

RELEASED TO THE PDR

3/1/94

date

initials



February 16, 1994

## RULEMAKING ISSUE

SECY-94-034

(Affirmation)

FOR: The Commissioners

FROM: William C. Parler  
General Counsel

James M. Taylor  
Executive Director for Operations

SUBJECT: ISSUANCE OF FINAL RULE REINSTATING NONPROFIT  
EDUCATIONAL EXEMPTION AND DENIAL OF PETITION FOR  
RULEMAKING

PURPOSE:

To obtain Commission approval for issuance in the Federal Register of two related user fee notices which would 1) reinstate the exemption from fees for nonprofit educational institutions and 2) deny a petition for rulemaking filed by the American College of Nuclear Physicians (ACNP) and Society of Nuclear Medicine (SNM) requesting Commission action on a number of user fee issues. The two draft notices have been submitted to the Commission in a single package because of their interrelationship on the issues of fees and, more specifically, generic exemptions from fees.

BACKGROUND AND DISCUSSION:

In the final FY 1993 fee rule, the Commission revoked its annual fee exemption for nonprofit educational institutions. Following that action, the Commission began to reevaluate its decision in response to concerns raised by colleges and universities. Simultaneously the Commission received a petition for reconsideration of the revocation, filed by a number of affected educational institutions.

On September 29, 1993 (58 FR 50859), the Commission granted the petition for reconsideration and issued for public comment a proposed rule reinstating the exemption (Attachment 1). The Commission received over 200 comments on its proposed rule, the

Contacts:  
Michael Rafky, OGC  
504-1974  
C. James Holloway, OC  
492-4301

NOTE: TO BE MADE PUBLICLY AVAILABLE  
WHEN THE FINAL SRM IS MADE  
AVAILABLE

210112

9403240163 940216  
PDR SECY  
94-034 PDR

DF02  
0/1

majority from colleges and universities in favor of reinstating the exemption.

The final rule (Attachment 2) would reinstate the exemption for nonprofit educational institutions, based largely on the comments received as well as the staff's own examination of the issue. The primary concept on which the educational exemption is based is that educational institutions perform basic research and produce pure knowledge that is a "public good" in an economic sense. This is supported by a memorandum (Attachment 3) prepared by an NRC economics consultant which discusses the theories of "externalized benefits" and "public goods."

The petition for rulemaking was submitted by the American College of Nuclear Physicians and the Society of Nuclear Medicine in February 1992. The two petitioners requested more lenient treatment for medical licensees under the NRC's 100 percent recovery regime due to increases in fees as a result of that statutory mandate. Among their requests were 1) an exemption for all medical procedures performed in a nonprofit institution; 2) more particularized exemption criteria; 3) a sliding fee scale based on the size of the facility; and 4) a greater voice for licensees in the NRC's decisionmaking process with regard to adoption of new regulatory programs.

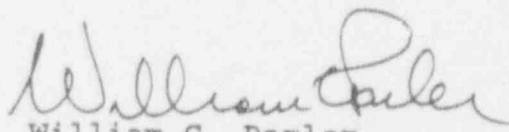
The Commission requested public comment on the petition in October 1992. Nearly 100 comments were received, the majority from medical licensees in favor of granting the petition. In its Federal Register notice requesting comment, the Commission stated that the petition and accompanying comments would be considered in the context of the agency's continued implementation of OBRA-90, as amended.

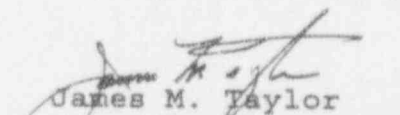
The staff proposes (Attachment 4) that the petition for rulemaking be denied for a number of reasons. This proposal continues the existing Commission policy of rarely granting exemptions, as exempting licensees will result in other licensees paying those costs. In the case of the requested nonprofit medical exemption, the notice explains that medical treatment like that described in the petition is a private and not a public good, by contrast to the pure knowledge produced and disseminated by educational institutions. For FY 1993, medical licensees were assessed \$15 million in fees. If an exemption were granted, these fees would have to be assessed to other NRC licensees. As for the other policy changes requested by petitioners, more particularized exemption criteria are unnecessary, since existing fee regulations already provide criteria for granting exemptions to medical and other materials licensees. The reasons for not adopting a sliding fee scale or giving licensees a greater role in NRC regulatory development remain the same as those given in earlier fee rulemakings.

The Commission should complete its review of these documents and affirm their recommendations at an early date. Congressional hearings on user fees are currently scheduled for March 9, 1994.

RECOMMENDATIONS:

- \* Approve the enclosed final rule reinstating the annual fee exemption for nonprofit educational institutions
- \* Approve the Federal Register notice denying the ACNP/SNM petition for rulemaking
- \* Note that
  - (1) Congress will be informed of these actions (see Draft Letter to Congress at Attachment 5)
  - (2) A copy of the petition denial will be sent to petitioners (see Draft Letter to Petitioners at Attachment 6)
  - (3) A draft public announcement will be issued (see Draft Public Announcement at Attachment 7)

  
William C. Parler  
General Counsel

  
James M. Taylor  
Executive Director  
for Operations

Attachments:

1. Proposed Nonprofit Educational Exemption Rule
2. Final Nonprofit Educational Exemption Rule
3. Memorandum from Economic Consultant
4. Denial of Petition for Rulemaking
5. Draft Letter to Congress
6. Draft Letter to Petitioners
7. Draft Public Announcement

Commissioners' comments or consent should be provided directly to the Office of the Secretary by COB Friday, March 4, 1994.

Commission Staff Office comments, if any, should be submitted to the Commissioners NLT Friday, February 25, 1994, with an information copy to the Office of the Secretary. If the paper is of such a nature that it requires additional review and comment, the Commissioners and the Secretariat should be apprised of when comments may be expected.

This paper is tentatively scheduled for affirmation at an Open Meeting during the Week of March 7, 1994. Please refer to the appropriate Weekly Commission Schedule, when published, for a specific date and time.

DISTRIBUTION:

Commissioners

OGC

OCAA

OIG

OIP

OCA

OPP

REGIONAL OFFICES

EDO

ACRS

ACNW

ASLBP

SECY

ATTACHMENT 1

**Regulatory Flexibility Certification**

As required by the Regulatory Flexibility Act of 1980 (5 U.S.C. 605(b)), the Commission certifies that this rule, if adopted, will not have a significant economic impact on a substantial number of small entities. The proposed rule sets forth the time frame within which a person other than an applicant must file a request for a hearing in a licensing proceeding held under the informal procedures set forth in 10 CFR part 2, subpart L. The proposed rule, by itself, does not impose any obligations on regulated entities that may fall within the definition of "small entities" as set forth in section 601(3) of the Regulatory Flexibility Act, or within the definition of "small business" as found in section 3 of the Small Business Act, 15 U.S.C. 632, or within the small business size standards contained in 13 CFR part 121.

**Backfit Analysis**

This proposed rule does not involve any new provisions which would impose backfits as defined in 10 CFR 50.109(a)(1). Accordingly, no backfit analysis pursuant to 10 CFR 50.109(c) is required for this proposed rule.

**List of Subjects 10 CFR Part 2**

Administrative practice and procedure, Antitrust, Byproduct material, Classified information, Environmental protection, Nuclear materials, Nuclear power plants and reactors, Penalty, Sex discrimination, Source material, Special nuclear material, Waste treatment and disposal.

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. 553, the NRC is proposing to adopt the following amendments to 10 CFR part 2.

**PART 2—RULES OF PRACTICE FOR DOMESTIC LICENSING PROCEEDINGS**

1. The authority citation for part 2 continues to read as follows:

**Authority:** Secs. 161, 181, 68 Stat. 948, 953, as amended (42 U.S.C. 2201, 2231); sec. 191, as amended, Pub. L. 87-615, 76 Stat. 409 (42 U.S.C. 2241); sec. 201, 88 Stat. 1242, as amended (42 U.S.C. 5841); 5 U.S.C. 552.

Section 2.101 also issued under secs. 53, 62, 63, 81, 103, 104, 105, 68 Stat. 930, 932, 933, 935, 936, 937, 938, as amended (42 U.S.C. 2073, 2092, 2093, 2111, 2133, 2134, 2135); sec. 114(f), Pub. L. 97-425, 96 Stat. 2213, as amended (42 U.S.C. 10134(f)); sec. 102, Pub. L. 91-190, 83 Stat. 853, as amended (42 U.S.C. 4332); sec. 301, 88 Stat. 1248 (42 U.S.C. 5871). Sections 2.102, 2.103, 2.104, 2.105, 2.721, also issued under secs. 102, 103, 104, 105, 183, 189, 68 Stat. 936, 937,

938, 954, 955 as amended (42 U.S.C. 2132, 2133, 2134, 2135, 2233, 2239). Section 2.104 also issued under sec. 193, Pub. L. 101-575, 104 Stat. 2835 (42 U.S.C. 2243). Section 2.105 also issued under Pub. L. 97-415, 96 Stat. 2073 (42 U.S.C. 2239). Sections 2.200-2.206 also issued under secs. 161 b, i, o, 182, 186, 234, 68 Stat. 948-951, 955, 83 Stat. 444, as amended (42 U.S.C. 2201 (b), (i), (o), 2238, 2282); sec. 206, 88 Stat. 1246 (42 U.S.C. 5846). Sections 2.600-2.606 also issued under sec. 102, Pub. L. 91-190, 83 Stat. 853, as amended (42 U.S.C. 4332). Sections 2.700a, 2.719 also issued under 5 U.S.C. 554. Sections 2.754, 2.760, 2.770, 2.780 also issued under 5 U.S.C. 557. Section 2.764 and table 1A of appendix C also issued under secs. 135, 141, Pub. L. 97-425, 96 Stat. 2232, 2241 (42 U.S.C. 10155, 10161). Section 2.790 also issued under sec. 103, 68 Stat. 936, as amended (42 U.S.C. 2133) and 5 U.S.C. 552. Sections 2.800 and 2.808 also issued under 5 U.S.C. 553. Section 2.809 also issued under 5 U.S.C. 553 and sec. 29; Pub. L. 85-256, 71 Stat. 579, as amended (42 U.S.C. 2039). Subpart K 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). Subpart L also issued under sec. 189, 68 Stat. 955 (42 U.S.C. 2239). Appendix A also issued under sec. 6, Pub. L. 91-560, 84 Stat. 1473 (42 U.S.C. 2135).

2. In § 2.1205(c), introductory text is republished and paragraph (c)(2) is revised to read as follows:

**§ 2.1205 Request for a hearing; petition for leave to intervene.**

(c) A person other than an applicant shall file a request for a hearing within—

(2) If a Federal Register notice is not published in accordance with paragraph (c)(1) of this section, the earliest of—

(i) Thirty (30) days after the requestor receives actual notice of a pending application, or

(ii) Thirty (30) days after the requestor receives actual notice of an agency action granting an application in whole or in part, or

(iii) One hundred and eighty (180) days after agency action granting an application in whole or in part.

Dated at Rockville, Maryland, this 23rd day of September, 1993.

For the Nuclear Regulatory Commission,  
**Samuel J. Chilk,**  
*Secretary of the Commission.*  
 [FR Doc. 93-23835 Filed 9-28-93; 8:45 am]

BILLING CODE 7590-01-P

**10 CFR Part 171**

**RIN 3150-AE83**

**Restoration of the Generic Exemption From Annual Fees for Nonprofit Educational Institutions**

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Proposed rule.

**SUMMARY:** On July 20, 1993, the Nuclear Regulatory Commission ("NRC" or "Commission") published a final rule establishing annual fee schedules for its licensees for fiscal year 1993. The final rule eliminated a generic exemption from annual fees previously applicable to nonprofit educational institutions (educational exemption). Following publication of this rule, the Commission received a petition for reconsideration requesting reinstatement of the educational exemption. The Commission views the petition as a request to conduct a new rulemaking to amend the final rule by restoring the exemption. The Commission grants the request for a new rulemaking. The new rulemaking reconsiders whether nonprofit educational institutions should receive a generic exemption from annual fees. The Commission requests public comment on that question. The rulemaking proceeding will address no other annual fee question.

**DATE:** Comment period expires October 29, 1993. Comments received after that date will be considered if it is practical to do so, but the Commission is able to assure consideration only for comments received on or before this date.

**ADDRESSES:** Submit written comments to: Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Attn: Docketing and Service Branch. Deliver comments to: 11555 Rockville Pike, Rockville, Maryland 20852, between 7:45 a.m. and 4:15 p.m. Federal workdays. (Telephone 301-504-1966.) Copies of comments received may be examined and copied for a fee at the NRC Public Document Room, 2120 L Street NW., (Lower Level) Washington, DC 20555.

**FOR FURTHER INFORMATION CONTACT:** L. Michael Rafky, Office of the General Counsel, U.S. Nuclear Regulatory Commission, Washington, DC 20555, telephone 301-504-1606.

**SUPPLEMENTARY INFORMATION:**

- I. Background.
- II. Section-by-section analysis.
- III. Environmental impact: categorical exclusion.
- IV. Paperwork reduction act statement.
- V. Regulatory analysis.

VI. Regulatory flexibility analysis.  
VII. Backfit analysis.

### I. Background

On July 20, 1993 the Commission published its final annual fee rule for FY 1993 (58 FR 38666). The final rule principally set out the Commission's fee schedules for FY 1993, but it also discussed in some detail the 3-2 Commission decision to revoke a generic exemption previously applicable to nonprofit educational institutions. A court of appeals decision, issued in March 1993, had necessitated the Commission's rethinking of the educational exemption. See *Allied-Signal, Inc. v. NRC*, 988 F.2d 146 (D.C. Cir. 1993). That decision cast doubt on the NRC's stated rationale—which included a purported inability to "pass through" costs—for exempting nonprofit educational institutions from annual fees.

In reaction to the court decision, the Commission initially proposed to retain the educational exemption, but with a fresh rationale. In its proposed FY 1993 annual fee rule, the Commission requested comments on retaining the exemption, and asked specifically for comments on the court's suggestion that perhaps the exemption could be justified if "education yields exceptionally large externalized benefits that cannot be captured in tuition or other market prices." 988 F.2d at 151. The Commission also requested comments on whether the exemption should be revoked.

Following the close of the comment period, the Commission faced a dilemma. It remained committed to the value of nuclear education and related research as a policy matter, but it had received only a few comments, and cursory ones at that, supporting a continued generic exemption. Additionally, some NRC licensees had submitted comments requesting abandonment of the exemption altogether or a more equitable spread of its costs to all licensees. Still other commenters urged that the exemption be retained, but that it be expanded to include various other licensed activities.

After considering the material before it, a split Commission, by a 3-2 vote, "reluctantly concluded that in view of the court decision and the administrative record developed during the comment period it cannot justify a generic 'educational' exemption for FY 1993" (58 FR 38668-69). Therefore, the Commission informed formerly exempt nonprofit educational institutions that they would have to pay annual fees beginning in FY 1993. The Commission did point out that many of these

Institutions might be able to make individualized showings of financial hardship and externalized benefits sufficient to justify a "public interest" exemption under 10 CFR 171.11(b) (58 FR 38669). The two dissenting Commissioners took the view that the Commission should continue in force the generic educational exemption (58 FR 36875).

