–0612 and NUREG/CR 1815 may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Mail Stop SSOP, Washington, DC 20402–9328. Copies are also available from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161. A copy is also available for inspection and copying for a fee in the NRC Public Document Room, 2120 L Street, NW (Lower Level), Washington, DC 20555–0001.

plant and are subject to NRC regulation under 10 CFR Part 50. A holder of a 10 CFR Part 50 license is required to establish operating procedures for spent fuel handling and to provide emergency planning to address a potential cask drop accident in the reactor's fuel handling area (Certificate of Compliance, Section 1.1.4). Therefore the NRC considers it clear that the spent fuel operation in the nuclear power plant should be evaluated to verify that the possible drop of a spent fuel cask does not raise an unreviewed safety issue or require a facility technical specification change appropriately regulated under 10 CFR Part 50.

A.5. *Comment.* One commenter stated that there is no place to unload the spent fuel in the event of a canister breach. There is no indication that the canister, the canister lifting mechanism, or the transport mechanism to move the canister into the cask, are nuclear grade equipment or have been designed to prevent a single failure from breaching the canister and circumventing the protection provided by the sole barrier provided by the canister wall itself.

Response. According to 10 CFR 72.122(1), storage systems must be designed to allow ready retrieval of the spent fuel in storage. A general licensee using an NRC-approved cask must maintain the capability to unload a cask. Typically, this will be done by maintaining the capability to unload a cask in the reactor fuel pool. Other options are under consideration that would permit unloading a cask outside the reactor pool.

With respect to canister equipment and design, the DSC or canister is designed to the ASME Boiler and Pressure Vessel Code (BPVC), Section III, Subsection NB. The DSC provides a containment boundary for the radioactive material and the cladding of the fuel rods provides confinement of fuel pellets. Only intact fuel assemblies (rods) with no known cladding defects greater than pin holes and hairline cracks are permitted to be stored. This approach assures the structural integrity of the fuel to confine the fuel pellets and its retrivability. In the unlikely event of a breach that required the canister to be unloaded, the canister can be returned to the reactor spent fuel pool. Therefore, it is incorrect to assert that there is no place to unload a canister. The Horizontal Storage Module (HSM) is designed to American Concrete Institute (ACI) 349, which is the required code for nuclear structures made of reinforced concrete. The transfer cask is designed according to the ASME BPVC, Section III, Subsection NC; ANSI-N14.6 for heavy loads; ANSI–50.9 for load combinations; and NUREG/CR 1815 for impact testing. Because the cask itself is required to meet such exacting standards of construction, the transport mechanism and the trailer that move the canister into the HSM are not considered to be important to safety. Therefore, the design that meets industry standards is sufficient.

B. A number of commenters raised issues relating to releases of radioactivity from surface contamination and leakage from the casks under normal and accident conditions.

B.1. *Comment.* One commenter pointed out that the Certificate of Compliance Surveillance Requirement 1.2.12 does not have a section stating the action that is to be taken when the contamination level in the transfer cask exceeds limits after the DSC has been transferred to the concrete HSM.

Response. The Certificate of Compliance Surveillance Requirement in Section 1.2.12 has been modified to clarify that decontamination of the transfer cask is required if the surface contamination limit is exceeded.

B.2. *Comment.* One commenter, who was concerned with the seismic events at the Davis-Besse Nuclear Power Station, stated that a displacement pulse of 60 cm, as observed in the Lander's quake in the Mojave Desert northeast of Los Angeles, would completely destroy the HSM and allow a substantial release of radioactivity from the fuel within.

Response. The potential for a seismic event is not the same at every reactor site in the United States. For Davis-Besse, the maximum ground displacement has been calculated to be 3.33 inches (8.46 cm), corresponding to a 0.15g maximum ground acceleration. This is substantially less than the displacement observed in the Lander's quake and appears to be well within the design of the Standardized NUHOMS. Each general licensee using the Standardized NUHOMS, including Davis-Besse is required to document their evaluations to determine that the reactor site parameters, including seismic events, envelope the cask design basis, as specified in its SAR and SER.

B.3. *Comment.* One commenter, citing a Wisconsin Public Service Commission draft environmental impact statement (EIS) for Point Beach, asked for an explanation of why NUHOMS and metal casks have a greater potential to spread contamination than the Pacific Sierra Nuclear Associates ventilated storage cask (VSC) system, VSC–24 cask.

Response. The specific rationale that forms the basis of the statement in the Wisconsin Public Service Commission's draft EIS for Point Beach was not documented. The decontamination requirements for the two designs are comparable. The VSC–24 DSC is loaded into the ventilated concrete cask (VCC) forming the VSC. The VSC is then transported from inside the reactor auxiliary building to the storage pad. During moving and storage of the VCC, the exterior surface remains clean because it has not been exposed to contamination in the spent fuel pool. The NUHOMS DSC is moved in the transfer cask from the reactor building to the horizontal storage module in the field. Because the transfer cask has been in the spent fuel pool, it may have small amounts of external contamination that have the potential to spread during transit. However, any potential contamination of this type could not be significant. The NRC requires that the limits for surface contamination, workers' dose, and environmental dose must all be met for the operation of the ISFSI, including during any transfer operations. Each 10 CFR Part 50 licensee must have a radiation protection program to monitor operations to ensure that surface contamination and worker and public exposure to radiation are below acceptable levels and as low as is reasonably achievable (ALARA). Past operation of the NUHOMS shows that the doses are well below all NRC limits.

B.4. *Comment.* One commenter "is concerned that heat generated by fission product decay may provide the driving force, the presence of free moisture in water-logged fuel may, in a non-mechanistic way, provide a transport mechanism for fission product release and the ambient air circulating through the cask concrete structure may provide (an unmonitored) pathway to the biosphere." One commenter remained concerned about the possibility of insufficient drying of the fuel before placement in the DSC. Another commenter, citing the Battelle Pacific Northwest Laboratory Report PNL–5987 on the removal of moisture from degraded fuel during vacuum drying, contends that the mechanism for free moisture and radionuclide release that pertain in normal or upset conditions, such as conditions caused by sabotage, have not been simulated adequately.

Response. The DSC is a closed vessel. There is no path available for release of fission products from inside the DSC to the atmosphere. During normal operation, the circulating air, as it passes through the HSM and around the outside of the DSC to remove the heat, never comes in contact with fission products and therefore, could not remove these products from the cavity of the DSC. Moreover, design basis

accidents under upset conditions were postulated and analyzed in the SAR and SER. These analyses show that the heat generated from fission product decay is not capable of breaching the DSC and could not provide the driving force for a release of radioactivity. Further, it is not expected that any significant amount of moisture will remain in the fuel after it is loaded into the DSC. The fuel is dried after it has been loaded into the DSC and the topcover plate seal welded to the DSC shell. The Certificate of Compliance requires two pump-downs to a vacuum pressure of less than 3 mm Hg each with a holding time of greater than 30 minutes. A stable vacuum pressure of less than 3 mm Hg further assures that all liquid water has evaporated in the DSC cavity.

The safeguards issue of radiological sabotage of storage casks has been reviewed previously and assessed in the 1989 proposed rule to add Subparts K and L to 10 CFR Part 72 (54 FR 19379). The NRC has determined that the Standardized NUHOMS is sufficiently robust such that the effects of a successful attack would have low health consequences and are similar to the results presented in the 1989 proposed rule. (see also response to comment N.1)

C. A number of comments were received that focused on monitoring, surveillance, and inspection activities associated with dry cask storage of spent fuel, particularly as they relate to the Standardized NUHOMS.

C.1. *Comment.* One commenter stated that there are neither active nor passive systems in place to mitigate barrier breaches, nor are there active radiation monitors that would indicate a breach has occurred. There are no monitored drains and sumps nor are there retention basins. The commenter stated that the cask is insufficient to be relied upon for the health and safety of Ohioans.

Response The Certificate of Compliance (Section 1.3) for the Standardized NUHOMS includes surveillance and monitoring requirements that are more than sufficient to detect cask degradation in time to ensure that adequate corrective actions can and will be taken. In addition, radiation monitoring and environmental monitoring programs would detect any radiation leak in excess of NRC limits from an NRC-approved cask.

In some instances, the NRC has required continuous monitoring where it is needed to determine when corrective action needs to be taken. Under a general license, to date, the NRC has accepted continuous pressure monitoring of the inert helium atmosphere as an indicator of acceptable performance of mechanical closure seals for dry spent fuel storage casks.

However, the NRC does not consider continuous monitoring for the Standardized NUHOMS double-weld seals to be necessary because:

(1) There are no known long-term degradation mechanisms which would cause the seal to fail within the design life of the DSC; and

(2) The possibility of corrosion has been included in the design (see SER Section 3.2.2.5).

These conditions ensure that the internal helium atmosphere will remain stable. Therefore, an individual continuous monitoring device for each HSM is not necessary. However, the NRC considers that other forms of monitoring, including periodic surveillance, inspection and survey requirements, and application of preexisting radiological environmental monitoring programs of 10 CFR Part 50 during the use of the canisters with seal weld closures can adequately satisfy NRC requirements.

With respect to the use of instrumentation and control systems to monitor systems that are important to safety, the user of the Standardized NUHOMS will, as provided in Chapter 14 of the SER and in Section 1.3.2 of the Certificate of Compliance, be required to verify, the cask thermal performance on a daily basis by a temperature measurement, to identify conditions that threaten to approach cask design temperature criteria. The cask user will also be required to conduct a daily visual surveillance of the cask air inlets and outlets as required by Chapter 12 of the SER and Section 1.3.1 of the Certificate of Compliance.

While the HSM and DSC are considered components important to safety, they are not considered operating systems in the same sense as spent fuel pool cooling water systems or ventilation systems that may require other instrumentation and control systems to ensure proper functioning. Due to this passive design, temperature monitoring and surveillance activities are appropriate and sufficient to assure adequate protection of the public health and safety for this design.

Because the Standardized NUHOMS DSC is welded closed and has been decontaminated before being placed in a HSM, there is no routine radioactive liquid generation that would require a retention basin or sump. Water entering the storage area has no mechanism of becoming contaminated because the DSC is enclosed within the HSM and is expected to be dried by the heat generated during storage.

C.2. *Comment.* One commenter expressed concern over the possible external corrosion of the stainless steel DSC because of exposure to water over decades. Another commenter expressed concern about corrosion of stainless steel under conditions of indefinite duration, stating that while stainless steel corrodes less rapidly than carbon steel, even the plumbing fixture industry is finding unexpected stainless steel pitting and corrosion under conditions far less intense than those in a DSC. Another commenter stated that the system is not designed for remote inspection of the DSC for corrosion while it is in the HSM and that the only way to inspect the DSC is to return it to the spent fuel pool. Periodic inspection of the DSC is needed to preclude or identify gradual canister deterioration by unknown mechanisms. Another commenter inquired about a checking system for the NUHOMS in the future. How will corrosion be evaluated on the canister (DSC) and the support rails inside the HSM? Is it possible for them to accumulate moisture and corrode together over possibly many years of storage? What check is required on the possibility that the canister couldn't be removed at the end of cask life?

Response. The DSC is enclosed within the HSM and is not exposed to external water. Laboratory experiments have indicated a general corrosion rate of less than 0.00001 inches per year for similar stainless steels. The NRC believes these experiments more accurately bound DSC corrosion than experiences in unrelated industries. For the 50-year design life of the DSC, the expected corrosion would therefore not result in exceeding a corrosion depth of 0.0005 inches. This will not affect the DSC performing its intended safety functions. Because of the low corrosion rates expected for stainless steel, periodic inspections for deterioration of the DSC are not considered necessary Therefore, inspections are not required The support rails for the DSC have an extremely hard-alloy steel applied to the sliding surface, are ground to a smooth finish, and are coated with a dry film lubricant to prevent corrosion and to reduce the coefficient of friction Furthermore, the environment inside the HSM is protected from rain and it is kept dry by the heat load from the DSC. Therefore, it is highly unlikely that corrosion between the stainless steel and the hard alloy steel surface of the support rail will occur to any significant extent. These conclusions and analyses regarding the very small likelihood of corrosion indicate that there is reasonable assurance that the DSC can

be removed from the HSM when required.

C.3. *Comment.* One commenter questioned whether the screens between the casks, which are essential to cooling, will remain clear of debris and how they can be cleaned if they become partially clogged. Another commenter was concerned about how the roof screen was inspected, stating that it seems likely that insects, animals, and birds will be attracted to the warm air coming from the outlet vents. Several commenters remained concerned about vent blockage that can completely cover and block screening and vents particularly from insects such as paper wasps, that build huge nests, and swarms of midges that are common to the Great Lakes. How are the screens attached?

Response. As stated in the Certificate of Compliance, a licensee using the Standardized NUHOMS must conduct a daily visual surveillance of the exterior of air inlets and outlets (front wall and roof bird screen). In addition, the licensee must perform a daily close-up inspection to ensure that no material accumulates between the modules to block the air flow. If the surveillance shows blockage of air vents, the licensee is required to clear the vent blockage by following procedures developed by each user of the Standardized NUHOMS. If the screen is damaged, the licensee must replace the screen. The required daily surveillance and temperature measurements should readily detect blockage of the vents or screens by insects, animals, or birds in a timely manner, leading to the removal of the obstruction before damage occurs from high temperatures. The bird screen is made of stainless steel wire cloth tack-welded to stainless steel strips, which are attached to the HSM with stainless steel wedge anchors.

C.4. *Comment.* One commenter expressed concern about the presence of burrowing and other nuisance animals that have posed problems at other waste sites.

Response. Burrowing and other nuisance animals are not expected to pose problems for the Standardized NUHOMS. Because of the robust system design, animals will not be able to get to the radioactive material or cause damage such that water could cause movement of the radioactive material. Burrowing under the concrete pad would not cause damage to safety-related components. Further, large-scale burrowing would likely be detected by the daily surveillance or other activities related to the operation of the storage area.

C.5. *Comment.* One commenter wanted additional radiation monitoring because of the calculated higher dose rates over previous NUHOMS designs. The commenter stated that these higher dose rates are not consistent with the objective of maintaining occupational exposures ALARA, and that site-specific applications should provide detailed procedures and plans to meet ALARA guidelines and 10 CFR Part 20 requirements with respect to operation and maintenance.

Response. No additional radiation monitoring has been specifically identified or required for the Standardized NUHOMS. However, 10 CFR Parts 20, 50, and 72 require that licensees comply with ALARA. In addition, 10 CFR 72.212(b)(6) requires each licensee to review its radiation protection program to determine that their effectiveness is not decreased by use of the Standardized NUHOMS. Further, 10 CFR 72.212 (b)(9) requires each licensee to conduct storage activities in accordance with appropriate written procedures. If the results of these licensee activities indicate that additional procedures are required then the licensee is required to implement the procedures.

