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POLICY ISSUE **(Information)**

September 23, 1996

SECY-96-205

FOR: The Commissioners

FROM: James M. Taylor
Executive Director for Operations

SUBJECT: BRIEFING ON BUSINESS PROCESS REDESIGN PROJECT ON REDESIGNED MATERIALS LICENSING PROCESS

PURPOSE:

The purpose of this paper is to respond to the July 16, 1996, Staff Requirements Memorandum (SRM) on SECY-96-139, "Business Process Redesign of Materials Licensing and Inspection - Status Report."

SUMMARY:

This paper provides a systematic discussion of the directives in the June 16, 1995, SRM on SECY-95-114, "Implementation of a Redesigned Materials Licensing Process." It also discusses revised schedules, goals, metrics, milestones, training plans, project scope, and interactions with Agreement States as they pertain to the Materials Licensing Business Process Redesign (BPR) project.

BACKGROUND:

In SECY-96-139, the staff submitted a progress report on the Materials Licensing BPR project. Since the July 3, 1996, Commission briefing, the staff has focused its efforts on; (1) completing the pilot project to develop

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PAPER

CONTACTS: Patricia A. Rathbun, NMSS
(301) 415-7178

Patricia C. Vacca, NMSS
(301) 415-7908

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performance-based guidance using a team approach, and (2) developing a small, useful pilot project to demonstrate the issues involved in testing a computer-assisted method for licensing portable gauges. In addition, the licensing pilot project will determine the method's usefulness in handling similar types of applications (e.g., fixed gauge, gas chromatograph, and self-shielded irradiators) as well as the broader range of license applications.

The staff has also reviewed lessons learned from its own BPR experience, as well as those from industry and government, and is integrating them into this phase of the U.S. Nuclear Regulatory Commission project. In general, as will be discussed below, the lessons learned during the NRC BPR have paralleled those of other groups.

DISCUSSION:

Commissioners' Visits

During the July 3, 1996, briefing on SECY-96-139, the Chairman and Commissioners Rogers and Dicus indicated their interest in visiting the BPR laboratory. Chairman Jackson visited the BPR laboratory and received a briefing on BPR activities on August 14, 1996. Commissioners Rogers and Dicus received similar briefings during their visits on August 19, 1996. The staff is setting up similar visits and briefings for Commissioners Diaz and McGaffigan.

June 16, 1995, SRM Directives

Attachment 1 presents the requested systematic discussion of the directives in the June 16, 1995, SRM.

Goals and Metrics

The original charter for the Materials Licensing BPR project was to develop a new process design that accomplishes the following:

- o Maintains or raises the level of public safety achieved by the current process.
- o Performs an order of magnitude faster than the current process.
- o Exploits modern information technology (IT) as a fundamental part of the new process.
- o Reduces resources to meet 1998-1999 staffing levels.

During Phase I, the staff determined metrics for the existing licensing process (the "as-is" model) and, to encourage the staff to think broadly and creatively, established ambitious target goals for the new system. The BPR

team found that, on average, licensing actions are "in-house" for 84 days (also called "cycle" time) and are subject to 54 handoffs, but only require an estimated 1.8 days of actual processing time. (The remaining 82 days are spent in queues awaiting attention.) In defining the new process, the staff's target goals, as stated in SECY-95-114, were an average cycle time of 4 days with nine handoffs.

Based upon experience gained in actually developing the new system, the staff now believes that a more accurate metric for the new process is an average cycle time of less than 12 days. During the pilot, the staff will determine the feasibility of achieving these goals and determine any needed changes.

As will be discussed in greater detail below, the BPR process is ongoing and iterative, employing multiple tests of each process or subprocess activity. Initially, the BPR team uses its best judgment in setting metrics to measure timeliness, quality, and efficiency. Based on the experience gained during the iterative process, the metrics are modified or adjusted. These "lessons learned" are incorporated and further adjustments are made as needed. In this way, the staff can have confidence in the final metrics because they are based on experience, not ad hoc staff judgment.

