

September 24, 2003

MEMORANDUM TO: Chairman Diaz  
Commissioner McGaffigan  
Commissioner Merrifield

FROM: William D. Travers **/RA by William F. Kane Acting For/**  
Executive Director for Operations

SUBJECT: THE COMMITTEE TO REVIEW GENERIC REQUIREMENTS (CRGR)  
REPORT ON THEIR REVIEW OF ADMINISTRATIVE CONTROLS FOR  
PLANT SPECIFIC BACKFITS

As stated in my memorandum to you on the Periodic Assessment of the Activities of the Committee to Review Generic Requirements (CRGR), dated September 9, 2003, industry representatives have previously raised concerns regarding the adequacy of NRC's controls for the plant-specific backfitting process. The CRGR members agreed to review the agency's backfit process and determine if the backfit policy procedures used by the various offices and regions are adequate. The CRGR established a subgroup to conduct the review which was initiated in August 2002. The CRGR subgroup provided their report to me in August 2003 which I have attached for your information.

CRGR found that all offices requiring backfit controls have procedures in place that are being implemented consistent with the intent specified in NRC regulations and guidance documents. However, they clarified several areas where improvements can be made. I have forwarded the report to the appropriate staff and regional offices to develop an approach for addressing the recommendations. I have also designated the Office of Nuclear Regulatory Research to coordinate among the other offices to develop an action plan, including the necessary resources and schedules to implement the recommendations. This effort should help allay concerns raised by the industry in the past about the NRC's implementation of this process.

Attachment:  
As stated

cc w/attachment:  
SECY  
OGC  
C. Ader, CRGR  
A. Thadani, RES  
R. Zimmerman, NSIR  
R. Borchardt, NRR  
M. Virgilio, NMSS  
H. Miller, RI  
L. Reyes, RII  
J. Dyer, RIII  
T. Gwynn, RIV

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# **Review of Administrative Controls for Plant Specific Backfits**

2002 Review by the Committee to Review Generic Requirements

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## EXECUTIVE SUMMARY

NRC procedures on backfitting are described in the Charter for the Committee to Review Generic Requirements (CRGR), Management Directive (MD) 8.4, which was previously termed, Manual Chapter 0514, and office specific procedures. A part of the CRGR's Charter is to review proposals from the NRC staff or at the direction of the NRC Executive Director for Operations (EDO) for potential backfitting. Most of the CRGR Charter describes the review of proposals for multiple licensees, which would be considered generic backfits. One portion of this Charter directs the CRGR to review the control mechanisms in place, for the generic and plant-specific backfit processes.

This report discusses a 2002 CRGR review of the NRC control mechanisms for backfits. The review also addresses concerns raised by industry during the CRGR's process of obtaining feedback on the backfit generic and plant-specific processes. The concerns, in general, were about the adequacy of NRC's controls for the plant-specific backfit process, including appeals of imposed backfits. The review, discussed in this report, focuses mainly on the plant-specific backfit processes in place by the cognizant offices. Since there is some overlap, the review also evaluated some aspects of the controls for the generic backfit processes. The objective of the review is to provide the CRGR assurance that (1) the office and regional directives and procedures for plant-specific backfits are adequate, (2) the office and regional staff training is adequate, and (3) the staff guidance is clear and comprehensive.

Overall, the review found that all offices with the need to implement backfit controls have procedures in place and are implementing them consistent with the intent specified in NRC regulations and MD 8.4. The CRGR review identified several areas, where improvements can be made in the backfit processes. These are described in the report, under the six findings listed below:

1. NRC offices with the need to implement backfit controls have specific office procedures that are generally consistent with the guidelines in MD 8.4.
2. MD 8.4, "NRC Program for Management of Plant-Specific Backfitting of Nuclear Power Plants" does not reflect changes that have occurred in organizational responsibilities nor in the NRC backfit program and does not highlight important elements for ensuring effective management of backfits.
3. The NRC program for training employees on the backfit process is not clearly defined.
4. The decision process for plant-specific backfits is not clearly described in individual office procedures nor readily available to licensees.
5. MD 8.4 and office procedures do not provide guidance on potential backfitting in the physical security or safeguards areas under 10 CFR Part 73.
6. The functions performed by the Office of Nuclear Regulatory Research (RES) with respect to the regulatory analysis guidelines are not clearly established in the backfit procedures. RES plays an active role in the technical and administrative support of the CRGR, which makes it a candidate for the oversight of other backfit functions at the agency level.

