

FINAL OMB SUPPORTING STATEMENT  
FOR  
NRC FORM 4  
CUMULATIVE OCCUPATIONAL DOSE HISTORY  
(3150-0005)  
REVISION

Description of the Information Collection

The purpose of Title 10 of the *Code of Federal Regulations* Part 20 (10 CFR Part 20) is to establish "Standards for Protection Against Radiation." 10 CFR Part 20 provides requirements to persons licensed by the U.S. Nuclear Regulatory Commission (NRC) to receive, possess, use, transfer, or dispose of byproduct, source, or special nuclear material or to operate a production or utilization facility under parts 30 through 36, 39, 40, 50, 52, 60, 61, 63, 70, or 72. In addition, 10 CFR Part 20 applies to persons required to obtain a certificate of compliance or an approved compliance plan under 10 CFR Part 76.

Pursuant to 10 CFR 20.1502 licensees are required to monitor exposures to radiation and radioactive material at levels to demonstrate compliance with the occupational dose limits in 10 CFR 20.1201. 10 CFR 20.2104 requires licensees to determine the occupational radiation dose received by an individual, who required monitoring under 10 CFR 20.1502, during the current year. To comply with these requirements, the licensee may accept a written signed statement from the individual or from the individual's most recent employer as a record of the occupational dose that the individual received during the current year. The licensee may also accept as a record of cumulative radiation dose an up-to-date NRC Form 4, "Cumulative Occupational Dose History," or its equivalent. The NRC Form 4 should be signed by the individual and countersigned by an appropriate official of the most recent employer for work involving radiation exposure, or the individual's current employer (if the individual is not employed by the licensee).

The NRC Form 4 is a summation of the NRC Form 5, "Occupational Dose Record For A Monitoring Period". Pursuant to 10 CFR 20.2206, seven categories of NRC licensees are required to report a dose record for each monitored individual who required monitoring under 10 CFR 20.1502.

A. JUSTIFICATION

1. Need for and Practical Utility of the Information Collection

In November 2007, NRC sent a final rule to OMB titled, "10 CFR Parts 19, 20, and 50, Occupational Dose Records, Labeling Containers, and the Total Effective Dose Equivalent." Following OMB approval of this rule, on December 4, 2007, NRC published a *Federal Register* Notice regarding changes to 10 CFR Parts 19, 20 and 50 (72 FR 68043). Specific changes to 10 CFR Part

20 included a change to Section 20.2104(a) that no longer requires licensees to attempt to obtain the records of cumulative occupational radiation dose for each worker requiring monitoring under 10 CFR 20.1502 and a change to the definition for the total effective dose equivalent (TEDE) under 10 CFR 20.1003.

Since the revision to 10 CFR Part 20 (56 FR 23391; May 21, 1991), the cumulative lifetime dose is no longer used in 10 CFR Part 20, except for cases involving planned special exposures. This revision to Section 20.2104(a) made it unnecessary for licensees to attempt to obtain lifetime exposures for workers who are not participating in a planned special exposure program. The supporting statement for this rule stated that "The final revision will only require a licensee to maintain an NRC Form 4 for a planned special exposure. It is estimated that 99 percent of the NRC Form 4 documents will not be needed because the NRC Form 4 will only be used to authorize a planned special exposure." This reduced the burden for NRC Form 4 from 10,012 hours to 43 hours and 227 responses.

As it relates to the change in 10 CFR 20.1003, previously, the definition of the TEDE was the sum of the deep dose equivalent (DDE) to account for external exposure and the committed effective dose equivalent (CEDE) to account for internal exposure. Under the revised rule, the TEDE was redefined by replacing the DDE with the effective dose equivalent for external exposure, hereafter referred to as the EDEX. This change to the TEDE definition will result in a change to NRC Form 4, to include a new field for EDEX.

