

Important

Read instructions before completing form. Do not use the same SF 83 to request both an Executive Order 12291 review and approval under the Paperwork Reduction Act.

Send three copies of this form, the material to be reviewed, and for paperwork—three copies of the supporting statement, to:

Answer all questions in Part I. If this request is for review under E.O. 12291, complete Part II and sign the regulatory certification. If this request is for approval under the Paperwork Reduction Act and 5 CFR 1320, skip Part II, complete Part III and sign the paperwork certification.

Office of Information and Regulatory Affairs
Office of Management and Budget
Attention: Docket Library, Room 3201
Washington, DC 20503

PART I.—Complete This Part for All Requests.

1. Department/agency and Bureau/office originating request U.S. Nuclear Regulatory Commission		2. Agency code 3 1 5 0
3. Name of person who can best answer questions regarding this request Mark Au		Telephone number (301) 492-3749
4. Title of information collection or rulemaking 10 CFR 50, Emergency Response Data System (ERDS), Proposed Rule		
5. Legal authority for information collection or rule (cite United States Code, Public Law, or Executive Order) 42 USC 2201(o) or		
6. Affected public (check all that apply)		
1 <input type="checkbox"/> Individuals or households	3 <input type="checkbox"/> Farms	5 <input type="checkbox"/> Federal agencies or employees
2 <input type="checkbox"/> State or local governments	4 <input checked="" type="checkbox"/> Businesses or other for-profit	6 <input type="checkbox"/> Non-profit institutions
		7 <input type="checkbox"/> Small businesses or organizations

PART II.—Complete This Part Only if the Request is for OMB Review Under Executive Order 12291

7. Regulation identifier Number (RIN)
None assigned

8. Type of submission (check one in each category)		Type of review requested	
Classification	Stage of development	1 <input type="checkbox"/> Standard	
1 <input type="checkbox"/> Major	1 <input type="checkbox"/> Proposed or draft	2 <input type="checkbox"/> Pending	
2 <input type="checkbox"/> Nonmajor	2 <input type="checkbox"/> Final or interim final, with prior proposal	3 <input type="checkbox"/> Emergency	
	3 <input type="checkbox"/> Final or interim final, without prior proposal	4 <input type="checkbox"/> Statutory or judicial deadline	

9. CFR section affected
CFR

10. Does this regulation contain reporting or recordkeeping requirements that require OMB approval under the Paperwork Reduction Act and 5 CFR 1320? Yes No

11. If a major rule, is there a regulatory impact analysis attached? Yes No
(If No, did OMB waive the analysis?) Yes No

Certification for Regulatory Submissions

In submitting this request for OMB review, the authorized regulatory contact and the program official certify that the requirements of E.O. 12291 and any applicable policy directives have been complied with.

Signature of program official	Date
Signature of authorized regulatory contact	Date

12. (OMB use only)

WF02
11

PART III — Complete This Part Only if the Request is for Approval of a Collection of Information Under the Paperwork Reduction Act and 5 CFR 1320.

13. Abstract—Describe needs, uses and affected public in 50 words or less: **"Data Transmission Operations"**
 The proposed rule requires licensees, via their in-plant computer system, to connect to the NRC ERDS and transmit plant data during an alert. Licensees must also inform NRC of any software or hardware changes and submit an ERDS implementation plan within 75 days after publication of the final rule.

14. Type of information collection (check only one):

Information collections not contained in rules:

1 Regular submission 2 Emergency submission (certification attached)

Information collections contained in rules:

3 Existing regulation (no change proposed) 6 Final or interim final without prior NPRM
 4 Notice of proposed rulemaking (NPRM) A Regular submission 7. Enter date of expected or actual Federal Register publication at this stage of rulemaking (month, day, year) 10/90
 5 Final (NPRM was previously published) B Emergency submission (certification attached)

15. Type of review requested (check only one):

1 New collection 4 Reinstatement of a previously approved collection for which approval has expired
 2 Revision of a currently approved collection 5 Existing collection in use without an OMB control number
 3 Extension of the expiration date of a currently approved collection without any change in the substance or in the method of collection

16. Agency form number(s) include standard/optional form number(s)

22. Purpose of information collection (check as many as apply):

17. Annual reporting or disclosure burden:

1 Number of respondents	202
2 Number of responses per respondent	varies
3 Total annual responses (line 1 times line 2)	2,126
4 Hours per response	varies
5 Total hours (line 3 times line 4)	2,594,398

1 Application for benefits
 2 Program evaluation
 3 General purpose statistics
 4 Regulatory or compliance
 5 Program planning or management
 6 Research
 7 Audit

18. Annual recordkeeping burden:

1 Number of recordkeepers	202
2 Annual hours per recordkeeper	varies
3 Total recordkeeping hours (line 1 times line 2)	1,107,461
4 Recordkeeping retention period	Life years

23. Frequency of recordkeeping or reporting (check all that apply):

1 Recordkeeping
Reporting:
 2 On occasion
 3 Weekly
 4 Monthly
 5 Quarterly
 6 Semi-annually
 7 Annually
 8 Biennially
 9 Other (describe):

19. Total annual burden:

1 Requested (line 17-5 plus line 18-3)	3,701,859
2 In current OMB inventory	3,701,859
3 Difference (line 1 less line 2)	0
4 Program change	
5 Adjustment	

24. Respondents' obligation to comply (check the strongest obligation that applies):

1 Voluntary
 2 Required to obtain or retain a benefit
 3 Mandatory

20. Current (most recent) OMB control number or comment number

3150-0011

21. Requested expiration date

25. Are the respondents primarily educational agencies or institutions or is the primary purpose of the collection related to Federal education programs? Yes No

26. Does the agency use sampling to select respondents or does the agency recommend or prescribe the use of sampling or statistical analysis by respondents? Yes No

27. Regulatory authority for the information collection:

10 CFR 50 or FR or Other (specify):

Paperwork Certification

In submitting this request for OMB approval, the agency head, the senior official or an authorized representative, certifies that the requirements of 5 CFR 1320, the Privacy Act, statistical standards or directives, and any other applicable information policy directives have been complied with.