## **INTRODUCTION**

NRC procedures on backfitting are described in the Charter for the Committee to Review Generic Requirements (CRGR), Management Directive (MD) 8.4, which was previously termed, Manual Chapter 0514, and office specific procedures. Backfitting is defined as the modification or the addition to systems, structures, components, or the design of a facility or the procedures or organization required to design, construct, or operate a facility. A part of the CRGR's Charter is to review proposals from the NRC staff or at the direction of the NRC Executive Director for Operations (EDO) for potential backfitting. Most of the CRGR Charter describes the review of proposals for multiple licensees, which would be considered generic backfits. One portion of this Charter directs the CRGR to review the control mechanisms in place, for the generic and plant-specific backfit processes.

This report discusses a review conducted by the CRGR in 2002. The review also addresses concerns raised by industry during the CRGR's process of obtaining feedback on the backfit generic and plant-specific processes. The concerns, in general, were about the adequacy of NRC's controls for the plant-specific backfit process, including appeals of imposed backfits. The review, discussed in this report, focuses mainly on the plant-specific backfit processes in place by the cognizant offices. Since there is some overlap, the review also evaluated some aspects of the controls for the generic backfit processes. The objective of the review is to provide the CRGR assurance that (1) the office and regional directives and procedures for plant-specific backfits are adequate, (2) the office and regional staff training is adequate, and (3) the staff guidance is clear and comprehensive. Adequacy was judged by whether the offices' procedures and practices or "controls" ensure that plant-specific backfits are considered and imposed in accordance with the guidelines in NRC MD 8.4, "NRC Program for Management of Plant-Specific Backfitting of Nuclear Power Plants" and consistent with the NRC backfit rules in 10 CFR.

## **BACKGROUND**

In order to evaluate the effectiveness of its activities, the CRGR periodically reviews procedures, meets with NRC staff and management, and interacts with industry to elicit feedback on the generic backfit process. Prior to Fiscal Year 2000, the CRGR visited nuclear power reactor sites regulated by the NRC and elicited feedback from licensees. In Fiscal Year 2000, the CRGR began obtaining this feedback by participating in a special session of the Nuclear Energy Institute's (NEI's) annual Licensing Forum. After the Forum on November 2, 2000, NEI wrote an e-mail to the Chairman of the CRGR, requesting that the Committee expand its Charter to review plant-specific backfits. Concerns from industry included that there were plant-specific backfits being imposed without proper justification and that the appeals process was ponderous and not clear. After consulting with the EDO, the CRGR Chairman responded in a March 8, 2001 letter, which indicated that the CRGR would not expand its role, but would review the processes used by offices to determine whether there are adequate controls to ensure that plant-specific backfits are considered and imposed consistent with NRC guidelines.

During the special session at the November 27, 2001, NEI Licensing Forum, the Chairman of the CRGR reiterated a commitment to review office controls in place to ensure that plant-

specific backfitting is done in accordance with NRC guidelines and that the guidelines are clear. The Chairman also committed to review the NRC wide guidance for backfit processes and update the guidance as needed, including the appeals process. NRC wide guidance includes MD 8.4, which was formerly NRC Manual Chapter 0514. The Manual Chapter was converted to a Management Directive as a part of the NRC process to convert the administrative Manual Chapters to Management Directives. MD 8.4 contains procedures and controls for the plant-specific backfit processes. Other NRC wide guidance includes the Charter for the CRGR and NUREG-1409, "Backfitting Guidelines", which was published in July 1990 (NUREG). The NUREG contains guidelines for both plant-specific and generic backfit processes. It also contains a section on questions and answers related to the backfit processes used by NRC staff. The NUREG was created to better explain the backfitting processes and controls to industry and NRC staff. The NUREG and MD codified that the responsibility for oversight of the backfit processes was assigned to the NRC Office for Analysis and Evaluation of Operational Data (AEOD). MD 8.4 was last updated on August 26, 1988. At the time the MD and NUREG were last updated, the backfit processes only referred to nuclear reactor facilities licensed in accordance with 10 CFR Part 50, since the backfit rules applicable to other parts of Title 10 of the CFR were promulgated subsequent to 1988 and 1990. Part 70 was revised to include a backfit rule in September 2000, Part 72 in October 1999 and Part 76 in September 1994. Note that 10 CFR Part 52, effective May 1989, also included a provision to adopt the backfit rule specified in 10 CFR Part 50.

On April 25, 2002, the Office of Nuclear Regulatory Research (RES) issued an audit report of the plant-specific backfit processes. The audit covered a review of backfit processes implementation from 1998-2001. The RES audit was initially commissioned by the Director of AEOD, in his role as Chairman of the CRGR. The audit consisted of a review of the backfit control processes in place by the Office of Nuclear Reactor Regulation (NRR) and the Regional Offices and a review of six examples of plant-specific backfits posed by NEI for the nuclear power reactor industry. The audit report indicated that overall the plant-specific backfit processes have performed their intended function. The processes have brought order, discipline, and predictability to NRC activities related to backfitting. The audit report also indicated that there are opportunities for strengthening the plant-specific backfit processes and related communications and interactions with licensees. These two results and conclusions from the RES audit are consistent with those obtained in this report by the CRGR.