10 CFR 20.2104 requires licensees to determine an individual's prior occupational dose. As specified in Section 20.2104(c), licensees may obtain this information through several methods. Section 20.2104(d) requires licensees to record an individual's prior occupational dose on an NRC Form 4, or its equivalent, and this record must show each period in which the individual received occupational exposure to radiation or radioactive material and must be signed by the individual who received the exposure. The data contained in NRC Form 4, or its equivalent, can be reviewed by NRC inspectors to determine compliance with the annual dose limits in 10 CFR 20.1201 to ensure the health and safety of licensee employees.

In addition, Section 20.2104(f) requires licensees to retain the NRC Form 4 records, or its equivalent, until the Commission terminates the license.

The NRC Form 4 information collection is based, in part, on Presidential Guidance to Federal Agencies for Occupational Exposure published in the *Federal Register* on January 27, 1987. NRC Form 4 is a cumulative summary of the information found on NRC Form 5, which is submitted by NRC licensees annually pursuant to 10 CFR 20.2206.

2. Agency Use of Information

The NRC uses the information to ensure that licensees are complying with the appropriate regulations, specified in 10 CFR 20.1502 and 10 CFR 20.2104 and their license conditions in order to protect the health and safety of occupational radiation workers and the public.

3. Reduction of Burden Through Information Technology

There are no legal obstacles to reducing the burden associated with this information collection. The NRC encourages respondents to use information technology when it would be beneficial to them. NRC issued a regulation on October 10, 2003 (68 FR 58791), consistent with the Government Paperwork Elimination Act, which allows its licensees, vendors, applicants, and members of the public the option to make submissions electronically via CD-ROM, e-mail, special Web-based interface, or other means. It is estimated that approximately 80% of the requests for NRC Form 4 information are filed electronically.

The NRC Form 4 is not required to be submitted to the NRC. However, NRC licensees provide this form to their occupational radiation workers who were monitored pursuant to 10 CFR 20.1502.

Regulatory Guide 8.7, Revision 2, (November 2005), "Instructions for Recording and Reporting Occupational Radiation Dose Data," provides licensees with guidance regarding the recommended format for both paper and electronic submission of occupational radiation dose data. The electronic reporting guidance provided in this document is intended to reduce the reporting burden on licensees. In addition, the NRC-supplied software, Radiation Exposure Management Information Transmittal (REMIT) is available to licensees at no cost. Licensees with Internet access may download this software free of charge from the NRC's Radiation Exposure Information and Reporting System (REIRS) Web site at <http://www.reirs.com>. This software vastly reduces the burden of collecting and maintaining occupational radiation dose information and allows licensees to generate the NRC Form 4.

In addition, NRC has an automated dose history request form on the REIRS Web site that allows individuals and organizations to request a cumulative dose history report, or NRC Form 4, for individuals monitored at NRC facilities. The automated request form is another paperwork reduction feature. A requestor electronically submits a

request and a NRC Form 4 report is sent via an encrypted email.

4. Effort to Identify Duplication and Use Similar Information

No sources of similar information are available. There is no duplication of requirements. NRC has in place an ongoing program to examine all information collections with the goal of eliminating all duplication and/or unnecessary information collections.

5. Effort to Reduce Small Business Burden

NRC's development and maintenance of the REMIT software is a direct effort to reduce the burden on small businesses. REMIT is also used by large businesses to help reduce their paperwork burden. NRC provides the REMIT software, at no cost, to all licensees (both small and large firms) to assist them in their recording, reporting, and maintenance of occupational radiation exposure data. In addition, the automated dose history request option, available on the REIRS Web site is particularly beneficial to small businesses that may not have the resources to obtain prior dose histories for their occupational radiation workers. It is not possible to reduce the burden on small businesses any further and still meet the objectives stated in A.1.

6. Consequences to Federal Program Activities if the Collection is not Conducted or is Conducted Less Frequently

If the requirements of 10 CFR 20.2104 were not met by licensees, licensees would not be knowledgeable of an occupational worker's prior radiation exposure. A lack of knowing this information could lead to an occupational radiation worker receiving a radiation exposure in excess of the limits specified in 10 CFR 20.1201 for the current year. This lack of information could result in non-compliance by a licensee.