Signature of program official

Date

Signature of agency head, the senior official or an authorized representative

Date

Patricia G. Norry, DSO for Information Resources Management

5-28-90

PART III — Complete This Part Only if the Request is for Approval of a Collection of Information Under the Paperwork Reduction Act and 5 CFR 1320.

13. Abstract—Describe needs, uses and affected public in 50 words or less: **"Data Transmission Operations"**
 The proposed rule requires licensees, via their in-plant computer system, to connect to the NRC ERDS and transmit plant data during an alert. Licensees must also inform NRC of any software or hardware changes and submit an ERDS implementation plan within 75 days after publication of the final rule.

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Information collections not contained in rules

- 1 Regular submission 2 Emergency submission (certification attached)

Information collections contained in rules

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 4 Notice of proposed rulemaking (NPRM) A Regular submission
 5 Final (NPRM was previously published) B Emergency submission (certification attached)
7. Enter date of expected or actual Federal Register publication at this stage of rulemaking (month, day, year): 10/90

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- 1 New collection 4 Reinstatement of a previously approved collection for which approval has expired
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22. Purpose of information collection (check as many as apply)

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 2 Number of responses per respondent varies
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 4 Hours per response varies
 5 Total inputs (line 3 times line 4) 2,594,399

- 1 Application for benefits
 2 Program evaluation
 3 General purpose statistics
 4 Regulatory or compliance
 5 Program planning or management
 6 Research
 7 Audit

18. Annual recordkeeping burden

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 2 Annual hours per recordkeeper varies
 3 Total recordkeeping hours (line 1 times line 2) 1,107,461
 4 Recordkeeping retention period Life years

23. Frequency of recordkeeping or reporting (check all that apply)

- 1 Recordkeeping
Reporting
 2 On occasion
 3 Weekly
 4 Monthly
 5 Quarterly
 6 Semi-annually
 7 Annually
 8 Biennially
 9 Other (describe): _____

19. Total annual burden

- 1 Requested (line 17-5 plus line 18-3) 3,701,859
 2 In current OMB inventory 3,701,859
 3 Difference (line 1 less line 2) 0
 Explanation of difference:
 4 Program change _____
 5 Adjustment _____

24. Respondents' obligation to comply (check the strongest obligation that applies)

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 3 Mandatory

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3150-0011

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27. Regulatory authority for the information collection

10 CFR 50 ; or FR ; or Other (specify): _____

Paperwork Certification

In submitting this request for OMB approval, the agency head, the senior official or an authorized representative, certifies that the requirements of 5 CFR 1320, the Privacy Act, statistical standards or directives, and any other applicable information policy directives have been complied with.

Signature of program official

Date

Signature of agency head, the senior official, or an authorized representative

Date

Patricia G. Norry, DSO for Information Resources Management

5-28-90

SUPPORTING STATEMENT FOR
10 CFR PART 50
EMERGENCY RESPONSE DATA SYSTEM FOR
NUCLEAR POWER REACTOR FACILITIES

Description of the Information Collection

The proposed amendment to 10 CFR 50 would require each licensee to establish and maintain an Emergency Response Data System (ERDS) for all operating nuclear power reactor facilities except for exempt plants or those that are permanently or indefinitely shut down.

A. Justification

1. Need for the Collection of Information. The NRC regulation requires the licensee to activate the Emergency Response Data System for conditions that require the declaration of an emergency class of alert, site emergency, or general emergency at the time that the NRC Operations Center is notified of the emergency class declaration. ERDS supplements the Emergency Notification System (ENS) for transmitting a limited set of real-time critical plant data from the licensee's on-site computer to the NRC Operations Center computer. These data are essential for NRC to fulfill its role to monitor the licensee during an alert or emergency at a nuclear power facility. In addition, the licensee would be required to maintain an ERDS configuration control program by which the NRC will be informed of any changes to the ERDS on-site hardware or software for the computer system.

Section 50.72(a)(4) requires the licensee to activate the Emergency Response Data System for any condition that requires the declaration of an emergency class of alert, site area emergency, or general emergency.

Section 50, Appendix E, VI

2a requires computer systems to transmit in-plant data points for pressurized water reactors or boiling water reactors if the data points are resident in the in-plant computer.

2b requires the selected parameter sets of data to be transmitted at intervals of not less than 15 seconds or more than 60 seconds.

2c requires all link control and data transmission be established in a format compatible with the NRC receiving system.

3a requires that any hardware or software changes that affect the transmitted data points must be reported within 30 days after changes are completed.

3b requires that NRC be notified at least 30 days prior to any changes to computer hardware or software that affect transmission format and computer communication protocol.

4a requires the licensee to develop and submit an ERDS implementation plan within 75 days after the final rule is published.