In addition to oversight of the backfit processes, AEOD was also assigned to Chair the CRGR from 1981 to 1998. By its Charter, the CRGR, consisting of senior managers from several NRC offices, evaluates proposed new and revised requirements and staff positions and reports the CRGR recommendations to the EDO for approval. All functions performed by AEOD were transferred to other offices, as part of a Commission decision to streamline NRC activities in 1998. Technical and administrative support for the CRGR were assigned to RES. Currently, the CRGR continues to consist of senior managers and the results of their evaluations continue to be reported to the EDO. Oversight of the backfit processes related to 10 CFR 50.109 was transferred to NRR. SECY-98-228, Proposed Streamlining and Consolidation of AEOD Functions and Responsibilities, issued on October 1, 1998, described this transfer and the functions transferred in more detail. This Commission Paper did not discuss the oversight of backfit process and rules contained in 10 CFR Parts 70, 72, 76, and 52, nor did the Commission Paper discuss replacement of AEOD as a point of contact for the MD or NUREG.

## **METHODOLOGY**

The review was initiated by a January 18, 2002, memorandum from the Chairman of the CRGR to the four Regional Administrators and to the Directors of the Offices of NRR, Nuclear Material Safety and Safeguards (NMSS), and RES. The memorandum requested the Office Directors and Regional Administrators to submit their office administrative procedures for backfit to the CRGR for review. The procedures were submitted to the CRGR in February and March 2002.

A subgroup of the CRGR was established to conduct the initial review. The review was initiated in August 2002, and the findings and recommendations were based upon:

- Review of each office procedure in accordance with criteria, which were based on the objectives and steps outlined in NUREG-1409 and MD 8.4.
- Discussions with each Regional Administrator and Office Director, or their representatives. The purpose of the discussion was to verify the conclusions from the procedure review and to obtain the managers' perspectives for possible needed changes to the controls for plant-specific backfits and for a priority on any corrective actions on these changes or the conclusions from the procedure review.
- Discussions with a representative of the Office of the Executive Director for Operations. The purpose of this discussion was to verify the conclusions from the review and to obtain input for the priority on the corrective actions and recommendations from the review.
- Discussion with a representative from the NEI. The purpose of this discussion was to obtain feedback on the conclusions and recommendations from the review.
- Discussion of the review conclusions and recommendations with the CRGR.

## **PERSPECTIVE OF THE NRC BACKFIT PROGRAM'S KEY ATTRIBUTES**

The CRGR drew on the history of the NRC backfit program and the current environment to determine the scope of the review for this report. This history review found that there are key attributes of a successful backfit program that should be evaluated to determine whether there is effective implementation today. This section describes some of the logic the CRGR used in determining which attributes should be included in the review scope and findings.

Following the accident at the Three Mile Island nuclear plant in 1979, a significant number of new requirements were imposed on licensees to aid in the prevention of the recurrence of such an event. During this period the NRC recognized the need for a disciplined process to prevent conflicting or inconsistent directives and requests to reactor licensees from the NRC. The NRC also recognized the importance of enhancing communications with licensees about generic requirements which covered one or more classes of reactors. A number of actions were taken by the NRC to manage these new generic and plant-specific requirements through the use of NRC backfit processes. The two attributes of consistent implementation of procedures and controls of backfit processes as well as clear communication between staff and licensees are important attributes of disciplined backfit processes and are included in the scope of this review.



Over the history of the implementation of the NRC backfit processes, the experience and knowledge of the regulatory staff have contributed to the success of the processes. As staff turn over occurs, experience in implementing the backfit processes has declined. As indicated in NUREG-1409, a key element of a successful backfit program must be NRC efforts to learn from the history of backfitting and to provide for the transfer of knowledge and training to new staff. Ensuring continuity of knowledge about backfit processes was also included in the scope of this review, including the implications for training.

In evaluating the need for and additional attributes to include in this review, the CRGR also considered changes to regulations that included backfit rules in areas in addition to the reactor arena, and the changing environment in the nuclear power industry with fewer plant-specific and generic backfitting than in the past. The CRGR determined that the scope needed to include the role of the backfit processes in the changed security environment and the application of backfitting in the materials and waste arenas. The CRGR also determined that the review scope should include efficiency and effectiveness of backfit processes, the need for clear points of contact and consolidation of procedures, approaches for documenting backfit decisions, and the extent of independence in the decision-making process in both generic and plant-specific backfits. In order to consider these attributes and keep the scope of the review balanced with the small number of actual plant-specific backfits and backfit appeals conducted, the CRGR concluded that a review of the office controls for the implementation of the NRC plant-specific and generic backfit processes would be the best method to determine whether NRC backfit processes are being implemented uniformly across the NRC and consistent with requirements.

