

December 1, 1998

FOR: The Commissioners  
 FROM: William D. Travers /s/  
 Executive Director for Operations  
 SUBJECT: PROPOSED RULE -- "CHANGES TO REQUIREMENTS FOR ENVIRONMENTAL REVIEW FOR RENEWAL OF NUCLEAR POWER PLANT OPERATING LICENSES (10 CFR PART 51)"

#### PURPOSE

To request Commission approval to publish in the *Federal Register* a proposed rule to amend environmental protection requirements for license renewal and to release for public comment the supporting draft supplemental generic environmental impact statement.

#### SUMMARY

The rule, "Changes to Requirements for Environmental Review for Renewal of Nuclear Power Plant Operating Licenses," would eliminate from 10 CFR Part 51 the requirement that license renewal applicants address the generic and cumulative environmental impacts associated with transportation in the vicinity of a high-level waste (HLW) repository site and would increase the fuel enrichment level and the burnup rate that are accounted for in the environmental effects of transportation of fuel and waste codified in Part 51. Also, this amendment would add the requirement to address local traffic impacts attributable to continued operation of the plant during the license renewal term. This requirement was inadvertently omitted from the current rule.

#### BACKGROUND

The Commission revised its environmental protection regulations (10 CFR Part 51) for license renewal on December 18, 1996 (61 FR 66537). The amendment was based on the analyses and conclusions reported in NUREG-1437, "Generic Environmental Impact Statement for License Renewal of Nuclear Plants" (May 1996). In response to the comments received on a version of the rule published on June 5, 1996 (61 FR 28467), the Commission made the following statement: "As part of its effort to develop regulatory guidance for this rule, the Commission will consider whether further changes to the rule are desirable to generically address: (1) The issue of cumulative transportation impacts and (2) the implications that the use of higher burn-up fuel have for the conclusions in Table S-4. After consideration of these issues, the Commission will determine whether the issue of transportation impacts should be changed to Category 1."<sup>(1)</sup>

CONTACT: Donald P. Cleary, NRR/DRPM/PGB  
 (301) 415-3903

In SECY-97-279, dated December 3, 1997, the staff informed the Commission that it was the staff's preliminary view that the staff's supplemental analyses of the generic and cumulative impacts of the transportation of HLW and of the implications of higher fuel burnup for transportation impacts supports a reasonable technical and legal determination that transportation of HLW is a Category 1 issue and may be generically adopted in a license renewal application. In a Staff Requirements Memorandum (SRM) dated January 13, 1998, the Commission directed the staff to proceed with rulemaking to amend 10 CFR 51.53(c)(3)(ii)(M) to categorize the impacts of transportation of HLW as a Category 1 issue. In a memorandum dated July 1, 1998, the staff informed the Commission of its plans for amending 10 CFR Part 51.

In that memorandum the staff also proposed, as an administrative amendment to the rule, to add the requirement to include in license renewal reviews the environmental impacts of transportation on local services in the vicinity of the plant during the renewal term. This issue was identified as a Category 2 issue in NUREG-1437, Section 4.7.3.2. However, the issue was inadvertently omitted from 10 CFR 51.53(c)(3)(ii)(J) and its inclusion in Table B-1 is not explicitly stated. This rule would correct that omission.

#### RESOURCES

Resources to conduct this rulemaking are included in the current budget.

#### COORDINATION

The Office of the General Counsel has no legal objection to this paper. The Office of the Chief Financial Officer has reviewed this Commission Paper for resource implications and has no objection. The Office of the Chief Information Officer has reviewed the rulemaking plan for information technology and information management implications and concurs in it.

#### RECOMMENDATION

That the Commission

1. Approve for publication in the *Federal Register* the proposed amendment to 10 CFR Part 51 ([Attachment 1](#)) and the Notice of Availability ([Attachment 2](#)) of NUREG-1437, Addendum 1 ([Attachment 3 \[Predecisional Draft for Comment\]](#)).
2. In order to satisfy requirements of the Regulatory Flexibility Act, 5 U.S.C. 605(b), certify that this rule, if promulgated, will have no negative economic impact on a substantial number of small entities
3. Note that

- a. The staff has scheduled the rulemaking activities so that the changes to Part 51 will be completed before the scheduled completion of the licensing process for the pending license renewal applications.
- b. The rulemaking would be published in the *Federal Register* for a 60-day public comment period;
- c. A Notice of Availability of NUREG-1437, Addendum 1 would be published in the *Federal Register* for a 60-day public comment period;
- d. After Commission approval to publish and before submittal to the Office of the Federal Register, the staff will submit the draft of NUREG-1437, Addendum 1 to the U.S. Environmental Protection Agency ([EPA](#)) pursuant to Section 309 of the Clean Air Act. The staff will also send copies of the *Federal Register* notices to EPA;
- e. As required by the Regulatory Flexibility Act, the Chief Counsel for Advocacy of the Small Business Administration will be informed of the proposed certification regarding economic impact on small entities and the reasons for it;
- f. This proposed rule would amend information collection requirements that are subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.). This rule has been reviewed by the Office of Management and Budget, and the paperwork requirements were approved on November 10, 1998;
- g. A press release ([Attachment 4](#)) will be issued; and
- h. The appropriate Congressional committees will be informed ([Attachment 5](#)).

