

# UNITED STATES OF AMERICA NUCLEAR REGULATORY COMMISSION

Title: AFFIRMATION/DISCUSSION AND VOTE

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**UNITED STATES OF AMERICA**  
**NUCLEAR REGULATORY COMMISSION**

- - - -

AFFIRMATION/DISCUSSION AND VOTE

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PUBLIC MEETING

Nuclear Regulatory Commission  
One White Flint North  
Rockville, Maryland

Tuesday, December 21, 1993

The Commission met in open session,  
pursuant to notice, at 11:05 a.m., Ivan Selin,  
Chairman, presiding.

COMMISSIONERS PRESENT:

IVAN SELIN, Chairman of the Commission  
KENNETH C. ROGERS, Commissioner  
FORREST J. REMICK, Commissioner  
E. GAIL de PLANQUE, Commissioner

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STAFF SEATED AT THE COMMISSION TABLE:

SAMUEL J. CHILK, Secretary

MARTIN MALSCH, Deputy General Counsel

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P-R-O-C-E-E-D-I-N-G-S

11:05 a.m.

CHAIRMAN SELIN: Mr. Secretary, would you lead us through our item this morning?

SECRETARY CHILK: The item before the Commission is SECY-93-302, Modifications to Fitness-for-Duty Program Requirements Concerning the Random Drug Testing Rate.

The Commission in this paper is being asked to approve an amendment to its fitness-for-duty regulations which permit licensees to reduce the random testing rate for all persons covered by 10 CFR Part 26 to an annual rate equal to 50 percent. All Commissioners have approved the amendment with revisions to the statement of considerations which was attached to our memorandum of December 20th.

Would you please affirm your votes?

CHAIRMAN SELIN: Aye.

COMMISSIONER ROGERS: Aye.

COMMISSIONER REMICK: Aye.

COMMISSIONER de PLANQUE: Aye.

SECRETARY CHILK: I have nothing. Thank you, sir.

(Whereupon, at 11:06 a.m., the above-entitled matter was concluded.)

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CERTIFICATE OF TRANSCRIBER

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TITLE OF MEETING: AFFIRMATION/DISCUSSION AND VOTE

PLACE OF MEETING: ROCKVILLE, MARYLAND

DATE OF MEETING: DECEMBER 21, 1993

were transcribed by me. I further certify that said transcription  
is accurate and complete, to the best of my ability, and that the  
transcript is a true and accurate record of the foregoing events.

Carol Lynch

Reporter's name: Peter Lynch

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## **RULEMAKING ISSUE**

**(Affirmation)**

November 4, 1993

SECY-93-302

**FOR:** The Commissioners

**FROM:** James M. Taylor  
Executive Director for Operations

**SUBJECT:** MODIFICATIONS TO FITNESS-FOR-DUTY PROGRAM REQUIREMENTS  
CONCERNING THE RANDOM DRUG TESTING RATE

**PURPOSE:**

To obtain Commission approval to publish a final rule that will reduce the annual rate of random drug testing of licensee employees.

**BACKGROUND:**

By staff requirements memorandum, February 18, 1993, the Commission approved publication of proposed rulemaking to modify the random drug testing rate as recommended in SECY-93-014. The proposed rule was published in the Federal Register on March 24, 1993 (58 FR 15810).

**DISCUSSION:**

Interested parties were invited to submit comments on the proposed rule by June 22, 1993. The staff received a total of 40 comment letters in response to the notice of proposed rulemaking.

Comments were received from 28 licensees, six labor unions, one vendor, the Nuclear Management and Resources Council, three from licensed reactor operators, and one from a private citizen. There was overwhelming support for the proposed reduction in the annual rate of random testing for licensee

**Contact:**  
Loren Bush, NRR  
504-2944

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employees; most of the commenters believed that the reduced rate should also apply to contractors and vendors, and several commenters proposed a flexible performance-based rate. There was no support for excluding from any reduction in the random testing rate certain positions critical to the safe operation of a nuclear power plant, such as licensed reactor operators. The staff reviewed all written comments received and considered them in the preparation of the amendment to the final fitness-for-duty (FFD) rule. The draft notice for the Federal Register (Enclosure 1) contains an analysis of all written comments and the staff's responses to them.

None of the commenters provided new information or approaches not previously considered by the staff. The recommendation by NUMARC and eleven licensees that the random testing rate should be flexible and based on performance was one example with significant policy implications. A variation of the flexible, performance-based rate was initially considered by the staff during development of the FFD rule in 1989 (Comment/Response 7.4.2 of NUREG-1354, "Fitness for Duty in the Nuclear Power Industry: Responses to Public Comments"). It also was considered by the staff during development of the current proposed amendment but not offered as an option in SECY-92-271 because the staff believes such an approach would discourage the initiatives that the Commission is encouraging in 10 CFR 26.24(b) and in Section 2.1 of Appendix A to Part 26. For example, using lower cutoff levels, testing for additional drugs, and special testing of suspect specimens would all increase the positive rate.

With regard to comments about applying the reduced random testing rate to contractors and vendors, the staff believes that the pros and cons of the issue were adequately addressed in SECY-92-271 and the low absolute numbers claimed by commenters also were recognized and considered (at 58 FR 15812). However, the staff is recommending that the permission to lower the random testing rate be applied to all of the work force because the number of positive test results are low. "Problem workers" are being screened out and the potential threat to public health and safety posed by contractors and vendors is generally less than that posed by licensee employees.

The staff, therefore, believes that the only modification to the proposed amendment before publishing it as a final rule would be to permit licensees to reduce the random testing rate to 50 percent per year for all persons within the scope of 10 CFR Part 26.

#### **COORDINATION:**

The Office of the General Counsel has no legal objections to publishing the rule.

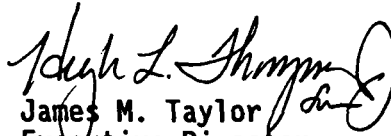


**RECOMMENDATIONS:**

That the Commission:

1. Approve publication of the final amendment to 10 CFR Part 26 as set forth in the enclosed notice for the Federal Register.
2. If a rule change is approved, certify, to satisfy the requirements of the Regulatory Flexibility Act, 5 U.S.C. 605(b), that this rule would not have a significant economic effect on a substantial number of small entities. This certification is included in the enclosed notice for the Federal Register.
3. NOTE: If the rule change is approved:
  - a. The notice of final rulemaking, Enclosure 1, will be published in the Federal Register to become effective 30 days after its publication.
  - b. In accordance with 10 CFR Part 51, the staff has prepared an environmental assessment and a finding of no significant impact that are included in the notice. The final rule is insignificant from the standpoint of environmental impact.
  - c. The final rule contains new information collection requirements that are subject to Office of Management and Budget (OMB) approval. These provisions of the rule were approved by OMB on June 2, 1993.
  - d. The staff will inform the Subcommittee on Nuclear Regulation of the Senate Committee on Environment and Public Works, the Subcommittee on Energy and Power of the House Committee on Energy and Commerce, and the Subcommittee on Energy and the Environment of the House Interior and Insular Affairs Committee (Enclosure 3).
  - e. The staff will send copies of the final rule to all affected licensees and other interested persons following the Commission's approval for publication of the final rule.

- f. The Chief Counsel for Advocacy of the Small Business Administration will be informed of the certification and the reasons for it as required by the Regulatory Flexibility Act.

  
James M. Taylor  
Executive Director  
for Operations

Enclosures:

1. Notice of Final Rulemaking
2. Regulatory Analysis
3. Draft Public Announcement
4. Draft Congressional Letter

Commissioners' comments or consent should be provided directly to the Office of the Secretary by COB Monday, November 22, 1993.

Commission Staff Office comments, if any, should be submitted to the Commissioners NLT Monday, November 15, 1993, with an information copy to the Office of the Secretary. If the paper is of such a nature that it requires additional review and comment, the Commissioners and the Secretariat should be apprised of when comments may be expected.

This paper is tentatively scheduled for affirmation at an Open Meeting during the Week of November 22, 1993. Please refer to the appropriate Weekly Commission Schedule, when published, for a specific date and time.

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**NUCLEAR REGULATORY COMMISSION**  
**10 CFR Part 26**  
**RIN 3150-AE38**  
**Modifications to Fitness-For-Duty**  
**Program Requirements**

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Final rule.