The review of procedures and discussions with key office managers resulted in a list of key attributes for success of a backfit program, which are consistent with those discussed in this section. The remainder of this report summarizes findings and recommendations where the CRGR determined the NRC could improve the conduct and oversight of the backfit processes in the future.

## FINDINGS AND RECOMMENDATIONS

**1. FINDING:** NRC offices with the need to implement backfit controls have specific office procedures that are generally consistent with the guidelines in Management Directive 8.4.

### DISCUSSION:

The NRC Offices determined to have a need to implement backfit control procedures are: Each Regional Office, and the Offices of NRR, NMSS, RES, and Nuclear Security and Incident Response (NSIR). Each Regional Office and the Program Offices of NMSS and NRR have procedures in place that generally encompass the type of actions that should be considered as generic or plant-specific backfits. The Office of RES has procedures in place which discuss generic backfit considerations and how to do regulatory analysis. As discussed further in the section for Finding Number 6, RES has a role in establishing and communicating the regulatory analysis guidelines for use in implementing backfit processes. The Director of the Office of NSIR indicated that NSIR has not issued its own procedures for potential backfitting. The Director indicated that NSIR would use applicable procedures from NRR or NMSS, until NSIR procedures are issued. The Regional Office procedures and NRR procedures do not address backfits for physical security issues related to 10 CFR Part 73. The NMSS procedures do address some aspects of potential backfits in the safeguards area. None of the procedures address the interaction between offices in considering plant-specific or generic backfits in security or safeguards information control areas where responsibilities may overlap. The Regional Office procedures do not address potential backfits for 10 CFR Parts 70, 72 or 76, with the exception of Region III. Region III addressed Part 76 and was the only regional office with oversight responsibilities for the gas diffusion plants.

The office procedures are, in general, consistent with the guidelines in MD 8.4 and NUREG-1409 with regard to the 10 CFR 50.109 backfit rule. One area where the practice implemented is not consistent with the MD is in the approval of Regional Office procedures. The MD requires all procedures to be approved by the OEDO; the review found that one procedure was approved by this process. The others were all provided to the OEDO, but it is not clear whether they were approved by this process. The Office Directors and a representative from the OEDO indicated that this approval is not a necessity; and efforts would be better placed by focusing on a periodic review of the implementation of the procedures or consistency as done in the review for this report. This auditing process is discussed further in the discussion for Finding Number 2.

The procedures in the offices varied in detail with those in NRR, Regions I and III being more detailed than those in Regions II and IV. The NRR procedures have examples, which aid in describing potential actions or changes in staff positions that could be backfits if imposed during plant-specific licensing review or other plant-specific regulatory actions. A good practice is the inclusion of these type of examples in the Project Managers Handbook in NRR. Regions I and III also have a list of specific actions or changes in staff positions that could be backfits if imposed during plant-specific regional, regulatory actions. A best practice is when the procedures reference examples of what constitutes a staff position in keeping with the guidelines in MD 8.4, NUREG-1409 and the applicable backfit rule in Title 10 of the CFR. The

NMSS procedures include an overall procedure, along with additional procedures at the Division level. The NMSS overall procedure does not encompass backfits related to 10 CFR Parts 70, 72, or 76. There is also no NMSS Division level procedure to cover Part 70 or 72 backfit processes.

Some of the procedures are updated on a defined frequency (e.g., Region IV updates their procedures every three years); others are updated on an infrequent basis. Based on interviews and review of procedures, there is no clear method or frequency for a review of the adequacy or updating of the procedures. Discussions with Office Directors indicated that part of the basis for this is that there are so few backfits imposed or appeals each year (average of 1 - 2 per office per year) and that there is not much value gained versus the effort to complete the revision. The Office Directors and their representatives indicated that there might be some value in having a generic procedure that outlined key elements of backfit processes at the Agency level. A generic procedure like this for the Regional Offices and one for the Program Offices might foster more consistency than the current procedures and might allow some efficiency at the office level. Each office then would only have to customize the procedures to reflect its organizational structure.

Based on feedback from licensees during the NEI Licensing Forums (including the most recent one held on November 6, 2002), discussions with office representatives, and from review of the office procedures, there is not a clear understanding by licensees nor much communication of office procedures to licensees. NRR does include procedures on its web-site and in the Agency wide Documents Access and Management System (ADAMS) and some instruction for notifying a specific licensee about a potential backfit in conjunction with specific licensing actions. Within the NRC, it is also not clear how the RES procedures related to regulatory analysis are communicated or used by staff in RES and the other offices that may be performing these analyses. The regulatory analysis guidelines also do not address backfit processes or controls related to 10 CFR 72.62, 70.76, or 76.76. The interaction of RES and the other offices on this issue is discussed further in Finding Number 6.