William D. Travers  
Executive Director for Operations

Attachments: As stated (5)

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ATTACHMENT 1

[7590-01-P]

NUCLEAR REGULATORY COMMISSION  
10 CFR Part 51  
RIN 3150-AG05

Changes to Requirements for Environmental Review for Renewal of Nuclear  
Power Plant Operating Licenses

AGENCY: Nuclear Regulatory Commission.

ACTION: Proposed Rule.

SUMMARY: The Nuclear Regulatory Commission (NRC) is proposing to amend its regulations on the environmental information required in applications to renew the operating licenses of nuclear power plants. This amendment would expand the generic findings that are currently codified in the regulations to include the cumulative environmental impacts of transporting spent fuel to the proposed repository at Yucca Mountain, Nevada and account for the environmental impacts of transportation attributable to use of higher enriched fuel and higher burnup during the renewal term. This action would reduce the regulatory burden on applicants for license renewal by replacing with a generic review the requirements that these topics be addressed in individual plant renewal reviews. Also, this amendment would add the requirement to address local traffic impacts attributable to continued operation of the plant during the license renewal term. This requirement was inadvertently omitted from the current rule.

DATES: Submit comments by (insert date 60 days after publication in the *Federal Register*). Comments received after this date will be considered if it is practical to consider them, but the Commission is able to ensure consideration only for comments received on or before this date.

ADDRESSES: Comments may be sent to: Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, Attention: Rulemakings and Adjudications Staff, Mail Stop O16-C1.

Deliver comments to: One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852, between 7:30 am and 4:15 pm on Federal workdays.

Copies of comments received may be examined at: NRC Public Document Room, 2120 L Street, NW. (Lower Level), Washington, DC.

You may also submit comments via the NRC's interactive rulemaking website through the NRC home page (<http://www.nrc.gov>). From the home page, select "Rulemaking" from the tool bar. The interactive rulemaking website can then be accessed by selecting "New Rulemaking Website." This site provides the ability to upload comments as files (any format), if your web browser supports that function. For information about the interactive rulemaking website, contact Ms. Carol Gallagher, telephone: 301-415-5905; e-mail: CAG@nrc.gov.

FOR FURTHER INFORMATION CONTACT: Donald P. Cleary, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, telephone: 301-415-3903; e-mail: DPC@nrc.gov.

SUPPLEMENTARY INFORMATION:

- Background

- Proposed Action
- Discussion
  - Introduction
  - Cumulative Impacts in the Vicinity of Yucca Mountain
  - Implications of Higher Burnup Fuel
- Finding of No Significant Environmental Impact: Availability
- Paperwork Reduction Act Statement
- Public Protection Notification
- Regulatory Analysis
- Regulatory Flexibility Act Certification
- Backfit Analysis
- List of Subjects in 10 CFR Part 51
- PART 51--ENVIRONMENTAL PROTECTION REGULATIONS FOR DOMESTIC LICENSING AND RELATED REGULATORY FUNCTIONS
  - 51.53 Postconstruction environmental reports.

## Background

On June 5, 1996 (61 FR 28467), the Commission published in the Federal Register a final rule amending its environmental protection regulations in 10 CFR Part 51 to improve the efficiency of the process of environmental review for applicants seeking to renew a nuclear power plant operating license for up to an additional 20 years. The rulemaking was based on the analyses reported in NUREG-1437, "Generic Environmental Impact Statement for License Renewal of Nuclear Plants" (May 1996). The rulemaking was initiated with the objective of improving the efficiency of the license renewal process drawing on the considerable experience of operating nuclear power reactors to generically assess many of the environmental impacts, to report the analyses and findings in NUREG-1437, and to codify the findings in the Commission's environmental protection regulations so that repetitive reviews of those impacts that are well understood could be avoided. In the statement accompanying the final rule, the Commission stated that before the final rule became effective the Commission was seeking comments on the treatment of low-level waste storage and disposal impacts, the cumulative radiological effects from the uranium fuel cycle, and the effects from the disposal of high-level waste and spent fuel. A number of commenters argued that the requirements for the review of transportation of high-level waste in the rule were unclear with respect to (1) the use and legal status of [10 CFR 51.52](#), "Environmental effects of transportation of fuel and waste--Table S-4," in plant-specific license renewal reviews; (2) the conditions that must be met before an applicant may adopt Table S-4; and (3) the extent to which the generic effects of transporting spent fuel to a high-level waste repository should be considered in a plant-specific license renewal review.

After considering the comments received on the rule, the Commission republished the rule in the Federal Register on December 18, 1996 (61 FR 66537). The rule at 10 CFR 51.53(c)(ii)(M) continued to require, "The environmental effects of transportation of fuel and waste shall be reviewed in accordance with 10 CFR 51.52." However, in accordance with comments received, added to that paragraph was the requirement that:

The review of impacts shall also discuss the generic and cumulative impacts associated with transportation operation in the vicinity of a high-level waste repository site. The candidate site at Yucca Mountain should be used for the purpose of impact analysis as long as that site is under consideration for licensing.