Almost immediately the Commission began receiving letters from many colleges and universities protesting the change in its longstanding policy. Many of these letters were sent as comments regarding the Commission's concurrent fee policy study now being conducted as required by the Energy Policy Act of 1992 (58 FR 21116). In these letters and comments (available in the NRC Public Document Room ("PDR")), educational institutions described the "externalized benefits" derived from their programs and the problems created by the new annual fees, including the prospect of major cutbacks in nuclear education. Some licensees also pointed out that their programs were already heavily subsidized by the Federal government (in particular by the Department of Energy), precisely because the programs were not sustainable absent public sector support.

The Commission also received a formal petition for reconsideration of the FY 1993 final rule with the aim of restoring the nonprofit educational exemption. See *Petition for Reconsideration of Final Rule* (July 30, 1993). In this petition for reconsideration (which is being published as an appendix to this proposed rule), a number of formerly exempt colleges and universities asserted with some specificity a number of benefits that educational institution research reactors provide to both the nuclear industry and the public at large. Prominent was the continued training of nuclear scientists and engineers (petition at 3-4). The petitioners also stated that nuclear technology was used in fields as varied as medicine, geology, archaeology, food science and textiles and that the public additionally benefitted from people who could provide knowledgeable opinions on nuclear topics, as well as from tours of research reactors (petition at 4-5).

The petitioners went on to argue that education provides significant "externalized benefits" warranting public subsidy. They cited a letter from economist Alfred Kahn (also available in the attached appendix) stating that the knowledge generated by university-related research is itself a public good that cannot be quantified using market indices (petition at 6-7). Mr. Kahn's

letter argues that it is "inefficient" and "socially and economically undesirable" to charge people for access to pure knowledge, because the benefits of that knowledge "are largely unpredictable." Letter from Alfred Kahn to Shirley Egan, Associate University Counsel, Cornell University (July 15, 1993).

The petitioners also stressed the harm to university nuclear programs as a result of the newly imposed annual fees (petition at 8-9). Using Cornell University's nuclear program as an example, they asserted that Federal grants (in addition to those already provided) might be necessary to meet the additional costs of NRC annual fees (petition at 9-10). Finally, the petitioners argued that the Commission's longstanding exemption for nonprofit educational institutions was rooted in sound policy, and that reinstating the exemption would be consistent with the already extensive direct Federal funding provided many college and university licensees (petition at 12-13).

In August, while the petition for reconsideration was under consideration, the Commission undertook an effort of its own to develop guidance for considering individual "public interest" exemption requests by colleges and universities. As part of this effort, the NRC staff visited a number of colleges and universities to learn more about their educational activities and the benefits of non-power reactors and the use of nuclear materials in education programs. The Commission concluded that the new annual fees (\$62,100 for each research reactor license; lesser amounts for each materials license) would jeopardize the educational and related research benefits provided by a number of colleges and universities.

As a result of the new and more detailed information and arguments developed in the petition for reconsideration and in the other sources described above, and after careful reflection, the Commission now is inclined to return to its previous practice of exempting nonprofit educational institutions from annual fees. The Commission therefore grants the petition for reconsideration of the FY 1993 final rule and now proposes to exempt nonprofit educational institutions from annual fees. The Commission does not intend to create any other generic exemption categories in this rulemaking.

The Commission does not propose lightly this further shift in a policy that has already gone through a major change in a short time. The Commission

was sharply divided from the outset on the wisdom of eliminating the generic educational exemption. New information and fresh thinking have persuaded the entire Commission that restoration of the exemption reflects a sound policy choice that avoids placing in jeopardy valuable educational resources that are indispensable to the nuclear industry, to numerous other educational activities, to the NRC itself and to the public at large.

The Commission solicits public comment on its proposed rule that would restore the exemption. Comments on other annual fee issues will not be entertained in connection with this proposed rule. The Commission already has received some information on the "externalized benefits" of non-power reactors and the use of licensed nuclear materials in various educational activities and related research at colleges and universities. However, the Commission is interested in more data on the benefits of non-power reactors and the use of licensed nuclear materials in education in its broadest sense, in the expectation that more data may well substantiate the argument in the petition for reconsideration that non-power reactors and the use of licensed nuclear materials in educational activities are prime examples of activities that provide "externalized benefits" warranting public support.

The Commission expects commenters to address the "externalized benefits" question by providing data on (but not limited to) the size and subject areas of classes using licensed material in studies or research, the number of faculty and students using licensed material in their studies or research, the type and availability of work for graduates of nuclear programs and other programs in which licensed nuclear materials are used, and the relation between education and research in institutions of higher learning. The Commission has particular interest in comments on the extent to which the benefits of nuclear education and other programs using licensed nuclear materials (not simply education in general) are "externalized" and would not be produced by market forces. The Commission would appreciate detailed information on the many non-nuclear fields of study that use licensed nuclear material in the course of educating their students. The Commission has received some information in letters addressing the fee policy study required by the Energy Policy Act of 1992 described above, but more data is needed for the Commission's deliberations.

This notice, of course, does not represent a final Commission decision to reinstate the educational exemption, but simply the Commission's proposed resolution of the question based on its current best information and best thinking. But, with the Commission proposing to restore a generic exemption, it is not necessary for formerly exempted educational licensees to apply for individual public interest exemptions. Therefore, the Commission requests nonprofit educational licensees not to seek such exemptions at this time. If after reconsideration, the Commission decides that it cannot justify a generic exemption it will provide educational licensees ample time to seek individual exemptions. The Commission will hold in abeyance all individual exemption requests it already has received from educational licensees.

The issue of refunds to nonprofit educational licensees who may have paid the FY 1993 annual fee will be addressed, if applicable, in the final rule. Nonprofit educational licensees who have requested termination, downgrade, possession-only or combined licenses to avoid the FY 1993 annual fee will be advised accordingly what action, if any, is needed if they choose to rescind those applications as a result of this proposed rulemaking.

There is one final point warranting clarification. The FY 1993 final rule eliminating the educational exemption indicated that, because of the remand from the court of appeals, the Commission would issue new fee schedules retracting the exemption for FY 1991-92 and offer appropriate refunds. The Commission now proposes not to issue revised fee schedules reflecting retraction of the educational exemption because of its inclination to restore the exemption. Commenters, if they choose, may address this point.

As the final rule made clear (58 FR 38669), the Commission did not intend retroactively to charge fees to nonprofit educational institutions for FYs 1991-92, but did intend to make refunds to those licensees (power reactors) that made up the shortfall in 100 percent fee recovery created by the educational exemption. Should the Commission restore the exemption, however, no new fee schedule for FYs 1991-92 will be necessary and no refunds will be made. On the other hand, because of the timing of this reconsideration proceeding and if the Commission reinstates the educational exemption, no licensee will be assessed additional fees to make up any shortfall created for FY 1993. For future fiscal years, however, the Commission will recover from other

licensees the shortfall resulting from the educational exemption, pursuant to its current statutory mandate to recover 100 percent of its budget.

## II. Section-by-Section Analysis

### Section 171.11 Exemptions

Paragraph (a) of this section is amended by adding nonprofit educational institutions, as defined in § 171.5, to the list of those entities exempted from annual fees by the Commission. A discussion of this change in fee policy is found in Section I of this proposed rule.

## III. Environmental Impact: Categorical Exclusion

The NRC has determined that this proposed rule is the type of action described in categorical exclusion 10 CFR 51.22(c)(1). Therefore, neither an environmental assessment nor an environmental impact statement has been prepared for the proposed regulation.

## IV. Paperwork Reduction Act Statement

This proposed rule contains no information collection requirements and, therefore, is not subject to the requirements of the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.).

## V. Regulatory Analysis

With respect to 10 CFR part 171, on November 5, 1990, the Congress passed Pub. L. 101-508, the Omnibus Budget Reconciliation Act of 1990 (OBRA-90). For FYs 1991 through 1995, OBRA-90 requires that approximately 100 percent of the NRC budget authority be recovered through the assessment of fees. To accomplish this statutory requirement, on July 20, 1993 (58 FR 38666), the NRC, in accordance with § 171.13, published in the *Federal Register* the final amount of the FY 1993 annual fees for operating reactor licensees, fuel cycle licensees, materials licensees, and holders of Certificates of Compliance, registrations of sealed source and devices and QA program approvals, and Government agencies. OBRA-90 and the Conference Committee Report specifically state that—

(1) The annual fees be based on the Commission's FY 1993 budget of \$540.0 million less the amounts collected from part 170 fees, and the funds directly appropriated from the NWF to cover the NRC's high level waste program;

(2) The annual fees shall, to the maximum extent practicable, have a reasonable relationship to the cost of



regulatory services provided by the Commission; and

(3) The annual fees be assessed to those licensees that the Commission, in its discretion, determines can fairly, equitably, and practicably contribute to their payment.

Therefore, when developing the annual fees for operating power reactors the NRC continued to consider the various reactor vendors, the types of containment, and the location of the operating power reactors. The annual fees for fuel cycle licensees, materials licensees, and holders of certificates, registrations and approvals and for licenses issued to Government agencies take into account the type of facility or approval and the classes of the licensees.

10 CFR part 171, which established annual fees for operating power reactors effective October 20, 1986 (51 FR 33224; September 18, 1986), was challenged and upheld in its entirety in *Florida Power and Light Company v. United States*, 846 F.2d 765 (D.C. Cir. 1988), cert. denied, 490 U.S. 1045 (1989).

10 CFR part 171, which established fees based on the FY 1989 budget, were also legally challenged. As a result of the Supreme Court decision in *Skinner v. Mid-American Pipeline Co.*, 109 S. Ct. 1726 (1989), and the denial of certiorari in *Florida Power and Light*, all of the lawsuits were withdrawn.

The NRC's FY 1991 annual fee rule was largely upheld recently by the D.C. Circuit Court of Appeals in *Allied Signal v. NRC*.

#### VI. Regulatory Flexibility Analysis

As required by the Regulatory Flexibility Act, 5 U.S.C. 605(b), the Commission certifies that this proposed rule, if adopted, will not have a significant economic impact on a substantial number of small entities. The proposed rule affects about 110 operating power reactors which are not considered to be small entities.

#### VII. Backfit Analysis

The NRC has determined that the backfit rule, 10 CFR 50.109, does not apply to this proposed rule and that a backfit analysis is not required for this proposed rule. The backfit analysis is not required because these amendments do not require the modification of or additions to systems, structures, components, or design of a facility or the design approval or manufacturing license for a facility or the procedures or organization required to design, construct or operate a facility.

#### List of Subjects in 10 CFR Part 171

Annual charges, Byproduct material, Holders of certificates, registrations, and approvals, Intergovernmental relations, Non-payment penalties, Nuclear materials, Nuclear power plants and reactors, Source material, Special nuclear material.

For the reasons set out in the preamble and under the authority of the Atomic Energy Act of 1954, as amended, and 5 U.S.C. 553, the NRC is proposing to adopt the following amendments to 10 CFR part 171.

#### PART 171—ANNUAL FEES FOR REACTOR OPERATING LICENSES, AND FUEL CYCLE LICENSES AND MATERIALS LICENSES, INCLUDING HOLDERS OF CERTIFICATES OF COMPLIANCE, REGISTRATIONS, AND QUALITY ASSURANCE PROGRAM APPROVALS AND GOVERNMENT AGENCIES LICENSED BY THE NRC

1. The authority citation for Part 171 is revised to read as follows:

Authority: Sec. 7601, Pub. L. 99-272, 100 Stat. 146, as amended by sec. 5601, Pub. L. 100-203, 101 Stat. 1330, as amended by Sec. 3201, Pub. L. 101-239, 103 Stat. 2106 as amended by sec. 6101, Pub. L. 101-508, 104 Stat. 1388, (42 U.S.C. 2213); sec. 301, Pub. L. 92-314, 86 Stat. 227 (42 U.S.C. 2201(w)); sec. 201, 88 Stat. 1242 as amended (42 U.S.C. 5841); sec. 2903, Pub. L. 102-486, 106 Stat. 3125, (42 U.S.C. 2214 note).

2. In § 171.11, paragraph (a) is revised to read as follows:

#### § 171.11 Exemptions.

(a) An annual fee is not required for:

- (1) A construction permit or license applied for by, or issued to, a nonprofit educational institution for a production or utilization facility, other than a power reactor, or for the possession and use of byproduct material, source material, or special nuclear material. This exemption does not apply to those byproduct, source, or special nuclear material licenses which authorize:
  - (i) Human use;
  - (ii) Remunerated services to other persons;
  - (iii) Distribution of byproduct material, source material, or special nuclear material or products containing byproduct material, source material, or special nuclear material; or
  - (iv) Activities performed under a Government contract.
- (2) Federally owned research reactors used primarily for educational training and academic research purposes. For purposes of this exemption, the term research reactor means a nuclear reactor that—
  - (i) Is licensed by the Nuclear Regulatory Commission under section

104 c. of the Atomic Energy Act of 1954 (42 U.S.C. 2134(c)) for operation at a thermal power level of 10 megawatts or less; and

(ii) If so licensed for operation at a thermal power level of more than 1 megawatt, does not contain—

(A) A circulating loop through the core in which the licensee conducts fuel experiments;

(B) A liquid fuel loading; or

(C) An experimental facility in the core in excess of 16 square inches in cross-section.

Dated at Rockville, MD, this 23d day of September 1993.

For the Nuclear Regulatory Commission,  
Samuel J. Chilk,  
Secretary of the Commission.

#### Appendix To Proposed Rule—Petition of Reconsideration of Final Rule

##### I. Introduction

The Nuclear Regulatory Commission ("NRC" or "Commission") has long exempted nonprofit educational institutions from paying annual fees.<sup>1</sup> Although the Commission traditionally justified this exemption on the grounds that colleges and universities could not readily pass the cost of the fees on to students through tuition and other charges, a recent federal court decision questioned this rationale.<sup>2</sup> The court explained, however, that the externalized benefits of education potentially supported such an exemption.<sup>3</sup>

Although the Commission at first defended its educational exemption in a rulemaking proceeding prompted by the court's decision, it abandoned the exemption in the final version of its annual fee rule.<sup>4</sup> Petitioners contend that in so doing the Commission erred and respectfully request that the Commission reconsider its ruling and reinstate the exemption for nonprofit educational licensees.<sup>5</sup>

##### II. The Allied-Signal Court Clearly Invited the Commission To Grant an Exemption to Educational Institutions

Although the decision in *Allied-Signal, Inc. v. U.S. Nuclear Regulatory Comm'n*, 988 F.2d 146 (D.C. Cir. 1993), compelled the Commission to reconsider its exemption of nonprofit educational facilities, the court suggested a valid reason for exempting

<sup>1</sup> See 10 CFR 171.11(a) (1993).