**RECOMMENDATIONS:**

- All offices need to establish guidelines for procedure revision and provide for regular review and update.
- NSIR should have procedures reflecting its office activities that may encounter potential backfits and how they are processed.
- Consider providing offices with a template or generic Regional and Program Office procedures to aid in consistency and efficiency.

**2. FINDING:** Management Directive 8.4, "NRC Program for Management of Plant-Specific Backfitting of Nuclear Power Plants" does not reflect changes that have occurred in organizational responsibilities nor in the NRC backfit program and does not highlight important elements for ensuring effective management of backfits.

## **DISCUSSION:**

NRC Management Directive 8.4, "NRC Program for Management of Plant-Specific Backfitting of Nuclear Power Plants", establishes the requirements and guidance for NRC staff implementation of 10 CFR 50, relating to plant-specific backfitting. The MD defines authorities and responsibilities and lays out actions to be taken as staff imposes new plant-specific regulatory positions or backfits. Backfits are defined as the modification or addition to systems, structures, components or the design of a facility or the procedures or organization required to design, construct, or operate a facility. These actions are backfits if they result from the imposition of a regulatory staff position which reflects a change from a previously applicable staff position. Further clarification and descriptions of backfitting and NRC backfit processes are contained in NUREG-1409.

The MD was approved in August 1988 and NUREG-1409 was published in July 1990; since then, there have been organizational changes which impact the authorities and responsibilities laid out in the MD. Following a Commission decision in 1998, AEOD was discontinued and some of its functions with respect to oversight of the NRC backfit program were merged into NRR, NMSS, RES and OEDO. At that time, AEOD responsibilities for oversight of the backfit processes with regard to 10 CFR 50.109 were transferred to NRR. Responsibilities for establishing and communicating regulatory analysis guidelines utilized in evaluating plant-specific and generic backfits remained in RES. Under MD 8.4, AEOD was responsible for ensuring that controls were developed and maintained for overall NRC management and oversight of plant-specific backfit process and for coordinating the implementation of procedures within the program offices and the Regions. AEOD was also responsible for communicating with licensees on the structure of NRC's program for backfit controls and any substantive changes to this program. Since the time of the transfer of AEOD functions, other backfit rules and programs have been promulgated (e.g., 10 CFR Parts 70, 72 and 76), which are not covered by the MD or mentioned in NUREG-1409. In addition, NSIR was established as a program office on April 7, 2002. The role and responsibilities of NSIR with respect to backfit processes have not been established.

The CRGR has been contacted numerous times by industry urging the CRGR to act as an independent entity in the review of plant-specific backfits and as an organizational point of contact. During discussions, Office Directors or their representatives and a representative from OEDO indicated that the MD needs to be updated to reflect changes in organizational roles and responsibilities for these functions to aid staff and to be responsive to stakeholder concerns. They also indicated that it would be more appropriate to have one centralized group that is responsible for oversight of the NRC backfit program and not just with regard to 10 CFR 50.109. Since some oversight function already occurs by the CRGR, one plausible approach would be to assign this backfit program oversight to the CRGR.

Since the MD was approved, backfit provisions have been added to 10 CFR 70, 72, and 76. In revising the MD, an appropriate process for management of facility specific backfits to implement these requirements needs to be laid out. In addition, the MD needs to clearly outline a process for managing facility specific backfits in physical security and safeguards areas. Since the MD was implemented, there have also been major changes in NRC processes and new technology has been used to make these processes more efficient and effective. There are also some processes that are not followed by all offices and may not need to be implemented in the manner described in the MD (e.g., having all backfit procedures approved by the OEDO). These need to be reflected in an updated MD.

Another item for consideration is record keeping. The MD directs that the Director of Administration and Resource Management (this position no longer exists) will develop and maintain one agency record keeping system for the management of plant-specific backfits. Review of procedures and discussions with Office Directors and Regional Administrators, led to a finding that such a record keeping system has been discontinued and that Regional and Program Offices are maintaining their own records using different approaches and processes. There is no central agency repository of information about the management of plant-specific backfits. The office procedures do contain some description of the content and type records that need to be maintained; and these descriptions are, in general, in keeping with the description of the type records discussed in the MD. During discussions, the Office Directors and Regional Administrators or their representatives indicated that there would be some benefit to having a centralized record system (e.g., use in training of staff on actual cases, one place for searching in response to inquiries). They pointed out, however that there must be some balance between the benefits of one system and the cost of oversight of that system and the current system, given the few number of backfits processed in each office. Thus, a simple system such as the use of a folder in ADAMS or on a web site may be the best resolution to this finding.