**SUMMARY:** The Nuclear Regulatory Commission (NRC) is amending its regulations governing fitness-for-duty (FFD) programs that are applicable to licensees who are authorized to construct or operate nuclear power reactors and to licensees authorized to possess, use, or transport formula quantities of strategic special nuclear material (SSNM). The amendment permits licensees to reduce the random testing rate for all persons covered by 10 CFR Part 26 to an annual rate equal to 50 percent.

**EFFECTIVE DATE:** January 1, 1994

**FOR FURTHER INFORMATION CONTACT:** Loren L. Bush, Jr., Safeguards Branch, Division of Radiation Safety and Safeguards, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, DC 20555, telephone: (301) 504-2944.

## AVAILABILITY OF DOCUMENTS:

Copies of the regulatory analysis, the comments received, and the Government Accounting Office (GAO) report (GAO/GGD-93-13) of November 1992 may be examined at the NRC Public Document Room, 2120 L Street NW, (Lower Level), Washington, DC.

Copies of NUREG-1354, NUREG/CR-5758 (Volumes 1, 2, and 3), and NUREG/CR-5784 may be purchased from the Superintendent of Documents, U.S. Government Printing Office, P.O. Box 37082, Washington, DC 20013-7082. Copies are also available from the National Technical Information Service, 5282 Port Royal Road, Springfield, VA 22161. A copy is available for inspection and/or copying for a fee in the NRC Public Document Room, 2120 L Street NW, (Lower Level), Washington, DC.

## SUPPLEMENTARY INFORMATION:

### Background

The NRC has reviewed experiences gained since publication of the current FFD rule on June 7, 1989 (54 FR 24468), and implementation by power reactor licensees on January 3, 1990, and determined that it may be appropriate to modify the random testing rate. Accordingly, on March 24, 1993 (58 FR 15810), the Commission published a proposed modification to the FFD rule that would permit a reduction in the random testing rate for licensee employees, but maintain the 100-percent random testing rate for contractors and vendors.

## Summary of Public Comments

The comment period expired on June 22, 1993. Forty comment letters were received. Twenty-eight were from power reactor licensees, six from unions, one from an industry association, one from a vendor, three from licensed reactor operators, and one from a private citizen. There was overwhelming support for the proposed reduction in the annual rate of random testing for licensee employees. Most of the commenters believed that the reduced rate also should apply to contractors and vendors, and several commenters proposed a flexible, performance-based rate. There was no support for excluding from any reduction in the random testing rate certain positions critical to the safe operation of a nuclear power plant, such as licensed reactor operators. A summary of the comments received and the NRC's responses are presented below.

1. Comment. The random testing rate for licensee employees should be reduced to 50 percent.

All of the 23 commenters submitting comments on the Commission's proposed reduction of the random testing rate to 50 percent for licensee employees supported the proposal. The reason most often expressed was the low rate of positive random test results experienced by licensee employees, particularly in comparison with other industries having significant safety concerns. These commenters believe that this low industry-wide positive rate justifies the lowering of the random testing rate to 50 percent. Some commenters stated that a 50-percent rate for licensee employees would make

that rate consistent with the random testing rate currently required in the substance abuse programs mandated for entities regulated by the agencies within the Department of Transportation (DOT), including the Federal Aviation Administration and the Federal Highway Administration. They also noted that DOT is currently considering lowering its proposed random testing rate below 50 percent even though Federal Highway Administration data, for example, indicate a significantly higher positive rate than that experienced among NRC licensee employees. Another commenter pointed out that the lowered random testing rate for licensee employees subject to the NRC's FFD rule also would be consistent with the random rate applied in the Commission's own internal drug testing program.

Other commenters supported the reduction with the expectation of significant cost savings for licensees as a result of only testing approximately one-half the number of employees now being tested. In this regard, the Nuclear Management and Resources Council (NUMARC) made reference to the November 1992 GAO report, "Employee Drug Testing: Opportunities Exist To Lower Drug-Testing Program Costs" (GAO/GGD-93-13), which suggests reduced random testing rates as a means of producing cost efficiencies in Federally mandated drug testing programs without adversely affecting program integrity. \*

Concerning the relative effectiveness of alternative random testing rates, some commenters believe that a 50-percent random testing rate would produce satisfactory deterrence of drug and alcohol abuse. This is particularly true in light of the fact that other FFD program elements, such as program awareness training and behavioral observation, and the access authorization program will continue to inhibit such behavior. Two commenters

also supported the proposed change because it would lessen the disruption of workers lives and reduce the invasion of privacy that random drug testing creates.

#### NRC Response

The NRC concurs with those commenters who stated that a 50 percent random testing rate as applied to licensee employees can be expected to provide sufficient deterrence to justify lowering the rate at this time. It also agrees with the observation that the access authorization program and other FFD program elements, such as policy communications and awareness training, behavioral observation, for-cause testing, employee assistance programs, and the imposition of strict sanctions for violations of an FFD policy will continue to deter drug and alcohol abuse by most of the workforce. As some commenters noted, requiring fewer tests of licensee employees should decrease the privacy invasion experienced by some employees. It also should result in cost savings across the industry by reducing lost work hours and the number of tests to be administered.

The Commission recognizes that positive results in the nuclear power industry's random testing are generally among the lowest of any U.S. industry. Nonetheless, it realizes that there are many variables that can affect the rate of positive testing results and that relatively low positive test results, by themselves, are not the only indicator of the effectiveness of a testing program either on an industry-wide or a licensee program level. Some of the variables that could affect the testing results are the propensity of the population being tested to use drugs and alcohol, the effectiveness of

other program elements, and the extent to which tested employees have been successful in subverting the testing process and avoiding detection.

The NRC does not have sufficient information about these or other factors that may influence testing results to be able to determine that the decreasing positive rates reported by licensees are an unqualified indication of FFD program effectiveness. Nonetheless, the Commission is gratified to observe the continuing downward trend in licensee employees' positive random test results during the past three years. The recently published NUREG/CR-5758, Volume 3, "Fitness for Duty in the Nuclear Power Industry: Annual Summary of Program Performance Reports," indicates that licensee employees' positive random testing rate in 1992 was 0.20 percent as compared to 0.28 percent in 1990 and 0.22 percent in 1991. There has been a corresponding downward trend in the positive rates for random testing of contractor and vendor personnel, viz., 0.56 percent in 1990, 0.55 percent in 1991, and 0.45 percent in 1992.

In making its decision, the Commission has considered these testing results along with the apparent continuing strength of the other elements of most licensees' FFD programs, the reduced invasion of employees' privacy interests, and the potential for cost savings. In light of this industry experience and of these beneficial effects, the Commission has concluded that it is reasonable at this time to lower the random testing rate for licensee employees and contractor and vendor personnel to 50 percent. The response to Comment 4 discusses the Commission's reasons for allowing reduction in the random testing rate for contractor and vendor personnel.

2. Comment. The random testing rate should be reduced to less than 50 percent.



Four commenters recommended that the random testing rate be reduced to less than 50 percent. The rates they recommended varied from 5 percent to 25 percent. Their central argument was that the random testing rate can be lowered substantially without threatening the effectiveness of the program. The very low rates of drug and alcohol positive tests that have been recorded by the nuclear industry during the first two years of FFD program operations are the basis for their recommendation. One licensee stated that most chronic drug users probably have been eliminated and currently there is not a serious drug or alcohol abuse problem in the industry. This commenter and NUMARC also cited the GAO study that found that the percentage of positives does not vary significantly among Federal agency drug testing programs, regardless of what random rate is used. Another licensee emphasized that behavioral observation, not random testing, is the most potent tool in detecting drug abuse. Another commenter recommended that the NRC consider further reductions because the effectiveness of other program elements makes a random rate of even 50 percent unnecessarily high.

Significant cost savings was given as the most compelling reason to reduce the random rate below 50 percent. One licensee estimated the industry would save up to \$30 million annually without degradation of the overall program.