<sup>2</sup> See *Allied-Signal, Inc. v. U.S. Nuclear Regulatory Comm'n*, 988 F.2d 146 (D.C. Cir. 1993), discussed in section II *infra*.

<sup>3</sup> *Id.* at 151; section II *infra*.

<sup>4</sup> FY 1991 and 1992 Final Rule Implementing the U.S. Court of Appeals Decision and Revision of Fee Schedules: 100% Fee Recovery, FY 1993, 58 FR 38666, 38668-69 (Nuclear Regulatory Comm'n, July 20, 1993) ("Final Rule").

<sup>5</sup> Petitioner Cornell University has submitted similar comments supporting the exemption in response to the Commission's fee policy review. See Letter from N. Scott to Secretary and Commissioners in response to RIN 3150-AE54 (July 16, 1993).

educational reactor licensees from annual fees. The court merely asked the NRC to marshal a rationale based on "externalized benefits" of education "that cannot be captured in tuition or other market prices." *Id.* at 151. Indeed, the *Allied-Signal* court explained that "there is at least a serious possibility" that the Commission can "substantiate" such an exemption. *Id.*

In its Final Rule, however, the Commission "missed an opportunity to consider seriously the classic 'externalized benefits' argument" proposed by the court.<sup>8</sup> While Petitioners believe that the Commission should have decided to continue the exemption at issue and should have based its decision on the court's discussion and on the many comments supporting the exemption, they seek in this petition to provide the Commission with additional information about the considerable externalized benefits of nuclear reactor programs at nonprofit educational institutions.

### III. Nuclear Reactors at Nonprofit Educational Institutions Provide Significant Benefits to the Commercial Nuclear Industry and the General Public

Universities, including the Petitioners, train scientists and engineers who enter the commercial nuclear industry and government regulatory agencies such as the NRC itself. Distinguished faculty, many of whom have worked in the field since its infancy, instruct the students in basic research and new technologies. Without study at educational reactors, these students would lack the knowledge and skill necessary to adequately maintain the efficiency and safety of the nuclear industry.

Nuclear engineering programs, which can thrive only by including hands-on laboratory study at a working reactor, assist the commercial nuclear industry directly through pure and applied science. Cornell researchers, for example, have analyzed the behavior of reactors under severe accident conditions. Universities contribute to the power reactor industry by developing concepts for better cooling systems, moderators, and other components of power reactors systems.

University researchers also use reactors to develop new applications of nuclear technology in fields as varied as medicine, geology, archaeology, food science, and textiles. These new research findings in turn provide opportunities for profitable commercial ventures.

By operating nuclear reactors, educational institutions assist industry and government in other important ways. They provide a source of respected, informed, and independent opinion on the benefits and burdens of nuclear technology for a society addressing its implications. Students and members of the public who tour the educational reactor facilities gain insight into the varied uses of nuclear technology and come to appreciate the contribution of nuclear industries to the quality of their lives.

The Commission itself has acknowledged its continued belief that "educational

research provides an important benefit to the nuclear industry and the public at large and should not be discouraged."<sup>9</sup> A "vibrant nuclear education sector also is important as a source of talent and ideas for the NRC itself and for the whole government," the Commission avowed in the course of its rulemaking process. *Id.* The wide array of externalized benefits generated by nuclear reactor programs at nonprofit educational institutions is thus apparent from the Commission's statements and from the many comments submitted in support of the contested exemption.<sup>8</sup>

### IV. Economic Theory Supports the Nonprofit Educational Exemption

The Commission's long-standing exemption for nonprofit educational facilities is wholly consistent with "externalized benefits" economic theory. As Commissioners Remick and DePlanque explained in their opinion, "education, like national defense, [and] the administration of justice \* \* \* provides large and indispensable benefits to the whole society, not just to purchasers." Final Rule, 58 FR at 38675. Indeed, the "exceptionally large" benefits of nuclear reactor programs at universities are recounted in section III above and in the many comments submitted to the Commission during its rulemaking process.<sup>9</sup>

From ground-breaking discoveries to vital core data, university nuclear research is openly published and freely debated to ensure the highest academic standards and widest availability. Such "[p]ure knowledge is the archetypal 'public good,'—once produced, it can be distributed widely at no incremental cost. Letter from Alfred E. Kahn to Shirley K. Egan (July 15, 1993) ("Kahn Letter") at 1. As Commissioners Remick and DePlanque reasoned, the free market may fail "to supply the necessary amount of education" and other public goods because the "buyers" or students lack information sufficient to set the "right price" or are unable to pay that price. Final Rule, 58 FR at 38675. The inefficiency of charging for access to nonproprietary research and education thus supports what noted economist Alfred Kahn calls "the strong and universally recognized case for public financing of pure research." Kahn Letter at 1.

Kahn explains that it would be "futile for universities to try to recover the cost by charging potential users" for research and education, as well as "socially and

<sup>8</sup> FY 1991 and 1992 Proposed Rule Implementing the U.S. Court of Appeals Decision and Revision of Fee Schedules: 100% Fee Recovery, FY 1993, 58 FR 21662, 21664 (Nuclear Regulatory Comm'n, April 23, 1993) ("Proposed Rule") (citations omitted).

<sup>9</sup> See also descriptions of Petitioners' nuclear reactor programs attached as Exhibit B.

<sup>10</sup> Because the *Allied-Signal* court gave no explanation of what benchmark externalized benefits should be measured by, it is unclear what the court meant by "exceptionally large." *Allied-Signal*, 988 F.2d at 151. Furthermore, it is practically impossible to quantify the contributions that university nuclear science and engineering programs make to commercial users of nuclear energy. This petition, together with the many comments submitted by educational licensees, does however illustrate the extent and variety of such benefits.

economically undesirable for them to do so." *Id.* Instead, he reasons, "a flat charge on business beneficiaries is superior to a specific charge by the University for particular pieces of knowledge." *Id.* The Commission's relatively small costs associated with licensing educational reactors may easily be recovered from those licensees who benefit immeasurably from the activities of the distinguished teaching and research community at our nation's universities, and those who, in the Commission's discretion, can fairly, equitably, and practically make such payments.

### V. The Proposed Annual Fees Threaten Serious Injury to University Nuclear Programs

Not only is it economically inefficient to levy annual fees on university research reactors, it also places an undue financial burden on nuclear science education and threatens to chill nuclear research vital to industry and the general public alike.<sup>10</sup> The situation at Cornell is illustrative of these potential problems.<sup>11</sup> Cornell uses two reactors for teaching and research. The larger, a 500-kilowatt TRIGA, is used most frequently. A staff of four—two engineers and two lab technicians—maintains the reactors. The annual operating budget runs approximately \$230,000.<sup>12</sup> The proposed NRC annual fee for Cornell's reactors—\$124,200—thus represents over half of the entire reactor budget.<sup>13</sup>

Indeed, the federal government is the sole source of grant monies supporting Cornell's nuclear science and engineering programs, and federal research dollars comprise nearly half of the nuclear science and engineering department's annual research budget. The Department of Energy not only contributes substantial grant monies but also donates all of the fuel for the reactors. Cornell nuclear

<sup>10</sup> The Commission has also suggested that it may in the future impose license and inspection fees, established under authority of the Independent Offices Appropriation Act ("IOAA"), on nonprofit educational licensees. See Final Rule, 58 FR at 38666, 10 CFR 170.11(e)(4) (1993) (exempting nonprofit educational institutions from IOAA fees). Because these fees vary with the cost of inspecting particular reactor facilities, their precise impact on Cornell and other universities is difficult to estimate. The economic and public policy rationales for exempting colleges and universities from NRC annual fees apply with equal force to IOAA fees, however.

<sup>11</sup> See Nuclear Reactor Budgets, Use, and Federal Funding at Petitioner Institutions attached as Exhibit A.

<sup>12</sup> The reactors are used primarily by three nuclear science and engineering faculty and approximately twelve graduate students per year, with additional limited use by as many as ten faculty and fifteen graduate students from fields such as geology, chemistry, textiles, and archaeology. Undergraduate teaching and demonstration, public tours, and incidental tests account for about a quarter of the reactor's total use.

<sup>13</sup> A 1991 study chaired by Dr. Marcus H. Voth found that of the 37 university reactors then operating, 15 incurred annual costs below \$65,000. Letter from Marcus H. Voth and Edward H. Klevans to Samuel J. Chalk (July 12, 1993) at 2.

<sup>8</sup> Differing Views of Commissioners Remick and DePlanque, Final Rule, 58 FR at 38675.

researchers receive grants from the National Science Foundation as well.<sup>14</sup>

If the Commission abandons the educational exemption, Cornell will be forced to seek increased federal grants to cover the NRC charges. Rather than accomplishing the budgetary goals of the Omnibus Reconciliation Act, Public Law No. 101-508, 104 Stat. 1388 (1990), the Commission's action will merely shift monies from one federal pocket to another. As a federal court has logically noted, "[i]t is self-evident that a transfer of funds from one agency to another fails to increase federal revenue." *Florida Power & Light Co. v. United States*, 846 F.2d 765, 771 (D.C. Cir. 1988).

If Cornell attempted to recoup the NRC fees through general tuition increases rather than through grants, all students, many of whom receive extensive financial aid from the government and private funds, would be forced to subsidize a relatively small department at the university. Alternatively, a major increase in laboratory fees imposed on nuclear science and engineering students alone would place the program utterly beyond their financial reach. Cost increases of such magnitude would make any institution's nuclear program a prime target for elimination.

Since the Commission's Final Rule seeks to collect annual charges for fiscal year 1993, it also threatens to disrupt university budgets, which have already allocated scarce resources for this year. Because of the significant lag time required for approval of grant proposals, it may take as long as two years for universities to learn whether monies necessary to cover the major expense of NRC fees will even be available. This financial stress comes as a shock to the educational community in the wake of the Commission's vigorous argument supporting the exemption in its Proposed Rule.<sup>15</sup>

Although the Commission proposes to alleviate the financial burden on colleges and universities by considering individual requests for exemption from annual fees and for installment payments, these suggestions provide small consolation. Installment payment plans fail to address the real problem confronting universities—how to pay for such annual fees at all. Furthermore, any attempt by the Commission to examine numerous individual exemption requests could consume more NRC administrative resources than a blanket educational exemption. The sheer number of universities joining in this petition underscores this concern.

<sup>14</sup> Grants from the Atomic Energy Commission and the National Science Foundation first enabled Cornell to obtain its two reactors. See David D. Clark, *The Nuclear Frontier: Cornell's Program of Basic and Applied Research*, Cornell Eng'g Q., Spring 1992, at 3.

<sup>15</sup> See Final Rule, 58 FR at 38675; Proposed Rule, 58 FR at 21664 ("The Commission proposes to continue to exempt these [nonprofit educational] licensees from fees for FYs 1991, 1992 and 1993, as it has for many years in the past \* \* \* (and) continues to believe that educational research provides an important benefit to the nuclear industry and the public at large and should not be discouraged.") [citations omitted].

#### VI. The Educational Exemption Reflects Sound Public Policy and a Tradition of Support for Education

Given the significant benefits realized by the nuclear industry from university research and education, any additional fees imposed on commercial licensees to cover costs associated with nonprofit educational reactors are a bargain, not a burden. Commercial power reactors have historically been the only NRC licensees asked to absorb the cost of supporting educational reactors. The \$7.1 million in fiscal year 1993 costs associated with licensing nonprofit educational reactors, if divided equally among the 109 commercial power reactors now in operation, amounts to only \$65,000 per commercial reactor and adds a mere 2% to the proposed average fee for commercial reactors. See Proposed Rule, 58 FR at 21674. The costs borne by power reactor licensees could, in the Commission's discretion, be decreased somewhat by spreading them equitably among all commercial licensees.

That federal sources already support extensive nuclear research and education at both private and public institutions speaks to the national importance of this discipline. The Commission's traditional exemption for nonprofit educational facilities reflects a history of federal support for higher education reflected in universities' nonprofit tax status and exemplified by the Morrill Act, which first established land-grant colleges such as many of the Petitioners. The efforts of Congress and the NRC to reduce the federal budget deficit are praiseworthy, but only if this effort encourages growth by strengthening the nation's long-standing superiority in science and technology. In the long term, the loss of the Commission's educational exemption will hinder the advancement of nuclear science, the nuclear industry, the NRC itself, and the national interest.

#### VII. Conclusion

For the foregoing reasons, Petitioners request that the Commission reconsider its Final Rule and reinstate its annual fee exemption for nonprofit educational institutions.

Respectfully submitted,

By: \_\_\_\_\_  
Cornell University,  
Shirley K. Egan,  
Associate Counsel, Cornell University, 500  
Day Hall, Ithaca, NY 14853-2801.

By: \_\_\_\_\_  
Counsel for Cornell University,  
Joseph C. Bell, Melissa R. Jones,  
Hogan & Hartson, 555 Thirteenth Street, NW.,  
Washington, DC 20004-1109.

By: \_\_\_\_\_  
Kansas State University,  
Jennifer Kassebaum,  
Assistant University Attorney, Kansas State  
University, 111 Anerson Hall, Manhattan, KS  
66506-0115.

By: \_\_\_\_\_

Manhattan College,  
Walter Matystik,  
Assistant Provost, Manhattan College, 4513  
Manhattan College Pkwy., Bronx, NY 10471.

By: \_\_\_\_\_  
Massachusetts Institute of Technology,  
George H. Dummer,  
Director, Office of Sponsored Programs,  
Massachusetts Institute of Technology, 77  
Massachusetts Avenue, room 4-110,  
Cambridge, MA 02139.

By: \_\_\_\_\_  
North Carolina State University,  
Dr. Larry Monteith,  
Chancellor, North Carolina State University,  
A Holladay Hall, Box 7001, Raleigh, NC  
27695-7001.

By: \_\_\_\_\_  
Reed College,  
Steven Koblik,  
President, Reed College, 3203 Southeast  
Woodstock Blvd., Portland, OR 97202.

By: \_\_\_\_\_  
University of Rhode Island,  
Louis J. Saccoccio,  
Assistant Legal Counsel, Carlotti  
Administration Bldg., Office of the General  
Counsel, University of Rhode Island,  
Kingston, RI 02881.

By: \_\_\_\_\_  
The Board of Trustees of The University of  
Illinois,  
Donald A. Henas,  
Associate University Counsel, University of  
Illinois, Suite 258, Henry Administration  
Bldg., 506 South Wright Street, Urbana, IL  
61801.

By: \_\_\_\_\_  
The Curators of the University of Missouri,  
Phillip J. Hoskins,  
Counsel, University of Missouri System, 227  
University Hall, Columbia, MO 65211.

By: \_\_\_\_\_  
University of New Mexico,  
Charles N. Estes, Jr.,  
University Counsel, University of New  
Mexico, 150 Scholes Hall, Albuquerque, NM  
87131.