One additional element that is important for the management and oversight of plant-specific backfits is a system to audit the processes to determine whether procedures and backfit controls are being implemented in accordance with NRC wide and office guidelines (e.g., in the MD). From the discussions with office representatives, there is no current mechanism in place to effect this type audit process. The individuals interviewed indicated that there should be some type of audit on a periodic basis, similar to the type performed in this review by the CRGR. The individuals interviewed indicated that this type audit should be performed by each implementing office and on a periodic basis at the NRC level. A key element of the audit would be to have it performed by an individual or group of individuals who are independent of those who effected any backfit actions within the office doing the audit. One individual suggested that the CRGR may be the appropriate group to perform the NRC level audit. The results and lessons learned from the audit performed by RES and the review documented in this report support the concept of having some type audit process addressed in the MD.

**RECOMMENDATIONS:**

Management Directive 8.4, "NRC Program for Management of Plant Specific Backfitting of Nuclear Power Plants", needs to be updated to address the following:

- Identify an organization responsible for ensuring that process controls for overall NRC management and oversight of plant-specific backfit processes are updated, maintained and implemented
- Expand to cover backfit rules in 10 CFR 70.76, 72.60, and 76.76
- Expand to include physical security and safeguards backfits.
- Establish a centralized or consistent NRC wide record keeping system for management of plant-specific backfits or consistency in individual record keeping systems
- Include a process for a periodic audit of implementation of the program
- Clarify organizational roles (including OEDO) in overseeing or implementing backfit processes.

**3. FINDING:** The NRC program for training employees on the backfit process is not clearly defined.

**DISCUSSION:**

NRC training regarding plant-specific backfit processes has been done in the past as issues arose, or during initial implementation of the 10 CFR 50.109 backfit rule. Following the accident at Three Mile Island in 1979, a significant number of new requirements were imposed on licensees to minimize the chance of such an event occurring again. The Commission recognized during this period, the need for a disciplined process to manage the imposition of new plant-specific requirements. In June 1983, the Commission approved a set of directions to the staff for managing plant-specific backfits for nuclear power plants; and the staff implemented them on an interim basis. In February 1986, staff policy for managing plant specific backfitting was revised consistent with the revised backfitting rule. During this period, extensive training in the implementation of the revised process was provided for the NRC staff through seminars held in each program office and regions. The staff also received some on-the-job training by processing seven (7) potential backfits and twenty-three (23) cases, claimed by licensees to be backfits, during the period 1985 - 1986. Note: Potential backfit is described in NUREG-1409.

Since 1986, there have been few plant-specific backfits and, thus, little on-the-job experience in processing potential or claimed backfits by the NRC staff. There has been some formal training on an NRC-wide basis between 1986 and 2002. For example, NMSS conducted training on the rule in 10 CFR Part 76 related to gaseous diffusion plants in November 2000. NRR and some Regional Offices conducted a review of backfit processes with staff in their offices in January 2001.

Based on discussions with office representatives, there is little training provided to new hires, or as a refresher. The broad base knowledge and number of experts in backfit processes does not appear to be as extensive today as in the past. There is also a large number of new staff entering the agency who are unfamiliar with the backfit requirements and procedures and are not faced with handling backfit issues on a routine basis. When this is coupled with the fact that there is little exposure to backfit considerations on a plant-specific basis (i.e., approximately one (1) per year in each office), there is a need for a disciplined, training program. The amount of training should be balanced with the small number of cases processed per year in the NRC.

In reviewing existing procedures and discussing with Office Directors and Regional Administrators, or their representatives, it became apparent that training is not regularly offered and is not addressed in the office or regional procedures. NRR offers a web-based training specific for power reactors, which could be used by staff for training, but it is limited and it is not clear how it is to be used. The Regional Administrators indicated that backfits are addressed in inspector training (e.g., Inspector Manual Chapter 1245 type training to be qualified as an inspector); and Regions I and IV representatives indicated that initial backfit training had been offered in their offices. The Office and Regional Procedures do not provide specific criteria for the training and there is no provision for repeat or refresher training. NRR, NMSS, RES, and NSIR Office Directors recommended a graded approach to training, perhaps web-based, which would explain what led to the backfitting process and would provide access to an increasing level of information for those who are or could be actively involved in the management of plant-specific backfits.

#### **RECOMMENDATIONS:**

- The NRC needs to provide some training on managing the backfit process which is available agency wide and explains both the generic and the plant-specific backfit process for all types of licensees covered by backfit rules.
- A graded approach should be considered to ensure that new employees have the benefit of learning what led to the backfit process and everyone has access to knowledge in the level of detail warranted by their job responsibilities.