#### **NRC Response**

As stated in the response to Comment 1 above, positive random testing results are not, by themselves, the only indicator of the FFD program's effectiveness in detecting substance abuse. The NRC does not have sufficient

information about the many variables that could affect testing results to be able to determine that a lower random testing rate would maintain an acceptable level of program effectiveness. Therefore, the Commission believes that the industry's relatively low numbers of drug and alcohol positive random test results should not be used as the sole justification for lowering the random testing rate below 50 percent. While behavioral observation and for-cause testing are valuable program elements, there still must be a strong random testing program that provides an adequate level of detection and deterrence. The Commission continues to believe that it must choose a conservative and prudent random testing rate that maximizes both detection and deterrence of substance abuse while minimizing the monetary and social costs of such testing. The Commission believes that a 50-percent random testing rate will strike the proper balance between the dictates of public health and safety, the financial needs of licensees, and the privacy and other interests of workers subject to the testing requirement. Given the substantial unknowns currently associated with the true detection and deterrence effectiveness of alternative random testing rates as applied to the particular conditions of the nuclear power industry workforce, the Commission believes that it cannot establish a random testing rate lower than 50 percent for any segment of the industry at this time.

It should also be noted that relatively low positive test rates do not necessarily indicate that there is not a drug and alcohol abuse problem, as some commenters asserted. First, some users have become adept at avoiding detection, and the use of increasingly effective subversion techniques may be one reason why random testing results are decreasing. Second, while it may be that most of the chronic drug users who were in the industry when the program

started have been detected or have left, there can be expected to be a continuing level of intermittent illegal drug use and alcohol abuse among industry employees; such use is difficult to detect. The Commission concludes that the low positive random test results do not indicate that there has ceased to be a drug and alcohol abuse problem and that further reduction in the random testing rate would not be appropriate at this time.

In response to the commenters' reference to the GAO's observation that the percentage of positives does not vary significantly among Federal agency drug testing programs, the NRC notes that the GAO's objective in that report was to identify potential cost savings in Federal employee drug testing programs. Its objective did not include determination of the relative deterrent values of alternative random testing rates. In accomplishing its objective, the GAO properly concentrated on only the costs associated with Federal employee drug testing. It did not perform an indepth analysis of the several variables that influence testing results nor of the very complex relationship between those variables and the deterrence value of testing. Such variables would include the inclination for drug or alcohol abuse among the employees in the various industries in which the Federal testing programs operate, the extent to which the strength and effectiveness of other, non-testing program elements, such as drug awareness training, may affect testing results, and the relative stringency of sanctions imposed by the various Federal agencies following positive test results. Because the GAO's objective was to address the cost rather than the deterrence effectiveness of testing, the NRC does not consider the commenter's reference to the GAO's observation to be a persuasive argument for reduced random testing rates.

The NRC will continue to monitor implementation of the rule and will modify the rule in response to industry experience, advances in technology, or other considerations to ensure that the rule is achieving the general performance objectives set forth in 10 CFR Part 26.

3. Comment. The random testing rate should be flexible and based on performance, such as the positive rate of random testing.

Twelve commenters recommended that the Commission allow some form of performance-based approach to determine the random testing rate. Under such a system, the random testing rate would vary over time. This would depend on each licensee's or, alternatively, the industry's positive random test results from a previous period. One licensee, for example, suggested that each licensee's random testing rate should be based upon that particular licensee's previous 12-month testing results. Under this approach, a licensee would be subject to a minimum 50-percent random testing rate if it experienced a positive rate of greater than 0.50 percent during the previous 12 months. That licensee could reduce its random rate to 25 percent if it subsequently had a 12-month positive rate between 0.25 percent and 0.50 percent or to as low as 10 percent if its positive rate for the previous year was less than 0.25 percent. Three other licensees recommended similar schemes whereby a licensee's random rate would be determined by its own record of positive test results. One of these recommendations based the rate on the results of the previous 2 years rather than those of the previous 12 months.

NUMARC proposed that the industry-wide random testing rate be determined by the industry-wide random testing results from the previous period. This

recommendation was endorsed by five licensees. Under NUMARC's proposed approach, the industry would be allowed by regulation to adjust its random testing rate based on testing results from the previous reporting period. All licensees would be required to test at a 100-percent random rate if the industry-wide positive rate were greater than 1.0 percent in the previous period, at a 50-percent random rate if the positive rate was between 0.50 percent and 1.0 percent, at a 25-percent random rate if the positive rate was between 0.25 percent and 0.50 percent, and at a 10-percent random rate if the positive rate was less than 0.25 percent. Two of the eleven licensees favoring a performance-based testing system provided a general recommendation that did not specify whether the random testing rate should be based on the positive testing results of each individual licensee, or on the results of the industry as a whole.

The commenters noted various potential advantages of adopting a performance-based approach to setting the random testing rate. One stated that adopting such an approach would be consistent with the NRC's initiative to identify performance-based programs that would be beneficial to the industry. Another listed cost savings, equity in that each licensee's random rate would be commensurate with its program performance, and an incentive for licensees to maximize program conformance with the FFD rule as advantages of such an approach.

#### NRC Response

During development of 10 CFR Part 26 in 1989, the Commission considered a variation of the flexible, performance-based random rate similar to the

approaches recommended by these commenters. (See, for example, the NRC's response to Comment 7.4.2 in NUREG-1354, "Fitness for Duty in the Nuclear Power Industry: Responses to Public Comments.") At that time, the Commission decided against adopting a performance-based rate for various reasons. As stated above, positive random testing results are not the only indicator of detection and deterrence effectiveness or of overall random testing program performance to allow the testing rate to vary with testing results. Adopting a performance-based approach would tend to discourage the initiatives that the Commission is encouraging in 10 CFR 26.24(b) and in Section 2.1 of Appendix A to Part 26. In § 26.24(b), the NRC allows licensees to implement programs with more stringent standards, for example, lower screening and confirmation cutoff levels and a broader panel of drugs than those specified in the rule. In Section 2.1 of Appendix A, licensees are permitted to test for any illegal drugs during a for-cause test or analysis of specimens suspected of being adulterated or diluted. Program performance data for the first three years of FFD program implementation have shown that those licensees using screening cutoff levels for marijuana that are lower than the maximum allowed 100 nanograms per milliliter (ng/ml) have had a higher percentage of confirmed positive results than those screening at 100 ng/ml. (See NUREG/CR-5758, Vols. 1-3.) Licensees that employ special measures to detect attempts to dilute specimens or flush metabolites from the body report that their positive rate is about doubled. This result is similar to data presented to the Department of Health and Human Services' Drug Testing Advisory Board on June 10, 1993, and reported in "The National Report on Substance Abuse" on June 18, 1993. (The study is currently undergoing peer review before publication.) Adopting a performance-based approach that allowed licensees to reduce their random

testing rates as positive testing results declined would likely discourage licensees from adopting lower screening cutoff levels and taking measures to detect attempts by users to avoid detection.

Lastly, a performance-based approach would require the collection and analysis of performance data to provide the bases for adjustments to the random testing rate. Such data is not currently collected by the licensees or the NRC. Previous efforts known to the NRC staff to identify and analyze the many candidate performance indicators for measuring the effectiveness of random testing have been inconclusive, primarily because of the numerous variables. Furthermore, assuming that the proper performance indicators can be developed, it would appear that the collection and analysis of data to support a performance-based approach would add a considerable administrative burden to both licensees and the NRC.

For all these reasons, the Commission declines to adopt a performance-based approach to setting the random testing rate.

4. Comment. The reduction in the random testing rate should be applied to all workers.

Four of the 30 commenters on this issue - three unions and one licensee - supported the Commission's proposal that licensees maintain the 100-percent random testing rate for contractor and vendor employees. Their reasons included a concern for lack of commitment by contractor employees to maintaining the industry's high drug-free standard and the need for the higher testing rate to provide continued deterrence for contractor employees. One of the three unions recommended that long-term contractors should have the same

lower random testing rate as that of licensee employees because test results of long-term contractors and licensee employees have been almost identical.

There were several issues consistently mentioned by those 26 commenters who opposed maintaining the 100-percent random testing rate for contractor and vendor employees. There was a general concern for unnecessary inconsistencies in random testing rates between Federal agencies. Commenters recommended that the NRC program be kept as consistent as possible with programs in other Federally regulated safety-related industries. These include the DOT programs that currently require contractors and vendors to be randomly tested at a 50-percent rate.

Various licensees cited the testing results from 1990 and 1991 which, in their opinion, create no statistically sound rationale for testing contractor and vendor employees at a rate different from that of licensee employees. They argued that, while the contractor/vendor positive testing rate has been twice that of licensee employees, it is still low enough to make unnecessary the expenditure of the resources necessary to maintain two separate random testing pools.