2. Agency Use of Information. The real-time data transmitted utilizing the ERDS will be used by NRC to fulfill its role to monitor a licensee during an on-site alert or emergency at a nuclear power facility. In addition, information concerning any computer system hardware and software changes must be reported to the NRC to ensure system operational compatibility.
3. Reduction of Burden Through Information Technology. The result of implementing the ERDS rule will be to reduce the burden on licensees of telephonic transmission of data to the NRC during an emergency. Information concerning the system changes are submitted infrequently under the requirements of this rule, and therefore, will not be adaptable to automated routine information technology. This information submitted also will be unique to each licensee. However, there are no legal or administrative obstacles to its use if so desired by a respondent.
4. Effort to Identify Duplication. The Information Requirements Control Automated System (IRCAS) was searched to determine duplication and none was found.
5. Effort to Use Similar Information. Presently, during an alert or higher emergency, the NRC would receive plant data from the licensee over telephone lines via the Emergency Notification System (ENS). The ERDS, which supplements the ENS, would transmit plant data in a more accurate and timely manner than the ENS, allowing more efficient and accurate assessment of emergencies to protect the public health and safety.
6. Effort to Reduce Small Business Burden. The requirements contained in this rule do not impact small business. The respondents are nuclear power plant licensees.

7. Consequences of Less Frequent Collection. Required reports are collected and evaluated on a continuing basis as events occur. The schedule for collecting the information is the minimum frequency which will permit NRC to assure that public health and safety are adequately protected.

8. Circumstances Which Justify Variation From OMB Guidelines. Contrary to the OMB Guidelines in 5 CFR 1320.6(b), certain sections of Part 50 require that licensees submit reports and transmit real-time data to the NRC.

The requirement of 50.72(a)(4) provides for electronic real-time transmittal of data to the NRC via ERDS during an alert or emergency at a nuclear power facility so that NRC has information needed to fulfill its role for protection of public health and safety.

Appendix E, Section VI, paragraphs 3a and 3b require a report within 30 days of any hardware or software changes that affect the transmitted data point identified in the Emergency Response Data System Data Point Library (data base) and changes that could affect the transmission format and communication protocol. This information is needed by the NRC to ensure that any system changes will not affect the ability to transmit critical parameters of a limited set of data to NRC so that NRC can fulfill its role to monitor a licensee during an on-site alert or emergency to protect public health and safety.

9. Consultations Outside the Agency. Information concerning ERDS was discussed at a NUMARC sponsored meeting in January 1989. It was discussed at two NRC Regulatory Information conferences in Washington, D.C. in 1989 and 1990. In addition, ERDS was discussed at an EEI Subject Area Committee meeting on Emergency Preparedness at Baltimore in September 1989.

10. Confidentiality of Information. None, except for proprietary information.

11. Sensitive Questions. None.

12. Estimated Annualized Cost to the Federal Government. The proposed rule will affect only nuclear power reactor licensees.

Cost to Government

Annualized Requirement	No. Annual Responses	Burden per Response (Man/Hr)	Total Annual Burden (Man/Hr)	Annual Cost \$
50.72(a)(4) Review of Transmitted Data	10	100	1000	92,000
50,Appendix E VI 3a Review Changes Affecting Data Pts.	12	16	192	17,664
50,Appendix E VI 3b Review Changes Affecting Trans- mission & Protocol	12	16	192	17,664
Annual Costs After First Year	34	41+	1384	127,328
First Year Only Costs 50,Appendix E VI 4a, Review of ERDS Implementation Plan	59*	16	944	86,848
Total First Year Cost	93	25+	2,328	214,176

13. Estimate Burden: There are 118 licensees affected by the rule change; however, only a small percentage of licensees are expected to submit a response each year. The table below reflects this.

Cost to Licensees

Annualized Requirements	No. Annual Responses	Burden per Response (Man/Hr)	Total Annual Burden (Man/Hr)	Annual Cost \$
50.72(a)(4)	10	100	1000	92,000
50, Appendix E, VI 2a, 2b, & 2c	(Detail requirements of 50.72(a)(4))			
50, Appendix E VI 3a	12	12	144	13,248
50, Appendix E VI 3b	12	12	144	13,248
Annual Costs After First Year	34	38+	1288	118,496
First Year Costs 50, Appendix E VI 4a	59*	160	9440	868,480
Total First Year Cost	93	115+	10,728	986,976

* Approximately 50 % of licensees have completed implementing ERDS through the voluntary program.

+ Average burden -- Man/Hrs

14. Reason for Change in Burden. These are new requirements for which no burden has been previously assessed.

15. Publication for Statistical Use. The potential collection of information under this provision is not intended for publication for statistical use.

B. COLLECTION OF INFORMATION EMPLOYING STATISTICAL METHODS

Statistical methods are not used in the collection of information under this provision.

NUCLEAR REGULATORY COMMISSION
10 CFR Part 50
RIN 3150 - AD32
Emergency Response Data System

AGENCY: Nuclear Regulatory Commission.

ACTION: Proposed rule.