**4. FINDING:** The decision process for plant-specific backfits is not clearly described in individual office procedures nor readily available to licensees.

#### **DISCUSSION:**

Feedback from licensees during NEI licensing forums in Fiscal Years 2000 - 2002 indicates that the NRC process for appeals or claims of backfits is not clear at the office (e.g., NRR, NMSS or Regional) level. In addition, licensee representatives indicate that the appeals process on an NRC wide level, as described in MD 8.4 and in NUREG- 1409, needs to be updated and clarified. The representatives suggested that part of the reason the NRC does not see more backfit claims or recognize there is a problem is that the office procedures are not shared with

licensees and that the individual office points of contact are not specified. Interviews with office Directors and Regional Administrators or their representatives support this statement, with some exceptions: The NRC web-page does contain contact points for NRR. Also, the NRR Office procedures are available on the web page. NRR representatives indicated that the NRR backfit processes are not shared with licensees routinely, but the processes, especially the appeals portion, are shared when there is a claim of backfit or an action is taken on a backfit claim.

The Plant-Specific Audit Report, issued by RES on April 25, 2002, concluded that most of the problems with perceptions of specific, potential backfit cases and issues, could have been resolved with better and more effective communication with the licensees in each case. The interviews with Office Directors and Regional Administrators or their representatives and review of procedures provide insights that support this conclusion and support efforts to increase communication of office decision and appeals processes to licensees.

The decision processes for the review of potential plant-specific backfits and appeals to backfit positions are generally outlined in each of the office procedures reviewed. The Management Directive and NUREG-1409 both describe the appeals and decision processes, in general terms, and they are easily understood on an NRC wide level. The specifics of the office contact points, time frames, and flow of the decision process are not clearly described in each office procedure. The appeals process is more clearly described in each office procedure. For both these parts of the process, the decision and appeals, the office procedures are generally in keeping with the MD. However, on a more detailed level, there are inconsistencies between the procedures. For the purpose of discussion in this report, the decision processes consist, in general, of an initial review of a potential backfit by the office who will impose the backfit. Next there could be a review at the office level of an appeal to a claim that a backfit was incorrectly imposed; and finally, there could be a second level of appeal to the OEDO. During discussions, the Office Directors and Regional Administrators or their representatives indicated that there are no standard backfit review panels for the initial or first appeal level; instead, the reviews are assigned on a case-by-case basis to individuals or panels of individuals. The basis for not assigning a standard panel is that there are so few backfit reviews initiated each year. The exception to this is Region III, which has a standing backfit review panel. The Office Directors and Regional Administrators also indicated that their specific procedures, including the processes they use for decisions and appeal reviews, are not communicated or readily made available to licensees. The procedures are available in ADAMS,

The first level of review of potential backfits and the first level of appeal for a claimed backfit are performed within the offices. There is no independent first level appeal review (i.e., by someone or group within the NRC that is independent of the group or individual that is making the decision) in the decision processes. There is also no single point of contact with whom licensee representatives could communicate about the processes in all offices. The backfit review panel utilized in some Regional Offices was recognized by managers as having merit and providing some independence of the decision processes for the first level of appeal review. When the issue of independence was raised with office representatives, they indicated that there does not need to be independence outside the office that is processing the initial review of a potential backfit or for the first level of appeal review. The representatives interviewed also indicated that the current process for the OEDO to perform a review of the second level of appeal seems appropriate. The office representatives also indicated that this second level of appeal could be performed by other organizational entities such as the CRGR. Industry representatives at the NEI Licensing Forum and the representative of NEI interviewed as part of



this audit indicated that the second level of appeal review must be performed by an entity with independence from the organization that imposed the initial backfit. Office and industry representatives also indicated some merit in having a knowledgeable group or core of expertise in the NRC who could be available to provide advise to the individuals or panels conducting backfit appeals reviews. One draw back would be that the individuals need to be active in the consideration of backfits to maintain expertise and this may not be feasible, given the small number of backfits imposed per year. This concept is discussed further in Finding Number 6.

**RECOMMENDATIONS:**

- The decision processes should be described in Management Directive 8.4 and communicated to licensees.
- Consider adopting a backfit appeals process which ensures that the decision maker for the backfit appeal is independent from the group or individuals involved in the original decision.
- Provide guidelines for consistent communication of the office backfit processes to licensees.

**5. FINDING:** Management Directive 8.4 and office procedures do not provide guidance on potential backfitting in the physical security or safeguards areas under 10 CFR Parts 73.