Various commenters noted that contractors and vendors are subject to the identical access authorization and other FFD program requirements as are licensee employees, including behavioral observation. These stringent requirements, in their view, obviate the need to keep the contractor/vendor random rate at 100 percent. Some also noted that the deterrent value of random testing is in the act of testing itself and not in what many consider to be a high rate of testing. Some commenters warned that keeping contractors and vendors at 100 percent could be construed as discriminatory against those employees and may be perceived as punitive rather than as a corrective



measure. Two licensees also cited a study of the detection effectiveness of nine random testing rates published in NUREG/CR-5784, "Fitness for Duty in the Nuclear Power Industry: A Review of the First Year of Program Performance and on Update of the Technical Issues," which indicates that a 100-percent testing rate is only a little more effective than a 50-percent rate for detecting occasional drug users.

#### NRC Response

Although there is a difference between the positive results of random testing of licensee employees and those of contractor and vendor employees, there is a general downward trend of the results of random testing, as stated in the response to Comment 1 above. Therefore, the NRC agrees with those commenters who contend that the testing results during the past three years do not justify making a distinction between these groups insofar as the random testing rate is concerned. Although the contractor/vendor random testing positive rates continue to be about twice the rate for licensee employees, the Commission agrees that the actual numbers of positive test results of all categories of nuclear power workers are low, other program measures such as more stringent sanctions tend to screen out problem workers, and the potential threat to public health and safety posed by most contractors and vendors is generally less than that posed by licensee employees because they are usually working on site only when the reactor is shut down.

In this same vein, the Commission recognizes that the percentages of contractor and vendor positive random testing results are low compared to the percentages of positives in other industries. For example, the

contractor/vendor positive rate is approximately one-quarter that of railroad industry employees. Therefore, the Commission will permit its licensees to lower the random testing rate to 50 percent for all persons covered by 10 CFR Part 26. However, the Commission will continue to monitor licensee program performance and effectiveness and will make program adjustments as necessary.

In response to the comments regarding the study of the detection effectiveness of nine random testing rates published in NUREG/CR-5784, the Commission notes that the study explicitly dealt with only the hypothetical detection effectiveness of those alternatives. It did not address their relative deterrence effectiveness. The NRC continues to believe that the effectiveness of a 100-percent random testing rate for deterring occasional drug users could be slightly higher than that of a 50-percent rate. Nonetheless, the Commission believes that a 50-percent random testing rate will provide sufficient deterrence to drug and alcohol abuse by contractor and vendor employees.

The Commission also does not agree that the random testing rates in all Federal drug testing programs should be identical and, as such, appear to be "consistent" with each other. The Commission continues to believe that the random test rate for employees in the nuclear power industry need not be similar to the rates applied to employees in all, or even most, other Federal agencies or Federally mandated programs. Not all Federal agencies have identical safety concerns or responsibilities. Due to the very substantial public health and safety consequences that could be associated with a serious event at a nuclear power plant, the Commission believes that it must continue to set stringent standards for this industry's FFD programs and that random testing rates required of NRC licensees are, indeed, appropriately consistent

with the random rates required by other Federal agencies in relation to their public health and safety responsibilities.

5. Comment. There should be no difference in the random testing rate for certain positions critical to the safe operation of a nuclear power plant.

Seventeen commenters responded to the Commission's question as to whether certain positions critical to the safe operation of a nuclear power plant, such as licensed reactor operators, should be excluded from any reduction of the random testing rate. All these commenters recommended against such differentiation. Two licensees stated that treating people in positions critical to safety differently from other employees could have a negative effect on the morale, self-image, and motivation of this group of highly trained and dedicated specialists. Another stated that all plant employees are critical to safe operation. Therefore, a reduction in the random testing rate should apply to all employees. The potential for added record-keeping requirements creating unnecessary burdens for the industry was another reason for not making this distinction. In the opinion of one commenter, the 1990-1992 industry-wide program performance data do not support testing people in positions critical to safety at a different rate than that applied to other licensee employees. Finally, one licensee cited potential problems getting union agreement to testing this classification of employees at a higher rate than other licensee personnel subject to the FFD rule.

## NRC Response

The essence and unanimity of these comments -- that licensed operators and other employees in positions critical to the safe operation of a nuclear power plant should not be excluded from a reduction of the random testing rate -- is not surprising. These particular members of the nuclear power industry's workforce have collectively demonstrated their dedication to safe and efficient plant operations. As at least one commenter noted, the industry's program performance data for the first three years of operation do not support differentiating between people in safety-critical positions and other licensee employees insofar as the random testing rate is concerned. The 1992 program performance data, for example, show that only eighteen of the industry's approximately 5,000 licensed operators tested positive for drugs or alcohol. While the NRC expects licensees to continue to take action to drive this number of positives down even further, this record does not merit testing people in these positions at a rate different from that applied to other licensee employees. The Commission, therefore, concurs with the commenters recommendation that certain positions critical to the safe operation of a nuclear power plant, such as licensed reactor operators, should not be excluded from a reduction of the random testing rate.

6. Comment. Random testing is expensive and produces false positives. Furthermore, chronic users are able to avoid detection.

Two commenters, a power plant worker and a union, argued against the usefulness of continued random testing. One of these commenters stated that

random testing produces false positives. These cost the industry large amounts of money in settlements and damage the public's perception of licensees' fairness. As additional support for this position, this commenter warned that chronic drug abusers are particularly adept at escaping detection from random testing by subverting the testing process. The other commenter recommended that random testing be eliminated because it is not effective in identifying workers who are impaired at the time urine samples are collected. For-cause testing, in this commenter's opinion, is more effective because it more accurately reflects a worker's present ability to perform his/her job at the time he/she is tested. This commenter also stated that random testing appears to be a means of having the NRC enforce the Controlled Substances Act which is not the NRC's responsibility.

#### **NRC Response**

The Commission has long been well aware of the types of FFD program-related concerns as addressed by these commenters. During the promulgation of 10 CFR Part 26 in 1989, the Commission fully addressed these and many other such concerns. (See NUREG-1354, "Fitness for Duty in the Nuclear Power Industry: Responses to Public Comments.") At that time the NRC concluded, for example, that licensee FFD programs should be concerned not only with impairment, but also with worker reliability and trustworthiness. The NRC believes that any illegal drug use or alcohol abuse by a worker reflects upon his or her trustworthiness and reliability. Likewise, random testing is not intended, nor has it ever functioned, as a means to enforce the Controlled Substances Act. Section 26.29(b) provides that licensees, contractors, and

vendors shall not disclose test results to law enforcement officials unless those officials request such information under court order. It also is noted that there is no requirement to routinely provide such officials with testing results.

The Commission is well aware that there is a potential for false positive results and, therefore, has required numerous quality control measures and safeguards to prevent such occurrences. In Appendix D to NUREG/CR-5758, Volume 3, the testing process errors that were reported by licensees during the first three years under the FFD rule were analyzed. Of over 800,000 specimens tested, there were two false positives of personnel specimens reported by the laboratories, both due to administrative errors. In both cases, the quality assurance programs detected and corrected the problem.

Because of the NRC's particular concern with the degree to which the testing process can be subverted, the Commission staff has continued to track the ways in which workers have subverted testing processes in industries across the country. These efforts have resulted in staff recommendations for amending 10 CFR Part 26 to introduce various means for combatting subversion. Lastly, the Commission believes that the added protection of public health and safety that the FFD program provides is well worth the industry's costs of administering this program.

7. Comment. Maintaining two separate populations of workers for random testing is an unnecessary and expensive burden.

Some of the commenters stated that requiring two random testing rates would force licensees to develop two separate testing programs. The resulting

additional administrative and financial burdens would cancel out any savings resulting from reducing the licensee employee rate to 50 percent. NUMARC stated that the industry would save approximately \$4.1 million if the number of tests of contractor and vendor employees was cut in half.