C.6. *Comment.* One commenter was concerned about the optical survey equipment used to align the transfer cask with the HSM before transfer. What checks are made on this optical equipment and what regulations apply?

Response. The optical equipment used to align the transfer cask with the HSM is optional and is an operational convenience. However, the licensee must meet Technical Specifications 1.2.9 in the Certificate of Compliance. Therefore, only appropriate calibrations or checks to assure compliance with this technical specification are appropriate.

C.7. *Comment.* One commenter wants to know who evaluates the insertion or retrieval of the DSC for excessive vibration and what is the result of excessive vibration. Would this allow crud to be released?

Response. The NRC Certificate of Compliance, Section 1.2.9 provides that the cask user observe the transfer system during DSC insertion or retrieval to ensure that motion or excessive vibration does not occur. It also prescribes certain follow-up actions to be taken by the cask user in the event that alignment tolerances are exceeded and excessive vibration occurs. It is possible that excessive vibration could dislodge crud. However, the crud would be contained within the DSC and would not be released to the atmosphere because the DSC is a sealed vessel. Any opening of the DSC will be under controlled conditions that should safely contain the crud and prevent its release to the environment.

C.8. *Comment.* Several commenters wanted the NRC to set definite methods for the required surveillance and monitoring of NUHOMS, including the daily temperature measurements, so that data are uniform and standardized for future reference on different modules at different reactor locations.

Response. The NRC Certificate of Compliance for the Standardized NUHOMS has required temperature measurements. However, the licensee or vendor has latitude in determining how the performance-based temperature requirements will be met. The NRC is not convinced that the possible benefits of a uniform, but prescriptive, surveillance and monitoring system or technique would outweigh the costs of curtailing the freedom of cask users to design an implementation scheme suited to their individual needs. The collection of uniform data for possible future use, but without a specific regulatory need could lead to additional exposure to workers, or adversely affect safety without any offsetting benefit.

C.9. *Comment.* One commenter asked about the design life of this NUHOMS module and on how this is documented. Will the canister be removed from the concrete module at a specific time and be opened?

Response. The design life of the Standardized NUHOMS is 50 years as described in the SAR. The Certificate of Compliance has a 20-year approval period that can be renewed by NRC for another 20 years following a safety reevaluation. It is expected, that at the end of operation, the canister will be removed from the concrete module and will be opened in the spent fuel pool facility or an adequate dry environment alternative. The fuel will be transferred to an NRC-approved shipping cask for off-site transportation and ultimate disposal by the DOE.

C.10. *Comment.* One commenter believed it prudent to monitor temperature and air flow to ensure that temperature excursions are not experienced.

Response. NRC believes the required temperature measurement stated in Specification 1.3.2 of the Certificate of Compliance, plus the daily visual inspection of HSM air inlets and outlets, are adequate to ensure that temperature excursions exceeding the design basis are not experienced and to determine when corrective action needs to be taken to maintain safe storage conditions. Therefore, air flow measurements are not required to assure safety.

D. A number of commenters raised technical issues related to the thermal analysis of the Standardized NUHOMS and thermal performance of the system under normal, off-normal, and accident conditions.

D.1. *Comment.* Several commenters wanted, in the interest of ALARA principles, the capacity for approximately 24 kW heat removal to be verified by using an artificial heat load. One commenter suggested that the NUHOMS be tested with a full heat load at a testing site such as Idaho National Engineering Laboratory (INEL), and not at each reactor site that may load it with a higher heat generation rate fuel. Another commenter cited the ALARA philosophy of loading the oldest fuel first even though design basis fuel is on site. Several commenters wanted deletion of the requirement (a literal interpretation of draft Certificate of Compliance) to calculate the temperature rise for each HSM loaded with canisters producing less than the design limit of 24 kW for the following reasons:

(1) Users are not normally provided the vendor's analytical models for this calculation,

(2) The 100 °F rise calculated for the design basis maximum heat load ensures that all safety limits are met for concrete and fuel,

(3) Because 24 kW is the limit, virtually all the HSMs will be affected, which places an undue burden on the user to "baseline" the predicted delta-T by calculation considering the inherent safety margins of the system, and

(4) Technical Specification 1.3.1 ensures that air flow is not blocked so a false measurement of low temperature rise cannot occur.

Response A licensee is not required by NRC to load the oldest fuel first but, in the interest of ALARA, it may do so. However, each time hotter fuel is loaded up to the maximum allowed in a DSC, the licensee would need to verify the heat removal performance of the system. For fuel producing less heat than the design limits of the system, the heat removal capacity of the system determined by calculation must be verified by temperature measurements. This process must be repeated each time a DSC is loaded with hotter fuel until the maximum-system designed heat load is reached. When loaded with spent fuel producing 24 kW heat, the system may not have an ambient and vent outlet temperature difference of more than 100 °F for fuel cooled equal to or more than 5 years. This verification process is required to confirm that the as-built system of each licensee is performing as designed. A licensee could use an artificial heat source to test an initial cask at a bounding heat load of 24 kW before loading fuel. However, this test would only verify the spent fuel heat removal capacity of the system. It would not verify as-built performance. Experience has shown that adequate verification testing can be performed at the reactor site. Therefore, performing the verification at a testing site like INEL would not provide additional safety margins.

D.2. *Comment.* Several commenters pointed out possible conflicting statements about temperature measurements in the surveillance requirements. In discussions about the heat-removal capacity test, temperatures are determined only during the test period. Daily temperature measurements on each HSM are required to verify thermal performance.

Response. These two temperature measurement programs have different objectives. Temperature measurements by licensees to verify the heat capacity calculations need only be done until equilibrium is reached. The daily temperature measurements by licensees are intended to demonstrate continued safe operation within specified limits over the life of the HSM and may not be the same type of measurement done in the initial period to verify heat removal capacity.

D.3. *Comment.* One commenter was concerned about the adequacy of cooling under all atmospheric conditions in the country. The commenter cited conditions such as humidity over 90 percent, temperature over 100 °F, and no wind.

Response. Regulatory requirements for general licensee users of dry storage casks are contained in 10 CFR 72.212(b). Each user must verify that the following conditions are not exceeded at their reactor site for the Standardized NUHOMS: the maximum average yearly temperature with solar incidence is 70 °F; the average daily temperature is 100 °F; and the maximum temperature is 125 °F with incident solar radiation. If the power reactor site high temperature parameters fall within these criteria, the Standardized NUHOMS can be safely used at the site.

D.4. *Comment.* One commenter wants the NRC to establish procedures to measure temperature performance, especially the thermal performance of an individual module and not the combined performance of adjacent modules as stated on page A–23 of the draft Certificate of Compliance.

Response. As required by the regulations, the licensees are required to develop detailed procedures. NRC in its regulatory oversite role has the opportunity to review the adequacy of the procedures. The requirement cited by the commenter is a requirement for the licensee to verify a temperature measurement of the thermal performance for each HSM, not the combined performance of adjacent modules. A cautionary statement is included in the basis of the specification to ensure that licensee measurements of air temperatures reflect only the thermal performance of an individual module and not the combined performance of adjacent modules.

D.5. *Comment.* One commenter wanted to know how the temperature differences in the roof, side wall, and floor areas are incorporated into the daily temperature measurement.

Response. For the first HSM to be emplaced, the user is required to measure the air inlet and air outlet temperature difference of the system at equilibrium. This measurement is to ensure that the heat capacity of the system will not be exceeded and that the concrete temperature criteria will not be exceeded. For the Standardized NUHOMS, this maximum heat capacity is 24 kW. The 24 kW heat load is the design maximum and is the basis for the thermal hydraulic calculations for the cask. The temperature distribution for various parts of the HSM have been calculated (i.e., the roof, walls, and floor) by the cask vendor. Temperature differences causing thermal stresses in the concrete were evaluated and are duly reported in both the SAR and SER. These calculations were reviewed by NRC as a part of the overall process for this design approval.

D.6. *Comment.* One commenter stated that daily temperature measurements are not necessary to ensure convective air flow, given the requirement to verify that the inlets and outlets are not obstructed. Site-specific NUHOMS require temperature measurements when the DSC is placed into the HSM, 24 hours later, and again at 1 week after loading to ensure adequate thermal performance.

Response. The NRC disagrees with this comment. The HSM and DSC are considered components important to safety in the Standardized NUHOMS. Daily temperature measurements of the thermal performance by the licensee are required to provide additional assurance that thermal limits are not exceeded under the general license. This requirement was imposed on the first cask of this type approved by the NRC and listed in 10 CFR 72.214 for use by a general licensee, the VSC–24 cask (58 FR 17967; April 7, 1994) and is now applied to the Standardized NUHOMS.

E. A number of commenters expressed concern about emergency planning and response contingencies.

E.1. *Comment.* Several commenters expressed concern that in the event of problems and the need to off-load fuel (as in the recent situation at Palisades), a transfer cask may not be available in a timely manner because of inclement weather or because the transfer cask itself has experienced problems or is being used elsewhere. One commenter expressed concern at having to have a transfer cask on site within 40 hours of vent blockage to prevent concrete damage. If the transfer cask is leased from VECTRA and is not at the licensee's site, who is liable if something happens that would require the use of a transfer cask?

Response. The NRC has analyzed all design basis accidents from the operation of an ISFSI and concluded that there will be no release of radioactive material to the environment. The 40-hour limit on vent blockage is intended to prevent concrete degradation that might occur over a long period of storage. A vent blockage accident would not result in the release of radioactive material because the DSC would not be breached. Therefore, the NRC believes that the potential risk to the public health and safety is extremely small during the time needed to obtain the use of a transfer cask. Thus, there is no requirement that a transfer cask be at an ISFSI site all the time.

E.2. *Comment.* One commenter expressed concern that the effects of tornado winds and missiles during movement of the fuel in a transfer cask or in a storage cask on a transporter were not analyzed.

Response. Both the vendor's SAR and NRC staff's SER address the effects of tornado winds and missiles during movement of the transfer cask with a loaded canister. These analyses show that, for tornado winds, there is a safety factor of 1.5 against overturning when subjected to Design Basis Tornado winds (a safety factor greater than 1 will generally be adequate for public protection). The transfer cask stability, tornado missile penetration resistance, and shell and end plate stresses were calculated and shown to be below the allowable stresses for ASME BPVC Service Level D (accident) stresses.

E.3. *Comment.* One commenter described an October 1972 storm that flooded the entire Davis-Besse plant site, including the (pre-operational) reactor building. There has been subsequent flooding of the site, particularly during spring thaws.

Response. Safety analyses by NRC and the cask vendor show the Standardized NUHOMS can withstand floods and will continue to perform acceptably. With regard to the Davis-Besse site, the licensee changed site topography during plant construction. Specifically, the area was built up and some dikes were added. The plant structure's ground floor elevation is 585 feet International Great Lakes Datum (IGLD), which is also the elevation of the pad. The licensing design basis for maximum probable static water level on the site is 583.7 feet IGLD. As noted, the HSM and DSC were evaluated for flood conditions as required by 10 CFR 72.122(b). The HSM can withstand a maximum water velocity of 15 feet per second and a static head of 50 feet of water. The DSC can withstand a static head of 50 feet of water. Any site that intends to use a Standardized NUHOMS design must evaluate the conditions at their site to verify compatibility with the design specifications of the system.

F. A number of commenters raised issues relating to the design, evaluation, and operation of the Standardized NUHOMS.

F.1 *Comment.* Several comments related to the fuel to be stored in the Standardized NUHOMS. One commenter wanted control components contained in assemblies addressed in the SAR and SER citing DOE acceptance criteria. One commenter questioned how 55,000 MWD/MTU burnup fuel now being used in pressurized water reactors will be handled since the Standardized NUHOMS–24 is rated to handle only 40,000 MWD/MTU burnup fuel. Another commenter, citing provisions of current site-specific licensees for other NUHOMS designs, stated that higher burnup should be allowed if the decay heat and radiological source terms are within limits. Another commenter asserted that increased fission products from higher enriched fuel may potentially increase embrittlement of the fuel cladding and that this needs to be evaluated in the SER. This commenter further alleged that this would increase the probability of more defective fuel being loaded into dry casks.

Response. The vendor designed the cask system for storage of pressurized water or boiling water reactor fuel assemblies meeting certain specifications. By limiting the use of the cask system to assemblies meeting these specifications, the vendor made a decision that may partially restrict the use of the cask. However, the NRC does not require that a cask be universal for all types of fuel or be usable at every reactor site. For example, none of the casks previously listed in 10 CFR 72.214 is usable for boiling water reactor spent fuel.

Currently, the 55,000 MWD/MTU burnup fuel and fuel with initial enrichments of greater than 4% will have to remain in the spent fuel pool because dry spent fuel cask designs to store fuel with this higher burnup and initial enrichment or related to DOE acceptance criteria have not yet been reviewed and evaluated by the NRC.

F.2 *Comment.* Several comments were related to criticality safety analysis. One commenter questioned the conservatism of using 7.5-year cooled spent fuel when 5-year-cooled fuel is the minimum specified and when older fuel may also be stored in the cask. Another inquired about criticality safety if the original basket geometry were compromised, as might be the case for brittle failure of a spacer disk. In the compromised basket geometry case, the commenter also asked about the difference in criticality safety for a helium atmosphere rather than a borated water medium. The commenter, referring to July 24, 1992, meeting minutes, inquired why all parties agreed not to spend any resources to make these criticality safety calculations.

Response. The Standardized NUHOMS nuclear criticality safety analysis is based on the following: (1) Babcock and Wilcox 15 × 15/208 pin fuel assemblies with initial enrichments up to 4.0 wt% of U-235 and (2) General Electric 7 × 7 fuel assemblies with initial enrichments up to 4.0 wt% of U-235, for the Standardized NUHOMS–24P and NUHOMS–52B designs respectively. The age of the fuel that will actually be stored is not relevant in criticality safety analysis because the analysis assumes storage of unirradiated fresh fuel that is more reactive than cooled spent fuel. The Standardized NUHOMS–24P system has administrative controls that limit the irradiated fuel reactivity to less than or equal to 1.45 wt% of U-235 equivalent unirradiated fuel (Certificate of Compliance Section 1.2.1).

The possibility of a criticality accident caused by the brittle failure of the basket should not be a significant concern. No lifting or handling of the DSC outside the spent fuel pool building is permitted if the basket temperature is lower than 0°F. If the user does not determine the actual basket temperature, the ambient temperature must be used conservatively. Under these temperature restrictions, the basket materials will not behave in a brittle fashion. Consequently, the basket geometry would not be compromised by brittle failure. As for the criticality safety

consideration related to a helium atmosphere versus a borated water medium, the k_{eff} of the fuel in a helium atmosphere is much less than the k_{eff} in borated water. Therefore, criticality calculations for the borated water are sufficient because they are more conservative and therefore would bound calculations using a helium atmosphere.