Also in response to the comments, the Commission stated that:

As part of its effort to develop regulatory guidance for this rule, the Commission will consider whether further changes to the rule are desirable to generically address: (1) The issue of cumulative transportation impacts and (2) the implications that the use of higher burn-up fuel have for the conclusions in Table S-4. After consideration of these issues, the Commission will determine whether the issue of transportation impacts should be changed to Category 1. [\(2\)](#)

In SECY-97-279, dated December 3, 1997, the NRC staff informed the Commission that it was the NRC staff's preliminary view that the NRC staff's supplemental analyses of the generic and cumulative impacts of the transportation of HLW and of the implications of higher fuel burnup for transportation impacts support a reasonable technical and legal determination that transportation of HLW is a Category 1 issue and may be generically adopted in a license renewal application. The supplemental analyses are reported in NUREG-1437, Addendum 1, "Generic Environmental Impact Statement for License Renewal of Nuclear Plants: Supplemental Analyses for Cumulative Environmental Impacts of Spent Nuclear Fuel Transport and Implications of Higher Burnup Fuel for the Conclusions in 10 CFR 51.52, 'Environmental Effects of Transportation of Fuel and Waste--Table S-4,' Draft for Comment," December 1998. In a Staff Requirements Memorandum (SRM) dated January 13, 1998, the Commission directed the NRC staff to proceed with rulemaking to amend 10 CFR 51.53(c)(3)(ii)(M) to categorize the impacts of transportation of high-level waste (HLW) as a Category 1 issue. In a memorandum dated July 1, 1998, the NRC staff informed the Commission of its plans for amending 10 CFR Part 51.

In that memorandum the NRC staff also proposed, as an administrative amendment, to add to the rule the requirement to include in license renewal reviews the environmental impacts of transportation on local services in the vicinity of the plant during the renewal term. This issue was identified as a Category 2 issue in NUREG-1437, Section 4.7.3.2 and the overall issue of transportation was designated as Category 2 in the rule (see 10 CFR Part 51, Appendix B, Table B-1, "Public Services, Transportation"). However, the specific issue of impacts on local services during the renewal term was inadvertently omitted from 10 CFR 51.53(c)(3)(ii)(J) and its inclusion in Table B-1 is not explicitly stated. This rule would correct that omission.

## Proposed Action

Addendum 1 alters Section 6.3 and Table 9.1 of NUREG-1437 by supplementing the analysis, amending the findings, and changing the designation from Category 2 to Category 1 for the issue of transportation. These changes to NUREG-1437 would be codified in 10 CFR Part 51 by this rulemaking. Specifically, the requirement for an applicant to "discuss the generic and cumulative impacts associated with transportation operation in the vicinity of a high-level waste repository site" would be removed and the following language would be added:

The environmental impacts presented in Summary Table S-4 of 51.52 may be adopted in individual nuclear power plant license renewal reviews as long as the candidate site at Yucca Mountain is under consideration for licensing. The contribution to impacts of transportation of higher enrichment and higher burnup fuel need be assessed only when the fuel to be used during the license renewal term is enriched to greater than 5 percent uranium-235 or average burnup for the peak rod will be greater than currently approved by the NRC up to 62,000 MWd/MTU. If the applicant anticipates exceeding these values for enrichment or burnup during the renewal term and has received or applied for a license amendment for the values anticipated and an environmental assessment has been prepared by the NRC, which considers transportation of that fuel to and from the reactor, then that environmental assessment may be cited in the renewal application and no further information is required.

An amendment to the rule is also proposed to correct the inadvertent omission of a requirement to consider possible increases in traffic in the vicinity of the plant during the license renewal term. This is a Category 2 issue as found in NUREG-1437.

## Discussion

### INTRODUCTION

The current regulations require applicants for license renewal to review the environmental effects of transportation of fuel and waste in accordance with 10 CFR 51.52, and to discuss the generic and cumulative impacts associated with transportation operation in the vicinity of the candidate high-level waste (HLW) repository site at Yucca Mountain (see

10 CFR 51.53(c)(3)(ii)(M)). However, the NRC staff has now assessed these generic and cumulative impacts. Because only Yucca Mountain has been identified as a potential HLW repository site, this analysis would be applicable to all license renewal applicants. The Commission proposes to codify this analysis. In addition, the NRC staff has generically considered the potential impacts of transporting higher enriched and higher burnup fuel than is currently covered in 10 CFR 51.52 and would codify these findings. Therefore, the Commission proposes to amend the rule to change the issue of transportation of fuel and waste from Category 2 to Category 1.

### CUMULATIVE IMPACTS IN THE VICINITY OF YUCCA MOUNTAIN

The analysis of potential cumulative health risks from radiation exposure and highway accidents associated with spent nuclear fuel transport within Clark County, Nevada is presented in NUREG-1437, Addendum 1.<sup>(3)</sup> For the purposes of this rulemaking to assess the potential impacts of the transportation of spent fuel to a single repository at Yucca Mountain, it is assumed that all spent fuel generated by all commercial power reactors during both their initial 40-year operating license and a renewed operating term of 20 years will be disposed of at Yucca Mountain, a total of up to 126,000 metric ton heavy metal (MTHM).<sup>(4)</sup> Although a portion of the shipments of spent fuel are expected to be by rail, it is assumed that all shipments will be by truck. Truck transport will result in higher population doses than rail transport because of the greater number of shipments required and the proximity of highways to larger populations.

The analysis was designed to be conservative, that is, intentionally structured to overestimate the likely impacts. This approach is used in situations where the impacts are expected to be of little significance to avoid unproductive analytical effort and because it shows that the conclusions are robust.