SUMMARY: The Nuclear Regulatory Commission (NRC) proposes to amend 10 CFR Part 50 of its regulations to require licensees to participate in the Emergency Response Data System (ERDS) program and to set a definite schedule for its implementation. The ERDS is a direct electronic data link between computer data systems used by licensees and the NRC Operations Center. The ERDS would supplement the voice transmission currently installed Emergency Notification System (ENS). The ERDS would provide the NRC Operations Center with timely and accurate values of a limited set of parameters that describe selected plant conditions. The parameter values would be taken directly from data systems existing on a licensee's onsite computer. The ERDS would be activated by a licensee during the declaration of an alert or higher emergency classification at a licensed nuclear power facility. The NRC's response role in the event of an emergency at a licensed nuclear facility is primarily to monitor the licensee to ensure that appropriate recommendations are made by the licensee regarding off-site protective actions. The proposed rule is needed to

improve the NRC's capability to fulfill its response role during an emergency by better assuring that it will receive accurate and timely information on plant conditions. This action will also allow the licensee to more effectively and efficiently utilize its time and resources in collecting and transferring data to the NRC. The proposed requirement would apply to all operating nuclear power reactor facilities except Big Rock Point and those that are permanently or indefinitely shut down. However, units shut down for maintenance, or authorized only for fuel loading and low power operations are required to report under ERDS. Big Rock Point is exempt because the configuration of the facility is such that the number of parameters available are not sufficient for effective participation in the ERDS program.

DATES: Comment period expires [75 days after date of publication in the Federal Register]. Comments received after this date will be considered if it is practical to do so, but assurance of consideration cannot be given except as to comments received on or before this date.

ADDRESSES: Mail written comments to: the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Attention: Docketing and Service Branch.

Deliver comments to: 11555 Rockville Pike, Rockville, MD, between 7:45 a.m. and 4:15 p.m. on Federal workdays.

Copies of regulatory analysis, the environmental assessment and finding of no significant impact, the supporting statement submitted to OMB, and comments received may be examined at: The NRC Public Document Room, 2120 L Street, NW. (Lower Level), Washington, DC.

FOR FURTHER INFORMATION CONTACT: M. L. Au, P.E., Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission, Washington, DC 20555, telephone (301) 492-3749.

SUPPLEMENTARY INFORMATION:

Background

As a result of the accident at Three Mile Island, Unit 2, on March 28, 1979, the Nuclear Regulatory Commission (NRC) and others recognized a need to substantially improve the NRC's ability to acquire accurate and timely data on plant conditions during emergencies. Before designing a system to accomplish this task, the NRC addressed several background issues dealing with its role during an accident, any changes necessary to enhance the response role to nuclear emergencies, and the information needed to support this role.

The NRC's role in the event of an emergency is primarily to monitor the licensee to ensure that appropriate recommendations are made with respect to offsite protective actions. Other aspects of the NRC's role include providing the licensee with technical analysis and logistic support, supporting offsite authorities (including confirming the licensee's recommendations to offsite authorities), keeping other Federal agencies and entities informed of the status of the incident, keeping the media informed of the NRC's knowledge of the status of the incident, and coordinating with other public affairs groups. Detailed study has determined that the Commission's statutory authority provides a sufficient basis for carrying out this defined emergency response role.

To fulfill this emergency response role, the NRC requires reliable real-time (actual time in which a process takes place) data on four types of selected plant conditions. These conditions are:

- (1) Core and coolant system conditions -- needed to assess the extent or likelihood of core damage;
- (2) Conditions inside the containment building -- needed to assess the likelihood and consequence of its failure;
- (3) Radioactivity release rates -- needed to assess the immediacy and degree of public danger; and
- (4) Data from the plant's meteorological tower -- needed to assess the likely patterns of potential or actual impact on the public.

Site surveys, conducted by the NRC in 1986, have shown that data relevant to these conditions are maintained in the plant computer systems by a majority of the licensees. Currently during an emergency, data on these conditions is transmitted to the NRC Operations Center by the licensee through the Emergency Notification System (ENS) via voice communication by telephone.

In SECY-84-481, "Upgrading the NRC Operations Center's Emergency Data Acquisition Capability," dated December 26, 1984, it was noted that experience with the ENS voice-only emergency communications link currently addressed in 10 CFR 50.72(a) demonstrated that excessive amounts of time are needed for routine transmission of data and for verification or correction of data that appears questionable. Errors were also attributed to transcribing and interpreting voice-transmitted data. This resulted in the NRC exploring

improved methods to receive accurate and timely information it requires to perform its role during an alert or higher emergency.

After evaluating several options, the NRC selected the Emergency Response Data System (ERDS) as the most appropriate option to supplement the ENS. The staff conducted prototype ERDS testing with Duke Power and Commonwealth Edison reactor units. For example, data was transmitted and beneficially used via an ERDS prototype during the Zion Full Federal Exercise in June 1987. These tests demonstrated that there was great value in using electronic data transmission for obtaining a limited set of reliable, time tagged data. With this better and more timely data, the NRC response team functioned more efficiently and their assessments were more timely. Major improvements in the ability to focus on significant factors and to predict the course of events were noted. The questions directed from the NRC Operations Center to the licensee were focused on the overall event status and corrective actions being considered, rather than simple data requests, thereby reducing the volume of voice communications.

The NRC decided to implement the ERDS initially on a voluntary basis through the issuance of a generic letter while at the same time developing a rulemaking. On August 21, 1989, the NRC issued Generic Letter 89-15 to request the voluntary cooperation of each nuclear power reactor licensee in implementing an ERDS program at each of its operational nuclear power units. However, to date only about half of the operating nuclear power units have volunteered to participate in ERDS. The NRC recognizes the importance of the ERDS in enhancing its ability to fulfill its role in the event of an emergency and has placed a high priority on the implementation of the ERDS program by all operational nuclear power units. The staff has, therefore, developed the

proposed rule that would amend Part 50 to require participation in the ERDS program and to set a definite schedule for its implementation.