By: \_\_\_\_\_  
The University of Texas System,  
Robert Giddings,  
Attorney, The University of Texas System,  
201 West Seventh Street, Austin, TX 78701.

By: \_\_\_\_\_  
University of Utah,  
Williams T. Evans,  
Educational Division Chief, Utah Attorney  
General's Office, Beneficial Life Tower, 11th  
Fl., 36 South State Street, Salt Lake City,  
UT 84111.

Service may be made upon:  
Joseph C. Bell, Melissa R. Jones,  
Hogan & Hartson, 555 Thirteenth Street, NW.,  
Washington, DC 20004-1109, Counsel for  
Cornell University.

Dated: July 30, 1993.

**Exhibit 1**

July 15, 1993.

Ms. Shirley K. Egan,  
Associate University Counsel, 500 Day Hall,  
Cornell University, Ithaca, NY 14853.

Dear Ms. Egan: Your draft of a possible submission to the NRC captures most of the argument that I and, I am sure, the Circuit Court had in mind.

There is one observation you make, however, that I think can usefully be expanded, and it is an argument that anyone familiar with the literature on externalities would quickly appreciate. It has to do with the social benefits of the non-proprietary pure research to which you allude, and of the associated practice of not charging possible users for access to the knowledge that it produces.

Pure knowledge is the archetypal "public good," in economic terms, the essential characteristic of which is that, once

produced, it can be made available more and more widely at zero incremental cost. This means that it is inefficient to charge people for access to it.

That fact, taken together with the difficulty of the producer of pure knowledge appropriating the benefits of it in charges to potential users—because those benefits are largely unpredictable—together make the strong and universally recognized case for public financing of pure research. The University's policy, which you do correctly emphasize, of conducting research on a non-proprietary basis is therefore—as you clearly imply but do not, I think, stress adequately—socially highly desirable, and it would be both futile for universities to try to recover the cost by charging potential users and socially and economically undesirable for them to do so.

This does not answer the question of who should pay the charges in question: on this

I have nothing to add to your statement, except to point out that recovery in the form of a flat charge on business beneficiaries is superior to a specific charge by the University for particular pieces of knowledge.

I urge you to consider expanding the argument slightly along these lines, mainly because I think I can assure you that anyone who raises the possible consideration of externalities will be receptive to such an expansion to embrace the concept of public goods.

I've taken the liberty of correcting a few minor errors on the draft you sent me and raising one or two minor specific questions.

Please call on me if you think I can be of any additional assistance.

With best regards,

Sincerely,

Alfred Kahn.

**EXHIBIT A—NUCLEAR REACTOR BUDGETS, USE, AND FEDERAL FUNDING AT PETITIONER INSTITUTIONS**

Institution	Annual reactor operating budget (dollars)	Proposed NRC annual fees (dollars)	No. persons using reactor (faculty/grad. students/undergraduates)	Percentage of dept. budget from federal sources (percent)
Cornell Univ	1,240,000	124,200	3F/12G	52.
Kansas State Univ	134,482	62,100	4F/7G/30U	67.
Manhattan College	15,000	62,100	3F/20G/30U	Not Available. <sup>5</sup>
M.I.T.	*1,270,000	62,100	35F/86G/53U	63.
N. Carolina State Univ	435,000	62,100	6F/50G/87U	25.
Reed College	60,000	62,100	8F/0G/13U	33.
Univ. Illinois-Urbana	*200,000	124,200	4F/14G	75.
Univ. Missouri-Rolla <sup>4</sup>	108,350	62,100	6F/12G/39U	Not Available.
Univ. New Mexico	27,000	62,100	8F/62G/25U	89.
Univ. Rhode Island	533,769	62,100	22F/12G	85.
Univ. Texas-Austin	267,183	62,100	4F/11G	100.
Univ. Utah	50,000	62,100	6F/15G/7U	48.

<sup>1</sup> Combined figure for the two reactors at Cornell.

<sup>2</sup> Facility operates at a deficit of \$650,000.

<sup>3</sup> Combined figure for the two reactors at Illinois-Urbana.

<sup>4</sup> Data from the Rolla campus reactor only.

<sup>5</sup> Total 1992 federal grants for the Department equaled \$40,000.

**Exhibit B**

**Nuclear Reactor Programs at Petitioner Institutions**

**Cornell University**

In its 30 years of operation, the Cornell TRIGA has been used extensively in undergraduate and graduate courses and research by non-specialists. In one project, neutron-induced autoradiography is used to map the location of specified pigments to reveal images in the successive layers painted by artists as a painting evolves from preliminary sketch to final version. This non-destructive technique allows the art historian to infer the artist's developing intentions. In another, neutron radiography is used to study the distribution of water between soils and the roots of living plants. Neutron activation analysis is widely used in archaeology to characterize elemental compositions of articles such as pottery shards and obsidian and metallic artifacts. Sufficient differences in elemental composition among clay sources distinguish local wares from imported ones. The effectiveness of detergents has been

studied by determining residues of labeled oils on treated specimens. Nuclear methods of characterization for trace elements have been a key to resolving many materials quality issues for silicon semiconductor device fabrication.

Cornell has the only cold neutron beam program at a university reactor in the United States.

Additional nuclear methods that will shortly come into use at Cornell include prompt gamma-ray neutron activation analysis and neutron depth profiling based on monoenergetic conversion electrons produced by neutron reactions as well as the familiar method based on alpha particle or proton production.

**Kansas State University**

The program at Kansas State is valuable to institutions without research and teaching reactors. The school's reactor, under the Department of Energy Reactor Sharing program, is used by 13 different institutions, including Stanford, Louisiana State, the University of Southern California, and the

National Transportation Safety Board. Within the University, the reactor is used mostly by chemistry students, followed by nuclear engineering students. Research is conducted in a wide range of fields including geology, biology, animal sciences, textiles, and grain sciences.

**Manhattan College**

The college's teaching and research reactor program is private and primarily undergraduate. It is very small but economically run. As the only teaching and research reactor in the metropolitan New York area available to educational institutions, it provides a significant resource for the area. Three to four area institutions of higher learning regularly use it for teaching and research. Colleges such as New York Maritime College would otherwise have no access to such a facility. In addition, hundreds of area high school and middle school students enjoy tours and demonstrations at the reactor each year as part of their science curriculum. The school district in which the college is located has

the highest proportion of minority students of any community school district in New York City, and among the highest in the nation.

#### Massachusetts Institute of Technology

A large research program is carried on at the MIT Research Center. In Nuclear Engineering there are studies in (1) *Dose Reduction* in which pressurized loops that stimulate both PWR and BWR environments have been constructed and operated in the core of the reactor for the purpose of identifying coolant chemistries that will minimize corrosion; (2) *Irradiation-Assisted Stress Corrosion Cracking* to investigate the formation and growth of cracks in reactor structural alloys; (3) testing the efficacy of in-core sensors, known as the *SENSOR Project*, involving in-core sensors that detect changes in electro-chemical potential (ECP) and the effect of water chemistry additives on the halting of crack growth; and (4) *Digital Control* to develop and experimentally verify a generic methodology for the closed-loop digital control of neutron power, core temperature, and other plant parameters. In over a decade of work, results have included demonstration of signal validation, the development of a supervisory controller using reactivity constraints, a rule-based controller, closed-form laws for the time-optimal trajectory-tracking of reactor power, the on-line reconfiguration of control laws, automated power increases from subcritical, and the use of various forms of feedback. Parallels between control strategies for reactors characterized by spatial dynamics and control of multi-modular reactors have also been studied.

Space Science also benefits from the Research Center with studies to determine the feasibility of low-temperature annealing of radiation-induced defects in electronic components such as will be used on a spacecraft for interplanetary missions of several years duration, and an upcoming study to investigate thermionic energy conversion in spacecraft reactors.

Neutron activation analysis and track-etch techniques are being used in Earth Sciences to investigate fundamental questions about the earth from meteorite composition, lava characteristics, and crack growth in granitic rock to continental drift. Neutron activation is also being used to study the movements and trace the origins of atmospheric pollutants.

#### North Carolina State University

Since 1973 the university's reactor has been used to support "Research Reactor Training" for local utilities' training of licensed reactor operators. Newly available in 1990 are training programs for individuals in the industrial community, such as engineers, supervisors, and maintenance personnel, to strengthen their understanding of how a power reactor operates. Representative of the research uses of the university's reactor are the (1) *Irradiation of Reactor Vessel Steels Project* for long term irradiation performed in specially designed baskets in the reactor, a project seeking a better understanding of degradation of the physical properties of steel in the reactor vessels at nuclear power plants;

(2) *Synergistic Effects on Carbon Limiters Project* to assess synergistic effects of both neutron exposure and ion bombardment to carbon limiters in fusion reactors by providing long term irradiation of carbon samples; (3) *Neutron Activation Analysis* in many quantitative analysis needs such as environmental monitoring, forensic and criminal work, certification of material purity, rare-earth tagging for study of marine larval dispersion, analysis of mercury in fish tissue, analysis of fossil power plant reservoirs for selenium, and industrial tagging; and (4) *Neutron Depth Profiling Project* consisting of characterization studies of borosilicate glass films on silicon wafers.

#### Reed College

Reed College is the only educational institution in the United States to operate a reactor without a graduate or engineering program. Although under the Chemistry Department, the reactor is used by six faculty for classes in physics, natural science, and art history, as well as chemistry. Undergraduate and faculty research involves about 5 students each year, however, in the last 2 years approximately 20 faculty members from 11 additional colleges and universities have used the reactor facility for classes or research in the fields of biology, chemistry, physics, environmental science, forensic science and art history. Each year as many as 20 high school students use the facility for classes and research. A non-credit, semester seminar series on "reactor, radiation and the environment" is offered to the public. Between 30 and 50 people attend it each year, two-thirds of them not affiliated with Reed College.

#### University of Illinois-Urbana

The University of Illinois Nuclear Reactor Laboratory is a two-reactor facility, using the Advanced TRIGA and LOPRA reactors. Neutron Activation Analysis, materials damage studies and nuclear pumped laser research are the research foci of the facility, in addition to its teaching goals.

#### University of Missouri-Rolla

The primary uses of the reactor at the Rolla campus of the University of Missouri are education and training of graduate and undergraduate students and nuclear-related research. The reactor is used mostly by students from the fields of nuclear engineering, chemistry, life science, and physics. In addition, about 540 students and instructors from other institutions use the reactor through the University Reactor Sharing Program.

#### University of New Mexico

Four research projects have been carried out using the AGN-201M reactor over the past seven years. One of the major research projects involves measurement of basic physics parameters in a highly thermal system. No other thermal facility system has the flexibility and low intrinsic source strength required for this research. This feature is unique to the university facilities. A second project is a small sample reactivity measurement technique that is being applied to geologic samples to determine their thermal neutron cross sections and relative

water content. This work has application in both the oil well core logging industry and in the waste disposal area. In a third project, foils of different materials are activated to determine their responses to thermal neutrons and to analyze content, particularly with respect to impurities that may be present. A recent doctoral research project examined the role of fuzzy logic controllers in nuclear reactor control. The conclusion was that fuzzy logic controllers appear to be feasible and useful when applied to rod positioning and timing.

#### University of Rhode Island

Rhode Island Nuclear Science Center has a long history of conducting environmental research. The University of Rhode Island Graduate School of Oceanography uses the reactor to perform neutron activation analysis on environmental samples collected from locations all over the globe. Important research discoveries in acid rain, geology, and environmental pollution have been achieved over the years because of the availability of the reactor. The URI physics department conducts extensive neutron scattering experiments at the reactor and usually has several post-doctoral researchers at the facility on a full time basis. As the only nuclear facility in the state, RINSC provides a significant number of tours to students from high schools and universities. The positive uses of nuclear technology in environmental and materials research can be observed on a first hand basis.

#### University of Texas

Research currently under way at the Nuclear Engineering Teaching Lab includes the (1) *Texas Cold Neutron Source Project* for the development of a neutron source with low neutron energies for research in prompt gamma activation and scattering; (2) *Neutron Depth Profiling Project* for the measurement of boron and other (n,a) reactions to determine depth concentrations in various materials such as glass and silicon; (3) *Neutron Capture Therapy Project* for measurements of the dose to head phantoms from the neutron activation of gadolinium; (4) various *Neutron Activation Projects* in support of investigators, including irradiation of biological fluids, geological samples, and others; and (5) *Digital Reactor Control Project* for the development of an artificial intelligence software tool to provide software functional diversity.

#### University of Utah

The program at the University of Utah is multidisciplinary in nature, allowing researchers in a variety of fields to discover the potential of reactor use. The reactor is used mostly by nuclear engineers, mechanical engineers, chemical engineers, and electronic engineers.

[FR Doc. 93-23836 Filed 9-28-93; 8:45 am]

BILLING CODE 7580-01-P

ATTACHMENT 2

[7590-01-P]

NUCLEAR REGULATORY COMMISSION

10 CFR Part 171

RIN 3150-AE83

Restoration of the Generic Exemption From  
Annual Fees for Nonprofit Educational Institutions

AGENCY: Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: On September 29, 1993 (58 FR 50859), the Nuclear Regulatory Commission ("NRC" or "Commission") published a proposed rule granting a petition for rulemaking submitted by a number of colleges and universities possessing NRC licenses. The petition requested that the NRC reinstate the exemption from annual fees previously given nonprofit educational licensees. The proposed rule requested public comment solely on that issue. The exemption had been eliminated in a final rule published in the *Federal Register* on July 20, 1993. After careful consideration, the Commission has decided to reinstate the annual fee exemption for nonprofit educational institutions.

EFFECTIVE DATE: (30 days after publication in the *Federal Register*)

FOR FURTHER INFORMATION CONTACT: L. Michael Rafky, Office of the General Counsel, U.S. Nuclear Regulatory Commission, Washington, DC 20555, telephone 301-504-1974.

SUPPLEMENTARY INFORMATION:

- I. Background.
- II. Responses to comments.
- III. Final action - changes included in final rule.
- IV. Section-by-section analysis.
- V. Environmental impact: categorical exclusion.
- VI. Paperwork reduction act statement.
- VII. Regulatory analysis.
- VIII. Regulatory flexibility analysis.
- IX. Backfit analysis.

I. Background

Soon after publishing its final rule establishing the NRC's FY 1993 fee schedules (58 FR 38666; July 20, 1993), which included for the first time annual fees for previously exempt nonprofit educational institutions<sup>1</sup>, the Commission received a petition for reconsideration of that rule. The petition, filed by a number of colleges and universities affected by the policy

---

<sup>1</sup>The NRC's elimination of the exemption was prompted in part by a court decision questioning the exemption's lawfulness. *Allied-Signal v. NRC*, 988 F.2d 146 (D.C. Cir. 1993).



change, requested that the NRC reconsider its decision to charge annual fees to such institutions. The petition asserted that the externalized benefits and public good resulting from use of university research reactors in various fields of education would be lost if these fees were imposed upon college and university licensees. (See Petition for Reconsideration of Final Rule (July 30, 1993) (appended to the Proposed Rule for the Restoration of the Annual Fee Exemption to Nonprofit Educational Institutions, 58 FR 50859; September 29, 1993.)) The petition pointed to research in such fields as nuclear safety, medicine, archaeology, food science and textiles, education of the public in nuclear matters, and to various benefits of education.

