

RECORD #8

TITLE: Response To Questions Concerning Enforcement of 40 CFR 190

FICHE: 65529-181



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20545

SSINS: 6400  
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MEMORANDUM FOR: A. F. Gibson, Chief, TI Branch, Chief, Region II  
FROM: Leo B. Higginbotham, Chief, Radiological Safety Branch, IE  
SUBJECT: RESPONSE TO QUESTIONS CONCERNING ENFORCEMENT OF  
49 CFR 190 (AITS F02600043H8)

This is in response to your memorandum of May 13, 1981, concerning "Enforcement of revisions to 10 CFR 20 regarding doses from radioactive effluents." A copy of your memorandum is enclosed for reference.

Before responding to your specific questions we note that there is a misconception in your memorandum concerning the effective date for compliance with 49 CFR 190. The statement is made that "the requirement for compliance with 40 CFR 190 is effective on June 23, 1981." This is not correct. As noted in the Federal Register notice (46 FR 18525) the effective dates for the existing requirement to comply with 40 CFR 190 are already specified in 40 CFR 190.12: December 1, 1979 for most operations; December 1, 1980 for uranium mills; and January 1, 1983 for discharges of Kr-85 and I-129. The June 23, 1981, effective date for the amendments to Part 20 does not change the dates for compliance. The purpose of the amendments to Part 20 was simply "...to make it more clear that compliance with 40 CFR 190 is required."

We have consulted with NRR and NMSS concerning the following responses to your questions.

Nuclear Power Reactors

By letter dated September 17, 1979, (copy enclosed) all power reactor licensees were informed of the requirement to comply with 40 CFR 190 as of December 1, 1979. That letter also stated that a licensee commitment to Specification 3.11.4 of the Radiological Effluent Technical Specifications (RETS) (copy enclosed) would be an acceptable method for demonstrating compliance. Licensees were requested to submit that commitment, or an alternate method of demonstrating compliance, and all licensees have done this. Inspection for compliance with 40 CFR 190 should be made against those commitments for those licensees who do not have technical specifications covering compliance with 40 CFR 190.

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Responses to your specific questions are as follows:

1. Qualitative guidance on acceptable calculation methods is provided in NUREG-0543, "Methods for Demonstrating LWR Compliance With the EPA Uranium Fuel Cycle Standard (40 CFR 190)," (February 1980). Since there are no special 40 CFR 190 monitoring requirements, no guidance is needed on this subject.
2. No letters or orders will be sent revoking the existing effluent limits. Licensees must comply with 40 CFR 190 in addition to any other "existing limits."
3. Compliance with 40 CFR 190 is not based on calendar quarters. As stated in Section 3.11.4 of the RETS, the 40 CFR 190 annual limits apply to any 12 consecutive months.
4. We do not expect that licensees will have difficulty in complying with 40 CFR 190. Proposed enforcement actions for licensees who cannot demonstrate compliance with 40 CFR 190 should be coordinated with the headquarters staff (Reactor Radiological Safety Section, Radiological Safety Branch). As indicated in RETS 3.11.4, a licensee whose estimate of doses exceeds the 40 CFR 190 limits, from a condition that has not already been corrected, should request a variance in accordance with the provisions of 40 CFR 190, at the time the Special Report on exceeding the 40 CFR 190 limits is submitted. A variance will be granted until staff action on the request is completed by NRR.
5. Since no additional monitoring or sampling equipment is required, no "grace period" is needed for procurement and installation of such equipment.
6. You should be aware that the use of Regulatory Guides 1.109-1.113 may result in calculated doses that are too conservative for determining compliance with 40 CFR 190. See NUREG-0543 for a discussion of this point.

#### Uranium Fuel Facilities (Other than Uranium Recovery Facilities)

As stated in the enclosed memorandum from R. G. Page to L. B. Higginbotham (July 7, 1981), all affected Part 70 licenses have been amended by Order to incorporate conditions to assure compliance with 40 CFR 190.