#### NRC Response

Some of the comments noted above asserted that separate random testing rates for licensee employees and contractors/vendors would create additional administrative and financial burdens for licensees. Although this issue is somewhat moot since the Commission will permit licensees to reduce the random testing rate to 50 percent per year for all persons covered by Part 26, the Commission does not concur that conducting random testing using two random rates would have caused appreciably higher administrative or operating costs. Presumably, most licensees' data bases already distinguish between licensee employees and contractor/vendor employees subject to testing. Numerous commenters on the initial rule in 1989 indicated that the workforce population should be separated so that permanent employees would not be tested at a much higher rate to make up for contractors who might not be on site when selected for testing (see comment/response 7.4.3 of NUREG-1354). The NRC staff understands that several licensees have divided their testing population as permitted by the rule. The number and identity of licensee employees in the testing pool remains rather constant over time. The number and identity of contractor/vendor employees in the testing pool, on the other hand, varies quite considerably over time depending on outages and other operational considerations. A licensee may choose to create more than one test population

so that it may test portions of its workforce at a greater rate or reduce the burden on its employees from being tested at a higher rate to compensate for the testing of contractors and vendors not normally on site.

8. Comment. The Commission should modify certain portions of 10 CFR Part 26 based on industry experience and lessons learned and incorporate numerous program enhancements as discussed at various industry forums.

Eight commenters recommended that the Commission make future modifications to certain portions of 10 CFR Part 26 based on industry experience and lessons learned and incorporate numerous program enhancements as discussed at various industry forums.

#### NRC Response

The specific recommendations for ways in which Part 26 can be improved and numerous other program enhancements are currently being considered by the NRC in conjunction with a general package of rule revisions currently under development.

#### Environmental Impact: Categorical Exclusion

The NRC has determined that this final rule is the type of action described in categorical exclusion 10 CFR 51.22(c)(2). Therefore, the NRC has not prepared an environmental impact statement, nor an environmental assessment for this final rule.



## Paperwork Reduction Act Statement

This final rule amends information collection requirements that are subject to the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.) These requirements and amendments were approved by the Office of Management and Budget, approval number 3150-0146.

Since the rule will permit licensees to reduce the random testing rate for their employees, the resulting reduction in the reporting and recordkeeping burden is expected to be an average of 223 hours per site, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Information and Records Management Branch (MNBB-7714), U.S. Nuclear Regulatory Commission, Washington, DC 20555, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-3019 (3150-0146), Office of Management and Budget, Washington, DC 20503.

## Regulatory Analysis

The NRC has prepared a regulatory analysis for this regulation. The analysis examines the costs and benefits of the alternatives considered by the Commission. The analysis is available for inspection in the NRC Public Document Room, 2120 L Street NW (Lower Level), Washington, DC. Single copies

of the analysis may be obtained from Loren L. Bush, Jr., Division of Radiation Safety and Safeguards, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, DC 20555, telephone (301) 504-2944.

### **Regulatory Flexibility Act Certification**

In accordance with the Regulatory Flexibility Act of 1980 (5 U.S.C. 605(b)), the Commission certifies that this rule will not have a significant economic impact on a substantial number of small entities. This rule affects only the licensing and operation of nuclear power plants and activities associated with the possession or transportation of Category I material. 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 issued by the Small Business Administration in 13 CFR Part 121.

### **Backfit Analysis**

The rule represents a relaxation from current Part 26 requirements for drug testing since the rule permits (but does not require) licensees to reduce the random testing rate for all persons covered by the rule. Accordingly, the rule does not represent a backfit as defined in 10 CFR 50.109(a)(1), and a backfit analysis is not required for this rule.

## **List of Subjects in 10 CFR Part 26**

**Alcohol abuse, alcohol testing, appeals, chemical testing, drug abuse, drug testing, employee assistance programs, fitness for duty, hazardous materials transportation, management actions, nuclear materials, nuclear power plants and reactors, penalties, protection of information, radiation protection, reporting and recordkeeping requirements, sanctions, special nuclear materials.**

**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 adopting the following amendment to 10 CFR Part 26.**

### **Part 26--Fitness for Duty Programs**

- 1. The authority citation for Part 26 continues to read as follows:**

**Authority: Secs. 53, 81, 103, 104, 107, 161, 68 Stat. 930, 935, 936, 937, 939, 948, as amended (42 U.S.C. 2073, 2111, 2112, 2133, 2134, 2137, 2201); secs. 201, 202, 206, 88 Stat. 1242, 1244, 1246, as amended (42 U.S.C. 5841, 5842, 5846).**

- 2. In § 26.24 paragraph (a)(2) is revised to read as follows:**

**§ 26.24 Chemical testing**

**(a) \* \* \* \***

(2) Unannounced drug and alcohol tests imposed in a statistically random and unpredictable manner so that all persons in the population subject to testing have an equal probability of being selected and tested. The tests must be administered so that a person completing a test is immediately eligible for another unannounced test. As a minimum, tests must be administered on a nominal weekly frequency and at various times during the day. Random testing must be conducted at an annual rate equal to at least 50 percent of the workforce.

\* \* \* \* \*

Dated at Rockville, Maryland, this       day of       , 1993.

For the Nuclear Regulatory Commission

Samuel J. Chilk,  
Secretary of the Commission.

**REGULATORY ANALYSIS OF REVISION  
TO RANDOM TESTING RATE:  
PART 26 - FITNESS FOR DUTY PROGRAMS**

## SUMMARY

The Nuclear Regulatory Commission (NRC) is modifying its current Fitness-for-Duty Program requirements. The amendments to 10 CFR Part 26 will apply to all licensees authorized to construct or operate a nuclear power reactor, to possess or use formula quantities of strategic special nuclear material (SSNM) (referred to hereafter as fuel facilities), or to transport formula quantities of SSNM. The amendments will reduce the random testing rate for all licensee employees and contractor and vendor employees subject to random testing to an annual testing rate of 50 percent. These changes are based on a review of licensee program performance data, a literature review of detection and deterrence provided by random testing, and initiatives proposed by the Nuclear Management and Resources Council (NUMARC). This document contains a regulatory analysis of the rulemaking. The document was prepared according to the guidance set forth in Regulatory Analysis Guidelines of the U.S. Nuclear Regulatory Commission, NUREG/BR-0058, Revision 1, May 1984.

The change in the random testing rate could reduce the number of employees identified as using alcohol or drugs in violation of licensees' fitness-for-duty policies. The potentially small increase in unidentified users continuing to work should not significantly affect the overall risk to the general public from plant operations.

Staff estimates that the rule change will result in annual savings of approximately \$66,000 per reactor or nuclear fuel facility conducting offsite testing, and about \$69,000 per reactor conducting onsite testing, or a total of \$7.9 million annual savings for the two industries. The present value of the rule change assumes an annual discount rate of five percent and an estimated operating life of twenty-five years. The present value of the rule change is approximately \$977,000 per reactor or nuclear fuel facility conducting offsite testing and \$1,021,000 per reactor conducting onsite testing. These 25-year savings for the two industries have a present value of approximately \$116.9 million.

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## 1.0 INTRODUCTION

The Nuclear Regulatory Commission (NRC) is modifying its current Fitness-for-Duty (FFD) Program requirements. The amendments to 10 CFR Part 26 will apply to all licensees authorized to construct or operate a nuclear power reactor, to possess or use formula quantities of strategic special nuclear material (SSNM) (referred to hereafter as fuel facilities), or to transport formula quantities of SSNM. The amendments will reduce the random testing rate for all licensee employees and contractor and vendor employees subject to random testing to an annual testing rate of 50 percent. These changes are based on a review of licensee program performance data, a review of random testing rates in other industries, a review of detection and deterrence provided by random testing, and initiatives proposed by the Nuclear Management and Resources Council (NUMARC). This document contains a regulatory analysis of the rulemaking. The document was prepared according to the guidance set forth in Regulatory Analysis Guidelines of the U.S. Nuclear Regulatory Commission, NUREG/BR-0058, Revision 1, May 1984.

### 1.1 BACKGROUND

The NRC issued FFD regulations on June 7, 1989 (54 FR 24468) applicable to licensees authorized to operate a nuclear power reactor and holding a permit to construct or operate a nuclear power plant. Licensee programs implementing the regulations were required to be in place by January 3, 1990. The regulations require affected licensees to implement fitness-for-duty programs to reasonably assure that nuclear power personnel are not under the influence of any substance which can adversely affect the performance of their duties. The FFD regulations establish chemical testing requirements and testing standards for the abuse or misuse of alcohol and drugs. Four types of testing are currently required: (1) pre-access testing; (2) random testing at an annual testing rate equal to 100 percent of the tested population; (3) for-cause testing; and (4) follow-up testing.