In Addendum 1, analyses of potential radiation doses were performed using the HIGHWAY routing computer code and the RADTRAN 4 risk assessment computer code. The HIGHWAY code was used to generate population density estimates within 0.8 km [0.5 mile] of the highway routes that would be used for spent fuel transport within Clark County, Nevada. The code uses current and projected demographic data and data on existing and planned highways. Two highway scenarios were analyzed: the current freeway system and the proposed beltway around the city of Las Vegas. Because the beltway is expected to be complete before the year 2005 and because regulations require that spent fuel shipments avoid high population concentrations where possible, analysis of transportation on the route through downtown on the current interstate system yields higher exposure estimated than would actually occur. The RADTRAN 4 code was used to estimate potential radiation doses related to the SNF transport crew and the public from incident-free transport, and to the public from a potential transport accident with radiological releases. The calculations account for the estimated radiation levels per shipment, number of shipments, package dimensions, route distance within Clark County, vehicle speed, population densities along the routes and, for various accident scenarios, the radiological inventory, dispersibility, accident severity, probability of occurrence, and estimated radiological risk assessment for each scenario.

In Addendum 1, it is shown that estimated cumulative person-Sivert (Sv) [person-rem], of exposure and resulting estimated cumulative lifetime risk of fatal cancer (LRFC) that may result from the transportation of all commercially generated spent fuel through the Las Vegas area are extremely small. Assuming that the spent fuel generated during the current operating license term and a 20-year renewed term from all currently operating reactors is shipped on highways through Las Vegas, the cumulative radiation exposure is estimated to be 3.309 person-Sv [331 person-rem] for the truck crews, 1.27 person-Sv [127 person-rem] for the public, and 2.46 person-Sv [246 person-rem] for the public from transport accidents. These cumulative doses would be expected to result in cumulative LRFC of 0.13 for crews, 0.06 for the public, and 0.12 for the public from transport accidents. Far less than 1 fatal cancer within the population of Clark County, Nevada is estimated to be caused from transporting the spent fuel that could be generated over 60 years by all currently operating nuclear power plants.

For perspective, the natural incidence of lifetime fatal cancer in the U.S. is 0.20 [20 percent]. Assuming a Las Vegas population of about 300,000 and an average life expectancy of 70 years, this lifetime incidence of fatal cancer would correspond to about 900 LRFC/year. In the Las Vegas area, the average radiation exposures resulting from cosmic and naturally occurring terrestrial gamma radiation are 0.75 to 0.77 mSv/year [75 to 77 mrem/year].<sup>(5)</sup> Assuming a Las Vegas population of about 300,000, this natural radiation leads to a risk estimate of about 11 LRFC/year. The average annual excess risk to the Las Vegas area population from SNF transport is about 0.0031 LRFC/year which is a risk estimate of 3,000 times less than the estimate for background radiation and 300,000 times less than the normal incidence of fatal cancer.

The dose estimates currently displayed in the Table S-4 account for the total population exposed by the transport of both high-level and low-level waste for one reactor-year of operation. These estimates represent total population exposure from both high-level and low-level waste over the transportation

routes from individual nuclear power plants to multiple destinations. The NRC staff has reviewed the documents reporting on the data and methods used to develop Table S-4 and finds that the environmental values contained therein continue to be valid. These documents are WASH-1238, "Environmental Survey of Transportation of Radioactive Materials to and from Nuclear Power Plants" (December 1972 and NUREG-75/038, Supplement 1 to WASH-1238, "Environmental Survey of Transportation of Radioactive Materials to and from Nuclear Power Plants Supplement 1" (April 1975).

An estimate of total cumulative dose can be developed from Table S-4 for comparison with the cumulative dose estimate in Addendum 1. It should be noted that the cumulative doses are comprised of annual doses to individuals that are well below the regulatory limits set by the NRC and the Department of Transportation. Multiplying the "per reactor-year" values in Table S-4 X 100 reactors X 60 years of operation gives a total cumulative dose of 240 person-Sv [24,000 person-rem] to transportation workers and 180 person-Sv [18,000 person-rem] to the general public. The total cumulative dose during incident-free transport that transport crews would receive while within Clark County is then about 1 percent of the total cumulative dose received by all exposed transportation workers estimated from Table S-4. In addition, the total cumulative dose during incident-free transport that the general public within Clark County would receive is also less than 1 percent of the total cumulative dose received by the exposed population nationwide estimated from Table S-4. The NRC estimates that the cumulative dose of 2.46 person-Sv [246 person-rem] to the public from accidents for the Las Vegas area translates into 0.12 LRFC, which is a small fraction (1/100,000) of the annual risk from natural background radiation to the general population.

Addendum 1 also addresses nonradiological risk of vehicle accidents. On the bases of national truck accident statistics, about 0.035 traffic fatality can be expected on Las Vegas area highways from transport of all spent fuel generated from current operation and operation during renewed license. This adds little to the total of 60 traffic fatalities that can be derived from the data in Table S-4: 1 fatal injury in 100 reactor years X 60 years of operation per reactor.