Discussion

The ERDS would supplement the currently installed voice transmission ENS. The system will provide the NRC Operations Center with a timely and accurate limited set of parameters from the installed onsite computer systems in the event of an emergency at a nuclear power plant. Implementation of the ERDS would require each licensee to establish and maintain a computer information system which is designed to transmit a set of approximately 30 selected critical plant parameters. The ERDS would be activated by the licensee upon declaration of an alert or higher emergency condition at a licensed nuclear power reactor facility. Tests with the ERDS indicate that a computer-based transmission system is far more accurate and timely than the current practice of relaying information on plant conditions via telephone voice communication. Moreover, by automatically collecting and transmitting selected critical parameters to the NRC Operations Center, the ERDS would allow the licensee to redirect resources that now are required for voice communication of plant conditions to managing the emergency. Of course, the voice communication channel would remain available to permit needed dialogue between the licensee's facility and the NRC Operations Center during the emergency.

The proposed ERDS requirement would apply to all nuclear power reactor facilities except Big Rock Point and those that are permanently or indefinitely shut down. Big Rock Point is exempt because the facility has only five data points available for the ERDS program. Those units shut down for maintenance

or authorized only for fuel loading and low power operations are required to report under ERDS.

The ERDS would become operational during (1) emergencies at the licensee's facilities and (2) emergency training exercises if the licensee's computer system has the capability to transmit the exercise data. The licensee would activate the ERDS to begin data transmission to the NRC Operations Center immediately after declaring an alert or a higher emergency classification.

The licensee would be required to provide the necessary software to assemble the data and an output communications port for each reactor unit in its in-plant computer system. The required emergency data would be transmitted to the NRC via NRC-furnished communication link hardware. The acquisition and transmission of data would not require human intervention after the system is activated, thereby ensuring uninterrupted transmission of real-time data. The data would be transmitted in a format compatible with the system at the NRC Operations Center. Guidance for format compatibility with the NRC receiving system is provided in NUREG-1394.

The two main features of the ERDS are:

- o The software link, which will extract and format the requisite data to be transmitted to the NRC Operations Center; and
- o The hardware link, which will connect the onsite data acquisition system of the licensee with the data transmission unit supplied by the

NRC. In most cases, implementing ERDS can be accomplished with already installed equipment at the licensee's facility.

The parameters to be included in the transmission are those that, to the greatest extent possible, describe the four selected plant conditions previously mentioned. The specific parameters desired by the NRC during an emergency are given in the proposed amendment to 10 CFR Part 50, Appendix E, Section VI, Paragraph 2. The units of these parameters are pre-established for each site and will be transmitted to the NRC Operations Center without any change. If the data for a selected plant condition parameter exists, but cannot be transmitted electronically from a licensee's system, then the licensee will continue to provide that data via the existing ENS.

With regard to the capability of the current hardware at the sites to support the generation of data required as input to ERDS, approximately 5 to 10 percent of the licensee computer systems are currently running at close to 100 percent processing capability in the post-trip or post-incident environment. Approximately 10 to 15 percent of the licensee systems are hardware limited (i.e., no available output port for an ERDS connection exists). However, in many of these cases, the licensees with hardware limitations were planning to upgrade their systems in the near future for reasons other than supporting ERDS.

Each licensee would establish and maintain an ERDS configuration control program which would ensure that the NRC is notified of any changes to the ERDS on-site hardware or software. Any hardware and software changes that affect the transmitted data points identified in the ERDS Data Point Library (data

use) must be reported to the NRC within 30 days after changes are completed. Any changes that could affect the transmission format and communication protocol to the ERDS must be provided to the NRC, as soon as practicable, at least 30 days prior to the modification.

Other computer systems, such as the Nuclear Data Link (NDL) were considered; however, these would require new hardware and software as well as additional personnel for both licensees and the NRC.

Environmental Impact: Categorical Exclusion

The NRC has determined that this proposed regulation is the type of action described in categorical exclusion 10 CFR 51.22(c)(3)(iii). Therefore, neither an environmental impact statement nor an environmental assessment has been prepared for this proposed regulation.

Paperwork Reduction Act Statement

This proposed rule amends information collection requirements that are subject to the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.). This rule has been submitted to the Office of Management and Budget for review and approval of the paperwork requirements.

The regulatory analysis estimates an annual per reactor level of effort of 5 days for licensee staff and 3 days for NRC staff for the maintenance of the on-site ERDS configuration control program. An integral part of this activity is the preparation of configuration control reports by the licensee and their

review by the NRC. This paperwork effort is estimated at less than one-third the overall configuration control level of effort. Thus, the reporting burden per reactor is estimated at less than 2 days per year, and the NRC's review effort is estimated at less than 1 day per reactor year. Send comments regarding this burden estimate or any aspect of this collection of information, including suggestions for reducing the burden, to the Information and Records Management Branch (MNBB-7714), U.S. Nuclear Regulatory Commission, Washington, DC 20555 and to the Paperwork Reduction Project (3150-0011), Office of Information and Regulatory Affairs (NEOB-3019), Office of Management and Budget, Washington, DC 20503.

Regulatory Analysis

The NRC has prepared a draft regulatory analysis on this proposed regulation. The analysis examines the costs and benefits of the alternatives considered by the NRC. The draft regulatory analysis is available for inspection in the NRC Public Document Room, 2120 L Street, NW. (Lower Level), Washington, DC. Single copies of the draft analysis may be obtained from M. L. Au, P.E., Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission, Washington, DC 20555, telephone (301) 492-3749.