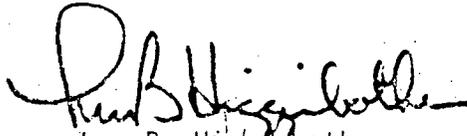
Responses to your specific questions are as follows:

1. Guidance and/or instructions is provided in the Orders and radiological assessments attached to the Orders. No further guidance is planned.
2. Same response as for reactors.

3. See Orders. Action levels are based on calendar quarters. 40 CFR 190 limits apply to any 12 consecutive months.
4. Proposed enforcement actions should be coordinated with the headquarters staff (Fuel Cycle and Materials Safety Section, Radiological Safety Branch).
5. Same responses as for reactors.
6. See response to #1 - No further guidance is planned.

Uranium Recovery Facilities

Although Region II has none of these facilities, we note, for your information, that Orders and supporting documents to implement 40 CFR 190 were issued April 14, 1981, to 14 NRC-licensed uranium milling facilities.



Leo B. Higginbotham  
Chief  
Radiological Safety Branch, IE

Enclosures: As stated

CONTACT: John Buchanan  
49-29615

- cc: H. Thornburg, IE  
A. Grella, IE  
D. Sly, IE  
F. Congel, NRR  
W. Crow, NMSS  
J. Joyner, RI  
R. Greger, RIII  
G. Brown, RIV  
H. Book, RV

UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION II

101 MARILTA ST., N.W., SUITE 3100  
ATLANTA, GEORGIA 30303

MAY 13 1981  
SSINS 9190

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Let's see

MEMORANDUM FOR: Harold D. Thornburg, Director, Division of Safeguards and Radiological Safety Inspection, IE

FROM: A. F. Gibson, Acting Director, Engineering and Technical Inspection Division, Region II

SUBJECT: ENFORCEMENT OF REVISIONS TO 10CFR20 REGARDING DOSES FROM RADIOACTIVE EFFLUENTS (AITS F02600043H8)

On March 25, 1981, a notice was published in the Federal Register (46 FR 18525) concerning the amendment of 10CFR20.105, 20.106 and 20.405 to require licensees "engaged in Uranium fuel cycle operations subject to the provisions of 40CFR190" to comply with that part. The effective date for these amendments is June 23, 1981.

In order to comply with the provisions of 40CFR190, power plants must evaluate doses or dose commitments through multiple pathways using the methodology in Regulatory Guide 1.109 and performing the calculations in accordance with an NRR-approved Off-Site Dose Calculation Manual. As all release pathways must be considered, extensive monitoring and sampling is required.

Three power plants in Region II (Sequoyah 1, McGuire 1 and Farley 2) currently have the requirements in their Technical Specifications to implement 40CFR190. Other power plants have requirements in the Technical Specifications to implement 10CFR50, Appendix I while other power plants only must meet the concentration limits of 10CFR20. Commercial fuel fabrication facilities have requirements in their licenses to meet the concentration limits of 10CFR20 and total quantity limits. The majority of the fuel cycle facilities in Region II will require extensive modifications for effluent monitoring, sampling routines and operating procedures in order to comply with 40CFR190 and 10CFR20.105 and 20.106.

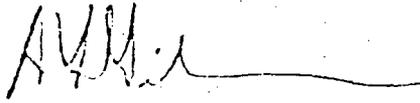
As the requirement for compliance with 40CFR190 is effective on June 23, 1981, we request guidance on the inspection and enforcement of these new regulatory requirements. Additionally, we request answers to the following specific questions:

1. It is apparent that revisions to the Technical Specifications or license conditions will not be issued for all fuel cycle facilities by June 23, nor can offsite Dose Calculation Manuals be reviewed and approved for all facilities by June 23. What guidance and/or instructions will be provided to licensees by NRR and NMSS concerning monitoring requirements, acceptable calculation methods, etc.?