The petition relied upon a letter from economist Alfred Kahn to counsel for Cornell University, a petition signatory. The Kahn letter referred to "pure knowledge," especially nonproprietary university research made accessible to the public free of charge, as "the archetypical 'public good,' in economic terms, the essential characteristic of which is that, once produced, it can be made available more and more widely at zero economic cost."

While considering whether to grant the petition for reconsideration, or in the alternative to grant some nonprofit educational institutions individual "public interest" exemptions from the new annual fees, the NRC sent staff members to a number of colleges and universities to learn more about the use of nuclear materials in educational programs and the benefits that

resulted from those materials' use. The Commission concluded, on the basis of these visits and the arguments made in the petition for reconsideration, that it should propose to retract the new annual fees (\$62,100 per research reactor license; lesser amounts for each materials license). Accordingly, on September 29, 1993 (58 FR 50859), the Commission published in the **Federal Register** a notice granting the petition and proposing to restore the annual fee exemption for nonprofit educational institutions.

The Commission received over 200 comments on the proposed rule, with the vast majority in favor of restoring the annual fee exemption. (This number includes comments on the educational exemption provided to the Commission in response to its Congressionally-mandated study of overall agency fee policy, see 58 FR 21116; April 14, 1993). After careful review of the comments, and after studying the views of a professional economist engaged to assist in analyzing the comments (see note 2 *infra*), the Commission has decided to make final its proposed reinstatement of the exemption from annual fees for nonprofit educational institutions.

As the Commission made clear in the proposed rule, it will not charge other licensees retroactively for the monetary shortfall produced by the Commission's change in policy on the educational exemption. Therefore, for FY 1993 no licensees will be charged additional fees to compensate for the restored exemption. In addition, because the educational exemption is being restored for FYs 1991-92, there will be no refunds to power

reactor licensees who paid increased annual fees in those years due to the exemption of nonprofit educational institutions (a point also detailed in the proposed rule).

## II. Responses to Comments

Although the comment period expired on October 29, 1993, the NRC reviewed all comments received prior to November 13, 1993. The Commission received over 200 comments in response to the proposed rule. Copies of all comment letters received are available for inspection in the NRC Public Document Room ("PDR"), 2120 L Street, NW (Lower Level), Washington, D.C. 20555.

1. *Comment.* Most commenters were educational institutions, who argued that their educational and research activities with licensed nuclear materials will have to be severely curtailed or halted altogether if the annual fee exemption is not restored. They claimed that the annual fees would, in many cases, entirely subsume the budget for operation of the research reactor or use of nuclear material. Many commenters also stated that there was no possibility of obtaining more money for their operating budgets, and that the inevitable result of annual fees would therefore be an across-the-board reduction in nuclear-related studies.

*Response.* The Commission is aware of the effect annual fees could have on nonprofit educational institutions, not only from their comments but also from its own site visits. The Commission

believes that much of the work done by these institutions with nuclear materials, in both nuclear and non-nuclear fields of study, is extremely valuable and should not be impeded or halted due to the new annual fees. Further, for reasons discussed later, subsidies for such activities are both necessary and desirable.

2. *Comment.* A number of comments received from nonprofit educational institutions stated that their work produced externalized benefits to society, in the words used in the D.C. Circuit's *Allied-Signal* decision, "not captured in tuition or other market prices." Among the benefits cited were research in fields such as nuclear safety, neutron activation analysis, neutron radiography, archaeology, art history and biology. Much of this research, some commenters claimed, was basic research done to advance science, not for profit or commercial use (although such an outcome might occur). One commenter noted that it does not accept research grants and contracts without making them public, and publishes virtually all its findings. The commenters asserted that this research, if halted due to new fees, would not likely be duplicated or replaced by the private sector.

*Response.* The Commission agrees with commenters that much of the work done with nuclear materials in academia, if halted, would simply not be continued in the private sector. In particular, the Commission was impressed by the arguments made regarding basic research. The Commission believes that such

research, done in the spirit of academic inquiry, is an integral part of the programs run by educational institutions with NRC licenses.

The Commission agrees with commenters' arguments that educational institutions' commitment to basic research is largely unique, as it is not driven by the need to develop commercial uses. While there is undoubtedly much basic research performed outside educational institutions, the Commission does not believe that it is an adequate substitute for academic research.

In the Commission's view, a major benefit resulting from educational institutions' use of nuclear reactors and materials is the production of new knowledge through research, which the Commission would term a "public good," as defined in economic theory.<sup>2</sup> Two characteristics of a public good like pure knowledge are its nondepletability and nonexcludability. That is, one person's acquisition of knowledge does not reduce the amount available to others; further, it is not efficient - and often is impossible, as a practical matter - to prevent others from acquiring it. These characteristics make it difficult to recoup the costs of producing pure knowledge. Because the value of a public good may be very great, but the costs of producing it impossible to recapture, it may be necessary to subsidize that

---

<sup>2</sup>The Commission's analysis of this concept was aided by a memorandum prepared by an NRC consultant on the issues of external benefits and public goods. The memorandum has been placed in the NRC PDR and may be examined by any interested member of the public. See Memorandum to NRC Staff from Stephen J.K. Walters, Professor of Economics, Loyola College (Md.), dated January 4, 1994.

good's production for production to occur at all. In the Commission's view, that is true of the pure knowledge produced by nonprofit educational institutions, and the Commission has therefore decided to exempt them from fees.

Restoring the educational exemption will have additional beneficial consequences. Colleges and universities not only produce research results and pure knowledge (what we have termed "public goods"), but also other benefits of great value to both the nuclear community and society as a whole. For instance, many of the students trained on research reactors will likely become the next generation of nuclear reactor operators and engineers. The knowledge they gain from their education in these fields will allow them to operate reactors and other nuclear facilities safely and effectively. Knowledge attained through education will also be of value to those companies or Government agencies, including the armed forces, who hire these students to perform nuclear-related work, which often cannot be done without extensive education in the area.

3. *Comment.* A number of commenters argued, for a variety of reasons, that the educational exemption should not be restored. Some commenters stated that each licensee should pay its fair share. Others believed that for-profit entities benefit the public as well and should not be penalized because they generate profits. Certain nonprofit commenters and medical licensees argued that if the exemption were retained, it should be expanded to include nonprofit institutions and medical

licensees that are not now exempted from fees. A few commenters stated that in certain fields of study, schools and university hospitals compete with private research laboratories and nonprofit hospitals, respectively, and thus would receive an unfair subsidy from an annual fee exemption. One commenter went on to argue that such a subsidy amounted to an unlawful promotion of atomic energy by the NRC. Another commenter requested that the proposed rule be changed to exempt it from the annual fee, noting that it was the only Federally-owned research reactor not so exempted, due to the level of its power output.

A number of other commenters supported restoration of the educational exemption, but believed it should be funded in a different manner. The two alternatives most popular with commenters were funding the exemption out of general revenues, which would mean removing it from the fee base, or funding it via a surcharge on all licensees, not just power reactor licensees. Those commenters favoring removal of the educational exemption from the fee base acknowledged that such an outcome would require Congressional legislation.

*Response.* After deliberating over whether the educational exemption should be restored, the Commission believes the wisest policy decision is to exempt nonprofit educational licensees once again. Since the Commission published its final rule in July 1993 abolishing the educational exemption, it has devoted an extraordinary amount of time and attention to the question of whether to reverse that decision. It has reviewed hundreds of

letters on the issue, fielded numerous phone comments and inquiries, and sent staff members to study the issue by visiting college and university licensees. In the Commission's view, the evidence taken as a whole leans strongly in favor of restoring that exemption, for the reasons described above: that many educational licensees would be forced to halt their research and educational activities due to lack of funds if NRC fee subsidies were withdrawn; that those activities would often not be continued in the private sector, resulting in a serious loss of basic research in numerous areas of study; and that the public good inherent in the production of knowledge made available to all is worthy of Government support.

The Commission has received anecdotal information from some commenters indicating that certain nonprofit research institutions (which do not fall within the definition of nonprofit educational institution as provided in 10 CFR 171.5) and Federally-owned research reactors should receive the same treatment as educational institutions.<sup>3</sup> However, the Commission does not believe it has sufficient information on which to base a generic exemption for such research institutions and reactors. Because the proposed rule did not suggest that the educational exemption be expanded in this way, the Commission received a

---

<sup>3</sup>Most Federally-owned research reactors were exempted from fees by Congress in earlier legislation. See section 6101(c)(4) of OBRA-90, 42 U.S.C. 2214(c), as amended by the Energy Policy Act of 1992. However, the reactor in question operates at a power level greater than that specified in the legislation for exempt facilities, and therefore does not meet the definition of a "research reactor" for purposes of the statutory exemption.



smaller number of comments than are needed to make an informed decision on this issue. For that reason, the current policy of charging such entities annual and user fees remains in effect. Those nonprofit research institutions and Federally-owned research reactors who believe that they qualify for an exemption from the annual fee based on the public good concept are, of course, free to request one from the Commission. See 10 CFR 171.11. Depending on the outcome of any such requests, the Commission may need to revisit the question of whether to make nonprofit research institutions generically exempt from fees in a future rulemaking.

The Commission also believes that medical licensees should continue to pay annual fees. This is consistent with past Commission practice. Also, contrary to one commenter's belief, the Commission does assess fees to nonprofit educational institutions for licenses authorizing medical treatment using licensed nuclear materials. The Commission does not believe that medical licensees are analogous to nonprofit educational institutions. Their function is not pure research and education, but primarily to provide services to paying customers.

While the Commission does not dispute that medicine provides significant benefits to patients, such treatment is both depletable and excludable. The benefits of medicine are therefore a private rather than a public good. By contrast, an educational institution generally disseminates the results of its basic research to all who want it, even going beyond the confines

of the university itself, without receiving compensation from any of those benefitting from that knowledge. The key to nonprofit educational licensees' singular treatment is not merely that they provide valuable social benefits; rather, it is the existence of certain market failure considerations (discussed above) that apply to producers of pure knowledge through basic research, but not to medical practitioners. The distinction between educational and medical licensees is addressed at greater length in the Commission's recent Federal Register notice discussing the petition filed by the American College of Nuclear Physicians and the Society of Nuclear Medicine seeking a fee exemption for medical licensees (to be published contemporaneously with this final rule).

The Commission does not plan to adopt the suggestion of some commenters that most or all other licensees should contribute something toward the costs of exempting nonprofit educational licensees. The agency, in any event, is not recouping these costs for FY 1993, as it is legally precluded from retroactively collecting those costs from licensees. The Commission in its Energy Policy Act-mandated review of fee policy has concluded that the costs of exempting nonprofit educational institutions should be excluded from the fee base through legislation modifying OBRA-90. In its study, the Commission concluded that if legislation to accomplish this is not enacted, these costs should continue to be recovered through fees assessed to power reactor licensees.

4. *Comment.* A number of commenters have argued that the Atomic Energy Act of 1954, as amended ("AEA"), mandates NRC support of education, and that accordingly the NRC must restore the educational exemption to conform to that mandate. In this regard, some commenters made the point that their facilities were originally funded or provided to them by the AEC or other Federal agencies.

*Response.* The Commission acknowledges its longstanding policy of supporting education, and believes that such support has been vital to the success of nuclear and nuclear-related education. That notwithstanding, the Commission does not view its education policy, or the exhortatory language of the AEA, as mandating that colleges and universities be exempt from NRC fees. The Commission has decided to restore the fee exemption as a policy matter, not a matter of legal compulsion.

5. *Comment.* Many educational institutions commented that it made little sense to charge them annual fees when much of their nuclear-education funding was derived from Federal agencies such as the Department of Energy and the National Science Foundation. Another commenter argued that State agencies were nonprofit in nature and should be exempted in the same manner as colleges and universities.

*Response.* The Commission for reasons discussed above decided to reinstate the exemption for nonprofit educational institutions. The fact that a number of these institutions received funding from Federal agencies was not a factor in the

final decision. The Commission's decision was based primarily on who received the benefits of the services rendered, rather than who funded the underlying activities.

The Commission also notes that it charges fees to other governmental licensees, including both Federal and State agencies. (Virtually no Federal agencies are charged user fees under Part 170 due to a prohibition against such fees in the Independent Offices Appropriation Act, see 31 U.S.C. 9701.) It finds no basis for changing its historical policy with respect to these entities in this rulemaking. This issue is addressed in the Commission's Report to Congress on fee policy, cited earlier in this rulemaking.

6. *Comment.* Some educational commenters stated that they should fall under the category of small entities, and asked whether the definition of "small entity" could be broadened to include a greater number of institutions than currently fall within the definition.

*Response.* The Commission intends to re-examine the size standards it uses to define small entities within the context of compliance with the Regulatory Flexibility Act. The Commission will conduct this review within the context of the proposed revisions of small business size standards proposed by the Small Business Administration ("SBA") (58 FR 46573; September 2, 1993). The Commission will not complete its review until the SBA promulgates a final rule containing the revised size standards.

Until these activities are completed, it would be premature to address this comment.

### III. Final Action - Changes Included in Final Rule

The Commission has made only one change to its FY 1993 final rule establishing annual and user fee schedules for that fiscal year. As it proposed, the Commission has amended § 171.11 to exempt nonprofit educational institutions from annual fees. The new exemption provision is identical to that contained in the FY 1991 and 1992 final fee rules. Because the final fee schedule for FY 1993 has already been issued, the Commission will not be charging any other licensees for the fees that would have been paid for FY 1993 by the newly exempt group of licensees. For that reason, no new fee schedule is being published at this time. A revised NRC fee schedule incorporating these changes and billing other licensees for the FY 1994 exemption's costs will be included in the FY 1994 proposed fee rule.

Because the Commission has decided in this final rule to reinstate the annual fee exemption for nonprofit educational institutions, the NRC will cancel the FY 1993 annual fee invoices for those licensed activities exempt under this final rule. Accordingly, refunds will be made to those licensees who paid the FY 1993 annual fees and are now exempt under this final rule. Additionally, no further action will be taken on nonprofit

educational institutions' exemption requests, which had been held in abeyance pending this final rule.

Some nonprofit educational institutions filed applications requesting termination, downgraded, possession-only or combined licenses to avoid the FY 1993 annual fee. If those applications are still pending, the licensees should notify the NRC within 30 calendar days from the effective date of this rule if they wish to rescind their applications due to the exemption's reinstatement. Absent such notification, the NRC will process the applications as filed. There are instances where the NRC has already completed final action on some of the applications in question. The affected nonprofit educational institutions are advised that if they wish to reinstate their previous licens authority, they must file an application to do so with the NR Such applications for reinstatement of previous license authority are exempted from fees under 10 CFR 170.11(a)(4) as appropriate.