The NRC requests public comment on the draft regulatory analysis. Comments on the draft analysis may be submitted to the NRC as indicated under the ADDRESSES heading.

Regulatory Flexibility Certification

In accordance with the Regulatory Flexibility Act of 1980 (5 U.S.C. 605(b)), the Commission certifies that this rule will not, if promulgated, have a significant economic impact on a substantial number of small entities. This proposed rule affects only the licensing and operation of nuclear power plants. The companies that own these plants do not fall within the scope of the definition of "small entities" set forth in the Regulatory Flexibility Act or the Small Business Size Standards set out in regulations issued by the Small Business Administration at 13 CFR 121.

Backfit Analysis

As required by 10 CFR 50.109, the Commission has completed a backfit analysis for this proposed rule. The Commission concluded that the proposed rule will provide substantial increase in the overall protection of the public health and safety by ensuring far more accurate and timely flow of data for the NRC to fulfill its role during an alert or higher emergency. The direct and indirect costs estimated for the implementation of this rule are justified in view of this increased protection. Further, the implementation and maintenance requirements of the proposed rule will have no effect on occupational radiological exposure. The backfit analysis on which this determination is based is as follows:

Item 1: Statement of the specific objective that the proposed backfit is designed to achieve.

Response: The objective of the proposed ERDS rulemaking effort is to achieve a high degree of assurance that accurate real-time data is made available to the

NRC to evaluate critical parameters at any operating reactor facility during an alert or higher emergency. This in turn would improve the NRC's understanding of an event and allow the NRC to perform its role more effectively and efficiently which includes: (i) monitoring the licensee to ensure that appropriate recommendations are being made with respect to offsite protective actions; (ii) providing the licensee with technical analysis and logistic support; (iii) supporting offsite authorities; (iv) keeping other Federal agencies and entities informed of the status of the incident; and (v) keeping the media informed of the NRC's knowledge of the status of the incident.

In addition, the implementation of the ERDS would enable the licensee to better use its time and resources to effectively and efficiently deal with the emergency. The combination of better and more timely assessments of licensee actions by the NRC and the focusing of the licensee's resources to better deal with the emergency at hand together will reduce the overall risk to the public health and safety from an emergency.

Item 2: General description of the activity that would be required of the licensee or applicant in order to complete the backfit.

Response: All licensees or applicants would be required to install an NRC-supplied communication link, provide the software necessary to format available selected critical plant condition data for NRC use, provide the necessary hardware from the in-plant computer to interface with the NRC-supplied communication link, provide support for periodic testing of the ERDS, and report any configuration changes to the licensee's ERDS-related hardware and

software. Initially, the ERDS will be tested quarterly, unless otherwise determined by NRC based on demonstrated system performance.

Item 3: Potential change in the risk to the public from the accidental offsite release of radioactive material.

Response: The implementation of the ERDS in all operating nuclear power reactors would provide the NRC with more accurate and timely data to fulfill its major role during an alert or higher emergency. The major role, as defined in the 1987 revision to NUREG-0728, is to monitor the licensee to ensure that appropriate recommendations are being made with respect to offsite protective actions. Currently, the NRC relies on data verbally transmitted through the Emergency Notification System (ENS) during an emergency. Although deemed adequate, this method of transmission has, on occasion, proven to be unreliable. In addition, data collection is time consuming since various instruments are read and their indications logged on a periodic basis for verbal communication via ENS. The implementation of the ERDS would improve the reliability and timeliness of data transmission and help ensure that any reactor unit in distress can be suitably monitored. Therefore, the NRC would be able to make better and more timely assessments of the licensee's actions regarding management of both emergency and protective actions. Although licensees will be required to maintain voice communication via the Emergency Notification System (ENS) with ERDS, the licensee resources that now are required to collect and relay data and information to the NRC will be available to deal with the emergency. The combination of better and more timely assessments of licensee actions by the NRC, and the focusing of licensee

resources to better deal with the emergency at hand together will reduce the overall risk to the public health and safety from an emergency.

Item 4: Potential impact on radiological exposure of facility employees.

Response: The implementation of the proposed ERDS rule would have no effect on routine occupational radiological exposure and would not result in increased radiological exposure of facility employees.

Item 5: Installation and continuing costs associated with the backfit, including the cost of facility downtime or the cost of construction delay.

Response: The cost impact of the rule was estimated to be approximately \$153,000 for one nuclear power reactor (one unit). This figure, expressed in 1990 dollars, represents the incremental worth of installing and operating ERDS for 30 years using a 5 percent discount rate. The overall industry cost of implementing the rule for 118 nuclear power reactor units was estimated at approximately \$18 million. No downtime costs were considered in the cost impact estimates because the installation and operation of the ERDS should have no impact on the operation of a nuclear power plant.

Item 6: The potential safety impact of changes in plant or operational complexity, including the relationship to proposed and existing regulatory requirements.

Response: The proposed ERDS rule should have little or no impact on the operational complexity of the nuclear power reactor units since the required modifications to the hardware and software are minor. The redirection in the

labor burden provided by the automatic collection and transmission of selected reactor data would increase the efficiency and effectiveness of nuclear power plant operating personnel during an emergency. The proposed rule is closely associated with Generic Letter 89-15 and complements the ENS that exists at every nuclear power reactor.