The NRC has recently amended 10 CFR Part 26 to require licensees that are authorized to possess, use, or transport formula quantities of strategic special nuclear material (SSNM) to institute fitness-for-duty programs similar to those in the nuclear power industry (58 FR 31467, June 3, 1993). This amendment, which becomes effective on November 30, 1993, requires only licensees that are authorized to possess, use, or transport unirradiated Category I Material to adopt such programs.

During the original FFD rulemaking process in 1988, the Commission invited public comment on the rates of random testing that would provide an acceptable probability of detection and adequate deterrence (53 FR 36795 at 36796; September 22, 1988). Public comments strongly opposed a proposed 300 percent rate. NUMARC and most licensees proposed a 100 percent rate and recommended that this rate be reevaluated on the basis of utility experience and then be reduced to 25 percent, if such a change was warranted. As a result, the Commission selected an annual random testing rate equal to 100 percent of the workforce subject to testing. The Commission also indicated that it would consider reducing this rate in the future if it appeared that industry experience with the existing rate had been positive (54 FR 24468 at 24474; June 7, 1989).



On November 7, 1991, the Commission directed the staff to report on research into the deterrent effect of different testing rates and to present recommendations of the applicability of such work to the nuclear industry. SECY-92-271 informed the Commission that no research exists that directly addresses the issue of whether reducing the random testing rate would affect the deterrent effect of drug testing.

## 1.2 STATEMENT OF THE PROBLEM

The purpose of random testing is to assure that licensee employees are fit for duty by identifying current drug users, deterring drug users from further use, and deterring potential users from initial use.

Nuclear power licensee program performance to date, as reported in NUREG/CR-5758, Volumes 1, 2, and 3, suggests that the rule has been effective in detecting and removing employees who violate the fitness-for-duty policy. In 1990, 148,743 random tests were conducted in the industry with an overall positive random test rate of 0.37 percent, or a total of 550 violations for drug or alcohol abuse. In 1991, 153,818 random tests were conducted in the industry with an overall positive random test rate of 0.33 percent, or a total of 510 violations for drug or alcohol abuse. In 1992, 156,730 random tests were conducted in the industry with an overall positive random test rate of 0.29 percent, or a total of 461 violations for drug or alcohol abuse. Table 1 provides a summary of these data.

Table 1: Random Test Results: 1990 Through 1992

Year	Number of Tests	Violations (Positives)	Percent Positive
1990	148,743	550	0.37
1991	153,818	510	0.33
1992	156,730	461	0.29
Total	459,291	1,521	0.33(average)

As reported by NUMARC in a letter from T. E. Tipton to B. K. Grimes dated September 20, 1991, the total lost productivity cost for 1990 was an estimated \$6,300,000 (an average of \$55,000 per reactor unit). In NUMARC's opinion, half of this lost productivity cost would be saved if the random testing rate was reduced to 50 percent. With a 50 percent testing rate, annual savings due to reduced FFD program operating costs and reduced productivity losses would amount to about \$100,000 per unit, an industry savings of about \$12 million according to these NUMARC data. Staff believes that these rough estimates submitted by NUMARC indicate that the cost savings associated with lowering the random testing rate from the current annual testing rate of 100 to 50 percent will be substantial.

### 1.3 OBJECTIVES OF THE RULEMAKING

The Commission is modifying 10 CFR 26.24(a)(2) to permit random testing of employees subject to the rule at an annual rate equal to 50 percent of the workforce subject to testing. The Commission believes that lowering the random testing rate to 50 percent will achieve the regulatory objective of establishing a rate that provides adequate detection and deterrence while being cost-effective.

## **2.0 REASONABLE ALTERNATIVES FOR MEETING THE REGULATORY OBJECTIVE**

This section discusses the reasonable alternatives that were considered for meeting the regulatory objective identified in Section 1.3.

### **2.1 TAKE NO ACTION**

One alternative to the adopted amendment would be to take no action. The current 100 percent testing rate for licensee employees and contractor and vendor employees would be maintained. This would be expected to result in detection levels similar to those found in the first three years of program performance in the nuclear power industry. Any cost savings resulting from the rule change would be foregone.

### **2.2 LOWER TESTING RATE FOR LICENSEE EMPLOYEES ONLY**

A second alternative would be lowering the random testing rate to 50 percent for licensee employees and maintaining the 100 percent annual testing rate for contractor and vendor employees. This alternative was chosen as the one on which to obtain public comment. The proposed rule revision was published in the Federal Register on March 24, 1993 (58 FR 15810). Although the absolute number of positive test results for contractor and vendor employees is low, a review of random testing positive results published in NUREG/CR-5758, Volumes 1, 2, and 3 shows a consistently higher percentage rate of violations for contractor and vendor employees in comparison with licensee employees. In 1990, 0.28 percent of random tests administered on licensee employees were positive. Contractor employees had twice the violation rate as licensee employees (0.56 percent were positive). Similarly, in 1991 positive random testing rates for licensee employees and contractors were 0.22 percent and 0.55 percent, respectively. Again, in 1992, 0.20 percent of random tests administered on licensee employees were positive. Contractor employees had over twice the violation rate as licensee employees (0.46 percent were positive). Finally, while licensee employees are subject to testing throughout the year, some contractor and vendor employees are frequently not subject to any random testing. They are, therefore, not influenced during those periods by the deterrent effect such testing provides. Despite these differences, however, the Commission has decided not to maintain the 100 percent annual rate for contractor and vendor employees. These employees' low absolute positive test results indicate that a 50 percent rate would provide adequate levels of detection and deterrence for this group.

### **2.3 ADOPT A FLEXIBLE, PERFORMANCE-BASED RANDOM TESTING RATE**

As a third alternative, a flexible, performance-based random rate was considered. Under such a system, the random testing rate would vary over time, depending upon each licensee's or, alternatively, the industry's positive random test results from a previous period. For example, each licensee's random testing rate could be based upon that particular licensee's previous twelve-month testing results. Under such an approach, a licensee could, for example, be required to raise its random testing rate if its

positive rate went above an established standard. Conversely, a licensee would be permitted to lower its random testing rate if its positive rate was below an established standard.

During development of 10 CFR Part 26 in 1989, the Commission considered a variation of a flexible, performance-based random rate similar to this approach. (See, for example, the NRC's response to Comment 7.4.2 in NUREG-1354, "Fitness for Duty in the Nuclear Power Industry: Responses to Public Comments.") At that time, the Commission rejected a performance-based rate for various reasons. Positive random testing results are not the only indicator of detection and deterrence effectiveness or of overall random testing program performance. Relatively low positive test rates do not necessarily indicate that there is not a drug and alcohol abuse problem. Some users have become adept at avoiding detection, and the use of increasingly effective subversion techniques may be one reason why random testing results are decreasing. It is possible, for example, that particular licensees can experience low or declining positive random testing rates due to FFD program deficiencies. Adopting an approach that allowed such licensees to reduce their random testing rates as their positive results declined would, in effect, reward deficient program performance. It would also tend to penalize licensees that maintain aggressive programs that continue to show relatively high positive random testing results. Adopting a performance-based approach would also tend to discourage the initiatives that the Commission is encouraging in 10 CFR 26.24(b) and in Section 2.1 of Appendix A to Part 26. For example, to use lower cutoff levels, to test for additional drugs, and to use special testing of suspect specimens would all increase the positive rate. Furthermore, the collection and analysis of performance data to support a performance-based approach, assuming that the proper performance indicators can be developed, would add a considerable administrative burden to both licensees and the NRC. For these reasons, the Commission has decided against adopting a performance-based random testing rate.

## 2.4 AWAIT RULEMAKING PENDING FURTHER STUDY

The Commission also considered conducting a study in which the random testing rate of some licensees would be reduced to 50 percent. The test result data from these experimental sites would be compared with the results of licensees that would continue a 100 percent testing rate. The experiment would have to run for at least two years to allow for delayed effects caused by adjusted testing rates and to obtain a sufficient number of test results. The design of the study and the analysis of the results would require an additional year. The Commission also considered conducting an attitudinal study which would attempt to show worker attitudes toward, and their understanding of, random testing. The Commission also considered awaiting and evaluating the results of the Federal Railroad Administration's test program (56 FR 22905; May 17, 1991) which is now expected to be completed in late 1993. The Commission decided to proceed with this rulemaking because the research would have taken several years and would have provided no guarantee of shedding any further light on the subject of deterrence that would be useful in the Commission's current attempts to identify an optimal random testing rate.