F.3 *Comment.* Two commenters were concerned with shielding and dose assessments for the Standardized NUHOMS. One commenter believed that using 10-year-cooled fuel for the dose assessment was nonconservative when 5-year-cooled fuel is needed to load the DSC to produce 24 kW of heat. Another, referring to an NRC meeting with Pacific Nuclear Fuel Services, Inc. (PNFSI), wanted clarification of an NRC request to delete a clause allowing the utility to perform site-specific shielding calculations.

Response. The cask vendor presented dose assessment results in the SAR for both 5- and 10-year-cooled fuel. However, for this rulemaking, NRC used the dose assessment for 5-year-cooled fuel for the shielding analysis radiation source term and for accidental releases of radionuclide material. NRC's use of the 5-year-cooled fuel assessment is conservative and bounding.

To ensure safe storage of spent nuclear fuel in NRC-approved casks, the NRC specifies, in Section 1.2.1 of the Certificate of Compliance a number of fuel acceptance parameters. These parameters, which may include burnup, initial enrichment, heat load, cooling time, and radiological source term, define the properties of those assemblies that can be stored in a cask. One such parameter of interest for the Standardized NUHOMS is the radiological source term that forms the basis of the shielding analyses. For this parameter, the vendor proposed an alternative approach. Specifically, for fuel assemblies that fall outside the specified source term parameters but satisfy all other parameters, the vendor proposed to allow licensees to do individual cask shielding calculations to show compliance with the design basis dose rates. This could result in more assemblies in a licensee's inventory that would be eligible for dry storage In the instance noted in the comment, the NRC did not agree with the vendor proposal. The Certificate of Compliance dose rate specifications provide a simple check to ensure that DSCs are not inadvertently loaded with the wrong fuel. The dose rate specifications are based on the shielding analyses provided by the vendor in its SAR. Because of differences in non-fuel components in the ends of some assemblies, dose rates higher than those evaluated by NRC in the SER may occur at the ends of casks than were assumed in the shielding analysis. The Certificate of Compliance specifications allow for this possibility and permit the licensee to store such fuel provided the licensee verifies proper cask fabrication, conformance with all other fuel parameters, and compliance with radiation protection requirements. The site-specific calculations referred to in the comment are not shielding calculations, but rather are the licensee's written evaluations (or dose assessments) required by 10 CFR 72.212(b)(2)(iii) to establish that the radiation criteria for ISFSI in 10 CFR 72.104 have been met. The Certificate of Compliance also requires that the licensee submit a letter report to the NRC summarizing its actions in this type of case.

F.4. *Comment* Several commenters were concerned with fuel clad integrity issues. Particularly, they were concerned with potential problems that may arise because of differences between vertical and horizontal storage. One commenter noted that it was essential to inspect the cladding carefully for the minute hairline cracks which would allow the radioactivity inside to escape. Another commenter wanted it made clear that for fuel to be eligible for storage it doesn't need to be specifically inspected nor require special handling or storage provisions within the spent fuel pool. The commenter also asserted that pinhole leaks in fuel rod cladding do not constitute gross breaches. The commenter wanted fuel cladding integrity clarified. Another commenter claimed that horizontal storage of fuel rods will lead to cladding deterioration that would challenge the technical specifications of the NUHOMS cask. Another commenter was concerned about the possibility of fuel rod bowing that could result in weighted contact between the fuel cladding/crud and the DSC guide sleeve, with the potential for eventual bonding of the materials over the duration of the storage period. One commenter, noting that some of the fuel in the spent fuel pools could be nearly 20 years old, was concerned that the fuel will not be tested for leaks using specific techniques such as penetrating dyes, eddy current, sipping, or ultrasound before canister loading. A commenter wanted all fuel with known defects and all water-logged fuel retained in the spent fuel pool until the cask integrity under operating conditions is fully demonstrated. Another wanted to know how "grossly breached" fuel will be ultimately handled and shipped off site.

Response. In the Standardized NUHOMS, PWR fuel rods are stored in a horizontal orientation and do not normally deflect in the middle of any span so that the rods contact the DSC guide sleeve. However, the possibility exists that a bowed rod may come in contact with the guide sleeve.

With respect to storage of BWR fuel, the fuel channel that surrounds the fuel bundle (rods) provides a barrier to separate coolant flow paths, to guide the control rod, and to provide rigidity and protection for the fuel bundle during handling. Therefore, the BWR fuel rods inside the channel do not come in contact with the guide sleeves. Even if there were contact with either PWR or BWR fuel rods, the interaction would not present a significant concern because the guide sleeve material is stainless steel, which has a very low rate of corrosion, and the DSC cavity is evacuated and back-filled with inert helium, which further reduces the likelihood of any corrosion or bonding involving the guide sleeve and fuel rods

The Certificate of Compliance requires that the fuel have no known or suspected gross cladding breaches to ensure the structural integrity of the fuel. Known or suspected failed fuel assemblies (rods) and fuel with cladding defects greater than pin holes and hairline cracks are not authorized in the Standardized NUHOMS. Fuel meeting this specification will be safely stored and will remain intact in storage because the dry inert atmosphere and relatively low temperature will prevent deterioration of the cladding. Grossly breached fuel will be handled in site-specific license applications.

F.5 *Comment* Quite a few comments related to the structural stability of the HSM, particularly its response to earthquakes. Commenters questioned the possibility of vertical storage of the Standardized NUHOMS and suggested that it would be very difficult to restrain the HSM if the DSC were in a vertical position. One commenter wanted dry storage casks constructed to Building Officials Code Administrators (BOCA) National Building Code (and Ohio Administrative Code) for structures in use group H–4, high hazard use, which includes radioactive materials. Commenters questioned whether ground acceleration as used by the NRC in its evaluation could adequately describe all potential earthquakes east of the Rocky Mountain Front and suggested that a ground acceleration of 2.5g would not be realistic for all sites, despite proximity to fault lines. Another commenter alleged a number of seismic

events in the midwest which had some effect in the Ohio area could cause a complete failure of the cask and requested that the NRC insist that the cask, containment structure, and foundation pad be designed to substantially exceed all earthquakes with a potential for 0.60g. One commenter wanted to know if the module had been analyzed for earthquake events at all United States reactor sites, according to Laurand Findmun Seismic Hazard Curves. Other commenters expressed various concerns about the integrity and reaction of the Standardized NUHOMS components under earthquake conditions and asked the following questions:

Could the casks crush against each other as the ground moves beneath them?

Could the module shift, crack, or move off the pad?

How are the rail support holdings evaluated?

Could the DSC be knocked off the rails? and

Could the module roof crack and fall on the canister?

Response. The Standardized NUHOMS design described in the vendor's applications for approval and the SAR does not address vertical storage. Consequently, NRC neither evaluated nor approved vertical storage for the system. Therefore, it may not be stored vertically.

The NRC reviewed the Standardized NUHOMS for compliance with design criteria that are more stringent than those of the BOCA National Building Code (NBC) (see response to Comment A.5). These more stringent criteria are included in national standards that more closely represent the use of the Standardized NUHOMS.

Part 72 specifies a design basis maximum ground acceleration of 0.25g for areas east of the Rocky Mountain Front that are not in areas of known seismic activity. All HSMs and DSCs are designed to withstand a 0.25g earthquake. Any reactor licensee who intends to use the Standardized NUHOMS must verify that the maximum displacements at the cask's location on the reactor site are within the design criteria for the system. The Standardized NUHOMS is free standing and not dependent on the pad for safety. Failure of the pad caused by seismic events will not cause the Standardized NUHOMS to fail. Therefore, cask safety does not require the pad to be designed to withstand a seismic event.

F.6. *Comment.* One commenter stated that the SAR did not include consideration of the accident events such as: aircraft crashes, turbine missiles, external fires, explosions, and sabotage.

Response. Before using the Standardized NUHOMS, the general licensee must evaluate them to ensure the site is encompassed by the design bases of the approved cask. The events listed in the comment are among the site-specific considerations that must be evaluated.

The site evaluation for a nuclear plant considers the effects of nearby transportation and military activities. It is incumbent upon the user of the cask to determine if the SER for the facility encompasses the design basis analysis performed for the Standardized NUHOMS or any certified cask. The great majority of the aircraft are single-engine propeller airplanes which typically weigh on the order of 1,500 to 2,000 pounds. The cask's inherent design will withstand tornado missiles and other design loads and also provides protection from the collision forces imposed by these light general aviation aircraft without adverse consequences. NUREG–800, Section 3.5.1.6 "Standard Review Plan for Light Water Reactors," contains methods and acceptance criteria for determining if the probability of an accident involving larger aircraft (both Military and civilian) exceeds the acceptable criterion. It is incumbent upon the licensee to determine whether or not the reactor site parameters are enveloped by the cask design basis as required by 10 CFR 72.212(b)(3). These would include an evaluation demonstrating that the requirements of 10 CFR 72.106 have been met.

Turbine missile analyses typically show a very low probability of a turbine missile breaking the turbine casing. The site's turbine missile analyses must be considered as part of the facility's analysis of the suitability of the storage location. External fires are handled by established fire control programs. Explosions are prevented by control of combustibles under the licensee's fire protection program. Sabotage is considered under the criteria for security programs that each licensee must implement. (See also response to comment N.1).

F.7 *Comment* Several commenters raised issues about the pad and foundation for the Standardized NUHOMS. One commenter referred to a previous rulemaking that stated that the NUHOMS casks required site-specific approvals because they are constructed in place. Other commenters, concerned with seismic events at the Davis-Besse Nuclear Power Station and soil stability issues similar to cask use at the Palisades Plant, asserted that there was a necessary relationship of the Standardized NUHOMS cask or module to the pad at a specific site and that evaluation of it could not be based on the reactor site seismic analysis. Each site required singular seismic and soil analysis for dynamic loads and not just static loads.

Response. The NUHOMS design referred to in the July 18, 1990, 55 FR 29181, rulemaking includes the site-specific pad as an integral part of the concrete HSM and therefore it is important to safety. The Standardized NUHOMS considered in this rulemaking have the HSMs as free-standing units; that is, they have no structural connections to the pad. The Standardized NUHOMS does not rely on the pad to perform a safety function to protect public health and safety. The vendor analyzed the HSM containing the DSC for peak ground accelerations of 0.25g caused by earthquakes and found that it would neither slide nor overturn. NRC evaluated the Standardized NUHOMS under a wide range of site conditions that could diminish cask safety. Further, under the NRC general license, before using the Standardized NUHOMS a licensee must verify that reactor site parameters are within the envelope of conditions reviewed by NRC for the cask approval. If potential conditions exist at the reactor site (including potential erosion, soil instability, or earthquakes) that could unacceptably diminish cask safety by any credible means, the licensee's analysis must include an evaluation of the potential conditions to verify that impairment of cask safety is highly unlikely.

The NRC's regulations do not explicitly require a licensee using a cask under a general license to evaluate the cask storage pad and foundation under such site conditions for erosion or earthquakes. If conditions at the reactor site could unacceptably diminish cask safety by affecting the stability of the supporting foundation so as to put the cask in an unsafe condition, the cask may not be used unless the foundation is appropriately modified or a suitable location at the reactor site is found. Implicitly, therefore, the pad and the underlying foundation materials must be analyzed under site conditions that include erosion, soil instability, and earthquakes, even though the pad has no direct safety function and the cask is designed to retain its integrity even assuming the occurrence of a range of site conditions.

The licensee has the responsibility under the general license to evaluate the match between reactor site parameters and the range of site conditions (i.e the

envelope) reviewed by NRC for an approved cask. Typically, the licensee will have a substantial amount of information already assembled in the Final Safety Analysis Report (FSAR) for the nuclear reactor. In addition, the envelope for the approved cask is identified in the NRC SER and Certificate of Compliance and in the cask vendor's SAR for the cask. Of course, the licensee should consider whether the envelope evaluated by NRC adequately encompasses the actual location of the cask at the reactor site. The licensee should also consider whether there are any site conditions associated with the actual cask location that could affect cask design and that were not evaluated in the NRC safety evaluation for the cask.

The vendor analyzed the DSC and the HSM for rigid body response (i.e., sliding and overturning) to seismic accelerations. The resultant peak horizontal ground acceleration is 0.37g and the peak vertical acceleration is 0.17g. The margin of safety against sliding is 1.35. Similarly, the design seismic force will not cause the HSM to tip over because the stabilizing moment of the HSM is greater than the seismic overturning moment. The margin of safety against overturning is 1.26. Thus, no sliding or overturning of the HSM or DSC will occur from the design earthquake.

Because the pad is not considered a safety-related item, a specific pad design is not being approved in this rulemaking for the Standardized NUHOMS.

F.8. *Comment.* A few commenters had questions pertaining to the operation of and procedures for the Standardized NUHOMS. One commenter inquired whether just one module of the Standardized NUHOMS could be purchased by a utility, or whatever number of modules desired could be procured and easily added like singular casks. One commenter expressed concern about snow removal procedures to prevent blockage of the bottom vents by drifting snow Another commenter wanted NRC to establish a procedure and criteria for dose rates discussed on pages A–15 and A–16 in the draft Certificate of Compliance. Several commenters noted that a procedure for opening a storage cask and removing the fuel has not been tried before nor documented in the rulemaking. They were also concerned that unloading of a cask would place workers at higher risk.

Response. The NRC Certificate of Compliance does not permit or limit the number of NUHOMS modules that may be purchased by a general license. The NRC does not regulate the commercial arrangements between the cask vendor and the users including any provisions on the number of casks that can be purchased or added to the Standardized NUHOMS.

Under the Certificate of Compliance, Section 1.3, the user of the Standardized NUHOMS (general licensee) is required to conduct a visual surveillance of the exterior of air inlets and outlets. If the surveillance shows blockage of air vents, they must be cleaned in accordance with proper procedures. These procedures will minimize the potential impact to the health and safety of workers. The daily temperature measurements indicate proper thermal performance.

The Certificate of Compliance requires each licensee to develop procedures to implement the dose criteria prescribed on pages A–15 and A–16. On page A–15 of the Certificate of Compliance, Section 1.26, the dose rate criteria to be met is equal to or less than: (a) 200 mrem/hr. at the top shield plug surface at centerline with water in the cavity; and (b) 400 mrem/hr. at the top cover plate surface at centerline without water in the cavity. On page A–16 of the Certificate of Compliance the dose rate criteria is less than or equal to: (a) 400 mrem/hr. at 3 feet from the HSM surface; (b) 100 mrem/hr. outside of the HSM door on center line of the DSC; and (c) 20 mrem/hr. at the end shield wall exterior. Each licensee is required to develop its own procedures to implement these criteria. In addition, each licensee must develop operational procedures for the ISFSI for workers' radiation exposure to be ALARA.