7. Circumstances Which Justify Variation from OMB Guidelines

Records associated with the NRC Form 4 must be retained for the life of the NRC license in accordance with Section 20.2104(f).

8. Consultations Outside the NRC

Opportunity for public comment on the information collection requirements for this clearance package was published in the Federal Register on November 4, 2013 (78 FR 66076). NRC received three comments.

Nuclear Energy Institute (NEI) submitted the following comments:

Comment: The NRC Form 4 is the "Cumulative Occupational Dose History" and supports licensees' efforts to ensure compliance with annual radiation dose limits via verification of applicable prior occupational radiation dose at other licensed facilities. When used as a means to document current year exposure it is useful to ensure compliance with 10 CFR

20.1501. However, the form and its contents date back to when there was a requirement to document lifetime dose. The concept of "cumulative" for a time period greater than a year is no longer required by NRC regulations."

Response: The NRC staff agrees that the requirement to document lifetime dose is no longer required under 10 CFR Part 20. However, licensees use NRC Form 4 to document current year exposure when workers report to a new facility. The use of NRC Form 4 to document current year exposure supports licensees' efforts to ensure compliance with the annual radiation dose limits via verification of applicable prior occupational radiation dose at other licensed facilities.

Comment: The burden estimate of 4,146 "recordkeepers" for a total burden of 24,521 hours per year is questionable. 10 CFR 20.2104 requires that the licensee "shall determine the occupational radiation dose received during the current year" for an individual required to be monitored under 10 CFR 20.1502. With that fact in mind, it is likely that there are far more than 4,146 Form-4's generated per year. It takes approximately 1 hour (form preparation through final retention disposition) to generate a Form-4 per worker. If the assumption is made that a current year Form-4 is prepared for each outage radiation worker at each licensee the total burden is much higher than 24,000 hours per year. All that said, the Form-4 remains a useful tool for documentation of current year radiation exposure; however, we think the total licensee burden is low. It is, however, a significant burden to obtain cumulative exposure.

Response: The burden estimate of 4,146 "recordkeepers" is based on the number of commercial nuclear power reactor licensees that report data to the NRC's Radiation Exposure Information and Reporting System (REIRS) (104), the number of NRC materials licensees that report data to the NRC's REIRS (96), and the number of NRC materials licensees that are not required to report data to NRC's REIRS (3,946). The NRC Form 4 is used by different NRC licensees to document a worker's current year exposure. Although the preparation estimate of 1 hour for commercial nuclear power reactor licensees to generate an NRC Form 4 is an adequate estimate, it takes approximately 20 minutes for materials licensees to generate an NRC Form 4. Given this time range (20 minutes to 1 hour), NRC staff estimated that it takes approximately 37 minutes, for all NRC licensees, to generate an NRC Form 4. While the burden estimate may seem low for commercial nuclear power reactor licensees, the burden estimate may seem too high for materials licensees.

Comment: The NEI computer-based Personnel Access Data System (PADS) has dramatically simplified this process. Nuclear power plants average approximately 1 hour for complete Form-4 preparation. Further efforts to enhance that process will yield better results. These efforts could include more streamlined addition of non-PADS facility dose data. Perhaps making Form-4's available online would be useful.

Response: NRC Form 4 is available online via the NRC's REIRS web site, [www.reirs.com](http://www.reirs.com). The NRC provides an electronic means for NRC licensees, current NRC occupational workers, and former NRC occupational workers the ability to request an NRC Form 4 electronically. A requestor must fill-out a request form and provide the applicable identification to verify identity. Information on how to request an electronic NRC Form 4 is

available on [www.reirs.com](http://www.reirs.com).

9. Payment or Gifts to Respondents.

Not applicable.