Item 7: The estimated resource burden on the NRC associated with the proposed backfit and availability of such resources.

Response: The impact on the NRC resulting from the implementation of the proposed ERDS rule is anticipated to be a one-time cost of about \$200,000 for the current population of operational/licensed nuclear reactor units. This figure provides for initial reviews of licensees' implementation plan submittals. After implementation, the NRC cost is estimated to be approximately \$4.3 million for 118 nuclear power reactor units. This figure represents the costs for periodic testing and configuration control expressed as the present worth in 1990 dollars and uses a 5 percent discount rate over 30 years.

Item 8: The potential impact of the differences in facility type, design, or age on the relevancy and practicality of the proposed backfit.

Response: The proposed rule is independent of the facility's type, design, or age. There are considerable variations in the instrumentation systems of the nuclear power plants, and the estimated cost impacts were based on an average value for current nuclear power plants to implement the ERDS. There will be no differences, however, in potential impacts between the various facilities on a

yearly basis. The proposed rule does not require that licensees monitor more parameters than are presently monitored at each facility.

Item 9: Whether the proposed backfit is interim or final and, if interim, the justification for imposing the proposed backfit on an interim basis.

Response: Implementation of the ERDS in accordance with the proposed rule will require that all licensees develop and submit an ERDS implementation plan to the NRC within 60 days of the publication of the final rule in the Federal Register. The implementation plan should provide a schedule which identifies the earliest possible time frame for ERDS implementation by the licensee as well as proposed alternate implementation dates. The NRC will establish an industry wide ERDS implementation schedule which will take into account such factors as planned computer modifications and scheduled outages. The ERDS must be implemented within 18 months of the publication of the final rule in the Federal Register.

List of Subjects in 10 CFR Part 50

Antitrust, Classified information, Criminal penalty, Fire protection, Incorporation by reference, Intergovernmental relations, Nuclear power plants and reactors, Radiation protection, Reactor siting criteria, Reporting and recordkeeping requirements.

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 amendment to 10 CFR Part 50.

PART 50 - DOMESTIC LICENSING OF PRODUCTION AND UTILIZATION FACILITIES

1. The authority citation for Part 50 continues to read as follows:

AUTHORITY: Secs. 102, 103, 104, 105, 161, 182, 183, 186, 189, 68 Stat. 936, 937, 938, 948, 953, 954, 955, 956, as amended, sec. 234, 83 Stat. 1244, as amended (42 U.S.C. 2132, 2153, 2134, 2135, 2201, 2232, 2233, 2236, 2239, 2282); secs. 201, as amended, 202, 206, 88 Stat. 1242, as amended, 1244, 1246, (42 U.S.C. 5841, 5842, 5846).

Section 50.7 also issued under Pub. L. 95-601, sec. 10, 92 Stat. 2951 (42 U.S.C. 5851). Section 50.10 also issued under secs. 101, 185, 68 Stat. 936, 955, as amended (42 U.S.C. 2131, 2235), sec. 102, Pub. L. 91-190, 83 Stat. 853 (42 U.S.C. 4332). Sections 50.13, and 50.54(dd), also issued under sec. 108, 68 Stat. 939, as amended (42 U.S.C. 2138). Sections 50.23, 50.35, 50.55, and 50.56 also issued under sec. 185, 68 Stat. 955 (42 U.S.C. 2235). Sections 50.33a, 50.55a, and Appendix Q also issued under sec. 102, Pub. L. 91-190, 83 Stat. 853 (42 U.S.C. 4332). Sections 50.34 and 50.54 also issued under sec. 204, 88 Stat. 1245 (42 U.S.C. 5844) Sections 50.58, 50.91, and 50.92 also issued under Pub. L. 97-415, 96 Stat. 2073 (42 U.S.C. 2239). Section 50.78 also issued under sec. 112, 68 Stat. 939 (42 U.S.C. 2152). Sections 50.80 through 50.81 also issued under sec. 184, 68 Stat. 954, as amended (42 U.S.C. 2234). Section 50.103 also issued under sec. 108, 68 Stat. 939, as amended (42 U.S.C. 2138). Appendix F also issued under sec. 187, 68 Stat. 955 (42 U.S.C. 2237).

For the purposes of sec. 223, 68 Stat. 958, as amended (42 U.S.C. 2273), §§ 50.46(a) and (b), and 50.54(c) are issued under sec. 161b, 68 Stat. 948, as amended (42 U.S.C. 2201(b)); §§ 50.7(a), 50.10(a)-(c), 50.34(a) and (e), 50.44(a)-(c), 50.46(a) and (b), 50.47(b), 50.48(a), (c), (d), and (e), 50.49(a), 50.54(a), (i), (i)(1), (l)-(n), (p), (q), (t), (v), and (y), 50.55(f), 50.55a(a), (c)-(e), (g), and (h), 50.59(c), 50.60(a), 50.62(c), 50.64(b), and 50.80(a) and (b) are issued under sec. 161i, 68 Stat. 949, as amended (42 U.S.C. 2201(i)); and §§ 50.49(d), (h), and (j), 50.54(w), (z), (bb), (cc), and (dd), 50.55(e), 50.59(b), 50.61(b), 50.62(b), 50.70(a), 50.71(a)-(c) and (e), 50.72(a), 50.73(a) and (b), 50.74, 50.78, and 50.90 are issued under sec. 161o, 68 Stat. 950, as amended (42 U.S.C. 2201(o)).