#### IV. Section-by-Section Analysis

##### *Section 171.11 Exemptions*

Paragraph (a) of this section is amended by adding nonprofit educational institutions, as defined in § 171.5, to the list of those entities exempted from annual fees by the Commission. A discussion of this change in fee policy is found in Sections I and II of this final rule.

#### V. Environmental Impact: Categorical Exclusion

The NRC has determined that this final rule is the type of action described in categorical exclusion 10 CFR 51.22(c)(1). Therefore, neither an environmental assessment nor an environmental impact statement has been prepared for the final regulation.

#### VI. Paperwork Reduction Act Statement

This final rule contains no information collection requirements and, therefore, is not subject to the requirements of the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.).

#### VII. Regulatory Analysis

With respect to 10 CFR part 171, on November 5, 1990 the Congress passed Pub. L. No. 101-508, the Omnibus Budget Reconciliation Act of 1990 (OBRA-90). OBRA-90, as amended, requires that for FYs 1991 through 1998 approximately 100 percent of the NRC's budget authority be recovered through the assessment of fees. To accomplish this statutory requirement, on July 20, 1993 (58 FR 38666), the NRC, in accordance with § 171.13, published in the Federal Register the final amount of the FY 1993 annual fees for operating reactor licensees, fuel cycle licensees, materials licensees, and holders of Certificates of

Compliance, registrations of sealed source and devices and QA program approvals, and Government agencies. Consistent with OBRA-90 and its Conference Committee Report, the Commission has ensured that -

(1) The annual fees are based on the Commission's FY 1993 budget of \$540 million less the amounts collected from Part 170 fees and the funds directly appropriated from the Nuclear Waste Fund to cover the NRC's high level waste program;

(2) The annual fees, to the maximum extent practicable, have a reasonable relationship to the cost of regulatory services provided by the Commission; and

(3) Annual fees are assessed to those licensees which the Commission, in its discretion, determines can fairly, equitably and practicably contribute to their payment.

Therefore, when developing the annual fees for operating power reactors, the NRC continues to consider the various reactor vendors, the types of containment, and the location of those reactors. The annual fees for fuel cycle licensees, materials licensees, and holders of certificates, registrations and approvals and for licenses issued to Government agencies take into account the type of facility or approval and the classes of the licensees.

10 CFR part 171, which established annual fees for operating power reactors effective October 20, 1986 (51 FR 33224; September 18, 1986), was challenged and upheld in its entirety in *Florida*



*Power and Light Company v. United States*, 846 F.2d 765 (D.C. Cir. 1988), cert. denied, 490 U.S. 1045 (1989).

10 CFR part 171, which established fees based on the FY 1989 budget, was also legally challenged. As a result of the Supreme Court decision in *Skinner v. Mid-American Pipeline Co.*, 109 S.Ct. 1726 (1989), and the denial of certiorari in *Florida Power and Light*, all of the lawsuits were withdrawn.

The NRC's FY 1991 annual fee rule was largely upheld recently by the D.C. Circuit Court of Appeals in *Allied-Signal v. NRC*, 988 F.2d 146 (D.C. Cir. 1993).

#### VIII. Regulatory Flexibility Analysis

As required by the Regulatory Flexibility Act, 5 U.S.C. 605(b), the Commission certifies that this final rule as adopted does not have a significant economic impact on a substantial number of small entities. This final rule restores a previous exemption to a specific class of licensees while not imposing a new financial burden on any other class of licensee.

#### IX. Backfit Analysis

The NRC has determined that the backfit rule, 10 CFR 50.109, does not apply to this final rule and that a backfit analysis is not required for this final rule. The backfit analysis is not required because these amendments do not require the modification

of or additions to systems, structures, components, or design of a facility or the design approval or manufacturing license for a facility or the procedures or organization required to design, construct or operate a facility.

List of Subjects in 10 CFR Part 171

Annual charges, Byproduct material, Holders of certificates, registrations, and approvals, Intergovernmental relations, Non-payment penalties, Nuclear materials, Nuclear power plants and reactors, Source material, Special nuclear material.

For the reasons set out in the preamble and under the authority of the Atomic Energy Act of 1954, as amended, and 5 U.S.C. 552 and 553, the NRC hereby adopts the following amendments to 10 CFR part 171.

PART 171 - ANNUAL FEES FOR REACTOR OPERATING LICENSES, AND FUEL CYCLE LICENSES AND MATERIALS LICENSES, INCLUDING HOLDERS OF CERTIFICATES OF COMPLIANCE, REGISTRATIONS, AND QUALITY ASSURANCE PROGRAM APPROVALS AND GOVERNMENT AGENCIES LICENSED BY THE NRC

1. The authority citation for Part 171 is revised to read as follows:

Authority: Sec. 7601, Pub. L. 99-272, 100 Stat. 146, as amended by sec. 5601, Pub. L. 100-203, 101 Stat. 1330, as amended by sec. 3201, Pub. L. 101-239, 103 Stat. 2106 as amended by sec.

6101, Pub. L. 101-508, 104 Stat. 1388 (42 U.S.C. 2213); sec. 301, Pub. L. 92-314, 86 Stat. 222 (42 U.S.C. 2201(w)); sec. 201, 88 Stat. 1242 as amended (42 U.S.C. 5841); sec. 2903, Pub. L. 102-486, 106 Stat. 3125 (42 U.S.C. 2214 note).

2. In § 171.11, paragraph (a) is revised to read as follows:

§ 171.11 Exemptions.

(a) An annual fee is not required for:

(1) A construction permit or license applied for by, or issued to, a nonprofit educational institution for a production or utilization facility, other than a power reactor, or for the possession and use of byproduct material, source material, or special nuclear material. This exemption does not apply to those byproduct, source, or special nuclear material licenses which authorize:

(i) Human use;

(ii) Remunerated services to other persons;

(iii) Distribution of byproduct material, source material, or special nuclear material or products containing byproduct material, source material, or special nuclear material; or

(iv) Activities performed under a Government contract.

(2) Federally-owned research reactors used primarily for educational training and academic research purposes. For purposes of this exemption, the term research reactor means a nuclear reactor that-

(i) Is licensed by the Nuclear Regulatory Commission under section 104 c. of the Atomic Energy Act of 1954 (42 U.S.C. 2134(c)) for operation at a thermal power level of 10 megawatts or less; and

(ii) If so licensed for operation at a thermal power level of more than 1 megawatt, does not contain-

(A) A circulating loop through the core in which the licensee conducts fuel experiments;

(B) A liquid fuel loading; or

(C) An experimental facility in the core in excess of 16 square inches in cross-section.

\* \* \* \* \*

Dated at Rockville, MD this \_\_\_\_ day of February 1994.

For the Nuclear Regulatory Commission,

\_\_\_\_\_  
Samuel J. Chilk,  
Secretary of the Commission.

ATTACHMENT 3

01-04-94 04:24 PM

TO 301 492 4934

P02

## Memorandum

To: John Cordes, Jesse Funches, Trip Rouchild, Leo Slaggie, and NRC Staff  
From: Stephen J.K. Walters, Ph.D.  
Professor of Economics, Loyola College in Maryland  
Date: January 4, 1994  
Re: Restoration of the Generic Exemption from Annual Fees for Nonprofit Educational Institutions

Since our initial meeting of Dec. 13, 1993, I have (a) carefully reviewed selected comments on the proposed exemption for nonprofit educational institutions, (b) read the medical petition to conduct a rulemaking, and (c) conducted a literature survey related to the issues of "positive externalities" and "public goods."

Based on this endeavor and on prior research and analysis, I would make the following observations:

(1) The Commission's proposal to reinstate the annual fee exemption for nonprofit educational institutions is, from the standpoint of economic analysis, fundamentally sound.

(2) The Commission's stated rationale for this exemption--the existence of "external benefits" resulting from use of university research reactors--is, however, somewhat vague, and needs to be specified in greater detail.

(3) What has been missing, thus far, in the discussion of reasons why an exemption might be socially desirable is an understanding of the concept of the "public goods" which research and educational facilities provide. Market provision of these peculiar but important goods is problematic in some cases, and it is for this reason that unique consideration is due educational institutions.

In this memorandum, I will discuss each of these points in more depth and provide references to literature where interested readers may find more detailed information. I hope I am not *too* long-winded, but my hope is to provide you with a resource you will find useful in drafting a final rule.

### The "External Benefits" of Education and Research

Those who invest in education derive tangible private benefits: by acquiring knowledge or training, they make themselves more valuable to employers, and capture this value in the form of higher wages. In fact, this *knowledge-based earnings premium* has been growing lately: in the mid-'70s, the median income of college graduates exceeded that of high school graduates by about 35%, while by the late '80s this premium exceeded 70%.<sup>1</sup>

---

<sup>1</sup>See: Erica L. Groshen and Colin Drozdowski, "The Recent Rise in the Value of Education: Market Forces at Work," *Economic Commentary*, Federal Reserve Bank of

*Walters Memo: Educational Exemption*

It is widely—though by no means universally—held in the economics literature, however, that investing in education also yields certain "social" or "external" benefits.<sup>2</sup> These are benefits which are not wholly captured by the individual acquiring more education, but which flow to society at large or to bystanders (i.e., those "external" to the act of investing in education).

For example, education at all levels is thought to strengthen the social fabric by fostering notions of mutual respect and cooperation among individuals, and to persuade citizens to observe certain practices necessary to preserve public health and safety. Investment in *higher* education is thought to involve one particularly important external benefit: the generation of new ideas, or technological advance. In this view, education is an input to research and development; an externality arises because inventors sometimes will be unable to capture all the benefits of their innovative activity. In particular, some intellectual achievements (e.g., mathematical theorems, which are an important input into engineering) cannot be patented or otherwise protected from "copycats"; these imitators could then appropriate some or all of the benefits flowing from the inventions.

Comments on the NRC's proposed exemption contained ample and satisfactory evidence that nuclear facilities and materials are an important element in educational programs that generate such external benefits. Just about all the commenting institutions documented that they not only train significant numbers of enrolled students in the proper handling of nuclear materials; many also offer seminars, study tours, and other informational programs aimed at introducing a wider public to the principles of nuclear safety. More important, all the commenters stressed that the training these facilities make possible is indeed a crucial input to the production of new technologies in a variety of fields, from archaeology to medicine to physics.

The problem here (which economists tend to refer to as "the externality problem") is this: Since consumers tend to weigh only the *private* costs and benefits of purchasing more education, and fail to consider the *external* benefits, they will tend to under-consume this good. E.g., Suppose I could buy one more year of education at a cost of \$10,000. Suppose further that this would raise my lifetime earnings stream by \$9,900 and generate external benefits of \$1,000 (in the form of extra public health or safety enjoyed by others), for total social benefits of \$10,900. On net, society would be \$900 better off if I bought the extra year of education, but I would be \$100 poorer, and will decline to buy. This provides a rationale for public subsidies aimed at

---

Cleveland, August 15, 1992.

<sup>2</sup>For a critical survey on this point, see: Jack High, "State Education: Have Economists Made a Case?" *Cato Journal*, v. 5, no. 1 (Spring/Summer 1985), pp. 305-23; more generally, see Burton Weisbrod, *External Benefits of Public Education*, Princeton: Princeton University Press (1964).

01-04-94 04:24 PM

TO 301 492 4934

P04

*Walters Memo: Educational Exemption*

increasing the amount of education which will be produced and consumed. In this example, a voucher or scholarship for \$100 or more (up to \$1,000) would make the investment in education worthwhile both personally and socially.

There is, frankly, scant evidence on the magnitude of the externality problem in education. Discussion of the matter tends to be superficial; most treatments simply point out that public subsidy of education has tended to increase supply.<sup>3</sup> No one, to my knowledge, has precisely quantified the extent to which individuals acting without subsidy in ordinary markets will under-produce and -consume education, especially higher education.<sup>4</sup> Several researchers, however, have presented convincing evidence that countries which invest more in education (or, in the jargon, invest more in "human capital formation") enjoy significantly higher rates of economic growth.<sup>5</sup>

Of course, it is possible to argue that quantification of the externality problem in education is unimportant; the problem appears to be so widely acknowledged that subsidies for education, including higher education, are the rule rather than the exception. For example, the comments on the NRC's proposed rules included information that (in-state) students at the University of Virginia pay only one-half the true cost of their education; at Cornell, students pay a mere 29% of this cost. What is more, staff and equipment costs usually are far higher in, say, nuclear engineering programs than in English literature; if tuitions are uniform across programs, then, the nuclear engineering student receives a far greater subsidy than the English lit student. But the existence of such subsidies makes the absence of quantification more, not less, troubling. It certainly seems reasonable to ask: Is not the present level of subsidy adequate to overcome the problem of under-consumption? Are additional subsidies from the NRC truly necessary for this purpose?

---

<sup>3</sup>See the volume by Weisbrod, cited earlier, and also: Elchanan Cohn, *The Economics of Education*, Cambridge: Ballinger (1979); Walter Garms, et al., *The Economics and Politics of Public Education*, Englewood Cliffs, NJ: Prentice-Hall (1978).

<sup>4</sup>And some researchers argue that the externality problem is not quantitatively significant in education; see, e.g., Jack High and Jerome Ellig, "The Private Supply of Education: Some Historical Evidence," in Tyler Cowen, ed., *The Theory of Market Failure*, Fairfax, VA: George Mason University Press (1988).

<sup>5</sup>See: Costas Azariadis and Allen Drazen, "Threshold Externalities in Economic Development," *Quarterly Journal of Economics*, v. 105, no. 2 (May 1990), pp. 501-26; Robert J. Barro, "Economic Growth in a Cross Section of Countries," *Quarterly Journal of Economics*, v. 106, no. 2 (May 1991), pp. 407-43; Robert E. Lucas, Jr., "On the Mechanics of Economic Development," *Journal of Monetary Economics*, v. 22, no. 1 (July 1988), pp. 3-42; Paul M. Romer, "Increasing Returns and Long Run Growth," *Journal of Political Economy*, v. 94, no. 5 (October 1986), pp. 1002-37.



01-04-94 04:24 PM

TO 301 492 4934

P05

*Walters Memo: Educational Exemption*

Given the present level of empirical research on the matter, it is impossible to answer these questions with assurance. We suspect that a generic exemption will get us closer to the "optimum" number of, say, nuclear engineering majors, but we can't prove it. In my view, then, it would be unwise to focus solely on the external benefits resulting from the use of reactors (and other nuclear material) in education when we assess the desirability of granting a fee exemption; if we are to be reasonably sure that such an exemption would enhance welfare, we need "something more." I believe we need to consider the role of such an exemption in assuring the production of adequate amounts of new knowledge, which is an example of a "pure public good."

New Knowledge as a Public Good

Economists use the phrase "public good" to describe a good that has two peculiar properties: nondepletability and nonexcludability. (Sadly, this phrase was not chosen wisely: there are lots of goods that somehow involve the word "public," e.g., public phones, that are *not* public goods.)