### 3.0 CONSEQUENCES

This section discusses the benefits, cost savings, and costs that may result from the implementation of the rulemaking.

#### 3.1 ESTIMATION OF SAFETY-RELATED IMPACTS

Random testing, like the many other elements of licensee fitness-for-duty programs, is intended to achieve the three general performance objectives of those programs. As discussed in the Commission's 1988 notice of rulemaking, random urinalysis testing has two purposes: detecting current drug users and deterring drug users from further use or potential users from initial use (53 FR 36795 at 36810; September 22, 1988). While this reduction of the random testing rate may result in fewer drug and alcohol abusers being detected, this change is expected to have little effect on the overall effectiveness of licensee programs.

While intuition would indicate that lowering the random testing rate would tend to lower the deterrence value of random testing somewhat, a review of the literature on such deterrence effects makes clear the difficulty of accurately measuring or predicting such a decline. Deterrence is thought to be a function of the perceived risk of being detected, the severity of the sanctions involved, and the swiftness with which sanctions are applied as compared with the gratification derived from the illicit behavior. While these factors may directly affect the deterrence value of random testing, many other factors also influence people's attitudes toward drug and alcohol abuse. These factors include national drug use patterns; attitudes concerning health, safety, and employment risks of drug abuse; workforce demographics; and the effectiveness of unique fitness-for-duty program elements such as awareness training, pre-employment testing, for-cause testing, and measures to prevent subversion of the testing procedures. Because random testing is only one of the many factors influencing individuals' drug or alcohol use proclivities, it can be concluded that lowering the random testing rate to 50 percent will not cause a substantial decrease in the deterrence value of licensees' random testing programs. (For further discussion regarding random testing rates and deterrence, see SECY-92-271.)

Lowering the random testing rate may also result in fewer fitness-for-duty violations being detected as a result of random testing. Based on experience with nuclear power plant licensee implementation of fitness-for-duty programs to date and in consideration of the many elements of the program, reduction in the testing rate will have little impact on the overall effectiveness of licensees' fitness-for-duty programs. In particular, it is anticipated that this reduction in the testing rate will not have much, if any, effect on the deterrent aspect of random testing. The potential reduction in the number of licensee employees identified annually as a result of a reduced testing rate should have no significant impact on the effectiveness of Part 26 programs.

### 3.2 ESTIMATION OF BENEFITS AND COST SAVINGS

This amendment will result in significant cost savings to licensees due to reduced costs associated with random testing and with time lost from work. Based on information reported by nuclear power plant licensees to the NRC and contained in NUREG/CR-5758, Volumes 1, 2, and 3, a total of 459,291 industry employees were tested randomly in 1990 through 1992, an average of 153,097 people per year. In addition, there are a total of 1,800 employees at two nuclear fuel facilities who will be covered by the rule.<sup>1</sup> Under a 100 percent testing rate, each reactor/nuclear fuel facility would be expected to randomly test 1,313 people ({153,097 tests plus 1,800 tests} divided by {116 reactors plus 2 nuclear fuel facilities}). Under the revised rule, reducing the random testing rate to 50 percent will result in an average of 657 fewer random tests annually per reactor/nuclear fuel facility (1,313 tests per reactor/nuclear fuel facility divided by 2).<sup>2</sup>

The total costs of testing are comprised of three cost categories: the costs of chemical testing of employee specimens, the employee's time away from work (productivity costs), and the costs of obtaining and testing blind performance tests. The estimated cost of testing is based on the following assumptions:

- Based on information available to the NRC staff, 27 sites containing 42 reactor units currently conduct onsite testing, while the remaining 48 sites containing 74 reactor units send all specimens for offsite analysis. It is assumed that the two fuel facilities will also send all specimens for offsite analysis.
- All specimens collected from licensee employees at 48 sites (74 reactor units) and two nuclear fuel facilities would be sent offsite to a NIDA laboratory for testing. The average cost of chemical testing by a NIDA laboratory is estimated to be \$49 per test in 1993 dollars. This cost includes specimen collection labor; shipping to an offsite laboratory, initial screening and, if necessary, confirmatory testing; and reporting of results to the licensee. NUMARC estimated the cost of testing in 1990 to range between \$15 and \$100 for off-site testing. However, this estimate did not include the cost of specimen collection,<sup>3,4,5</sup> which was estimated to range between \$10 and \$115 per specimen.

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<sup>1</sup>It is assumed that all SSNM transporters are subject to either the U.S. Department of Transportation or U.S. Department of Energy drug and alcohol fitness programs. This amendment will, therefore, have no effect on the rate of random testing of those employees.

<sup>2</sup>This analysis does not take into account cost savings that would be produced by contractor and vendor companies reducing the random testing rate used in their internal testing programs from 100 percent to 50 percent. An undetermined number of tests have been administered annually by those programs but have not been reported in NUREG/CR-5758, Volumes 1, 2, and 3. Reducing the number of those unreported tests by half would produce modest additional cost savings for the industry that are not included in this analysis.

<sup>3</sup>Letter to Brian K. Grimes, NRC, from Thomas E. Tipton, NUMARC, September 20, 1991.

- All specimens collected at 27 sites/42 reactor units would be analyzed onsite. All presumed positive specimens and 10 percent of all negative specimens (for onsite testing quality assurance) would be sent offsite to a NIDA-certified laboratory for analysis. The cost for testing specimens onsite is estimated to be \$50 per test. Cost savings associated with blind performance specimens are treated separately (see below). Testing costs for specimen collection and screening include the cost of assay kits and controls, labor and overhead for technicians, testing instrumentation (amortized or prorated), maintenance for instruments, disposable equipment, and administration. In 1990, the average cost of an onsite test was reported by licensees to be \$75, or approximately \$86 in 1993 dollars using the Projections of Gross National Product Price Deflator contained in NUREG/CR-4627, inclusive of the costs noted above. For purposes of this analysis, the staff estimate of \$50 per test is used.<sup>6,7</sup>
- Additional cost savings will accrue to reactors with onsite testing by reducing the number of presumptive positives to be sent to a laboratory for analysis. According to Durbin et al. (NUREG/CR-5784, 1991), a study of 10 utility FFD programs found that 3.2 percent of specimens tested on site were presumptive positive and were sent to a laboratory for confirmation (657 tests x 3.2% = 21 tests). The estimated cost for sending

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<sup>6</sup>Testing costs are very competitive. Evidence indicates that this competition is driving the costs of testing down, resulting in significant cost variations between licensees, laboratories, and geographic region. Testing costs may also vary because they can be calculated in several ways, making direct cost comparisons and industrywide estimates difficult. For instance, a licensee may use a flat fee contract where a laboratory provides testing services over a certain period regardless of the total number of tests submitted for analysis. A second method of calculating testing costs would be to charge a flat rate per specimen for the initial immunoassay screening, and pro-rate the more expensive costs of GC/MS testing, which may be required for relatively few of the total number of specimens. A third way to charge for laboratory testing is to charge separately for immunoassay screenings and GC/MS confirmatory testing. [For a review of testing methodologies, see NUREG/CR-5227 (1988), and NUREG/CR-5227, Supplement I (1989).]

<sup>7</sup>Additional cost savings associated with a corresponding reduction in the number of alcohol tests are expected to be minimal and are therefore not considered in this analysis.

<sup>8</sup>The average cost per test reported by NUMARC is high relative to the NRC estimate in part because NUMARC included the cost of blind performance specimens on a pro-rated basis in its 1990 test cost estimate. In 1990, the first year of program implementation, licensees were required to submit blind performance specimens equal to 50 percent of all specimens sent to a NIDA laboratory in the first 90 days of program implementation and 10 percent thereafter. The rule currently requires licensees to submit a number of blind performance specimens equal to 10 percent of all specimens submitted to a NIDA laboratory for analysis. A rule change in SECY-92-308 would lower this percentage to 5 percent. Since blind performance testing costs are not included in the staff's per specimen estimate but are treated separately, a lower cost estimate is used to account for these unique first-year costs.