Each licensee, licensed pursuant to 10 CFR Part 50, Part 70, and Part 72, is required by the Code to have physical security protection and safeguards controls as specified in 10 CFR Part 73. Part 73 does not contain a backfit rule; instead a nexus is stated by the regulations in Parts 50, 70, and 72. The MD and NUREG also do not address the applicability of requirements in Part 73 to the backfit rules. To review this issue, the CRGR subgroup requested the CRGR representative from the Office of the General Counsel to evaluate whether the backfit rule in 10 CFR 50.109 applies to Part 73 related actions. The determination was that the backfit rule, as described in 10 CFR 50.109, does encompass actions in the physical security and safeguards areas, imposed in accordance with changed staff positions or actions related to Part 73.

No office procedure provided guidelines or controls for processing potential or claimed backfits related to the entire security area as discussed in 10 CFR Part 73. The NMSS Procedures Letter 1-34, issued on October 10, 1986, did discuss procedures for backfit considerations in the safeguards area.

**RECOMMENDATIONS:**

Modify Management Directive 8.4 and office backfit procedures to clarify and establish controls for actions related to the physical security and safeguards areas in 10 CFR Parts 73 consistent with the backfit rules in 10 CFR Parts 50, 70 and 72.

**6. FINDING:** The functions performed by the Office of Nuclear Regulatory Research (RES) with respect to the regulatory analysis guidelines are not clearly established in the backfit procedures. RES plays an active role in the technical and administrative support of the CRGR, which makes it a candidate for the oversight of other backfit functions at the agency level.

## **DISCUSSION:**

The Office Directors and Regional Administrators or their representatives that were interviewed indicated that there is a benefit for RES to retain the corporate knowledge and oversight of regulatory analysis guidelines, and there should be some guidance as to how this RES role is carried out in MD 8.4 (there may be other directives that should be modified, such as MD 6.3, "The Rulemaking Process"). Although RES does not conduct activities that directly result in plant-specific backfits, RES does have the responsibility for regulatory analysis guidelines, which are utilized by offices in conducting analyses of generic and plant-specific backfits. This RES function is not stated in Management Directive 8.4. In addition, this role is not clear to NRC staff and licensees using backfit processes during the conduct of rulemaking. Clarifying and documenting this function by RES is important to improve the transition of rulemaking to the Program Offices and the abolishment of AEOD. The transfer of rulemaking began in 1998 and is described in the Commission Paper, SECY 97-220, "Implementation of DSI-22 Research", issued on October 1, 1997.

Based on discussions with Office Directors and Regional Administrators or their representatives and a review of procedures, the guidelines on how the regulatory analysis guidelines are maintained or when they should be updated are not clear. The latest revision is in the NUREG/BR-0058, "Regulatory Analysis Guidelines of the U.S. Nuclear Regulatory Commission", issued in July 2000. Based on discussions and review of procedures, there is not a clear threshold for review of the guidelines or for updating. Past revision has been initiated based on perceived needs (i.e., Commission directed or staff initiated). In the past, there was also a Regulatory Analysis Steering Group, comprised of senior NRC managers. This Group was charged with examining regulatory issues. It is not clear that this function is still performed or whether the prior functions have been effectively subsumed into other oversight committees. (e.g., PRA steering committee).

Results of procedure reviews and discussions with Office Directors, Regional Administrators, or their representatives and the OEDO representative indicate that knowledge needs to be maintained on the use and updating of the regulatory analysis guidelines. With the regulatory analysis responsibility clearly assigned to RES, there is merit to having CRGR have the oversight responsibility for backfit processes because RES retains the oversight and administrative support for the CRGR function and CRGR is responsible for oversight of the program. CRGR could periodically review the effectiveness of backfit processes and report back to the EDO. Also, CRGR could serve as an independent second level of appeal, as delegated by the EDO. This would help communication with external stakeholders because there would be less confusion about where to go to appeal a decision and ensure greater independence. The first level of appeal would remain with the program offices and the CRGR could rely on technical support from the program offices. This concept of the second level of appeal is discussed further in Finding Number 4. By providing an agency point of contact on

backfit processes, it would also assign ownership of NRC wide backfit processes as outlined in Finding Number 2. A point of contact should still be listed for each office for operational issues. This point of contact concept is discussed further in Finding Number 3. The backfit review panels, discussed in the Finding Number 3 section of this report, could also benefit from having this cadre of expertise as a reference or even to have an individual with this expertise in the NRC backfit processes as a member of the panel.

**RECOMMENDATIONS:**

- Management Directive 8.4 should be modified to describe the role of RES in oversight of the regulatory analysis guidelines (i.e., maintaining the Agency level guidelines for implementation by NRR, NMSS, NSIR, and the Regional Offices).
- In conjunction with the Management Directive modification, RES should revise the RES Office procedures to reflect the RES role in oversight of the regulatory analysis guidelines.