10. Confidentiality of the Information

Confidential and proprietary information is protected in accordance with NRC regulations at 10 CFR 9.17(a) and 10 CFR 2.390(b).

NRC Form 4 specifies the use of the individual's name, social security number or other unique ID, date of birth, and sex. This information is necessary to ensure the proper identification of the individual. There is a Privacy Act System of Records Notice for the NRC's Radiation Exposure Information and Reporting System (REIRS). The System of Records Notice for REIRS, NRC-27, can be found under <http://www.nrc.gov/reading-rm/foia/privacy-act-records.pdf>.

11. Justification for Sensitive Questions

This information collection does not involve personally sensitive information.

12. Estimated Burden and Burden Hour Cost

NRC Form 4 is required each time a worker participates in a planned special exposure. The NRC does not anticipate that any workers will participate in a planned special exposure during the clearance period. However, licensees are required to provide each of their employees who have been monitored for radiation exposure, an NRC Form 4 (or equivalent form) at the end of the monitoring year pursuant to 10 CFR 19.13. It takes licensees an estimated 2 minutes (0.03 hours) to print an NRC Form 4 (or equivalent) and provide it to their employees. Therefore, information collected in NRC Form 4 is captured as a third-party disclosure (See Table 1). The estimates presented in Table 1 are based on the 2012 reporting year. Table 1 contains information for 104 reactor sites (licensee data contained in the REIRS database); 96 materials sites (licensee data contained in the REIRS database); and 3,964 materials sites (licensee data not contained in the REIRS database because these licensees are not subject to the reporting requirement in 10 CFR 20.2206(a)). Below is a breakdown of the numbers presented in Table 1:

- **Reactors**
  - o Number of monitored individuals at 104 reactor sites: 104,449
  - o Number of transient workers at 104 reactor sites: 33,272
  - o Total responses for 104 reactor sites: 137,721
- **Materials**
  - o Number of monitored individuals at 96 materials sites: 10,733
  - o Number of transient workers at 96 materials sites: 246

- o Total responses for 96 materials sites: 10,979
- **Materials (not subject to 10 CFR 20.2206(a))**
  - o Number of monitored individuals at 3,964 materials sites: 66,237
  - o Number of transient workers at 3,964 materials sites: 8,763
  - o Total responses for 3,964 materials sites: 75,000

In addition to providing an NRC Form 4 (or equivalent) to monitored individuals, licensees continue to complete NRC Form 4 each time a worker changes employment during the year. As a result, the greatest burden is on licensees who employ transient workers. NRC's Radiation Exposure Information and Reporting System (REIRS) contain information on the number of transient workers at licensee sites that are subject to Section 20.2206(a)<sup>1</sup>. For the 2012 reporting year, the data show that as of June 2013, 200 sites employed 33,518 transient workers (33,272 transient workers at the 104 reactor sites + 246 transient workers at 96 materials sites). In addition to these sites, some sites are not subject to 20.2206(a) and therefore are not in the REIRS system, but are also voluntarily maintaining NRC Form 4 for their workers. NRC estimates that 3,946 additional materials sites are maintaining NRC Form 4 for 8,763 transient workers. The total number of transient workers at all sites is estimated to be 42,281 (33,518 transient workers at sites with data in the REIRS system + 8,763 transient workers at sites without data in the REIRS system).

With the addition of the new EDEX field, the recordkeeping burden is 0.58 hours to complete, review, and authorize each NRC Form 4. (The previous estimate was .5 hours). The annual burden is 24,523 hours (42,281 workers x 0.58 hours). The annual cost for this requirement is \$6,670,256 (24,523 hours x \$272/hour). (See Table 2).

The total burden for NRC Form 4, including both third party disclosure and recordkeeping, is 31,234 hours (24,523 recordkeeping + 6,711 hours third party disclosure) at a cost of \$8,495,648 (31,234 hours x \$272/hour).