<sup>9</sup>One utility reported in 1992 that its costs for specimen collection and screening per individual tested onsite was \$114 per specimen, inclusive of the costs noted above. This cost did not include blind performance testing costs or the one hour of productive time lost when the donor reports for testing. This licensee also reported that the cost to send a specimen to the NIDA certified laboratory for immunoassay screening was \$22, and laboratory analysis (GC/MS confirmation only) was \$36 per specimen (or \$58 per test for presumed positive specimens and quality assurance specimens). These onsite specimen collection and screening costs appear to be relatively high in comparison with costs reported by NUMARC in 1990, in which the reported cost of testing ranged from \$17 to \$151, with an average reported cost of \$75 per specimen. Further, NUMARC's 1990 testing costs included the cost of submitting blind performance specimens; the utility's reported cost of \$114 per specimen did not. Since there is apparently wide variation in testing costs industrywide, staff believes that its more conservative estimate should be used to avoid overestimating the cost savings to be derived from the rule change.

presumptive positives to a laboratory for analysis is \$49. This includes shipping, laboratory assessment, and reporting results to the licensee.

- The rule requires licensees with onsite testing programs to send 10 percent of the negative specimens collected to an offsite laboratory for analysis as part of their onsite laboratory quality assurance program ([657 tests - 21 tests] x 10% = 64 tests). The estimated cost for sending onsite facility quality assurance specimens to a laboratory for analysis is \$49. This includes shipping, laboratory assessment, and reporting results to the licensee.

Licensees will also realize cost savings in reduced labor costs by reducing the time spent testing employees. Assumptions for labor savings are as follows:

- It takes employees 1 hour to travel to the collection site, be tested, and return to work.
- Since the types of job classification affected by the rulemaking would vary widely, a standard wage rate of \$48.66 per hour including a fringe benefit multiplier of 2.0 is assumed. This average wage rate was derived from information presented in NUREG/CR-4627, Abstract 6.3, Table 4.1. The average 1988 base wage rate was \$16.56 per hour. With a multiplier of 2.0 for fringe benefits, the wage rate was \$33.12 per hour. Inflating to 1993 costs using an 8 percent average annual personnel wage rate increase, the estimated average 1993 utility employee wage rate is \$48.66 per hour. For purposes of this analysis, it is assumed that the wage rates at nuclear power plants and the two fuel facilities are similar.

Licensees' costs of submitting blind performance test specimens to HHS-certified laboratories, as required by section 2.8(e)(2) of Appendix A to the rule, will also be decreased by this rule revision. (The rule currently requires licensees to submit a number of blind performance specimens equal to 10 percent of the total number of specimens collected; a change being proposed to the Commission would lower this to 5 percent, which is the rate used for this analysis.) Blind performance costs are treated separately from other testing costs for purposes of analysis. Blind performance tests can cost \$30 to \$35 for manufactured specimens, including a master list of what the specimens contain. Other costs associated with blind proficiency testing include the cost of MRO review, decoding the master sheet against the test results reported by the laboratory, and contacting the laboratory when blind proficiency questions arise or errors are found. Alternatively, licensees may prefer to prepare their own spiked samples for off-site screening. The total estimated cost for a blind performance testing specimen prepared by the licensee is estimated to be about \$3, plus the cost of testing, MRO review, and disposition. Overall, the costs per blind performance specimens may be expected to range from \$50 to \$80 per specimen when these factors are



considered.<sup>8</sup> The average cost is therefore assumed to be \$65, inclusive of the costs noted above. There would be no additional lost productivity savings since the specimens would be collected at the same time and location.

The total savings per reactor unit/fuel facility for those licensees sending all specimens for offsite testing is estimated as follows:

Testing Cost Savings:	657 tests x \$49.00/test =	\$32,193
Blind Performance Testing Savings:	657 tests x 5% x \$65/test =	2,135
Labor Cost Savings:	657 tests x 1 hour x \$48.66 /hour =	31,970
Total Cost Savings Per Reactor/fuel facility:		\$66,298

The total savings per reactor unit for those licensees that conduct onsite testing is estimated as follows:

Testing Costs Savings:	657 tests x \$50/test =	\$32,850
Presumed Positive Test Savings (assuming a 3.2% positive rate)	21 tests x \$49/test =	1,029
Quality Assurance Test Savings (assuming 10% of negative specimens):	64 tests x \$49/test =	3,136
Blind Performance Testing Savings (assuming a 5% testing rate):	85 tests x 5% x \$65/test =	276
Labor Costs Savings:	657 tests x 1 hour x \$48.66/hour =	31,970
Total Cost Savings Per Reactor:		\$69,261

Licensees will be required to make slight changes to their fitness-for-duty program policies and procedures due to this rule amendment. It is assumed, however, that the costs for policy and procedure revision will be inconsequential. There are, therefore, no costs for policy and procedure revision included in this analysis.

Staff estimates that the amendment will result in annual savings of approximately \$66,000 per reactor and nuclear fuel facility conducting offsite testing, and about \$69,000 per reactor conducting onsite testing, or \$7.9

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<sup>8</sup>Arthur Zebelman, Laboratory of Pathology of Seattle, Inc., personal communication, February 27, 1992.

million annual savings for the two industries. The present value of the rule change assumes an annual discount rate of five percent and an estimated operating life of twenty-five years. The present value of the rule change is approximately \$977,000 per reactor and nuclear fuel facility conducting offsite testing and \$1,021,000 per reactor conducting onsite testing. These savings for the two industries have a present value of approximately \$116.9 million.

### 3.3 IMPACT ON OTHER REQUIREMENTS

This rule change is not expected to have an impact on other rule requirements.

#### **4.0 DECISION RATIONALE**

The purpose of the rule change is to lower the 100 percent annual random testing rate for nuclear power plant and strategic special nuclear material licensee employees and contractor and vendor employees to 50 percent. This action is being taken to establish a more cost-effective and less burdensome testing frequency for licensees while continuing to ensure effective detection and deterrence provided by random unannounced testing of the workforce. As discussed in Section 2, alternatives to this rule revision were considered. Staff found that the potential cost savings justify the result of fewer violations being detected, since there would continue to be sufficient deterrence provided by random testing if the rate was lowered from 100 percent to 50 percent.

**ENCLOSURE 3**  
**DRAFT PUBLIC ANNOUNCEMENT**

## NRC AMENDS FITNESS-FOR-DUTY RULE

The Nuclear Regulatory Commission is amending its Fitness-for-Duty rule which requires licensees to randomly test their employees for substance abuse.

The present requirement calls for random testing at an annual rate of 100 percent of a licensee's work force. As amended, licensees would be permitted to reduce the annual rate to 50 percent for all workers.

The action is based on the Commission's review of the experiences gained from its Fitness-for-Duty rule since it first became effective in 1989, including the fact that the rate of substance abuse detected as a result of the NRC-mandated program has been low--about 0.33 percent for the power reactor work force over the past three years.

**ENCLOSURE 4**  
**DRAFT CONGRESSIONAL LETTER**

DRAFT CONGRESSIONAL LETTER

Dear Mr. Chairman:

The Nuclear Regulatory Commission is amending its Fitness-for-Duty Rule [10 CFR Part 26, which was published in the Federal Register on June 7, 1989 (54 FR 24468)] to permit licensees to reduce the random testing rate for all persons covered by the rule to 50 percent.

Enclosed for your information is a copy of the amendment to the rule as approved by the Commission for publication in the Federal Register.

Sincerely,

Dennis K. Rathbun, Director  
Office of Congressional Affairs

ADDRESSEES\*:

The Honorable Joseph Lieberman, Chairman  
Subcommittee on Clean Air and Nuclear Regulation  
Committee on Environment and Public Works  
United States Senate  
Washington, DC 20510  
cc: Senator Alan Simpson

The Honorable Richard Lehman, Chairman  
Subcommittee on Energy and Mineral Resources  
Committee on Natural Resources  
United States House of Representatives  
Washington, DC 20515  
cc: Representative Barbara Vucanovich

The Honorable Philip Sharp, Chairman  
Subcommittee on Energy and Power  
Committee on Energy and Commerce  
United States House of Representatives  
Washington, DC 20515  
cc: Representative Michael Bilirakis

The Honorable Tom Bevill, Chairman  
Subcommittee on Energy and Water Development  
Committee on Appropriations  
United States House of Representatives  
Washington, DC 20515  
cc: Representative John Myers

The Honorable J. Bennett Johnston, Chairman  
Subcommittee on Energy and Water Development  
Committee on Appropriations  
United States Senate  
Washington, DC 20510  
cc: Senator Mark O. Hatfield