#### IMPLICATIONS OF HIGHER BURNUP FUEL

The environmental consequences of incremental increases in the burnup of fuel and the associated use of higher enrichment fuel are discussed in Section 6.2.3 of NUREG-1437. Section 6.2.3 addresses the sensitivity of the data presented in Table S-3 and Table S-4 to the growing use of higher enriched fuel and higher fuel burnup. Table S-3 summarizes natural resource use and effluents to the environment for the uranium fuel cycle, from mining to ultimate disposal of spent fuel. The discussion of the implications for the environmental impact data reported in Table S-4 was not repeated or referenced, as it should have been, in Section 6.3, which addresses the incremental impacts of license renewal on the transportation of fuel and radioactive materials to and from nuclear power plants. Addendum 1 and this proposed rule clarify the public record regarding the NRC findings on the sensitivity of values in Table S-4 to the use of higher enrichment fuel and extended fuel burnup.

NUREG-1437 and Addendum 1 draw heavily on existing studies of the environmental impacts of the use of higher enriched fuel and higher fuel burnup. The analysis in Section 6.2.3 of NUREG-1437 relies heavily on NUREG/CR-5009, "Assessment of the Use of Extended Burnup Fuel in Light Water Power Reactors" (February 1988). Addendum 1 considers other available studies that may supplement the information in NUREG-1437. These other studies include NUREG/CR-2325, "The Transportation of Radioactive Material (RAM) to and from U.S. Nuclear Power Plants, Draft Environmental Assessment" (December 1983); an Atomic Industrial Forum study, AIF/NE SP-032, "The Environmental Consequences of Higher Fuel Burnup" (June 1985); "Extended Burnup Fuel Used in Commercial LWRs; Environmental Assessment and Finding of No Significant Impact" (53 FR 6040), February 29, 1988; and "NRC Assessment of the Environmental Effects of Transportation Resulting From Extended Fuel Enrichment and Irradiation" (53 FR 30355), August 11, 1988.

These studies have assessed the environmental impacts associated with fuel enrichment up to 5 percent uranium-235 and fuel burnup to 60,000 MWd/MTU. The findings have been robust. During the 1990s, the NRC has reviewed and approved vendor topical reports requesting approval for higher burnup rates. Approved average burnup for the peak rod now range from 50,000 MWd/MTHM to 62,000 MWd/MTHM. The higher burnup rates are associated with uranium-235 enrichment levels of up to 5 percent by weight. These studies support the finding that the impacts attributable to higher burnup and enrichment of fuel are no greater than and likely less than the impacts currently in 10 CFR 51.52(c), "Summary Table S-4--Environmental Impact of Transportation of Fuel and Waste to and From One Light-Water-Cooled Nuclear Power Reactor." The analysis in Section 6.2.3 of NUREG-1437 as supplemented by Addendum 1 is consistent with the staff assessment of the environmental effects of transportation resulting from extended fuel enrichment and irradiation presented in 53 FR 30355. This conclusion is applicable to any nuclear power plant license renewal application.

#### Finding of No Significant Environmental Impact: Availability

The NRC has determined that this proposed rule is the type of action described as a categorical exclusion in 10 CFR 51.22(c)(3). Therefore, neither an environmental impact statement nor an environmental assessment has been prepared for this regulation. This action is procedural in nature and pertains only to the type of environmental information to be reviewed.

#### Paperwork Reduction Act Statement

This proposed rule decreases the overall burden on licensees by eliminating the requirement that the license renewal applicants address the generic and cumulative environmental impacts associated with transportation operation in the vicinity of a high-level waste (HLW) repository site (-400 hours, -2 responses), and adds a new requirement to address local traffic impacts attributable to continued operation of the plant during the license renewal term (+20 hours, +2 responses). The public burden for these information collections is estimated to average a reduction of 200 hours for each of 2 responses for the elimination of the above mentioned requirement, and an increase of 10 hours for each of 2 responses for the new requirement, for a net burden reduction of 380 hours. Because the burden for this information collection is insignificant, Office of Management and Budget clearance is not required. Existing requirements were approved by the Office of Management and Budget, approval number 3150-0021.

#### Public Protection Notification

The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

## Regulatory Analysis

The regulatory analysis prepared for the final rule published on June 5, 1996 (61 FR 28467) and amended on December 18, 1996 (61 FR 66537) to make minor clarifying and conforming changes and add language unintentionally omitted from the June 5, 1996 rule, is unchanged except for an increase in benefits derived from a reduction in the applicant burden of 190 hours of effort in preparing an application for renewal of a nuclear power plant operating license.

This change increases the substantial cost saving of the final rule estimated in NUREG-1440. NUREG-1440 is available for inspection in the NRC Public Document Room, 2120 L Street NW. (Lower Level), Washington, DC. In addition, copies of NRC final documents cited here may be purchased from the Superintendent of Documents, U.S. Government Printing Office, PO Box 37082, Washington, DC 20013-7082. Copies are also available for purchase from the National Technical Information Service, 5285 Port Royal, Springfield, VA 22161.

## Regulatory Flexibility Act Certification

As required by the Regulatory Flexibility Act of 1980 (5 U.S.C. 605(b)), the Commission certifies that this proposed rule will not have a significant impact on a substantial number of small entities. The proposed rule would reduce the amount of information to be submitted by nuclear power plant licensees to facilitate NRC's obligations under the National Environmental Policy Act. Nuclear power plant licensees do not fall within the definition of small businesses as defined in Section 3 of the Small Business Act (15 U.S.C. 632) or the Commission's Size Standards, April 11, 1995 (60 FR 18344).