For the Standardized NUHOMS, removal of spent fuel from the DSC is addressed in Chapter 5 of the SAR and in Chapter 11 of the SER. The process is essentially the reverse of loading operations and would be performed under the reactor license radiation protection program. The Certificate of Compliance requires each user to develop written procedures for these operations and includes precautions to be considered for unloading. ALARA is required to be addressed by 10 CFR Part 20. Specification 1 1.6 of the Certificate of Compliance requires that pre-operational testing and training exercises include the opening of a DSC and returning the DSC and transfer cask to the spent fuel pool. The Certificate of Compliance also requires the training program to include off-normal events.

F.9. *Comment.* One commenter, citing the May 1993 study prepared for the NRC by the Center for Nuclear Waste Regulatory Analyses of San Antonio, Texas, questioned the relatively higher temperature consequences of dry storage on fuel cladding. The report states that, "the dry environment has the potential of producing such problems as further fuel cladding oxidation, increased cladding stresses, and creep deformation as a result of rod internal pressure * * *. These possible spent fuel and cladding alteration modes could be quite accelerated under dry storage conditions, since temperatures are much higher than in wet storage." The commenter does not believe that NRC is fulfilling its obligation in 10 CFR 72.122(h) to see that "spent fuel cladding must be protected during storage against degradation that leads to gross rupture."

Response. The May 1993 study addresses the long-term geological disposal of high-level waste (spent fuel) and is not directed to the short-term interim storage of spent fuel at nuclear power plants. The report evaluates processes over 10,000 years of repository performance for geological disposal. The conclusions of the report are not applicable for the interim storage period of a 20-year cask certificate during which spent fuels stored in the DSC have to meet the NRC's criteria to ensure that cladding is protected. Under normal operation of the ISFSI, leakage of radionuclides is not expected to occur. The design and the double-seal welding of the DSC covers are checked and tested to provide structural integrity throughout the approved storage period During normal storage conditions, the licensee is required to conduct a radiation monitoring program to ensure protection of workers and the safety of the general public.

G. A number of comments were related to broad policy and program issues in connection with the storage and disposal of high-level radioactive waste, including the DOE repository program. Some commenters questioned the use of dry cask storage and technology in general. Some commenters stated that only dry storage casks that would be compatible with DOE interim or final repository operations, including transportation should be approved for use under a general license.

G.1. *Comment.* One commenter does not want any more casks approved until a permanent Federal repository is opened. The wet fuel pool is a proven technology that has been successful in containing radioactivity. Another commenter stated that dry storage is dangerous.

Response. The NRC, in implementing the Nuclear Waste Policy Act of 1982, has an obligation to review dry storage technologies and to determine whether to approve the use of these technologies for the storage of spent fuel if they meet

applicable safety requirements. The July 18, 1990, 55 FR 29181, rulemaking found that spent fuel stored in dry storage casks designed to meet the NRC regulatory requirements can safely contain radioactivity. This rulemaking adds one cask design that meets the safety requirements previously developed to the list of approved casks. The previous responses to comments, as well as the detailed safety and environmental analyses underlying this rulemaking (and described elsewhere in this notice), all reveal that the Standardized NUHOMS will conform to the NRC requirements and that its use should not pose the potential for significant environmental impacts.

DOE is required by the Nuclear Waste Policy Act of 1982 to accept spent fuel for ultimate disposal. Moreover, the Commission made a generic determination in its waste Compliance Decisions (September 18, 1990, 55 FR 38474 and August 31, 1994, 49 FR 34658) that safe disposal is technically feasible and will be available within the first quarter of the 21st century.

Dry cask storage has significant advantages over wet storage in that the system is passive and requires minimal human intervention. No pumps, filters, or water quality monitoring are needed to maintain the conditions necessary for wet storage. The only monitoring required for the Standardized NUHOMS is daily temperature monitoring and visually checking inlet and outlet vents.

G.2. *Comment.* A number of commenters wanted a full formal trial-type public hearing on the use of the NUHOMS cask.

Response. Consistent with the applicable procedure, the NRC does not intend to hold formal trial-type public hearings on the Standardized NUHOMS rule or separate hearings at each reactor site before the use of the dry cask technology approved by the Commission in this rulemaking. Rulemaking procedures, used by the NRC for generic approval of the Standardized NUHOMS, including the underlying NRC staff technical reviews and the opportunity for public input, are more than adequate to obtain public input and assure protection of the public health and safety and the environment. In this rulemaking, the NRC has taken additional steps to elicit and fully consider public comments on the Standardized NUHOMS technology. These steps included NRC participation in public meetings near Davis-Besse and extension of the public comment period by 45 days in response to public requests. This extension provided a total public comment period of almost 4 months.

Section 133 of the Nuclear Waste Policy Act of 1982 authorizes the NRC to approve spent fuel storage technologies by rulemaking. When it adopted the generic process in 1990 for the review and approval of dry cask storage technologies, the Commission stated that "casks * * * [are to] be approved *by rulemaking* and any safety issues that are connected with the casks are properly addressed in that rulemaking rather than in a hearing procedure" (July 18, 1990; 55 FR 29181). Rulemaking under NRC rules of practice, described in 10 CFR 2.804 and 2.805, provides full opportunity for expression of public views but does not use formal trial-type hearings of the kind requested by commenters.

In this proceeding, rulemaking clearly provided adequate avenues for members of the public to provide their views regarding NRC's proposed approval of the Standardized NUHOMS, including the opportunity to participate through the submission of statements, information, data, opinions and arguments. In this connection, technical evaluations for Standardized NUHOMS and detailed documented findings of compliance with NRC safety, security, and environmental requirements were prepared by the NRC staff for public examination. In November 1993, the NRC staff reviewed the Standardized NUHOMS and approved the design for the purpose of initiating this rulemaking to grant a generic approval of the design. In addition, the NRC staff conducted a second review in response to the public comments on the Standardized NUHOMS in this rulemaking, again finding compliance with NRC requirements as discussed in this document.

In addition to reviewing systematically and in depth the technical issues important to protecting public health and safety, and the environment, the NRC has taken extra steps to obtain and fully consider public views on the Standardized NUHOMS technology and has made every effort to respond to public concerns and questions about the Standardized NUHOMS compliance with NRC safety, security, and environmental requirements. The initial public comment period opened on June 2, 1994, and was scheduled to close on August 16, 1994. On August 29, 1994, the public comment period was extended to September 30, 1994. The NRC also participated in an earlier meeting near the Davis-Besse site.

Under these circumstances, formal hearings would not appreciably add to NRC's efforts to ensure adequate protection of public health, safety, and the environment and they are unnecessary to NRC's full understanding and consideration of public views on the Standardized NUHOMS.

G.3. *Comment.* One commenter stated that because there is not now and there may not be a permanent high-level radioactive waste (HLWR) repository for commercial reactor fuel, and since the NUHOMS 24P and 52B casks are non-transportable, any distinction between so called "temporary storage" and "permanent disposal" of this waste is moot. Because of the lack of a permanent repository or Monitored Retrievable Storage (MRS) in the foreseeable future, a case of a serious spill and the resultant contamination at an environmentally unsuitable site like Davis-Besse where "short and long-term adverse impacts associated with the occupancy and modification of (a) floodplain * * * potential release of radioactive material during the lifetime of the ISFSI * * * (and location) over an aquifer which is a major water resource" have been inadequately dealt with.

Response. This rulemaking to certify the Standardized NUHOMS is for interim storage of spent fuel in an approved cask for 20 years. It does not authorize or approve the ultimate disposal in a permanent HLRW repository, which is under the responsibility of the DOE. During interim storage, the user (holder of a Part 50 license) must protect the spent fuel against design basis threats, and against environmental conditions and natural phenomena such as tornadoes, tornado missiles, earthquakes, and floods. In regard to flooding, the Certificate of Compliance has a provision (see A–2 of Certificate of Compliance) for flood condition analysis to ensure that there is no release of radioactive material from flooding.

G.4. *Comment.* One commenter stated that projected future uses of land and water within the region are impossible to make given the unknown length of time this waste may remain on site and the options for both cask and reactor license renewal beyond 20 and 40 years, respectively, and the fact that no known man-made structure can last for the length of time that this waste must be isolated from humans and the environment. If an MRS or repository ever become available, this waste may have to be repacked. Each handling of this waste increases the likelihood of an accident, spill, contamination, and worker and public exposures.

Response Projected future land and water use can be made based on the

continued safe operation of a reactor and its associated dry cask storage facility. The continued operation of these facilities should have no greater impact on land and water use in the future than they do today. As previously noted, the NRC Waste Confidence decisions concluded there is reasonable assurance that safe disposal of spent fuel by the Federal Government will be available by the year 2025. Therefore, the spent fuel will not remain at a reactor site for the length of time it must be isolated from humans and the environment.

It should be noted that the absence of significant environmental impacts from dry cask storage at a reactor site is the conclusion of NRC's environmental assessment for the Standardized NUHOMS and for previously approved dry casks analyzed in earlier rulemakings addressing 10 CFR Part 72, as well as in the Commission's Waste Confidence decisions in 1984 (August 31, 1984; 49 FR 34658) and 1989 (September 29, 1989; 54 FR 39765). In the 1984 Waste Confidence decision, the Commission concluded there was reasonable assurance that spent fuel can be safely stored at reactor sites, without significant environmental impacts, for at least 30 years beyond expiration of NRC reactor operating licenses. The 1989 Waste Confidence decision review reaffirmed earlier Commission conclusions on the absence of significant environmental impacts.

G.5. *Comment.* One commenter questioned whether the NUHOMS canister will fit the conceptual design for the DOE multi-purpose canister (MPC). If DOE chooses to use vertical casks (like the VSC) at the MRS, will the NUHOMS inner canister fit into the vertical outer concrete shell in the MPC design? If local reactors choose the VSC–24 or the NUHOMS, will either inner metal canister fit into the overpacks for DOE, or will they have to be opened after storage, returned to the pool, the fuel put in a new canister, and the old one discarded as radioactive waste?

Response. The Certificate of Compliance for the Standardized NUHOMS is intended for the interim storage of spent fuels and is not required to conform to, and has not been evaluated by NRC for conformance with, the conceptual design for the DOE MPC. DOE has not yet made final decisions regarding design or deployment of the MPC. Therefore, it is not possible to speculate on conformance of the Standardized NUHOMS to the MPC.

G.6. *Comment.* One commenter asked what are the criteria for 20-year renewal of this cask design? How will this be checked? If the design is not renewed, what is the plan?

Response. The 1989 proposed rule (May 5, 1989; 54 FR 19379) to add Subparts K and L to Part 72 indicated that the 20-year period represents what the Commission believes to be an appropriate increment for cask design approvals. The application for design reapproval would have to demonstrate the cask's ability to perform the necessary safety functions for the reapproval period. The application would be evaluated by NRC against the Commission's regulatory requirements. If a cask design is not reapproved, the licensee would have to remove casks from service as the 20-year approved storage life expired. This could mean removal of the spent fuel and storing it elsewhere.

G.7. *Comment.* One commenter wanted to discuss the need for an additional cask design, including how it would better meet the need of the interim dry cask storage of high-level waste.

Response. Section 218(a) of the Nuclear Waste Policy Act of 1982 (NWPA) provides the following directive: "The Secretary [of DOE] shall establish a demonstration program in cooperation with the private sector, for the dry storage of spent nuclear fuel at civilian nuclear reactor power sites, with the objective of establishing one or more technologies that the [Nuclear Regulatory] Commission may, by rule, approve for use at the sites of civilian nuclear power reactors without, to the maximum extent practicable, the need for additional site-specific approvals by the Commission." After subsequent DOE technical evaluations and based on a full review of all available data, the Commission approved dry storage of spent nuclear fuel in a final rule published in the **Federal Register** on July 18, 1990 (55 FR 29181). The final rule established a new Subpart K within 10 CFR Part 72, entitled "General License for Storage of Spent Fuel at Power Reactor Sites." Therefore, there is a need for casks to be approved by NRC to implement the NWPA to meet the demand of the interim dry cask storage of spent fuels in the nuclear power plants. However, the variety of cask designs submitted by vendors for NRC review and approval is mostly dictated by economic reasons that do not involve NRC.

H. A number of commenters wanted site-specific analyses done for each use of the Standardized NUHOMS despite the fact that each licensee must determine that the site parameters are enveloped by the cask design specified in the SAR, SER, and Certificate of Compliance. The intent of Subpart K of 10 CFR Part 72 was to grant a general license to licensees of power reactors to use NRC-approved dry storage casks listed in 10 CFR 72.214 without additional licensing review by NRC.

H.1. *Comment.* A number of commenters wanted site-specific Environmental Impact Statements (EIS). Several commenters stated that an EIS should be required on any waste facility that may be permanent along the Great Lakes fresh water system. To say that this will have no adverse effect on public health and safety is a prediction most of the public does not accept. The commenter believes that the generic ruling to use a dry cask storage design at any reactor site is impossible and should be discarded. By relying on environmental evaluations done in the 1970s before Davis-Besse construction, the NRC was remiss in its responsibility to protect the people of Ohio from harm by its licensee. Another commenter wants the NRC to prepare, at a minimum, an Environmental Assessment (EA) for each site, including information on sensitive ecosystems, wildlife, demography, meteorology, and geology. The EA should discuss the cask's capability to withstand weather conditions and potential catastrophic events.

Response The potential environmental impacts of utilities using the Standardized NUHOMS (or any of the other spent fuel casks approved by NRC (10 CFR 72.214)) have been fully considered and are documented in a published Environmental Assessment (EA) covering this rulemaking. Further as described below, the EA indicates that use of the casks would not have significant environmental impacts. Specifically, the EA notes the 30-plus years of experience with dry storage of spent fuel have shown that the previous extensive NRC analyses and findings that the environmental impacts of dry storage are small and succinctly describes the impacts, including the non-radiological impacts of cask fabrication (the impacts associated with the relatively small amounts of steel, concrete, and plastic used in the casks are expected to be insignificant), the radiological impacts of cask operations (the incremental offsite doses are expected to be a small fraction of and well within the 25 mrem/yr limits in NRC regulations), the potential impacts of a possible dry cask accident (the impacts are expected to be no greater than the impacts of an accident involving the spent fuel storage basin) and the potential impacts from possible sabotage (the offsite dose is calculated t be about one rem). All of the NRC

analyses collectively yield the singular conclusion that the environmental impacts and risks are expected to be extremely small.

NRC EA's for previously approved dry casks also concluded there was an absence of significant environmental impacts from dry cask storage at a reactor site when they were analyzed in earlier rulemakings addressing 10 CFR Part 72 as well as in the Commission's Waste Confidence decisions in 1984 (August 31, 1984; 49 FR 34658) and 1989 (September 29, 1989; 54 FR 39765). In the 1984 Waste Confidence decision, the Commission concluded there was reasonable assurance spent fuel can be safely stored at reactor sites, without significant environmental impacts for at least 30 years beyond expiration of NRC reactor operating licenses. The 1989 Waste Confidence decision review reaffirmed earlier Commission conclusions on the absence of significant environmental impacts.