CONTACT: G. L. Troup  
(242-4664)

2. For those facilities with specific effluent limits in the Technical Specifications or license, will letters or orders be sent revoking the existing effluents limits or will they have to comply with existing limits as well as 40 CFR 190?
3. When will the first quarter for evaluating doses end - June 30 or September 30? Will annual dose limits be based on calendar year 81 or 12 months from June 23?
4. What enforcement action should be taken for licensees who cannot demonstrate compliance with 40CFR190? for licensees who exceed the limits?
5. How much "grace period", if any, is to be allowed for the procurement and installation of additional monitoring and sampling equipment?
6. Regulatory Guides 1.109 - 1.113 and NUREG-0133 are applicable to nuclear power plants. Will comparable guidance be issued for Part 70 facilities?

We intend to refer any questions from licensees concerning the implementation of these requirements to the appropriate licensing project manager.



A. F. Gibson



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20545

September 17, 1979

TO ALL POWER REACTOR LICENSEES

Gentlemen:

The effective date for implementation of the EPA Uranium Fuel Cycle Standard, 40 CFR Part 190 for light-water reactors, is December 1, 1979. By agreement, NRC is responsible for the implementation of this standard for licensed power reactors. Compliance with Radiological Effluent Technical Specifications (RETS), NUREG-0472 (Rev. 2) for PWRs or NUREG-0473 (Rev. 2) for BWRs, implements the LWR provisions to meet 40 CFR Part 190. Due to the delays in receiving and processing these Technical Specifications as scheduled in the letter to you from B. Grimes, Assistant Director for Engineering and Projects, dated November 15, 1978, the Radiological Effluent Technical Specifications may not be in effect for your facility on December 1, 1979.

The lack of Technical Specifications which implement the provisions of 40 CFR Part 190 does not relieve you of the responsibility to conform to the EPA standard. Therefore, you should determine how you will demonstrate to the NRC conformance with the provisions of 40 CFR Part 190 until such time as the revised RETS are issued. A commitment to the provisions of Specification 3.11.4 of the RETS, Revision 2, as explained in Chapter 3.8 of NUREG-0133, "Preparation of Radiological Effluent Technical Specifications for Nuclear Power Plants" is an acceptable method for demonstration of conformance. This commitment or an alternative method of demonstrating compliance with 40 CFR Part 190 should be submitted to NRC no later than November 1, 1979.

If you have any questions, please contact us.

Sincerely,

A handwritten signature in cursive script that reads "W.P. Ganmill".

William P. Ganmill, Acting Assistant  
Director for Operating Reactor Projects  
Division of Operating Reactors

## RADIOACTIVE EFFLUENTS

### 3/4.11.4 TOTAL DOSE

#### LIMITING CONDITION FOR OPERATION

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3.11.4 The dose or dose commitment to any member of the public, due to releases of radioactivity and radiation, from uranium fuel cycle sources shall be limited to less than or equal to 25 mrem to the total body or any organ (except the thyroid, which shall be limited to less than or equal to 75 mrem) over 12 consecutive months.

APPLICABILITY: At all times.

#### ACTION:

- a. With the calculated doses from the release of radioactive materials in liquid or gaseous effluents exceeding twice the limits of Specification 3.11.1.2.a, 3.11.1.2.b, 3.11.2.2.a, 3.11.2.2.b, 3.11.2.3.a, or 3.11.2.3.b, in lieu of any other report required by Specification 5.9.1, prepare and submit a Special Report to the Director, Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, within 30 days, which defines the corrective action to be taken to reduce subsequent releases to prevent recurrence of exceeding the limits of Specification 3.11.4. This Special Report shall include an analysis which estimates the radiation exposure (dose) to a member of the public from uranium fuel cycle sources (including all effluent pathways and direct radiation) for a 12 consecutive month period that includes the release(s) covered by this report. If the estimated dose(s) exceeds the limits of Specification 3.11.4, and if the release condition resulting in violation of 40 CFR 190 has not already been corrected, the Special Report shall include a request for a variance in accordance with the provisions of 40 CFR 190 and including the specified information of § 190.11(b). Submittal of the report is considered a timely request, and a variance is granted until staff action on the request is complete. The variance only relates to the limits of 40 CFR 190, and does not apply in any way to the requirements for dose limitation of 10 CFR Part 20, as addressed in other sections of this technical specification.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

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4.11.4 Dose Calculations Cumulative dose contributions from liquid and gaseous effluents shall be determined in accordance with Specifications 4.11.1.2, 4.11.2.2, and 4.11.2.3, and in accordance with the ODCM.