## Backfit Analysis

The NRC has determined that these amendments do not involve any provisions that would impose backfits as defined in 10 CFR 50.109(a)(1); therefore, a backfit analysis need not be prepared.

## List of Subjects in 10 CFR Part 51

Administrative practice and procedure, Environmental impact statement, Nuclear materials, Nuclear power plants and reactors, Reporting and recordkeeping requirements.

For the reasons set out in the preamble to this notice and under the authority of the Atomic Energy Act of 1954, as amended; the Energy Reorganization Act of 1974, as amended; the National Environmental Policy Act of 1969, as amended; and 5 U.S.C. 552 and 553, the NRC is adopting the following amendments to 10 CFR Part 51.

## PART 51--ENVIRONMENTAL PROTECTION REGULATIONS FOR DOMESTIC LICENSING AND RELATED REGULATORY FUNCTIONS

1. The authority citation for Part 51 continues to read as follows:

AUTHORITY: Sec. 161, 68 Stat. 948, as amended, Sec. 1701, 106 Stat. 2951, 2952, 2953 (42 U.S.C. 2201, 2297f); secs. 201, as amended, 202, 88 Stat. 1242, as amended, 1244 (42 U.S.C. 5841, 5842).

Subpart A also issued under National Environmental Policy Act of 1969, secs. 102, 104, 105, 83 Stat. 853-854, as amended (42 U.S.C. 4332, 4334, 4335); and Pub. L. 95-604, Title II, 92 Stat. 3033-3041; and sec. 193, Pub. L. 101-575, 104 Stat. 2835, (42 U.S.C. 2243). Sections 51.20, 51.30, 51.60, 51.61, 51.80, and 51.97 also issued under secs. 135, 141, Pub. L. 97-425, 96 Stat. 2232, 2241, and sec. 148, Pub. L. 100-203, 101 Stat. 1330-223 (42 U.S.C. 10155, 10161, 10168). Section 51.22 also issued under sec. 274, 73 Stat. 688, as amended by 92 Stat. 3036-3038 (42 U.S.C. 2021) and under Nuclear Waste Policy Act of 1982, sec. 121, 96 Stat. 2228 (42 U.S.C. 10141). Sections 51.43, 51.67, and 51.109 also issued under Nuclear Waste Policy Act of 1982, sec. 114(f), 96 Stat. 2216, as amended (42 U.S.C. 10134(f)).

2. Section 51.53, paragraphs (c)(3)(ii)(J) and (M) are revised to read as follows:

### 51.53 POSTCONSTRUCTION ENVIRONMENTAL REPORTS.

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(c)\*\*\*

(3)\*\*\*

(ii)\*\*\*

(J) All applicants shall assess the impact of the proposed project on local transportation during periods of license renewal refurbishment activities and during the term of the renewed license.

(M) The environmental impacts presented in Summary Table S-4 of 51.52 may be adopted in individual nuclear power plant license renewal reviews as long as the candidate site at Yucca Mountain is under consideration for licensing. The contribution to impacts of transportation of higher enrichment and higher burnup fuel need be assessed only when the fuel to be used during the license renewal term is enriched to greater than 5 percent uranium-235 or average burnup for the peak rod will be greater than currently approved by the NRC up to 62,000 MWd/MTU. If the applicant anticipates exceeding these values for enrichment or burnup during the renewal term and has received or applied for a license amendment for the values anticipated and an environmental assessment has been prepared by the NRC, which considers transportation of that fuel to and from the reactor, then that environmental assessment may be cited in the renewal application and no further information is required.

3. The Transportation issue under the Uranium Fuel Cycle and Waste Management Section of Table B-1, Appendix B to Subpart A to 10 CFR Part 51 is revised to read as follows:

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**Table B-1.--Summary of Findings on NEPA Issues for License Renewal of Nuclear Power Plants<sup>1</sup>**

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**Uranium Fuel Cycle and Waste Management**

<b>Issue</b>	<b>Category</b>	<b>Findings</b>
Transportation	1	SMALL. Cumulative impacts of transporting high-level waste to a single repository site at Yucca Mountain, Nevada and the impacts of transporting spent fuel enriched up to 5 percent uranium-235 with average burnup for the peak rod to current levels approved by NRC up to 62,000 MWd/MTU are found to not appreciably change the impact values contained in 10 CFR 51.52(c), Summary Table S-4--Environmental Impact of Transportation of Fuel and Waste to and from One Light-Water-Cooled Nuclear Power Reactor. See 51.53(c)(3)(ii)(M).

<sup>1</sup> Data supporting this table are contained in NUREG-1437, "Generic Environmental Impact Statement for License Renewal of Nuclear Plants" (May 1996) and NUREG-1437, Addendum 1, "Generic Environmental Impact Statement for License Renewal of Nuclear Plants: Supplemental Analysis for Cumulative Environmental Impacts of Spent Nuclear Fuel Transport and Implications of Higher Burnup Fuel for the Conclusions in 10 CFR 51.52, 'Environmental Effects of Transportation of Fuel and Waste--Table S-4'" (December 1998).