Given the Commission's specific consideration of environmental impacts of dry storage and the absence of any new information casting doubt on the conclusion that these impacts are expected to be extremely small and not environmentally significant, the NRC is not convinced that meaningful new environmental insights would be gained from either a new site-specific EIS or EA for each site using dry storage methods.

The EA covering the proposed rule, as well as the finding of no significant impact (FONSI) prepared and published for this rulemaking, fully comply with the NRC environmental regulations in 10 CFR Part 51. The Commission's environmental regulations in Part 51 implement the National Environmental Policy Act (NEPA) and give proper consideration to the guidelines of the Council of Environmental Quality (CEQ). The EA and FONSI prepared as required by 10 CFR Part 51 conform to NEPA procedural requirements. Further analyses are not legally required.

The regulation 10 CFR Part 72, Subpart K, already authorizes dry cask storage and approves dry casks for use by utilities to store spent fuel at reactor sites. See 10 CFR 72.214 for a listing of information on Cask Certificate Nos. 1000 through 1003, 1005, and 1007 The purpose of this final rule is to add one more cask to the list of casks already approved by NRC. The cask added to the list in § 72.214 by this final rule complies with all applicable NRC safety requirements.

Finally, this final rulemaking applies to the use of this cask by any power reactor within the United States.

H.2. *Comment* One commenter stated that the January 30, 1994, reply from NRC's Robert Bernero to Mr. Adamkus, EPA, is completely inadequate, as is the March 1994 "Draft Environment Assessment and Finding of No Significant Impact" because no consideration is given to the site's unsuitability even for LLRW per NRC's own admission, and "new information which could alter the original site evaluation findings" is ignored.

Response. This final rule does not provide any site-specific NRC approval or address site-specific parameters that are peculiar to a particular reactor site. The rule only adds one cask design, the Standardized NUHOMS, to the list of approved casks available for use by a power plant licensee in accordance with the conditions of the general license in Part 72. Pursuant to those conditions, each licensee must determine whether or not the reactor site parameters (including earthquake intensity and tornado missiles) are encompassed by the cask design bases considered in the cask SAR and SER. The EA and FONSI for this rule are limited in scope to the Standardized NUHOMS in a generic setting.

Unlike interim storage prescribed in 10 CFR Part 72, the in-ground disposal of radioactive material, whether high-level or low-level waste (HLW or LLW), must take into account the geologic, hydrologic, and geochemical characteristics of the site or region to isolate the radioactive waste from the accessible environment. Site criteria for in-ground disposal of radioactive wastes enable an applicant to choose an appropriate site, one with a combination of favorable conditions that will be a natural barrier to retard or attenuate the migration of any leaked radioactive material over a long period to control releases within acceptable limits. The disposal period for LLW is on the order of 500 years, and for HLW it is greater than 10,000 years. Therefore, site characteristics are investigated and assessed for interim spent fuel storage under Part 72, not to determine their suitability as a barrier to release of radioactive material, but rather to determine the frequency and the severity of external natural and artificial events that could affect the safety of an ISFSI. Unlikely, but credible, severe events are considered to determine the safety of the storage cask design.

H.3. *Comment* One commenter stated that the NRC has not approved technologies for the use of spent fuel at the sites of * * * without the need for additional site reviews. If that were so, no additional site review would have been necessary at Palisades, nor would an SAR revision or a Certificate of Compliance amendment be called for right after the VSC–24 was certified.

Response. The approval and use of dry storage technologies under the provisions of the general license are relatively new. Questions were raised by members of the public about the possible effects of earthquakes and erosion at the Palisades site on the safe storage of spent fuel in the VSC–24 dry casks. As the agency which is responsible for questions about compliance with regulatory requirements, which oversees such matters as the "cop on the beat," the NRC began an independent assessment to more closely examine the behavior of the pad at Palisades under normal conditions, under the long-term effects of erosion, and under conditions of a postulated earthquake that might cause the sand below or around the pad to move. The results of NRC's assessment were documented in the NRC Final Safety Assessment of Independent Spent Fuel Storage Installation (ISFSI) Support Pad (TAC No. M88875). As is the case at all sites, NRC requires the cask user to determine if the design basis for the storage technology being considered encompasses the site parameters at the location where the fuel is to be stored. The review at Palisades confirmed this to be the case. As experience with use of this new design is gained, modifications to the design described in the SAR are expected and allowed under the provisions of 10 CFR 72.48.

H.4. *Comment.* One commenter wanted the environmental impacts of alternatives, such as: renewable energy sources, conservation of energy, shutting down the nuclear power plants, and wind and solar power evaluated.

Response. Energy production is not the subject of this rulemaking and alternative sources of energy are, therefore, not reasonable alternatives requiring evaluation. This rulemaking is limited to the addition of the Standardized NUHOMS to the list of approved casks in 10 CFR 72.214.

H.5. *Comment.* One commenter stated that the NRC is ignoring the regulatory requirements of a site-specific license as to the feasibility of using the cask or of modifying its design.

Response. This rulemaking does not cover site-specific NRC licensees; however, the NRC is not ignoring them. Under NRC regulations, the utility has two options in using dry cask storage of spent fuel: (1) The licensee may apply for a site-specific license from NRC; or (2) the licensee may use an NRC-approved cask under the general license provisions of Subpart K of 10 CFR Part 72. However, not all licensees may be

able to use the general license provisions, either because the fuel type they possess is not storable in any cask listed in 10 CFR 72.214 or because none of the cask designs envelope the reactor site parameters. The NRC is also not ignoring site-specific license considerations relating to modifying cask designs. Quite the contrary, the criteria that apply to modifications of an NRC-approved cask such as the Standardized NUHOMS are the same as the criteria that apply to modifications of site-specific ISFSIs.

H.6. *Comment.* Because the populations of several states and provinces, including two-thirds of the population of Quebec, are based along the St. Lawrence Seaway, one commenter wanted an Economic Impact Statement conducted with a cost/benefit analysis citing possible adverse impact on tourism and sport fishing.

Response. A regulatory analysis, which considers both benefits and impacts of adding the Standardized NUHOMS to the list of NRC-approved casks under Subpart K of 10 CFR Part 72, was prepared in support of this rulemaking action. It was included as a part of the notice of proposed rulemaking and is also included in this final rulemaking notice. However, this regulatory analysis reflects the limited scope of this rulemaking. Because the rulemaking does not provide any site-specific NRC approvals, NRC did not evaluate site-specific economic impacts.

H.7. *Comment.* One commenter wanted to restrict the use of the cask to reactor sites that have responded on schedule to NRC Generic Letter 88–20, Supplement 4, "Individual Plant Examination of External Events (IPEEE)."

Response. IPEEE response submittals will not address dry cask storage and are not necessary for Standardized NUHOMS use.

H.8 *Comment.* One commenter stated that NUHOMS must not receive generic approval because site-specific characteristics must be considered. The commenter stated that placing this cask on the shores of Lake Erie is potential ecocide and the cask is not terrorist-proof. Another commenter stated that the potential engineering problems of storing high-level nuclear waste in a variety of climatic and geologic regions of the United States are not considered.

Response. A utility's use of the Standardized NUHOMS, for the storage of spent fuel in casks at a reactor site, would not have a significant impact on the environment. This finding is supported by the NRC safety and environmental evaluations for the Standardized NUHOMS, including the applicant's demonstration of compliance of the cask with NRC requirements, as well as by the 1990 rulemaking on dry cask storage and the 1984 and 1989 waste confidence proceedings. Because the Standardized NUHOMS can only be used by a licensee if the site parameters are enveloped by the cask design basis, as specified in the SAR and SER, cask storage of spent fuel near the shore of Lake Erie within the specified parameters would not have a significant impact on the environment.

I. The following comments relate to the transportability of dry storage casks to an off-site location.

I.1. *Comment.* One commenter questioned how the cask transport methods used at both on-site and off-site locations are related.

Response. In this rulemaking, the NRC reviewed the cask vendor's proposed means for transporting the Standardized NUHOMS canister and transfer cask outside the reactor buildings to the on-site storage pad under the storage requirements of 10 CFR Part 72. This on-site movement occurs within an owner-controlled area where access can be limited and where operations would be safely managed by the general licensee. The NRC did not review the Standardized NUHOMS for transport off-site, for example to a DOE MRS or repository. Generally, off-site transport of spent fuel occurs in public places where the shipper has fewer access restrictions and limited control of the surroundings. Off-site spent nuclear fuel shipments must be made in a transportation cask approved by the NRC pursuant to NRC's regulations found in 10 CFR Part 71, "Packaging and Transportation of Radioactive Material," and must also comply with pertinent Department of Transportation (DOT) regulations. At this time, the NRC is approving the Standardized NUHOMS for storage only.

I.2. *Comment.* One commenter, citing a Wisconsin Public Service Commission EIS for Point Beach, questioned the statement, "The baskets' heavier weight and larger diameter make the transportability of an intact NUHOMS canister to an MRS site or repository questionable."

Response. The NRC has not reviewed the Standardized NUHOMS in this rulemaking for off-site transportation.

I.3. *Comment.* One commenter wanted to know the relationship between the Standardized NUHOMS and the NUHOMS MP187 now applying for a Certificate of Compliance. Is the MP187 transportable? Will the canister of all models fit into the transport overpack? Wouldn't a utility be better off waiting for the transportable cask rather than choosing a storage only cask that may have compatibility problems with an MPC system?

Response. The MP–187 transportation overpack uses a canister similar to the Standardized NUHOMS. However, it is the subject of a separate NRC review as part of a site-specific licensing application. Both the Standardized NUHOMS and the MP–187 share many common design features. However, they are separate applications, and the NRC has not been asked by the cask vendor to review whether the Standardized NUHOMS can be transported in the NUHOMS MP187 transportation overpack.

The issue of whether a utility should consider the transportability of dry storage casks is beyond the scope of this rulemaking.

I.4. *Comment.* One commenter cited a report given at the HLW Conference at Las Vegas, in 1990, "Integrated Spent Fuel Storage and Transportation Systems using NUHOMS," by PNFSI (page 671): "While subsequent transfer of an intact DSC from a NUHOMS on-site transfer cask directly to an OCRWM rail/barge is feasible, this method of transfer is not preferred since the assemblies would be oriented top down and the DSC bottom shield plug and grapple ring assembly would be orientated top up, thus complicating the canister opening and fuel handling process at the MRS or geologic repository following shipment." Has NRC evaluated this situation? Has it been rectified?

Response. Because the cask vendor applied for certification of the Standardized NUHOMS only as a storage cask under 10 CFR Part 72, transportation of this cask is not a subject of this rulemaking. Therefore, the NRC review of the standardized NUHOMS did not consider the particular transportation problem described in the comment.

J. Several commenters supported the rule stating that it is beneficial to the NRC and licensees, and it is consistent with NRC's direction to avoid unnecessary site-specific licensing reviews. Others disagreed and asked specific questions about NRC's approval and oversight process.

J.1. *Comment.* One commenter stated that the NRC statement, "The proposed rule will not have adverse effect on public health and safety," cannot be guaranteed and, therefore, even though it may be convenient for the nuclear industry and the NRC to avoid site-specific approvals, in this case these are essential for maintaining public safety Another commenter following the same

theme questioned how the following determination was made: "this cask, when used in accordance with the conditions specified in the Certificate of Compliance and NRC regulations, will meet the requirements of 10 CFR Part 72; thus, adequate protection of the public health and safety would be ensured."

Response. Dry storage casks approved by the NRC for use under the general license are of a robust design that relies on generic cask features to ensure protection of the public health and safety. Additional NRC site-specific approvals are unnecessary. NRC oversight and inspections are sufficient to ensure that general licensees implement NRC conditions on cask use. If specific concerns are raised, the NRC also has the authority to look into them and respond as necessary to protect public health and safety. The NRC has established specific requirements in 10 CFR Part 72 that must be met in order to obtain a Certificate of Compliance for a cask. The details of the review and the bases for the NRC concluding that the cask meets the requirements of 10 CFR Part 72 are provided in the SER. The goal of dry cask storage technology is to store spent fuel safely. That goal, and the effectiveness of the technology, have been demonstrated empirically and experimentally. Different cask designs may require different types of analysis to demonstrate their safety. Therefore, different review methods may be appropriate to reach that conclusion. In each case, the level of review performed is that needed to provide assurance of adequate protection of the public health and safety.

J.2. *Comment.* Several commenters expressed concern over the exemption to 10 CFR 72.234(c) granted to VECTRA to begin transfer cask fabrication (but not use) "to have the necessary equipment available for use by Davis-Besse Nuclear Power Station (DBNPS) in mid-1995, and thus enable DBNPS to maintain complete full-core off-load capability in its spent fuel pool following the refueling outage scheduled for early 1996." One commenter said that seeking public comment and providing comments is an exercise in futility because cask approval seems to be a fait accompli. Another commenter wants no exemptions for fabrication before certification to be allowed, stating that problems have developed when all these exemptions are allowed.

Response. The NRC granted VECTRA's request for an exemption to fabricate the transfer cask before issuance of the Certificate of Compliance under its NRC-approved quality assurance program. NRC's exemption decision made a special effort to clarify that fabrication was entirely at VECTRA's financial risk and did not ensure favorable consideration of VECTRA's application. The NRC's finding, based on the SAR for the Standardized NUHOMS and the NRC's SER, concluded that beginning fabrication before the issuance of the Certificate of Compliance would pose no undue risk to public health and safety. Use of the transfer cask is dependent on satisfactory completion of NRC's certification process.

The NRC staff carefully considers the public comments received in rulemakings to determine whether changes are needed to the proposed rule. As noted elsewhere in this notice, several public comments received in this and other cask-approval rulemakings have resulted in changes to the SER and the Certificate of Compliance. For this reason, the public comments provide useful inputs to the NRC's safety approval process.

J.3. *Comment.* One commenter wanted a Regulatory Guide outlining the requirements of an SAR for cask certification (CSAR). Requirements for a CSAR have not been clarified. Specific criteria for a TR (TSAR) by a vendor for a generic Certificate of Compliance need to be set.

Response. Regulatory Guide 3.61, "Standard Format and Content for a Topical Safety Analysis Report for a Spent Fuel Dry Storage Cask," dated February 1989, provides guidance for the preparation of a TSAR. Regulatory Guide 3.62, "Standard Format and Content for the Safety Analysis Report for Onsite Storage of Spent Fuel Storage Casks," dated February 1989, provides guidance in preparing an SAR locating an ISFSI at a reactor site. Both Regulatory Guides identify similar information that can be potentially useful to prospective applicants for cask certification.

J.4. *Comment.* One commenter wanted to know why Pacific Nuclear divested itself of any ownership or relationship to the VSC design in January 1992. How does this affect proprietary material shared in these two closely related designs? How does it affect their relationship to the DOE MPC system?