A good is nondepletable<sup>6</sup> when my consumption of it leaves no less of it available for you to consume. Most goods, therefore, are not "public" (we refer to them as "private goods"). When, for example, I pour myself a cup of coffee from the office pot, there is less coffee available for you. But when I turn on my radio to "All Things Considered" as I drive home, that does not reduce the amount of that program available to you; the radio signal is a public good. When a good is nondepletable, it is generally undesirable to exclude anyone from consuming it—even if this were technologically feasible.<sup>7</sup> The reason is simple: Given its nondepletability, letting one more consumer enjoy a public good involves no added cost to society; if she values the good at all, then allowing her to consume it will yield a social benefit in excess of cost, i.e., will make society better off.

Economists have long held that it will be difficult or impossible for free, unfettered markets to produce goods possessing these properties—or, at the least, to produce them and

---

<sup>6</sup>Sometimes the phrase "nonrival in consumption" is used to describe this characteristic. In addition, you will sometimes see public goods referred to as "social goods" or "collective goods."

<sup>7</sup>Most early writers on the subject tended to say that it was difficult or impossible to exclude individuals who hadn't paid for a public good from consuming it. After several authors pointed out that excludability problems could be solved in many cases, the discussion tended to focus on the idea that such exclusion was undesirable rather than impractical.

01-04-94 04:24 PM

TO 301 492 4934

P06

*Walters Memo: Educational Exemption*

distributes them to all comers at a price equal to zero, as is desirable.<sup>8</sup> There are several problems. First and most obvious is the fact that private producers will be unable to recoup the initial costs of creating the public good if they give it away; but if they charge a positive price, some consumers who value the good in excess of its incremental consumption costs (i.e., zero) will be denied it. More subtly, it will be very hard for producers to gauge potential consumers' true demand for a public good: Consumers, aware that it may be infeasible or undesirable to exclude those who have not contributed to the creation of the good from enjoying it *after* it has been produced, may misstate their preference for the good *before* it is created in the hope they can free ride on the payments of those who ante up for the good's production. The result will be an inadequate private supply of public goods.

Many researchers have documented that, despite these concerns, there are many historical examples of privately supplied public goods; other authors have suggested pricing strategies in which private sellers might make the optimum amount of a public good available.<sup>9</sup> Nevertheless, there seems to be a reasonably broad agreement in the economics profession that private provision of public goods is problematic. There is simply no assurance that the requisite conditions (e.g., perfect information, zero costs of transacting or enforcing agreements) exist for optimal private production of public goods. Thus, there is a general consensus that public subsidies are often—though not always—necessary and desirable for the production of such goods.

This consensus is especially strong with respect to public financing of one particularly important public good—pure research aimed at creating new knowledge. It is obvious that a great deal of research (i.e., proprietary research) goes on—and will continue to go on—without governmental subsidy. In areas where intellectual property rights are secure (e.g., because of patents), the creation of new knowledge often pays handsomely, and private entrepreneurs rush to supply this good. But often it is either impossible to secure intellectual property—as in the case of the aforementioned mathematical theorems—or undesirable to do so.

As an example of the latter, consider a research project (described in the comment submitted by the University of Michigan) underway at Wayne State University. There researchers (under the supervision of Dr. J.M. Saxe) are using neutron activation analysis to try

---

<sup>8</sup>The classic references here are: Paul A. Samuelson, "The Pure Theory of Public Expenditure," *Review of Economics and Statistics*, v. 36 (November 1954), pp. 387-89; Francis M. Bator, "The Anatomy of Market Failure," *Quarterly Journal of Economics*, v. 72 (August 1958), pp. 351-79.

<sup>9</sup>The classic references here are: Ronald H. Coase, "The Lighthouse in Economics," *Journal of Law & Economics*, v. 17 (October 1974), pp. 357-76; Harold Demsetz, "The Private Production of Public Goods," *Journal of Law & Economics*, v. 13 (October 1970), pp. 293-306. For a review of other papers on these topics, see Cowan, *The Theory of Market Failure* (cited earlier in note 4), pp. 1-26.

01-04-94 04:24 PM

TO 301 492 4934

P07

*Walters Memo: Educational Exemption*

to find the most effective of four currently-favored methods of resuscitation following shock. This project is aimed at producing an absolutely pure public good, both nondepletable and nonexcludable. Once the most effective resuscitation method is determined (assuming the project can be concluded successfully), this knowledge *should be given away* to all hospitals or other potential users; to attempt to sell this knowledge—even if this were feasible<sup>10</sup>—would clearly be inefficient. Other hospitals (and their patients!) likely attach significant value to the knowledge, and can consume it at no incremental cost to society. There is no reason to withhold the knowledge from anyone.

The comments on the NRC's proposed rule contain copious similar examples of how nuclear facilities and materials are being used to support the production of pure public goods. These examples span a broad array of disciplines, from nuclear engineering and physics to cancer treatment to art history. In all cases, the commenters stressed that their research facilities are used to support non-proprietary research; i.e., they are not trying to do what entrepreneurs might do, but instead are rushing in where entrepreneurs fear to tread, conducting research in areas where the potential value to consumers is difficult to gauge or where the costs of such research would (perhaps because of property rights problems) be difficult to recoup. Further, the research supported in this way is distributed in precisely the manner required by the theory of public goods, i.e., it is "given away" in the form of articles in scholarly journals, presentations at professional meetings, and as lectures to enrolled undergraduate and graduate students.

This activity, it seems to me, suggests strongly that a generic exemption for educational institutions will enhance welfare. But, naturally, some questions remain:

1. *The public good rationale looks an awful lot like the "external benefits" rationale. What's the difference?* There's not always a clear difference, even to economists.<sup>11</sup> I would focus on the nonexcludability characteristic of public goods, and point out that while private goods which generate external benefits may be under-produced and -consumed, public goods may not be produced at all—absent some subsidy or other arrangement to ensure that costs are recouped.

2. *As already noted, educational institutions already receive significant subsidies. Why must the NRC add its own?* The key here is the difficulty of accurately gauging demand, or

---

<sup>10</sup>And selling this knowledge would not be feasible: the first person to buy the answer to the question of what is the most effective resuscitation method would pass the word to others, destroying any attempt to exclude non-payers.

<sup>11</sup>For a monograph partly devoted to untangling the differences, see J. Ronnie Davis and Joe R. Hulett, *An Analysis of Market Failure: Externalities, Public Goods, and Mixed Goods*, Gainesville, FL: Univ. of Florida Press (1977).

01-04-94 04:24 PM

TO 301 492 4934

P08

*Walters Memo: Educational Exemption*

value. The possibility of free riding means that there may be legions of eager consumers of a particular piece of new knowledge, but none may step forward and offer to pay to get the job done. Therefore, we endow various grants committees with resources, and trust them to allocate these resources wisely, i.e., to make sure that projects with the highest expected value per dollar of cost are funded. But there is no guarantee these committees will not act like free riders. Specifically, it is conceivable that grants committees will view proposals in their area of interest and expertise more favorably than proposals in areas that are relatively "foreign" to them. In short, if the NRC does *not* grant an exemption, there is no assurance that other agencies will step forward and fill the resulting research-funding void in a neutral manner; research requiring nuclear materials or facilities is likely to suffer a *relative* decline.

3. *Do all educational institutions produce public goods of the kind described? What criteria should be used for exemption?* Not all educational institutions actually produce pure public goods, but all *try* to do so. In this day and age, even the humblest liberal arts college requires its faculty to perform some sort of research. Given the unpredictable nature of the enterprise, not all succeed. But sometimes we need to cast our net widely if we are to catch fish. Accordingly, I would grant an exemption to all educational institutions who claim that some nontrivial fraction of their nuclear facilities or materials are used for *non-proprietary* research. (Clearly, the public good rationale also suggests that institutions that are not primarily educational, e.g., research entities like the Marine Biological Laboratory in Woods Hole, MA, might qualify for exemption.) The key criterion for determining whether research qualifies as non-proprietary is whether findings are disseminated widely and at a zero price, e.g., at professional meetings, in scholarly journals, or in other public presentations.

Concluding Remarks

I hope you will find the foregoing useful in formulating a final rule. I would make one final point: Expanding the discussion of the external benefits provided by the activities of educational institutions to include their production of public goods not only makes it clearer why an educational exemption is desirable, but makes it easier to distinguish worthy from unworthy appeals for exemption. Consider, for example, the Petition for Rulemaking submitted by the American College of Nuclear Physicians (ACNP). Throughout this petition, ACNP refers to the "unique contributions to society" and "unique social benefits" generated by its members; at one point, ACNP argues that the services of its members "serve at least an equally worthy purpose as is served by the non-profit educational institutions."

Such rhetoric points up the risks of vague, unfocused statements about "external benefits" as the sole rationale for a fee exemption. Since such benefits are often unquantifiable, it is easy for groups to claim they generate such benefits—and, sometimes, impossible to prove that they don't. But it is generally quite clear when someone is producing a public good requiring subsidy. Quite simply, ACNP members are not: they use radioactive materials for diagnostic and therapeutic purposes, i.e., they produce *private* goods. The optimal production of such

*alters Memo: Educational Exemption*

goods generally does not require subsidy, and the ACNP members should not qualify for a fee exemption.

Additional References

James M. Buchanan, *The Demand and Supply of Public Goods*, Chicago: Rand McNally (1968).  
 Richard Cornes and Todd Sandler, *The Theory of Externalities, Public Goods, and Club Goods*, Cambridge: Cambridge University Press (1986).  
 William Loehr and Todd Sandler, *Public Goods and Public Policy*, Beverly Hills: Sage (1970).  
 William Oakland, "Theory of Public Goods," in A. Auerbach and M. Feldstein, eds., *Handbook of Public Economics*, v. 2, New York: North Holland (1987).  
 Stephen J.K. Walters, *Enterprise, Government, and the Public*, New York: McGraw-Hill (1993).  
 David K. Whitcomb, *Externalities and Welfare*, New York: Columbia University Press (1972).

ATTACHMENT 4

[7590-01-P]

NUCLEAR REGULATORY COMMISSION

10 CFR Parts 170 and 171

[Docket No. PRM-170-3]

American College of Nuclear Physicians and the Society  
of Nuclear Medicine; Denial of Petition for Rulemaking

AGENCY: Nuclear Regulatory Commission.

ACTION: Petition for rulemaking; denial.

SUMMARY: The Nuclear Regulatory Commission ("NRC" or "Commission") received a petition for rulemaking submitted by the American College of Nuclear Physicians ("ACNP") and the Society of Nuclear Medicine ("SNM") ("petitioners"). The petitioners requested that the Commission amend its regulations governing the user and annual fees charged to their members due to increases in those fees. Among the specific requests contained in the petition were to establish a generic exemption for medical licensees who provide services in nonprofit institutions and to allow NRC licensees a greater voice in the development of new regulations by the NRC. After careful consideration, the Commission has decided not to adopt the proposals made in the petition.

ADDRESSES: Copies of the petition for rulemaking, the public comments received, and the NRC's letter to the petitioner are

available for public inspection or copying in the NRC Public Document Room, 2120 L Street, NW (Lower Level), Washington, DC 20555.

FOR FURTHER INFORMATION CONTACT: L. Michael Rafky, Office of the General Counsel, U.S. Nuclear Regulatory Commission, Washington, DC 20555, telephone 301-504-1974.

SUPPLEMENTARY INFORMATION:

- I. Background.
- II. Responses to comments.

I. Background

On February 18, 1992, the NRC received a petition for rulemaking submitted by petitioners ACNP and SNM. The petitioners requested that the NRC amend 10 CFR Parts 170 and 171 which govern the annual and user fees imposed on most NRC materials licensees by the Commission since the advent of 100 percent fee recovery in FY 1991. The petitioners requested these amendments because of the substantial adverse impacts experienced by their members following increases in the NRC's user and annual fees.

On May 12, 1992 (57 FR 20211), the NRC published a notice in the **Federal Register** announcing receipt of the petition. In that notice, the NRC stated that it would consider the issues raised by petitioners within the context of the review and evaluation of



the fee program for FY 1993 conducted as part of the NRC's continued implementation of Public Law 101-508, the Omnibus Budget Reconciliation Act of 1990, as amended (OBRA-90). On October 13, 1992 (57 FR 46818), the NRC published a notice requesting public comment on the issues raised in the petition.

The NRC received nearly 100 comments in response to this request, with the vast majority in favor of granting the petition. After careful consideration of the comments, the Commission has decided to deny the petition for rulemaking, for reasons stated below.

## II. Responses to Comments

1. *Comment.* The majority of commenters simply restated their support for some or all of the requested changes in NRC policy detailed in the petition. In their petition, ACNP and SNM stated that NRC fee increases under the 100 percent recovery regime were adversely affecting their members' practice of nuclear medicine, in the process harming the societal benefits which stem from that field of medicine. The petitioners claimed that they could not recoup the costs of NRC fees because Medicare reimbursement levels are inadequate and because competing nuclear medicine alternatives are not regulated (or charged fees) by the NRC. Petitioners then compared their treatment under the NRC's fee rules to that of nonprofit educational institutions, power reactors and small entities, all of whom petitioners claimed

receive special treatment by the NRC, and argued that for exemption purposes medical licensees should not be lumped together with all other materials licensees.

For these reasons, ACNP and SNM requested that the Commission take the following policy actions:

(1) Grant a generic exemption for medical services provided in nonprofit institutions, such as hospitals, similar to that granted to nonprofit educational institutions;

(2) Provide individualized exemption criteria for medical licensees, by means of a "simple template for structuring exemption requests;"

(3) Adopt a sliding scale of minimum fees that grants nuclear physicians more relief than the current small entity classification (which grants relief to physicians in private practice with less than \$1,000,000 in gross receipts); and

(4) Give NRC licensees a greater voice in the NRC's decisionmaking process for developing new regulatory programs.

In that regard, petitioners suggested that the criteria contained in the NRC's backfit rule be applied to the development of all new regulatory programs. That is, if a regulation is not necessary for the adequate protection of the public health and safety, the NRC would be required to show that the rule would substantially increase safety and that its benefits outweigh its costs.

*Response.* The Commission does not believe that the analogy between colleges and universities and medical services provided

in a nonprofit institution is a valid one. The Commission recently decided to reinstate a longstanding (but temporarily withdrawn) fee exemption for nonprofit educational institutions. The key to educational institutions' singular treatment, however, is not their nonprofit status, nor the fact that they provide valuable social benefits; rather, it is the existence of certain structural market failures in educational institutions' production of new knowledge. In other words, colleges and universities produce new knowledge primarily through basic research, and disseminate it (essentially for free) to all who want it, without receiving compensation from those benefitting. In economic terms, this new knowledge is often termed a "public good."<sup>1</sup>

Two defining characteristics of a public good are its nondepletability and nonexcludability. That is, one person's acquisition of knowledge does not reduce the amount available to others; further, it is not efficient - and often is impossible, as a practical matter - to prevent others from acquiring it at a zero price. These characteristics make it difficult to recoup the costs of producing new knowledge. Because the value of a public good may be very great, but the costs of producing it impossible to recapture, public subsidies may be necessary for

---

<sup>1</sup>The Commission's analysis of this aspect of the petition is based in part on a memorandum prepared by an NRC consultant on the topic of externalized benefits and public goods. This memorandum has been placed in the NRC Public Document Room for examination by any interested persons. See Memorandum to NRC Staff from Stephen J.K. Walters, Professor of Economics, Loyola College (Md.), dated January 4, 1994.

production to occur at all. The Commission has decided to exempt nonprofit educational institutions from annual fees to advance continued production of new knowledge.