### 13. Estimate of Other Additional Cost

The NRC has determined that the quantity of records to be maintained is roughly proportional to the recordkeeping burden and, therefore, can be used to calculate approximate records storage costs. Based on the number of pages maintained for a typical clearance, the records storage cost has been determined to be equal to 0.0004 times the recordkeeping burden cost. Because the recordkeeping burden is estimated to be 24,523 hours, the storage cost for this clearance is \$2,668.10 (24,523 hours x 0.0004 x \$272/hour).

### 14. Estimated Annualized Cost to the Federal Government

NRC cost is incurred by inspectors reviewing the information on NRC Form 4, or its equivalent, and supporting records maintained by licensees. Annually, 104 hours

<sup>1</sup> Data in the REIRS system is based on other approved NRC information collections, such as NRC Form 5, 3150-0006

(1 hour/site x 104 reactor sites) of inspection time is spent reviewing such records, at an average of 1 hour for each of the 104 reactor sites. The annual cost for reactor inspectors to review the NRC Form 4, or its equivalent, is \$28,288 (104 hours x \$272/hour).

While the number of reactor sites has been constant, at 104 sites, for the past several years, there are fluctuations in the number of materials licensees. This fluctuation is mainly due to an increase in the number of Agreement States. Agreement States are those States that have entered into formal agreements with NRC, pursuant to Section 274 of the Atomic Energy Act (AEA), to regulate certain quantities of AEA material at facilities located within their borders. There are currently 37 Agreement States. These 37 Agreement States have regulatory authority over approximately 18,900 materials licensees.

However, NRC is responsible for conducting inspections of NRC Form 4, or its equivalent, and supporting records maintained by 4,042 materials licensees. It is estimated that approximately 404.2 hours (0.1 hour/site x 4,042 materials sites) of inspection time is spent reviewing such records at an average of 0.1 hour for each of the 4,042 materials sites. The annual cost for materials inspectors to review the NRC Form 4 is \$109,942.40 (404.2 hours x \$272/hour).

Annually, the total time spent reviewing NRC Form 4, or its equivalent, records is 508.2 hours (104 hours for reactor sites + 404.2 hours for materials sites). The total inspection cost, annually, is approximately \$138,230.40 (\$28,288 for reactor inspections + \$109,942.40 for materials inspections) (See Table 3). These costs are fully recoverable through fee assessments to NRC licensees pursuant to 10 CFR Parts 170 and 171.

15. Reasons for Change in Burden or Cost

The estimated burden has increased by 12,824 hours from the previous burden of 18,410 hours to 31,234 hours. This increase has three primary reasons: 1) the increase in the number of transient workers, 2) the increase in the burden estimate by 5 minutes based on the inclusion of the new EDX field on the form, and 3) the inclusion of 3<sup>rd</sup> party disclosure burden for the NRC Form 4.

In addition to the increase in the number of transient workers, licensees provide an NRC Form 4 (or equivalent) to their employees even if the employee has not participated in a planned special exposure (2007 final rule). Licensees provide an NRC Form 4 (or equivalent) to employees pursuant to 10 CFR 19.13.

Due to an increase in the number of transient workers, the number of hours associated with NRC Form 4 is anticipated to be higher in the current renewal cycle than in previous cycles:



- In the previous clearance (prior to the 2007 final rule), based on REIRS data, NRC estimated that licensees would maintain NRC Form 4, or its equivalent, records for 28,780 transient workers. A review of recent REIRS data shows that as of June 2013, licensees maintained NRC Form 4, or its equivalent, records for an average of 33,518 transient workers annually.
- In addition to licensees in the REIRS system, in the current clearance, NRC has included the transient workers employed by 3,946 additional materials licensees. These licensees are not subject to 20.2206(a); therefore, their data is not included in the REIRS system. These licensees were not included in the estimates in the previous clearance; however, NRC inspection findings indicate that these licensees are voluntarily maintaining NRC Form 4 for their workers. The NRC estimates that these licensees are maintaining Form 4 for an additional 8,760 transient workers. The addition of these 3,946 sites to the estimates has greatly increased the estimated number of respondents.