Dated at Rockville, Maryland, this \_\_\_\_ day of \_\_\_\_\_ 1998.

For the Nuclear Regulatory Commission.

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John C. Hoyle,  
Secretary of the Commission.

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ATTACHMENT 2

[7590-01-P]

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**NUCLEAR REGULATORY COMMISSION  
10 CFR Part 51  
RIN 3150-AG05**

**Changes to Requirements for Environmental Review for Renewal of Nuclear  
Power Plant Operating Licenses, Availability of Supplemental Environmental Impact Statement**

AGENCY: Nuclear Regulatory Commission.

ACTION: Notice of availability.

SUMMARY: The Nuclear Regulatory Commission (NRC) is announcing the completion and availability of NUREG-1437, Addendum 1, "Generic Environmental Impact Statement for License Renewal of Nuclear Plants: Supplemental Analyses for Cumulative Environmental Impacts of Spent Nuclear Fuel Transport and Implications of Higher Burnup Fuel for the Conclusions in 10 CFR 51.52, 'Environmental Effects of Transportation of Fuel and Waste--Table S-4,' Draft for Comment" (December 1998).

DATES: Submit comments by (insert date 60 days after publication in the Federal Register). Comments received after this date will be considered if it is practical to consider them, but the Commission is able to ensure consideration only for comments received on or before this date.

ADDRESSES: Comments may be sent to: Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, Attention: Rulemakings and Adjudications Staff, Mail Stop O16C1.

Deliver comments to: One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852, between 7:30 a.m. and 4:15 p.m. on Federal workdays.

Copies of comments received may be examined at: NRC Public Document Room, 2120 L Street, NW. (Lower Level), Washington, DC.

You may also submit comments via the NRC's interactive rulemaking website through the NRC home page (<http://www.nrc.gov>). From the home page,

select "Rulemaking" from the tool bar. The interactive rulemaking website can then be accessed by selecting "New Rulemaking Website." This site provides the ability to upload comments as files (any format), if your web browser supports that function. For information about the interactive rulemaking web site, contact Ms. Carol Gallagher, telephone: 301-415-5905; e-mail cag@nrc.gov.

FOR FURTHER INFORMATION CONTACT: Donald P. Cleary, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, telephone: 301-415-3903; e-mail: dpc@nrc.gov.

#### SUPPLEMENTARY INFORMATION:

##### Background

On June 5, 1996 (61 FR 28467), the Commission published in the Federal Register a final rule amending its environmental protection regulations, 10 CFR Part 51, to improve the efficiency of the process of environmental review for applicants seeking to renew a nuclear power plant operating license for up to an additional 20 years. The amendment is based on the analyses reported in NUREG-1437, "Generic Environmental Impact Statement for License Renewal of Nuclear Plants" (May 1996). The rulemaking was initiated with the objective of improving the efficiency of the license renewal process drawing on the considerable experience of operating nuclear power reactors to generically assess many of the environmental impacts, to report the analyses and findings in NUREG-1437, and to codify the findings in the Commission's environmental protection regulations so that repetitive reviews of those impacts that are well understood could be avoided. In 61 FR 28467, the Commission stated that before the final rule became effective, the Commission was seeking comments on (1) the treatment of low-level waste storage and disposal impacts, (2) the cumulative radiological effects from the uranium fuel cycle, and (3) the effects from the disposal of high-level waste and spent fuel.

After considering the comments received on the rule, the Commission published the rule with minor nonsubstantive changes in the Federal Register on December 18, 1996 (61 FR 66537). In response to comments, the Commission stated that:

As part of its effort to develop regulatory guidance for this rule, the Commission will consider whether further changes to the rule are desirable to generically address: (1) The issue of cumulative transportation impacts and (2) the implications that the use of higher burn-up fuel have for the conclusions in Table S-4. After consideration of these issues, the Commission will determine whether the issue of transportation impacts should be changed to Category 1.

In NUREG-1437 and in the rule, Category 1 issues are those environmental issues for which the analysis and findings have been determined to be applicable to all nuclear power plants or to plants with specific types of cooling systems or other common plant or site characteristics. Absent new information that significantly changes the finding, these generic findings may be adopted in plant license renewal reviews. Category 2 issues are those environmental issues for which the analysis did not result in a finding common to all plants or to plants with common characteristics. Plant-specific reviews are required for Category 2 issues.

The NRC staff has completed analyses of these topics as reported in NUREG-1437, Addendum 1, "Generic Environmental Impact Statement for License Renewal of Nuclear Plants: Supplemental Analyses for Cumulative Environmental Impacts of Spent Nuclear Fuel Transport and Implications of Higher Burnup Fuel for the Conclusions in 10 CFR 51.52, 'Environmental Effects of Transportation of Fuel and Waste--Table S-4,' Draft for Comment" (December 1998). Addendum 1 provides the bases for designating transportation of high-level waste a Category 1 issue. Addendum 1 would supplement the analysis and amend the findings and the Category 2 category designation for the issue of Transportation in Section 6.3 and Table 9.1 of NUREG-1437. These amendments to NUREG-1437 would be codified in 10 CFR Part 51.

Dated at Rockville, Maryland, this \_\_\_\_ day of \_\_\_\_\_ 1998.

For the Nuclear Regulatory Commission.

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John C. Hoyle,  
Secretary of the Commission.