Response. The key individual involved in the design and development of the VSC–24, who was also involved in the design and development of the NUHOMS design, left Pacific Nuclear and formed a new company, Pacific Sierra Nuclear, for the commercial manufacture and marketing of the VSC–24 storage system. The NRC has experienced no difficulty obtaining the required safety information, including proprietary information or answers to its questions from either firm, either before or after divestiture. The NRC is not aware of any relationship between the vendors. In addition, the NRC fully reviewed the health and safety aspects of each vendor's cask design independently. The NRC did not rely on any assumed relationship between the two vendors. Concerning their relationship to the DOE MPC system, each vendor has to establish its own relationship with DOE.

J.5. *Comment.* One commenter wanted to know how long any model of NUHOMS has been used and if fuel has been taken out and evaluated. Has the 24P or 52B ever been used anywhere and for how long? If not, this is a test of a new cask at a reactor site.

Response. The NUHOMS–24P is being used at Duke Power Company, Oconee Nuclear Station, under a site-specific license issued January 29, 1990, and at Baltimore Gas and Electric Company, Calvert Cliffs Nuclear Station, under a site-specific license issued November 25, 1992. Monitoring and surveillance of the system is being performed under the conditions of the site-specific license. However, there has been no need for fuel to be removed for evaluation.

The NUHOMS–52B has not been used yet. Pre-operational testing of the first cask system put in place under the general license is to be performed in accordance with Certificate of Compliance, Attachment A, "Conditions for Systems Use." Monitoring and surveillance of the system will be performed under the conditions of the Certificate of Compliance.

The first use of the Standardized NUHOMS–52B will not place plant workers, the public, or the environment at risk. Conditions of use for the Standardized NUHOMS–52B ensure adequate safety of the workers, the public, and the environment. The Standardized NUHOMS–52B has been designed and will be fabricated to well established criteria of the ASME B&PV and ACI codes. It uses construction materials that have well known and documented properties to provide the necessary structural strength and radiation shielding to meet regulatory requirements. While the Standardized NUHOMS–52B is not identical to the NUHOMS–24P, many parallels in design and function can be drawn to demonstrate that the Standardized NUHOMS–52B will perform as intended.

J.6. *Comment.* One commenter stated that even though dry cask storage passes

all NRC rules and is one of the least expensive methods, it would seem that a different location or more expensive storage method is worth lives, resources, and property.

Response. Based on numerous NRC reviews and growing experience with dry cask storage technologies, the NRC has concluded that spent fuel can be safely stored in dry casks without significant risk to the public health and safety. More expensive storage techniques or alternative storage locations would not provide any significant additional public protection. Further, the storage location is a matter of Congressional policy as reflected in Section 218(a) of the Nuclear Waste Policy Act of 1982, which includes the following directive: "The Secretary [of DOE] shall establish a demonstration program in cooperation with the private sector, for the dry storage of spent nuclear fuel at civilian nuclear power reactor sites, with the objective of establishing one or more technologies that the [Nuclear Regulatory] Commission may, by rule, approve for use at the sites of civilian nuclear power reactors without, to the maximum extent practicable, the need for additional site-specific approvals by the Commission." Section III(a) also finds that the generators of the spent fuel have the primary responsibility to provide for the interim storage of the spent fuel until it is accepted by the DOE.

The type of spent fuel stored in the dry cask storage systems is one factor that allows the cost of the systems to be lower. Because the fuel has cooled a number of years, passive cooling can be used rather than active cooling as is required for fuel just removed from the reactor. Passive cooling reduces the cost by not having active components such as pumps, heat exchanger, water filters, and the maintenance required for these components.

J.7 *Comment.* One commenter opposed licensing any dry cask storage system other than the DOE multi-purpose canister (MPC) because it minimizes handling individual fuel assemblies, standardizes compatibility between storage sites and DOE, and reduces cost. Multiple cask designs lead to less expertise in production, operation, and accident management. Federal regulations need to be amended to mandate only the use of the MPC.

Response. The DOE MPC system will not be available for general use until well after 1997. In the meantime, additional storage capacity is needed now at several reactor sites. Once the MPC is available for general use, most utilities might use it. However, given the demonstrated and immediate need of some reactors for an additional storage capacity, and given NRC's responsibility to implement dry cask storage under a general license pursuant to NWPA of 1982, it would not be prudent for NRC now to require use of MPC designs that not even DOE has yet approved.

The NRC does not agree that the number of cask designs has a significant effect on the level of expertise available because standard engineering and scientific skills such as mechanical and civil engineers and health safety specialists can be hired as needed.

K. Several commenters had concerns about decommissioning issues.

K.1. *Comment.* One commenter, citing the draft SER, stated that decommissioning and decontamination of reactors and reactor sites remain uncertain at best. "At this time, it is not known whether demolition and removal of the HSM can be performed by conventional methods * * *. The reinforced structure of the HSM, for example, will require considerable effort to demolish." The commenter continues by indicating that in its typical fashion of putting off until tomorrow what it cannot deal with today, the NRC considers "ease of decommissioning (a) secondary consideration."

Response. The demolition of the HSM will be more difficult than a typical building because of the large amount of reinforced steel it contains. However, it is technically feasible and represents a likely level of effort similar to that required to demolish a bank vault. Bank vaults are routinely demolished without extraordinary effort. The HSM may become slightly radioactive from being exposed to a neutron radiation field during the spent fuel storage period, which would require some containment during demolition to prevent the spread of contamination. Recognizing this, the NRC considers decommissioning a secondary consideration compared to the safety afforded by storage of spent fuel in dry casks.

K.2. *Comment.* One commenter questioned how, where to, and when the spent fuel and casks will go? How does the decommissioning of NUHOMS affect the reactor decommissioning plan if no repository is sited and the pool must remain open? Another commenter expressed concern that after the operating facility has been decommissioned, the spent fuel pool may not be available for use in recovery of a breached DSC.

Response. The Commission determined in the Waste Confidence decisions that sufficient repository capacity will be available, in the first quarter of the 21st century, to accept spent fuel that is already in storage or that will be generated during the lifetime of the reactor licensed by NRC. In addition, the Commission determined that spent fuel can be safely stored at reactors until it is disposed. The bases for these determinations are extensively discussed in the Waste Confidence decisions (54 FR 39765; September 28, 1989 and 49 FR 34658; August 31, 1984) and remain applicable today.

To operate the dry spent fuel storage area under the provisions of the general license, a license to possess or operate a nuclear power reactor under 10 CFR Part 50 is required. If the reactors were decommissioned and the license terminated, and if the spent fuel were to remain on site, a specific license issued under 10 CFR 72.40 would be required. At the time of application for a specific license and before the Part 50 license was terminated, the licensee would have to address the subject of how the fuel will be repackaged for shipment to an MRS or repository. (None of the casks now listed in 10 CFR 72.214 are approved for transportation). Decommissioning and termination of a Part 50 license for a given reactor site must take into account the proper disposal of any spent fuel.

L. A number of positive and negative comments were received about the application of 10 CFR 72.48 or Item 9 of the Certificate of Compliance to general licensees.

L.1. *Comment.* Several commenters questioned the application of 10 CFR 72.48 to Certificate of Compliance holders for use by a general licensee. Some commenters believe that this regulation is being inappropriately applied to general licensees and cask vendors. These commenters believe that the regulation was intended to apply to site-specific licenses issued under 10 CFR 72.40 only. One commenter cited the parallel application of 10 CFR 50.59 to 10 CFR Part 50 licensees. Any changes to the Certificate of Compliance and the supporting SAR and SER need public input using the rulemaking process. Who would make the decisions in using the terms "unreviewed safety questions," "significant increase," and "significant environmental impact"? Other commenters liked this addition, stating that non-safety-significant changes can be made in a timely and cost effective manner. Several commenters supported the incorporation of item number 9 (in 72.48 type language) in the draft Certificate of Compliance. One commenter wanted similar provisions made for general license holders with recordkeeping requirements applicable to the general license rather than the

certificate holder. Changes requiring an amendment to the certificate should be initiated by the certificate holder only.

Response. The NRC will not allow changes in the Certificate of Compliance under 10 CFR 72.48. However, the general licensee may make changes in the SAR under 10 CFR 72.48, unless it involves an unreviewed safety question, a significant increase in occupational exposure, or a significant unreviewed environmental impact. The general licensee must make the determinations, in the first instance, that are necessary for application of 10 CFR 72.48. The licensee must also retain its evaluations on its records (which are subject to NRC review).

Supporting this application of 10 CFR 72.48 to the general license are the words of 10 CFR 72.48(a)(1) which provides as follows: "The holder of a license issued under this part may: (i) Make changes in the ISFSI * * * described in the Safety Analysis Report, * * * (iii) * * * without prior Commission approval, unless the proposed change, test or experiment involves a change in the license conditions incorporated in the license, an unreviewed safety question, a significant increase in occupational exposure, or a significant unreviewed environmental impact." Also supporting the interpretation is 10 CFR 72.210 which provides as follows: "A general license is hereby issued for the storage of spent fuel in an independent spent fuel storage installation at power reactor sites to persons authorized to possess or operate nuclear power reactors under Part 50 of this chapter." The NRC staff is considering a rulemaking to amend NRC regulations to explicitly state that 10 CFR 72.48 applies to general licensees.

L.2. *Comment.* One commenter stated that the CFR is silent on how a vendor can change a cask SAR and certificate after the final rule. It should be made clear for the vendor that this cask SAR (CSAR) is generic for all United States sites. All seismic, control component, distance, changes in length and weight, changes in transfer devices, etc., need to be clearly defined in the proposed rulemaking for the cask and the CSAR before public comment. Who would be liable if a utility requested the vendor to change a certified cask design?

Response. The cask vendor can apply to the NRC for a change to the cask certificate and SAR after the final rule is published in the **Federal Register**. The vendor must propose the generic revisions to the certificate and SAR and request NRC review of the proposed revision. The NRC will evaluate the proposed revision in an SER, and if appropriate, prepare a draft revised Certificate of Compliance. These documents would then be placed in the NRC Public Document Room and a proposed rule would be published requesting public comments on the proposed revised Certificate of Compliance. After consideration of public comments (and assuming an appropriate basis exists), a final rule would be published incorporating the revision in the revised Certificate of Compliance.

The SAR (CSAR) is not necessarily generic for all United States operating reactor sites as the comment appears to suggest. The SAR is pertinent for those sites that have parameters that are incorporated by the cask design bases analyzed in the SAR. From a practical standpoint, it is difficult for a cask vendor to foresee all possible combinations of seismic, control component, distance, changes in length and weight, changes in transfer devices, etc. Revisions are expected when the vendor submits its initial application for approval. The vendor is responsible for the certified cask design.

L.3. *Comment.* One commenter wanted an explanation for not allowing buyer substitution of material for a Certificate of Compliance and that these references should be deleted from fabrication specifications and drawings. Does this mean that no changes in any materials are allowed once the design is certified? If so, explain this in reference to new models of the VSC–24 as far as materials, coatings, etc.?

Response. Under 10 CFR Part 72, the licensee is permitted to make changes in the ISFSI as described in the SAR provided the changes do not involve an unreviewed safety question. The licensee and cask certificate holder must have a quality assurance (QA) program that provides control over activities affecting quality of the identified structures, systems, and components to an extent commensurate with the importance to safety and to ensure conformance with the approved design. The NRC does not want buyers (who may not be the licensee or certificate holder) of cask materials to automatically be able to substitute material without the necessary safety evaluations. Rather, the licensee, through the cask certificate holder, has the ultimate responsibility for approving any changes to ensure conformance with the approved design. For structures, systems, and components identified as important to safety, if alternative materials are desired to be used and those specific materials form the basis of the safety evaluation, it would be appropriate to identify those materials in the cask application. Alternatively, the certificate holder may seek an amendment to the SAR and, if necessary, a change to the Certificate of Compliance. For other structures, systems, or components that are needed for the design to be used or are otherwise prudent, but do not perform a safety function and were not relied upon in the basis for design approval, appropriate changes may be permitted provided the licensee and the Certificate of Compliance holder document the appropriate evaluations and use their quality assurance programs to implement the change. New models of the VSC–24 casks are not the subject of this rulemaking.

L.4. *Comment.* One commenter questioned how the draft Environmental Assessment and Finding of No Significant Impact would remain valid if changes to cask design and procedures can be made. Tests or experiments could be conducted under draft Certificate of Compliance Item No. 9 (see also 10 CFR 72.48) leading to the use of a cask that does not meet the conditions specified in the Certificate of Compliance. These changes may adversely impact site-specific public health, safety, and the environment.

Response. Given the limiting criteria of 10 CFR 72.48, it is unlikely that any change would materially change the environmental analysis. The licensee's authority under 10 CFR 72.48 does not permit any changes that involve unresolved safety issues, changes to the conditions for cask use in the Certificate of Compliance, significant increase in occupational exposure, or significant environmental impact. In the Environmental Assessment supporting this rulemaking to approve the Standardized NUHOMS, the NRC staff evaluated various types of accidents that could happen to the ISFSI facility. The NRC staff's evaluation encompassed design basis accidents and concluded that no radioactive material will be released to the environment. The NRC staff also evaluated a worst-case accident and found that the environmental impact is insignificant. Therefore, it is unlikely that the potential impact from changes to cask design or tests or experiments under the control of the licensee would introduce new environmental considerations or impacts that differ from or exceed those as analyzed in the Environmental Assessment. Changes in environmental impacts, as a result of changes to the cask design or procedures, must be evaluated by the licensee. The licensee's evaluations are available for inspection by the NRC.

M. A number of technical clarifications and editorial issues were raised.

M.1. *Comment.* One commenter stated that both the SAR and SER on which the Certificate of Compliance is based should be dated, as was the case for the VSC–24 Certificate of Compliance. If not, the public will be commenting on an unfinished document that can be endlessly revised.

Response. Both the draft SER and the SAR are dated November 1993. These documents were revised based on public comments.

M.2. *Comment.* One commenter wanted page one of the Certificate of Compliance revised to change the name "Pacific Nuclear" to "VECTRA".

Response. The Certificate of Compliance has been revised to reflect this.

M.3. *Comment.* One commenter pointed out a typographical error on page A–19 of the draft Certificate of Compliance. In the Basis paragraph, the sentence starting, "Acceptable damage may occur * * *" should read "Unacceptable damage may occur * * *"

Response. The Certificate of Compliance has been revised to correct this.

M.4. *Comment.* One commenter requested clarification of Technical Specification 1.2.16 on page A–25 of the draft Certificate of Compliance, as to whether the Yearly Average Ambient Temperature is a surveillance requirement or an action statement. It is unclear what action should be taken if either of the two specified limits (Yearly average temperature <70 °F or average daily ambient temperature <100 °F) is exceeded.