The second reason for the increase in the estimated burden is an increase in the estimated time to complete NRC Form 4, from 30 minutes to 35 minutes. Prior to the 2007 final rule, the estimate to complete NRC Form 4 was 30 minutes. Because it takes less time to complete NRC Form 4 for a planned special exposure, the burden was reduced to 15 minutes. However, because licensees primarily use the NRC Form 4 to record an employee's cumulative exposure, the burden estimate was changed to 30 minutes. The burden estimate has changed from 30 minutes to 35 minutes to include the new "EDEX" field. The addition of this field is needed so that licensees can comply with the definition of the total effective dose equivalent (TEDE) in 10 CFR 20.1003. The change in TEDE definition was part of the December 2007 final rule on 10 CFR Parts 19, 20, and 50 (72 FR 68043).

Finally, in addition to taking 35 minutes to complete the NRC Form 4, in this renewal, an additional 2 minutes per worker has been added to account for the time spent by licensees to provide a copy of the NRC Form 4 to their workers. The NRC staff estimates that licensees use an additional 2 minutes to print the form (or its equivalent) and provide it to their employees. This resulted in an additional 6,711 hours for this clearance.

It should be noted that the NRC does not anticipate any planned special exposures during the next three years; therefore, all licensees that use the NRC Form 4 for the next three years will be on a voluntary basis.

16. Publication for Statistical Use

NRC Form 4 is not published for statistical use.

17. Reason for Not Displaying the Expiration Date.

The requirement will be contained in a regulation. Amending the Code of Federal Regulations to display information that, in an annual publication, could become out

of date would confuse the public.

18. Exceptions to the Certification Statement.

Not applicable.

B. COLLECTIONS OF INFORMATION EMPLOYING STATISTICAL METHODS

Statistical methods are not employed in the collection of information.

TABLE 1

**THIRD-PARTY DISCLOSURE FOR NRC FORM 4 – RECORD PROVIDED TO MONITORED INDIVIDUALS**

NUMBER OF RESPONDENTS		RESPONSES PER RESPONDENT	TOTAL RESPONSES	BURDEN PER RESPONSES (hours)	TOTAL BURDEN
Reactors	104	1,324.24	137,721	0.03	4,131.63
Materials - data from REIRS	96	114.36	10,979	0.03	329.37
Materials - licensees not subject to 20.2206(a), no REIRS data	3,946	19.01	75,000	0.03	2,250
Totals	4,146		223,700		6,711

TABLE 2

**RECORDKEEPING BURDEN ASSOCIATED WITH NRC FORM 4**

NUMBER OF RECORDKEEPERS		NUMBER OF RECORDS/ RECORDKEEPERS	NUMBER OF RECORDS	BURDEN HOURS/ RECORDS	ANNUAL BURDEN HOURS	ANNUAL COST@ \$272/HR
Reactors	104	319.92	33,272	0.58	19,297.76	\$5,248,990.72
Materials - data from REIRS	96	2.56	246	0.58	142.68	\$38,808.96
Materials - licensees not subject to 20.2206(a), no REIRS data	3,946	2.22	8,763	0.58	5,082.54	\$1,382,450.88
Totals	4,146		42,281		24,523	\$6,670,256.00

TABLE 3

ESTIMATED ANNUALIZED COST TO THE NRC  
FOR REVIEW OF REPORTS AND INSPECTIONS  
ASSOCIATED WITH NRC FORM 4

NUMBER OF RESPONDENTS		STAFF HOURS PER LICENSEE	STAFF BURDEN HOURS	ANNUAL COST@ \$272/HR
Reactors	104	1.0	104	\$28,288
Materials	4,042	0.1	404.2	\$109,942.40
Totals	4,146		508.2	\$138,230.40