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ATTACHMENT 4

#### **NRC PROPOSES TO AMEND REQUIREMENTS FOR ENVIRONMENTAL REVIEWS OF APPLICATIONS TO RENEW NUCLEAR POWER PLANT OPERATING LICENSES**

The Nuclear Regulatory Commission (NRC) is seeking public comment on a proposed amendment to its regulations on the requirements governing environmental reviews of applications to renew operating licenses for nuclear power plants. The requirements were published in the *Federal Register* (61 FR 66537) on December 18, 1996.

The amendment would codify generic analyses of the cumulative environmental impacts associated with transportation operation in the vicinity of a high-level waste repository site and of the environmental impacts associated with the transportation of higher enriched fuel and higher burnup fuel. The requirement that license renewal applicants perform these analyses would be removed from 10 CFR Part 51. Also, this amendment would add the requirement to address local traffic impacts attributable to continued operation of the plant during the license renewal term. This requirement was inadvertently omitted from the current rule. The net effect of this action will be to reduce the regulatory burden on licensees without compromising environmental protection.

The Honorable James M. Inhofe, Chairman  
Subcommittee on Clean Air, Wetlands, Private  
Property and Nuclear Safety  
Committee on Environment and Public Works  
United States Senate  
Washington, DC 20510

Dear Mr. Chairman:

In the near future, the Nuclear Regulatory Commission (NRC) intends to publish in the *Federal Register* the enclosed proposed amendments to the Commission's rule in 10 CFR Part 51, "Changes to Requirements for Environmental Review for Renewal of Nuclear Power Plant Operating Licenses."

The amendment would codify generic analyses of the cumulative environmental impacts associated with transportation operation in the vicinity of a high-level waste repository site and of the environmental impacts associated with the transportation of higher enriched fuel and higher burnup fuel. The requirement that license renewal applicants perform these analyses would be removed from 10 CFR Part 51. Additionally, this amendment would add the requirement to address local traffic impacts attributable to continued operation of the plant during the license renewal term. This requirement was inadvertently omitted from the current rule. The net effect of this action will be to reduce the regulatory burden on licensees without compromising environmental protection.

Sincerely,  
Dennis K. Rathbun, Director  
Office of Congressional Affairs

Enclosure: *Federal Register* Notice

cc: Senator Bob Graham

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The Honorable Dan Schaefer, Chairman  
Subcommittee on Energy and Power  
Committee on Commerce  
United States House of Representatives  
Washington, DC 20515

Dear Mr. Chairman:

In the near future, the Nuclear Regulatory Commission (NRC) intends to publish in the *Federal Register* the enclosed proposed amendments to the Commission's rule in 10 CFR Part 51, "Changes to Requirements for Environmental Review for Renewal of Nuclear Power Plant Operating Licenses."

The amendment would codify generic analyses of the cumulative environmental impacts associated with transportation operation in the vicinity of a high-level waste repository site and of the environmental impacts associated with the transportation of higher enriched fuel and higher burnup fuel. The requirement that license renewal applicants perform these analyses would be removed from 10 CFR Part 51. Additionally, this amendment would add the requirement to address local traffic impacts attributable to continued operation of the plant during the license renewal term. This requirement was inadvertently omitted from the current rule. The net effect of this action will be to reduce the regulatory burden on licensees without compromising environmental protection.

Sincerely,

Dennis K. Rathbun, Director  
Office of Congressional Affairs

Enclosure: *Federal Register* Notice

cc: Representative Ralph Hall

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1. In NUREG-1437 and in the rule, Category 1 issues are those environmental issues for which the analysis and findings have been determined to be applicable to all nuclear power plants or to plants with specific types of cooling systems or other common plant or site characteristics. Absent new information that significantly changes the finding, these generic findings may be adopted in plant license renewal reviews. Category 2 issues are those environmental issues for which the analysis did not result in finding common to all or plants with common characteristics. Plant-specific reviews are required for Category 2 issues.

2. In NUREG-1437 and in the rule, Category 1 issues are those environmental issues for which the analysis and findings have been determined to be applicable to all nuclear power plants or to plants with specific types of cooling systems or other common plant or site characteristics. Absent new information that significantly changes the finding, these generic findings may be adopted in plant license renewal reviews. Category 2 issues are those

environmental issues for which the analysis did not result in a finding common to all plants or to plants with common characteristics. Plant-specific reviews are required for Category 2 issues.

3. Las Vegas and vicinity, Clark County, Nevada is taken to be "the vicinity of Yucca Mountain."

4. Currently, the U.S. Department of Energy is authorized by the Nuclear Waste Policy Act to dispose of up to 70,000 MTHM. Ninety percent (63,000 MTHM) of this material is expected to be spent nuclear fuel from commercial power reactors.

5. This outdoor dose rate estimate was provided by Harold L. Beck (Harold L. Beck, Director, Environmental Sciences Division, Environmental Measurements Laboratory, U.S. Department of Energy, New York, personal communication via electronic mail to Alan K. Roecklein, NRC, Rockville, Md., Nov. 4, 1998) and based on extensive background radiation measurements summarized, in part, in NCPP Report No. 94, *Exposure of the Population in the United States and Canada from Natural Background Radiation*, National Council on Radiation Protection and Measurements, Bethesda, Md. Dec. 30, 1987.