## RADIOACTIVE EFFLUENTS

### BASES

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#### 3/4.11.2.6 GAS STORAGE TANKS

Restricting the quantity of radioactivity contained in each gas storage tank provides assurance that in the event of an uncontrolled release of the tank's contents, the resulting total body exposure to an individual at the nearest exclusion area boundary will not exceed 0.5 rem. This is consistent with Standard Review Plan 15.7.1, "Waste Gas System Failure".

#### 3/4.11.3 SOLID RADIOACTIVE WASTE

The OPERABILITY of the solid radwaste system ensures that the system will be available for use whenever solid radwastes require processing and packaging prior to being shipped offsite. This specification implements the requirements of 10 CFR Part 50.36a and General Design Criterion 60 of Appendix A to 10 CFR Part 50. The process parameters included in establishing the PROCESS CONTROL PROGRAM may include, but are not limited to waste type, waste pH, waste/liquid/solidification agent/catalyst ratios, waste oil content, waste principal chemical constituents, mixing and curing times.

#### 3/4.11.4 TOTAL DOSE

This specification is provided to meet the dose limitations of 40 CFR 190. The specification requires the preparation and submittal of a Special Report whenever the calculated doses from plant radioactive effluents exceed twice the design objective doses of Appendix I. For sites containing up to 4 reactors, it is highly unlikely that the resultant dose to a member of the public will exceed the dose limits of 40 CFR 190 if the individual reactors remain within the reporting requirement level. The Special Report will describe a course of action which should result in the limitation of dose to a member of the public for 12 consecutive months to within the 40 CFR 190 limits. For the purposes of the Special Report, it may be assumed that the dose commitment to the member of the public from other uranium fuel cycle sources is negligible, with the exception that dose contributions from other nuclear fuel cycle facilities at the same site or within a radius of 5 miles must be considered. If the dose to any member of the public is estimated to exceed the requirements of 40 CFR 190, the Special Report with a request for a variance (provided the release conditions resulting in violation of 40 CFR 190 have not already been corrected), in accordance with the provisions of 40 CFR 190.11, is considered to be a timely request and fulfills the requirements of 40 CFR 190 until NRC staff action is completed. An individual is not considered a member of the public during any period in which he/she is engaged in carrying out any operation which is part of the nuclear fuel cycle.

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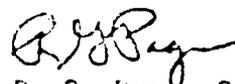
MEMORANDUM FOR: L. B. Higginbotham, Chief  
Radiological Safety Branch  
Division of Safeguards and Radiological  
Safety Inspection

FROM: R. G. Page, Chief  
Uranium Fuel Licensing Branch  
Division of Fuel Cycle and  
Material Safety

SUBJECT: RESPONSE TO QUESTIONS CONCERNING ENFORCEMENT  
OF 40 CFR 190

In reply to your memorandum of June 17, 1981, I am confused by A. F. Gibson's letter of May 13, 1981 to Mr. Thornburg regarding the above subject. Bill Crow spoke with Mr. Gibson concerning the memo and was told that it referred only to reactors; however, the last two sentences in the third paragraph as well as items 1 and 6 refer specifically to fuel fabrication facilities and Part 70 licenses.

As you are aware, 40 CFR 190 became effective December 1, 1979 and compliance with it was required starting on that date, not on June 23, 1981, as stated in Mr. Gibson's memo. In January 1980, all affected Part 70 licenses were amended by Order to incorporate conditions to assure compliance with the EPA regulations. Copies of the Orders were sent to the appropriate principal inspectors in the Regional offices. We are surprised that the license conditions have not already been inspected against and appropriate actions have not been taken to assure compliance. It seems late to be raising questions about the need for licensee guidance, grace periods and guidance on enforcement actions.



R. G. Page, Chief  
Uranium Fuel Licensing Branch  
Division of Fuel Cycle and  
Material Safety