Response. The Yearly Average Ambient Temperature specification is a site-specific parameter that the user must verify in accordance with the requirement of 10 CFR 72.212(b)(3) in order to use the system under the general license. There is no surveillance requirement or further action to be taken.

Certificate of Compliance Section 1.1.1, "Regulatory Requirements for General License," also includes verification of some of the same site-specific temperature parameters and has been amended to include the 100 °F or less average daily ambient temperature parameter. Therefore, this specification mentioned in the comment (draft Certificate of Compliance Section 1.2.16) was deleted.

M.5. *Comment* Apparently in reference to a December 4, 1991, letter from PNFSI that stated "The NUHOMS Certification Safety Analysis Report (CSAR) was * * *," one commenter believed that the use of the term CSAR was a good idea and should have been used by the NRC. The utility SAR should be called SAR as it was and the vendor SAR should be called CSAR just as NUHOMS did in 1990. Also, the acronyms topical report (TR), TSAR, and SAR are being used interchangeably and they need clear definition. This would eliminate confusion on the issue by those involved.

Response The NRC staff generally agrees with the comment. However, the required documents that form the basis of the NRC staff's safety review are clearly identified in the SER and Certificate of Compliance.

M.6. *Comment.* One commenter wanted the term "certificate holder" eliminated because it is ambiguous and misleading.

Response. The term "certificate holder" has been changed to "holder of a Certificate of Compliance" to be consistent with the regulations.

M.7. *Comment.* One commenter wanted the draft Certificate of Compliance clarified as to who is responsible for the use of seismic restraints at each reactor site, the vendor or the utility, citing the ambiguous term "certificate holder."

Response. The utility is responsible for determining the need for seismic restraints in the spent fuel building based on seismic conditions at the site (Certificate of Compliance, Section 1.2.17).

M.8. *Comment.* Several commenters stated that the limits on both neutron and gamma emission rates as well as neutron and gamma spectra (Attachment A, Section 1.2.1 of draft Certificate of Compliance) result in excluding some fuel assemblies that would actually produce lower dose rates. The problem for fuel qualification stems from the fact that the neutron dose rate does not decrease as rapidly as the gamma dose rate during cooling because of the longer lived isotopes. Thus, a high burned fuel assembly excluded on the basis of high neutron source term may remain excluded, even though with extra cooling time the combined neutron/gamma dose rate could be less than the design basis case. Some fuel may not qualify because it exceeds the spectra requirements, even though the energy groups exceeding the limits may not be significant contributors to the dose rates. Combined neutron/gamma dose rates are the real concern; it is recommended that the limits on source term be replaced by limits based on dose equivalence. The fuel specification should allow other combinations of fuel enrichment, burnup, and cooling time that would not result in exceeding the fuel cladding temperature or dose rates.

Response. The NRC staff agrees that alternative fuel specifications could be beneficial. However, this commenter did not provide a specific alternative, and the NRC staff has not evaluated any other alternative at this time because VECTRA did not include this approach in the SAR. Therefore, no other approach is considered for this rulemaking.

M.9. *Comment.* One commenter suggested wording changes to the draft Certificate of Compliance in Attachment A, Section 1.2.6, Action b, as follows: "Visually inspect placement of top shield plug. Re-install or adjust position of top shield plug if it is not properly seated." The commenter also proposed wording changes to Action c of the same section as follows: "Install additional temporary shielding or implement other ALARA actions, as appropriate."

Response. The NRC staff agrees with the first comment and has added the suggested words to the Certificate of Compliance, Section A.1.2.6, Action b. It is not necessary to change Action c because 10 CFR Part 20 ALARA already applies to these activities.

M.10. *Comment.* One commenter wanted draft Certificate of Compliance, Attachment A, Section 1.2.6, Action d deleted. The user should be permitted to analyze and document higher dose rates under 10 CFR 72.48, which is available for NRC review. Another commenter wanted the complete Section 1.2.6 of Attachment A to the draft Certificate of Compliance deleted. Given that HSM dose rates are specified, a specification for DSC dose rates is not necessary because only the workers involved in the canister closure operations are affected by them and they are already covered by the reactor radiation protection program. One commenter wanted draft Certificate of Compliance, Attachment A, Section 1.2.11 deleted. Given that HSM dose rates are specified, a specification for transfer cask dose rates is not necessary because only the workers involved are affected, not the general public. The commenter also stated that if Section 1.2.11 cannot be deleted the action statement should be revised to read as follows: "If specified dose rates are exceeded, place temporary shielding around the affected areas of the transfer cask or implement other ALARA actions, as appropriate. Review the plant records of the fuel assemblies which have been placed in the DSC to ensure they conform to the fuel specifications of Section 1.2.1. The report to the NRC should be deleted with the user being able to analyze and

document the higher dose rates under 10 CFR 72.48, which is available for NRC review."

Response. The dose rate limits are for design purposes. The dose rate is limited to ensure that the DSC has not inadvertently been loaded with fuel not meeting the vendor/applicant spent fuel specifications. The NRC will require reporting if the specified dose limits are exceeded. For these reasons, the NRC will not grant the above requests.

M.11. *Comment.* One commenter stated that the requirement for a dissolved boron concentration in the DSC of 2000 ppm is in excess of the 1810 ppm site-specific license. The 1810 ppm dissolved boron is sufficient to ensure reactivity below 0.95 K-eff (95/95 tolerance level with uncertainties) assuming 24 fresh fuel assemblies. For the unlikely worst case with water density of 0.2 to 0.7 gm/cc (a condition not achievable for fresh fuel), reactivity remains below 0.98 K-eff. The pool dissolved-boron verification- measurement frequency should be changed from not to exceed 48 hours to once per month to be consistent with 10 CFR Part 50 requirements.

Another commenter stated that the NUHOMS–24P canister was designed using burnup credit, the basis for licensing is "credit for soluble boron." The burnup-enrichment curve requirement (Figure 1–1, draft Certificate of Compliance) should be removed until the NRC accepts burnup credit and the pool boron specification (Section 1.2.15, draft Certificate of Compliance) is removed.

The NRC has not yet approved the use of burnup credit in criticality analyses for spent fuel storage and transportation casks. The applicant did, however, analyze credit for burnup as an alternative design acceptance basis for the NUHOMS–24P DSC, pending further consideration of burnup credit by NRC. As discussed in the SER, the NUHOMS–24P DSC criticality safety is approved based on, among others, the key assumptions of loading with irradiated fuel assemblies with equivalent enrichment <1.45 wt% U–235, misloading unirradiated fuel with maximum enrichment of 4.0 wt% U–235, and soluble boron in water for wet loading and unloading. The NRC considered the use of the burnup-enrichment curve, Certificate of Compliance, Figure 1–1, as a fuel selection criteria, to be prudent. Its use adds additional unanalyzed conservatism in the criticality safety margin. It is comparable to previous NUHOMS–24P approvals. Its use would also be consistent with the requirement that storage cask designs be, to the extent practicable, compatible with removal of the stored spent fuel from the reactor site, transportation, and ultimate disposition by DOE. Therefore, the NRC disagreed with the commenter's request to allow Standardized NUHOMS–24P users the option of using these burnup-enrichment curve.

Response. The comment appears to refer to the use of a NUHOMS 24P associated with a site-specific license. The "standardized NUHOMS 24P and 52B" are the subject of this general rulemaking and should not be confused with a site license. The SER for this rulemaking is clear about conditions for use, i.e., 2000 ppm boron concentration is required to ensure that the k_{eff} remains below 0.95. The SAR for this rulemaking does not request, nor does the SER grant, exemption from the requirement of $k_{eff} = 0.95$ for all accident conditions, including misloading of 24 unirradiated fuel assemblies and optimum moderation density.

The NRC has not yet approved the use of burnup credit in criticality analyses for spent fuel storage and transportation casks. The applicant did, however, analyze credit for burnup as an alternative design acceptance basis for the NUHOMS–24P DSC, pending future acceptance of burnup credit by NRC. As discussed in the SER, the NUHOMS–24P DSC criticality safety is approved based on, among other assumptions, the key assumptions of loading with irradiated fuel assemblies with equivalent enrichment <1.45 wt% U-235, misloading unirradiated fuel with maximum enrichment of 4.0 wt% U-235, and soluble boron in water for wet loading and unloading. The NRC still considers the use of the burnup-enrichment curve, Certificate of Compliance Figure 1–1, as a fuel selection criteria, to be prudent. Its use adds additional unanalyzed conservatism in the criticality safety margin. It is comparable to previous NUHOMS–24P approvals. Its use would also be consistent with the requirement that storage cask designs be, to the extent practicable, compatible with removal of the stored spent fuel from the reactor site, transportation, and ultimate disposition by DOE. Therefore, the NRC disagrees with the commenters request to allow Standardized NUHOMS–24P users the option of using the burnup-enrichment curve.

M.12. *Comment.* Several commenters stated that the listing of specific fuel types in the draft Certificate of Compliance is overly restrictive. Allowance should be made for very similar fuel types or a "fuel qualification table" as proposed by the vendor should replace the listing.

Response. The NRC agrees that allowance should be made for very similar types of fuel to be stored. The Certificate of Compliance provides this flexibility. The "fuel qualification table" consideration at this time is not subject to this rulemaking.

M.13. *Comment.* One commenter citing the first paragraph of page A–27 of the draft Certificate of Compliance states that the postulated adiabatic heatup would result in concrete temperatures being exceeded in approximately 40 hours. As a result, it is appropriate and conservative to perform the visual surveillance to verify no vent blockage on a daily basis to ensure that a blockage existed for less than 40 hours. The last sentence in the first paragraph should reflect that the module needs to be removed from service if it cannot be established that the blockage is less than 40 hours, not 24 hours. A 24-hour surveillance interval will adequately verify this. One commenter cited an inconsistency in Section 3 of the draft Certificate of Compliance. Section 3.1 indicates that a module must be removed from service if a vent blockage is in existence for longer than 24 hours. Surveillance Section 1.3.2 indicates that a module must be removed from service if the concrete accident temperature criterion has been exceeded for more than 24 hours. A vent blockage of less than 24 hours would not cause the temperature limit to be exceeded, as explained in Section 1.3 and the objective for the 24-hour frequency required by surveillance 1.3.1. The apparent conflict between Section 1.3 and the action for Surveillance Requirement 1.3.2 should be resolved. It appears that Surveillance Requirement 1.3.2 actions are appropriate.

Response. The Certificate of Compliance has been clarified to reflect the comment.

M.14. *Comment.* One commenter stated that Section 1.2.14 to Attachment A of the draft Certificate of Compliance is unnecessary because the time to transfer the DSC from the transfer cask to the HSM would normally require less than 8 hours. During this time, even with temperatures above 100 °F without the solar shield, any increase in fuel clad temperature and neutron shield temperature would be small and therefore not detrimental. Additionally the transfer cask is open to the atmosphere and would not pressurize.

Response The vendor, VECTRA, has proposed this limiting condition of operation in lieu of showing what

detrimental effect might occur on the cladding or neutron shield, should the ambient conditions involve temperatures above 100 °F. The NRC concurs with this condition as cited in Attachment A, Section 1.2.14 of the Certificate of Compliance.

N. Several commenters raised safeguards/sabotage issues.

N.1. *Comment.* One commenter cited the World Trade Center bombing and the ease with which a disturbed individual recently breached security and remained undetected at a U.S. reactor. Explosive technology has become very sophisticated in the last 15 years since the NRC and Sandia Laboratories studied the effect of sabotage on shipping casks in the March 1979, NUREG–0459, "Generic Adversary Characteristics Summary Report." Another commenter made reference to an experiment with balloons which failed. Yet another commenter questioned the degree of protection in the spent fuel pool versus dry cask storage. Will the cask be in a vital area? Will safeguards be reviewed as part of the security plan? What is the effect on the security of these casks?

Response. The NRC reviewed potential issues related to possible radiological sabotage of storage casks at reactor site ISFSIs in the 1990 rulemaking that added Subparts K and L to 10 CFR Part 72 (55 FR 29181; July 18, 1990). NRC regulations in 10 CFR Part 72 establish physical protection and security requirements for an ISFSI located within the owner controlled area of a licensed power reactor site. Spent fuel in the ISFSI is required by 10 CFR 72.212(b)(5) to be protected against the design basis threat for radiological sabotage using provisions and requirements as specified in 72.212(b)(5). Each utility licensed to have an ISFSI at its reactor site is required to develop security plans and install a security system that provides high assurance against unauthorized activities that could constitute an unreasonable risk to the public health and safety. The security systems at an ISFSI and its associated reactor are similar in design features to ensure the detection and assessment of unauthorized activities. Alarm annunciations at the ISFSI are monitored by the security alarm stations at the reactor site. Response to intrusion is required. Each ISFSI is periodically inspected by NRC and annually audited by the licensee to ensure that the security systems are operating within their design limits. The validity of the threat is continually reviewed, with a formal evaluation every six months by the NRC.

The NRC is currently conducting a study into the consequences of a vehicle bomb detonated in the vicinity of an ISFSI. Following completion of this study the NRC will make a determination as to whether additional physical protection is warranted. In the interim, the NRC staff believes that the inherent nature of the fuel, along with the degree of protection provided by the approved storage means for spent fuel, provides adequate protection against a vehicle bomb.

N.2. *Comment.* One commenter wanted the emergency plan updated to include initiating events caused by unnatural occurrences, such as sabotage, particularly for this fuel storage option. The commenter believes that the NRC should determine if upgraded or new security barriers are necessary for the David-Besse site.

Response. Under 10 CFR 72.212 requirements, each general licensee must protect the spent fuel against the design basis threat of radiological sabotage. Also, 10 CFR 72.212 requires each general licensee to review the reactor emergency plan to determine whether its effectiveness is decreased, and if so, to prepare the necessary changes and obtain the necessary approvals. Therefore, the comment is already essentially incorporated into NRC regulations.

O. Several commenters had fabrication, quality assurance, and inspection concerns.

O.1. *Comment.* One commenter raised questions about NRC oversight and requirements for proper cask fabrication by licensees. This is based on tests of the faulty welds at the Palisades plant conducted in July 1994 just before the cask was filled, but the test was not reviewed.

Response The ultimate responsibility to ensure proper cask fabrication belongs to the user of the cask. Each Part 50 licensee (general licensee) must have its own quality assurance (QA) program in place to oversee vendor activities. The QA requirements apply to design, purchase, fabrication, handling, inspection, testing, operation, maintenance, repair, modifications of structures, systems and components, and decommissioning that are important to safety. In addition, certified cask vendors have NRC-approved QA programs that control the implementation of these quality activities in a manner appropriate to the safety significance of these activities. In turn, the general licensee reviews, approves, and oversees its vendor's QA programs and activities. The NRC inspects both the general licensee and the subtiered vendors for compliance with the respective QA program requirements and for the adequacy of the activities performed.