By contrast, medical practitioners have the capability of obtaining compensation for the benefits they provide. Unlike new knowledge, medical services are both depletable and excludable. The benefits of medicine, while unquestionably significant, are therefore a private rather than a public good, in economic terms. The Commission believes, in sum, that the market failure considerations that apply to educational institutions' attempts to produce new knowledge simply do not apply to medical practitioners. There is no structural barrier to the recovery of costs incurred in producing the benefits of medicine. The situation of the medical practitioners is not fundamentally different from that of the for-profit licensees whose claims for exemption on grounds of inability to pass through costs the Commission has rejected in the past. (See 58 FR 38666-68; July 20, 1993.)

In this regard, the Commission notes petitioners' claim that Medicare may not account for NRC fees when reimbursing physicians and hospitals. The Commission is also aware of pricing pressures caused by competing nuclear medicine modalities not regulated (or charged fees) by the NRC. However, as the Commission explained in its FY 1993 fee rule, it is impracticable for this agency to evaluate the merits of such empirical claims regarding the ability of licensees to pass through fee costs to their

customers. (See 58 FR 38666, 38667-68; July 20, 1993.) The Commission "does not believe it has the expertise or information needed to undertake the subtle and complex inquiry whether in a market economy particular licensees can or cannot easily recapture the costs of annual fees from their customers." (58 FR 38667; July 20, 1993.) This statement applies equally to medical licensees as it does to all others whose products cannot be characterized as a "public good."

Addressing the petition's second major point, the Commission disagrees with those commenters who call for new individualized exemption criteria for medical licensees. The Commission believes that the current exemption process for materials licensees, as codified in 10 CFR 171.11(d), provides medical licensees with the opportunity to request an exemption by means of detailing their particularized circumstances.

Both exemption procedures (power reactor and materials licensee) contained in § 171.11 allow the requester to inform the Commission of "[a]ny . . . relevant matter that the licensee believes" should impact on the exemption decision. This allows the Commission flexibility to consider each situation on its own merits. Were the Commission to attempt to establish specific criteria for each type of materials licensee, itself a daunting task, it might then be prevented from considering factors which did not fall precisely within those enumerated. And if the Commission retained the open-ended provision quoted above, it would have expended considerable time and resources to little

purpose, as licensees could make the same claims under new criteria that they can at this time.

Petitioners also complained that the NRC had established a high threshold for granting materials exemption requests. In this regard, the Commission explained in the first 100 percent fee recovery rule, in FY 1991, that because it was statutorily required to collect 100 percent, it could not easily exempt licensees from fees. If one licensee or class of licensees is exempted, those fees must then be placed on other licensees, increasing their fee burden. It is for that reason that the Commission only grants exemptions in exceptional circumstances. (See 56 FR 31472, 31485; July 10, 1991.)

Petitioners' third request, that the Commission establish a sliding scale of minimum fees based on the size of the licensee, which "reflects the unique constraints on physicians", also is denied. In its FY 1991 fee rule, the Commission explained in great detail why it devised its fee schedules in the manner it did, basing fees on classes of licensees rather than licensee-by-licensee. (See FY 1991 Final Rule, 56 FR 31472, and Appendix A to the Final Rule; July 10, 1991.) There is no information contained in either the petition or comments on the petition which would lead the Commission to reconsider this approach, and therefore the Commission must deny this aspect of the petition as well.

However, the Commission intends to re-examine the size standards it uses to define small entities within the context of

compliance with the Regulatory Flexibility Act. The Commission will conduct this review within the context of revision of the small business size standards proposed by the Small Business Administration ("SBA") (58 FR 46573; September 2, 1993). The Commission will not complete this review until the SBA promulgates its final rule on this matter. These activities may result in a revised definition of "small entity" more favorable to petitioners.

Finally, the Commission denies petitioners' request that licensees be provided more power over the development of NRC regulations, and that a new backfit rule incorporating cost-benefit analysis be instituted to evaluate the agency's regulatory programs. The Commission denied similar requests in its FY 1991 fee rule, explaining that the NRC is not exempt "from the normal Government review and budgetmaking process." The Commission at that time pointed out that "the Government is not subject to audit by outside parties," and that "[a]udits are performed by the General Accounting Office or the agency's Inspector General, as appropriate." (56 FR 31472, 31482; July 10, 1991.) Additionally, the NRC complies with Federal regulations such as the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 *et seq.*) and the Regulatory Flexibility Act of 1980 (5 U.S.C. 601 *et seq.*) that require agency analysis of the economic effects of new regulations on licensees. The NRC Staff also prepares detailed cost-benefit analyses to justify any new regulatory requirements; these analyses are carefully reviewed by

the Commission. The Commission has seen nothing either in the petition or comments on the petition that would lead it to change its approach in this area. The Commission would like to emphasize, however, that licensees are always welcome and expected to comment on proposed rulemakings, excluding the accompanying cost-benefit analyses, and that such comments, along with the day-to-day interaction between licensees and the agency, in the Commission's view provide an adequate and successful method of keeping each group apprised of the other's concerns.

2. *Comment.* The Commission received a potpourri of comments on other aspects of the petition. A number of commenters disagreed with the petition, arguing that medical licensees should not receive an exemption, as the costs of such an exemption would be borne by other licensees to whom the additional fees would have no relation, and that every licensee should pay its fair share. Other commenters stated that the fees should be abolished entirely, which would remove the dilemma over granting exemptions. One commenter argued for basing an exemption on the function for which the license is utilized, not the function of the licensed organization. Some commenters argued that fees should be based on factors such as the amount of radioactive sources possessed, the number of procedures performed or the size of the nuclear department within a hospital. Certain commenters suggested expanding the number of exemptions to include Government agencies, along with those licensees which provide products and services to medical and educational



entities. One commenter requested that the NRC take Agreement State schedules into account when setting its own fee schedule. Another commenter raised concerns as to the expense of NRC contractors and the quality of NRC regulation. And a few commenters urged the NRC to reevaluate or abolish its then-recently instituted Quality Management (QM) Program.

*Response.* As the Commission stated above, it is denying this petition for rulemaking, and therefore not exempting medical licensees for services provided in a nonprofit institution. The Commission cannot abolish its fees unilaterally, as the requirement to collect 100 percent of the agency's annual budget authority through user and annual fees is statutorily mandated by Congress, see section 6101 of OBRA-90.

The Commission has explained in the past why it did not believe that basing fees on factors such as number of sources or the size of the facility would result in a fairer allocation of the 100 percent recovery requirement. (See FY 1991 Final Rule, 56 FR 31472; July 10, 1991, and Appendix A to that Final Rule; and Limited Revision of Fee Schedules, 57 FR 13625; April 17, 1992.) The Commission has seen no evidence in the petition or comments on the petition which would lead it to change its current approach of charging fees by class of licensee. For reasons similar to those stated in the earlier rules cited above, the Commission does not believe it would be feasible to base an exemption on the function for which a license is utilized rather than on the function of the licensed organization.

The Commission has also explained in prior rulemakings why it has decided to charge Federal agencies annual fees, and has seen nothing in comments on the petition which would cause it to change its position on this policy matter. (See FY 1991 Final Rule, 56 FR 31472, 31474-45; July 10, 1991.) The Commission also does not believe that the exemption for nonprofit educational institutions should be expanded to cover those private companies supplying services and products to medical or educational licensees. The fact that the cost of these services and products impacts upon exempt licensees is not sufficient reason to exempt private for-profit licensees. By exempting nonprofit educational institutions from fees, the Commission has addressed the direct impact of its fees on those institutions. Additionally, the Commission has discussed in both prior and current rulemakings the necessity of a high threshold for exemption requests and the overarching requirement to collect as close to 100 percent of its annual budget authority as possible; these factors remain valid here.

While the Commission acknowledges that in many cases Agreement States base their fee schedules in some measure on the NRC's fee schedule, the NRC cannot do the reverse. The NRC must conform its fees to the 100 percent recovery requirements mandated by OBRA-90, independent of Agreement State fee schedules over which the agency has no control.

Finally, the Commission believes that comments on the agency's QM program, NRC contracting practices and the overall

quality of NRC regulation are beyond the scope of this notice. However, the Commission notes that the agency's regulation codifying its QM program was challenged and ultimately upheld in court. See *American College of Nuclear Physicians and Society of Nuclear Medicine v. United States Nuclear Regulatory Commission and United States of America*, No. 91-1431, slip op. at 2 (D.C. Cir. May 22, 1992) (per curiam).

Because each of the issues raised in the petition has been substantively resolved, the NRC has denied this petition.

Dated at Rockville, Maryland this     day of February, 1994.

For the Nuclear Regulatory Commission,

\_\_\_\_\_  
Samuel J. Chilk,  
Secretary of the Commission.

✱

ATTACHMENT 5

Terence Beven, M.D.  
President  
American College of Nuclear Physicians

Leon S. Malmud, M.D.  
President  
Society of Nuclear Medicine  
1101 Connecticut Avenue, N.W.  
Suite 700  
Washington, D.C. 20036

Gentlemen:

After careful consideration of your rulemaking petition dated February 10, 1992, the Commission has determined that your request to amend 10 CFR 170 and 171 must be denied, for the reasons provided in the enclosed Federal Register notice.

The enclosed notice of denial will be published shortly in the Federal Register. If you need more information, please contact Michael Rafky in the Office of General Counsel at 301-504-1974.

Sincerely,

Samuel J. Chilk  
Secretary of the Commission

ATTACHMENT 6

The Honorable Joseph Lieberman, Chairman  
Subcommittee on Clean Air and Nuclear Regulation  
Committee on Environment and Public Works  
United States Senate  
Washington, D.C. 20510

Dear Mr. Chairman:

On July 20, 1993 the NRC published a final rule establishing fee schedules for its licensees for fiscal year 1993. The final rule also eliminated a generic exemption from annual fees previously granted to nonprofit educational institutions. The Commission's need to revisit the generic exemption for nonprofit educational institutions was occasioned by a March 16, 1993 decision of the U.S. Court of Appeals for the District of Columbia Circuit (Allied-Signal, Inc. v. U.S. Nuclear Regulatory Commission and the United States of America, 988 F.2d 146 (D.C. Cir. 1993)) which forced the Commission to acknowledge the weakness of, and abandon, the argument formerly made on behalf of these institutions that they could not pass through the costs of NRC fees.

Following publication of the final rule, the Commission received a petition from Cornell and eleven other universities for reconsideration of the final rule and requesting reinstatement of the exemption for nonprofit educational institutions. The Commission granted the petition to reconsider this matter and issued a proposed rule requesting public comments on the restoration of the exemption for nonprofit educational institutions. After carefully evaluating the public comments, the Commission has decided to amend its fee regulations in 10 CFR Part 171 to reinstate the exemption from annual fees for nonprofit educational institutions.

Enclosed is a copy of the final rule which is being transmitted to the Federal Register for publication.

Sincerely,

Ivan Selin

Enclosure: Final Rule

cc: Rep. John R. Kasich

IDENTICAL LETTERS SENT TO:

The Honorable Philip Sharp, Chairman  
Subcommittee on Energy and Power  
Committee on Energy and Commerce  
United States House of Representatives  
Washington, D.C. 20515

cc: Representative Michael Bilirakis

The Honorable Richard H. Lehman, Chairman  
Subcommittee on Energy and Mineral Resources  
Committee on Natural Resources  
United States House of Representatives  
Washington, D.C. 20515

cc: Representative Barbara Vucanovich

The Honorable J. Bennett Johnston, Chairman  
Subcommittee on Energy and Water Development  
Committee on Appropriations  
United States Senate  
Washington, D.C. 20510

cc: Senator Mark O. Hatfield

The Honorable Tom Bevill, Chairman  
Subcommittee on Energy and Water Development  
Committee on Appropriations  
United States House of Representatives  
Washington, D.C. 20515

cc: Representative John T. Myers

The Honorable Martin Olav Sabo, Chairman  
Committee on the Budget  
United States House of Representatives  
Washington, D.C. 20515

cc: Representative John R. Kasich

The Honorable Jim Sasser, Chairman  
Committee on Budget  
United States Senate  
Washington, D.C. 20510

cc: Senator Pete V. Domenici



ATTACHMENT 7

NRC REINSTATES ANNUAL FEE EXEMPTION  
FOR NONPROFIT EDUCATIONAL INSTITUTIONS

The Nuclear Regulatory Commission is reinstating a provision to its regulations which exempts nonprofit educational institutions from annual fees.

The provision was deleted in July 1993 in response to a March 1993 opinion by the U.S. Court of Appeals for the District of Columbia Circuit. That opinion remanded for further consideration the NRC's rationale for exempting nonprofit educational institutions from licensing fees. The court opinion cast doubt on the NRC's then-existing rationale that nonprofit educational institutions were unable to pass through the costs of the fees.

In reaction to the court decision, the Commission initially proposed to retain the exemption and asked specifically for public comments on the court's suggestion that perhaps the exemption could be justified if "education yields exceptionally large externalized benefits that cannot be captured in tuition or other market prices."

After receiving only a few comments supporting a continued generic exemption and some comments requesting abandonment, the Commission reluctantly decided that, in view of the court opinion and the administrative record, it could not justify a generic exemption for nonprofit educational institutions.

Soon after publishing a final rule establishing the NRC's fiscal year 1993 fee schedules, which included for the first time annual fees for previously exempt nonprofit educational

institutions, the Commission received a petition for reconsideration of the rule.

The petition, filed by a number of affected colleges and universities, asserted that the externalized benefits and public good resulting from use of university research reactors in various fields of education would be lost if annual fees were imposed on colleges and universities.

While the Commission was considering granting the petition or, as an alternative, granting some nonprofit educational institutions individual public interest exemptions from the new annual fees, members of the staff visited a number of colleges and universities to learn more about the use of nuclear materials in educational programs and the benefits resulting from the uses of those materials.

As a result of those visits and the arguments made in the petition, the Commission proposed retracting the new annual fees--\$62,100 per research reactor licensee and lesser amounts for each materials license. After reviewing the over 200 comments received (the vast majority favored granting the petition), the Commission decided that the exemption from annual fees for nonprofit educational institutions should be restored.

The amendment to Part 171 of the Commission's regulations will become effective on (date).