PART 50 - DOMESTIC LICENSING OF PRODUCTION AND UTILIZATION FACILITIES

2. In § 50.72, paragraph (a)(4) is redesignated as paragraph (a)(5) and a new paragraph (a)(4) is added to read as follows:

§ 50.72 Immediate notification requirements for operating nuclear power reactors.

(a)

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(4) The licensee shall activate the Emergency Response Data System (ERDS)⁵ for any condition that requires the declaration of an emergency class of alert, site area emergency, or general emergency at the time that the NRC Operations Center is notified of the emergency class declaration.

5 Requirements for ERDS are addressed in Appendix E.

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3. Appendix E is amended by adding a new Section VI, Emergency Response Data System, to read as follows:

Appendix E - Emergency Planning and Preparedness for Production and Utilization Facilities

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VI. Emergency Response Data System

1. The Emergency Response Data System (ERDS) is a direct real-time electronic data link between the licensee's onsite computer system and the NRC Operations Center which provides for the automated transmission of a limited data set of selected parameters. The ERDS supplements the existing voice transmission over the Emergency Notification System (ENS) by providing the NRC Operations Center with timely and accurate updates of a limited set of parameters from the licensee's installed onsite computer system in the event of an emergency. When selected plant data are not available on the licensee's onsite computer system, retrofitting of data points is not required. The licensee shall test the ERDS periodically to verify system availability and operability. The frequency of ERDS testing will be quarterly unless otherwise set by NRC based on demonstrated system performance.

2. Except for Big Rock Point and all nuclear power facilities that are shut down permanently or indefinitely, onsite hardware and software shall be provided at each unit by the licensee to interface with the NRC receiving system. The hardware and software must have the following characteristics:

a. Data points, if resident in the in-plant computer systems, must be transmitted for four selected types of plant conditions: reactor core and coolant system conditions; reactor containment conditions; radioactivity release rates; and plant meteorological tower data. A separate data feed is required for each reactor unit. While it is recognized that ERDS is not a safety system, it is conceivable that a licensee's ERDS interface could communicate with a safety system. In this case, appropriate isolation devices would be required at these interfaces.⁶ The data points, identified in the following parameters will be transmitted:

(i) For pressurized water reactors (PWRs), the selected plant parameters are: (1) Primary coolant system: pressure, temperatures (hot leg, cold leg, and core exit thermocouples), subcooling margin, pressurizer level, reactor coolant charging/makeup flow, reactor vessel level (when available), reactor coolant flow, and reactor power; (2) Secondary coolant system: steam generator levels and pressures, main feedwater flows, and auxiliary and emergency feedwater flows; (3) Safety injection: high- and low-pressure safety injection flows, safety injection flows (Westinghouse), and borated water storage tank level; (4) Containment: pressure, temperatures, hydrogen concentration, and sump levels; (5) Radiation monitoring system: reactor coolant radioactivity,

6 See 10 CFR 50.55a(h) Protection Systems.

containment radiation level, condenser air removal radiation level, effluent radiation monitors, and process radiation monitor levels; and (6) Meteorological data: wind speed, wind direction, and atmospheric stability.

(ii) For boiling water reactors (BWRs), the selected parameters are: (1) Reactor coolant system: reactor pressure, reactor vessel level, feedwater flow, and reactor power; (2) Safety injection: reactor core isolation cooling flow, high-pressure coolant injection/high-pressure core spray flow, core spray flow, low-pressure coolant injection flow, and condensate storage tank level; (3) Containment: drywell pressure, drywell temperatures, drywell sump levels, hydrogen and oxygen concentrations, suppression pool temperature, and suppression pool level; (4) Radiation monitoring system: reactor coolant radioactivity level, primary containment radiation level, condenser off-gas radiation level, effluent radiation monitor, and process radiation levels; and (5) Meteorological data: wind speed, wind direction, and atmospheric stability.

b. The above selected parameter sets must be transmitted at time intervals not less than 15 seconds or more than 60 seconds.

c. All link control and data transmission must be established in a format compatible with the NRC receiving system.⁷

3. Maintaining Emergency Response Data System

7 Guidance is provided in NUREG-1394

a. Any hardware or software changes that affect the transmitted data points identified in the Emergency Response Data System Data Point Library (data base) must be submitted to the NRC within 30 days after changes are completed.

b. Hardware and software changes, with the exception of data point modifications, that could affect the transmission format and computer communication protocol to the ERDS must be provided to the NRC, as soon as practicable, at least 30 days prior to the modification.

4. Implementing Procedures for Emergency Response Data System

a. Each licensee shall develop and submit an ERDS implementation program plan to the NRC by [insert a date 75 days after publication of the final rule]. To ensure compatibility with the guidance provided for the Emergency Response Data System (ERDS), the ERDS implementation program plan must include, but not be limited to, information on the licensee's computer system configuration (i.e., hardware and software), interface, and procedures. Applicants for an operating license must comply with Appendix E, Section V of this part.

b. Each licensee shall complete implementation of the Emergency Response Data System by [insert a date eighteen months after the effective date of the final rule] or before initial escalation to full power, whichever comes later. Licensees with currently operational ERDS interfaces approved under the

voluntary ERDS implementation program⁸ will be considered to have met the requirements for ERDS under Appendix E, Sections VI.1, and 2 of this part.

Dated at Rockville, Maryland, this ____ day of _____, 1990.

For the Nuclear Regulatory Commission.

Samuel J. Chilk,
Secretary.

8 See, NUREG-1394.