The faulty welds at Palisades in a loaded cask happened because the radiographs were not read initially. If the radiographs were read in a timely manner, the cask should not have been loaded without corrective action first being taken. NRC oversight and involvement in the process contributed to timely detection of the defective cask weld.

O.2. *Comment.* One commenter wants clarification of the quality assurance program. NRC should have a regulatory guide for vendors with strong criteria for audits and subcontractors, and NRC inspection reports of fabricating facilities need to be put in the PDR. How will a subcontractor of NUHOMS vendor be checked by NRC in the future? If a vendor is going to continuously change subcontractors, the NRC should inspect each cask and carefully inspect the vendor QA manual.

Response. Chapters 11 or 13 of Regulatory Guides 3.62 and 3.61, respectively, provide guidance on acceptable quality assurance programs. These chapters state that a QA program meeting the requirements of Appendix B of 10 CFR Part 50 or Subpart G of 10 CFR Part 72 will be accepted by NRC. Both Parts 50 and 72 require an audit program. An NRC Branch Technical Position titled "Quality Assurance Programs for an Independent Spent Fuel Storage Installation (ISFSI) 10 CFR 72," implements the NRC review of quality assurance programs submitted by applicants. NRC inspection reports are routinely placed in the PDR except for reports containing sensitive information. Inspection reports of NUHOMS fabrication are available in the PDR.

O.3. *Comment.* One commenter wanted to know if any nonconformances have been discovered in inspection reports of any fabrication of the NUHOMS canister If so, what? How was this resolved? How has the QA program for NUHOMS been reviewed? Is there a manual? How will contractors and subcontractors be checked?

Response. A notice of nonconformance is documented in NRC Inspection Report No. 721004/93–07 dated August 23, 1993. The NRC staff conducted inspections in three phases at Duke Power Company, its contractor (Pacific Nuclear Fuel Services, Inc.) and subcontractor (Rancor, Inc.), concerning the QA activities with regard to the NUHOMS–24P dry spent fuel storage canisters. The NRC staff found that implementation of Duke Power

Company QA Program was satisfactory, in general. However, certain NRC requirements under Subpart G of 10 CFR Part 72 were not met. QA activities cited in the inspection report were documentation of nonconforming materials, parts, or components; quality assurance records; control of purchased material, equipment, and services; control of measuring and test equipment; instructions, procedures, and drawings; licensee inspection; and audits. Nonconformance corrective actions were taken and documented by Duke Power Company. The NRC staff found these corrective actions acceptable and so stated in letters dated January 13, 1994, and April 4, 1994. The corrective actions taken and the implementation of the QA Program are reviewed in periodic inspections by the NRC staff.

The latest version of the QA manual is "VECTRA Technologies, Inc., Quality Assurance Manual," Revision 1, transmitted July 25, 1994, which reflects the corporation's new name and organization and includes additional changes to update the manual and clarify QA recordkeeping commitments. The NRC staff found Revision 1 acceptable and so stated in its letter dated August 23, 1994. In its review, the NRC staff compared Revision 1 of the VECTRA QA Manual with Revision 3, Edition 2, of the PNSI QA manual, which the NRC staff found acceptable by letter dated January 28, 1993.

Contractors and subcontractors of cask vendors (or licensees) are subject to periodic QA inspections performed by the NRC staff.

O.4. *Comment.* One commenter wanted to know if there is a possible problem, and if there was, how it was resolved, with a material defect in Swagelok tube fittings for NUHOMS?

Response. The NRC is not aware of any material defect problem with Swagelok tube fittings on NUHOMS designs. There is no reliance on the Swagelok fittings as part of the confinement boundary for the NUHOMS canister. The fittings are covered by a metal plate that is welded on after the canister is vacuum dried. Therefore, if there is a failure in the fitting it would be the responsibility of the licensee to repair or replace it so that the DSC can be loaded properly, but its failure would not cause a public health and safety concern.

Finding of No Significant Environmental Impact: Availability

The Commission has determined under the National Environmental Policy Act of 1969, as amended, and the Commission's regulations in Subpart A of 10 CFR Part 51, that this rule is not a major Federal action significantly affecting the quality of the human environment and therefore an environmental impact statement is not required. This final rule adds an additional cask to the list of approved spent fuel storage casks that power reactor licensees can use to store spent fuel at reactor sites without additional site-specific approvals from the Commission. The environmental assessment and finding of no significant impact on which this determination is based are available for inspection at the NRC Public Document Room, 2120 L Street NW. (Lower Level), Washington, DC. Single copies of the environmental assessment and finding of no significant impact are available from Mr. Gordon E. Gundersen, Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission, Washington DC, 20555, telephone (301) 415–6195.

Paperwork Reduction Act Statement

This final rule does not contain a new or amended information collection requirement subject to the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.). Existing requirements were approved by the Office of Management and Budget approval number 3150–0132.

Regulatory Analysis

The Commission has prepared a regulatory analysis on this regulation. The analysis examines the costs and benefits of the alternatives considered by the Commission. Interested persons may examine a copy of the regulatory analysis at the NRC Public Document Room, 2120 L Street NW. (Lower Level), Washington, DC. Single copies of the analysis may be obtained from Mr Gordon E. Gundersen, Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission, Washington DC, 20555, telephone (301) 415–6195

Regulatory Flexibility Certification

As required by the Regulatory Flexibility Act of 1980, 5 U.S.C. 605(b), the Commission certifies that this rule does not have a significant economic impact on a substantial number of small entities. This rule affects only licensees owning and operating nuclear power reactors and cask vendors. The owners of nuclear power plants do not fall within the scope of the definition of "small entities" set forth in Section 601(3) of the Regulatory Flexibility Act, 15 U.S.C. 632, or the Small Business Size Standards set out in regulations issued by the Small Business Administration at 13 CFR Part 121

Backfit Analysis

The NRC has determined that the backfit rules 10 CFR 50.109 and 10 CFR 72.62 do not apply to this final rule. A backfit analysis is not required for this final rule because this amendment does not involve any provisions that would impose backfits as defined in 10 CFR 50.109(a)(1) or 72.62(a).

List of Subjects in 10 CFR Part 72

Manpower training programs, Nuclear materials, Occupational safety and health, Reporting and recordkeeping requirements, Security measures, Spent fuel.

For the reasons set out in the preamble and under the authority of the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended and 5 U.S.C. 552 and 553 the NRC is adopting the following amendments to 10 CFR Part 72.

PART 72—LICENSING REQUIREMENTS FOR THE INDEPENDENT STORAGE OF SPENT NUCLEAR FUEL AND HIGH-LEVEL RADIOACTIVE WASTE

1. The authority citation for Part 72 continues to read as follows:

Authority: Secs. 51, 53, 57, 62, 63, 65, 69, 81, 161, 182, 183, 184, 186, 187, 189, 68 Stat 929, 930, 932, 933, 934, 935, 948, 953, 954 955, as amended, sec. 234, 83 Stat. 444, as amended (42 U.S.C. 2071, 2073, 2077, 2092 2093, 2095, 2099, 2111, 2201, 2232, 2233, 2234, 2236, 2237, 2238, 2282); sec. 274 Pub L. 86–373, 73 Stat. 688, as amended (42 U.S.C. 2021); sec. 201, as amended, 202, 206 88 Stat 1242, as amended, 1244, 1246, (42 U.S.C. 5841, 5842, 5846); Pub. L. 95–601, sec. 10, 92 Stat 2951 as amended by Pub. L. 102–486, sec. 2902, 106 Stat 3123, (42 U.S.C. 5851); sec 102, Pub. L. 91–190, 83 Stat 853 (42 U.S.C 4332); secs 131, 132, 133, 135, 137, 141, Pub. L. 97–425, 96 Stat. 2229, 2230, 2232, 2241, sec 148, Pub. L. 100–203, 101 Stat 1330–235 (42 U S.C. 10151, 10152, 10153, 10155, 10157 10161, 10168).

Section 72 44(g) also issued under secs 142(b) and 148(c), (d), Pub. L. 100–203, 101 Stat. 1330–232, 1330–236 (42 U S.C. 10162(b), 10168(c), (d)). Section 72.46 also issued under sec 189, 68 Stat. 955 (42 U.S.C 2239); sec 134, Pub. L. 97–425, 96 Stat. 2230 (42 U.S.C 10154). Section 72.96(d) also issued under sec 145(g), Pub. L. 100–203 101 Stat. 1330–235 (42 U.S.C. 10165(g)). Subpart J also issued under secs. 2(2), 2(15), 2(19) 117(a), 141(h), Pub. L. 97–425, 96 Stat. 2202, 2203, 2204, 2222, 2244 (42 U.S.C. 10101, 10137(a), 10161(h) Subparts K and L are also issued under sec. 133, 98 Stat. 2230 (42 U.S.C. 10153) and sec 218(a), 96 Stat. 2252 (42 U.S.C. 10198)

2. In § 72.214, Certificate of Compliance 1004 is added in numerical order to read as follows:

§ 72.214 List of approved spent fuel storage casks.

* * * * *

Certificate Number: 1004
SAR Submitted by: VECTRA Technologies, Inc.
SAR Title: Safety Analysis Report for the Standardized NUHOMS Horizontal Modular Storage System for Irradiated Nuclear Fuel, Revision 2
Docket Number: 72–1004
Certification Expiration Date: (20 years after final rule effective date)
Model Numbers: NUHOMS–24P for Pressurized Water Reactor fuel; NUHOMS–52B for Boiling Water Reactor fuel.

* * * * *

Dated at Rockville, Maryland this 15th day of December, 1994.

For the Nuclear Regulatory Commission.

James M. Taylor,

Executive Director for Operations.

[FR Doc. 94–31307 Filed 12–21–94; 8:45 am]

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FEDERAL RESERVE SYSTEM

12 CFR Parts 208 and 225

[Regulations H and Y; Docket No. R–0795]

Capital; Capital Adequacy Guidelines

AGENCY: Board of Governors of the Federal Reserve System.

ACTION: Final rule.

SUMMARY: The Board of Governors of the Federal Reserve System (Board or Federal Reserve) is revising its capital adequacy guidelines for state member banks and bank holding companies to establish a limitation on the amount of certain deferred tax assets that may be included in (that is, not deducted from) Tier 1 capital for risk-based and leverage capital purposes. The capital rule was developed in response to the Financial Accounting Standards Board's (FASB) issuance of Statement No. 109, "Accounting for Income Taxes" (FAS 109). Under the final rule, deferred tax assets that can only be realized if an institution earns taxable income in the future are limited for regulatory capital purposes to the amount that the institution expects to realize within one year of the quarter-end report date—based on its projection of taxable income—or 10 percent of Tier 1 capital, whichever is less.

EFFECTIVE DATE: April 1, 1995.

FOR FURTHER INFORMATION CONTACT: Charles H. Holm, Project Manager, (202) 452–3502; Nancy J. Rawlings, Senior Financial Analyst, (202) 452–3059, Regulatory Reporting and Accounting Issues Section; Barbara J. Bouchard, Supervisory Financial Analyst, (202) 452–3072, Policy Development Section, Division of Banking Supervision and Regulation, Board of Governors of the Federal Reserve System. For the hearing impaired *only*, Telecommunication Device for the Deaf (TDD), Dorothea Thompson (202) 452–3544.

SUPPLEMENTARY INFORMATION:

I. Background

A Characteristics of Deferred Tax Assets

Deferred tax assets are assets that reflect, for financial reporting purposes, benefits of certain aspects of tax laws and rules. Deferred tax assets may arise because of specific limitations under tax laws of different tax jurisdictions that require that certain net operating losses (e.g., when, for tax purposes, expenses exceed revenues) or tax credits be carried forward if they cannot be used to recover taxes previously paid. These "carryforwards" are realized only if the institution generates sufficient future taxable income during the carryforward period.

Deferred tax assets may also arise from the tax effects of certain events that have been recognized in one period for financial statement purposes but will result in deductible amounts in a future period for tax purposes, i.e., the tax effects of "deductible temporary differences." For example, many depository institutions and bank holding companies may report higher income to taxing authorities than they reflect in their regulatory reports [1] because their loan loss provisions are expensed for reporting purposes but are not deducted for tax purposes until the loans are charged off.

Deferred tax assets arising from an organization's deductible temporary differences may or may not exceed the amount of taxes previously paid that the organization could recover if the organization's temporary differences fully reversed at the report date. Some of these deferred tax assets may theoretically be "carried back" and recovered from taxes previously paid. On the other hand, when deferred tax assets arising from deductible temporary differences exceed such previously paid tax amounts, they will be realized only if there is sufficient future taxable income during the carryforward period. Such deferred tax assets, and deferred tax assets arising from net operating loss and tax credit carryforwards, are hereafter referred to as "deferred tax assets that are dependent upon future taxable income."

B. Summary of FAS 109

In February 1992, the FASB issued Statement No. 109, "*Accounting for Income Taxes*" which supersedes Accounting Principles Board Opinion No. 11 and FASB Statement No. 96. FAS 109 provides guidance on many aspects of accounting for income taxes, including the accounting for deferred tax assets. FAS 109 potentially allows some state member banks and bank holding companies to record significantly higher deferred tax assets than previously permitted under generally accepted accounting principles (GAAP) and the federal banking agencies' prior reporting policies.[2] Unlike the general practice under previous standards, FAS 109 permits the reporting of deferred tax assets that are dependent upon future taxable income. However, FAS 109 requires the establishment of a valuation allowance to reduce the net deferred tax asset to an amount that is more likely than not (i.e., a greater than 50 percent likelihood) to be realized.

FAS 109 became effective for fiscal years beginning on or after December 15, 1992. The adoption of this standard has resulted in the reporting of additional deferred tax assets in Call Reports and FR Y–9C reports that directly increase institutions' undivided profits (retained earnings) and Tier 1 capital.

C. Concerns Regarding Deferred Tax Assets That Are Dependent Upon Future Taxable Income

The Federal Reserve has certain concerns about including in capital deferred tax assets that are dependent upon future taxable income. Realization of such assets depends on whether a banking organization has sufficient future taxable income during the carryforward period. Since a banking organization that is in a net operating loss carryforward position is often experiencing financial difficulties, its prospects for generating sufficient taxable income in the future are uncertain. In addition, the condition of and future prospects for an organization

[1] State member banks are required to file quarterly Consolidated Reports of Condition and Income (Call Reports) with the Federal Reserve. Bank holding companies with total consolidated assets of $150 million or more file quarterly Consolidated Financial Statements for Bank Holding Companies (FR Y–9C reports) with the Federal Reserve

[2] The federal banking agencies consist of the Federal Reserve Board (Board), the Federal Deposit Insurance Corporation (FDIC), the Office of the Comptrolle of the Currency (OCC), and the Office of Thrift Supervision (OTS) (hereafter the "agencies")