"Lessons Learned"

There are a number of ways that "lessons learned" are identified and incorporated into the BPR process:

- o The iterative nature of the BPR process
- o Frequent evaluations by participants
- o Review of past experience of other BPR projects

Iterative Nature of the BPR Process: As mentioned briefly above, the BPR process involves elaboration and refinement of all aspects of the new licensing process, followed by determination not only of management structure and metrics, but also of jobs, skills, and training, values and beliefs, and IT. The BPR team refers to these BPR tasks as the "process diamond" work, after the contractor's (Computer Sciences Corporation's [CSC's]) process diamond model, as illustrated in Attachment 2. The first results of the "process diamond" work are based on the staff's best estimates. Iterative tests of the process or subprocess activities involve staff who will be working in the new system. These tests determine the validity of the goals and design developed around the "process diamond," allowing the BPR team to make any needed adjustments in the process itself, in the metrics, etc.

Frequent Evaluations by Participants: Another way the team incorporates "lessons learned" is to conduct short debriefing sessions at the conclusion of team activities each day. Participants provide feedback on things that worked well and those that worked poorly, and offer suggestions for improvements. To

the extent possible, the suggestions are incorporated into future activities.

Review of Past Experience of Other BPR Projects: The BPR team has reviewed publications such as "Federal Government Business Process Reengineering: Lessons Learned" (published by the General Services Administration (GSA), February 1994, KAP-94-2-1) and "CSC Index State of Reengineering Report - North America and Europe." These documents describe the experiences of both Federal government and non-government organizations involved in BPR work and point out many factors critical to success of the BPR projects. In many instances NRC's experience parallels that of other organizations undergoing BPR.

For example, the GSA paper identifies the need for substantial customer input and high-quality staff participation as factors critical to success. In the NRC project the iterative nature of the process requires the participation of customers; the customers include the staff who will use the license review tools and who are participating in their development. Customers also include Agreement States and the public (e.g., licensees). The BPR team's interactions with these groups are outlined in Attachment 1. The staff members who have participated in BPR activities have all been highly qualified and motivated technical, legal, or administrative personnel who have contributed their knowledge and talents to the project during both regular and overtime hours.

The CSC Index study identifies the need to overcome cultural barriers as a factor critical to success. Part of the Phase II effort will be to define ways to accelerate the adoption of changes in the NRC's culture.

Important Lessons From NRC's Experience: Additional noteworthy lessons are outlined below:

- o The establishment of an enterprise-wide management model in Phase I (Attachment 3) proved highly successful in providing wide dissemination of "lessons learned" as well as a mechanism for management feedback during the BPR process. The BPR team believes that the overall, coordinated, Agency-wide representation and alignment embodied in the Core, Steering, and Executive Teams is a critical success factor for BPR and other change-management efforts.
- o The lengthy process of creating a dedicated central work environment for the BPR team caused considerable disruption and delay. This has been remedied by the construction and current use of the BPR laboratory located in Room 8C05 in Two White Flint North.
- o The importance of maintaining an effective communications plan was highlighted during Phase I of BPR, as effective communications help

reduce mistrust and anxiety within the work force and provide management with adequate information on which to base decisions.

- o Finally, it should be recognized that the conservative nature of a Federal regulatory agency such as the NRC may decrease the effectiveness of a BPR effort to quickly and easily make changes in activities or culture. Changes that may be carried out swiftly in private industry may be difficult within the regulatory environment.

Project Scope

In SECY-95-114, the staff proposed its vision of the new materials licensing process (see Attachment 4), which incorporates three key features: a new way of working in teams, a new regulatory approach to guidance development, and a new licensing process that may involve computer-assisted, individual, or team reviews of applications. In late FY 1995 and throughout most of FY 1996, the BPR team emphasized the first two aspects of the vision -- working in teams, and consolidating and revising guidance used in materials licensing. Since the team has now conducted a pilot test involving the development of revised guidance for portable gauges, the team is ready to transfer further guidance development activities to personnel operating outside of the BPR project.

The team has also decided that during the remainder of Phase II, it will divide the project into three modules:

- o Module 1 - Guidance Consolidation and Revision
- o Module 2 - License Review and Issuance
- o Module 3 - In/Out Processing

Module 1 - Guidance Consolidation and Revision: As indicated above, the BPR team created the process used for these activities, completed most of the associated "process diamond" work, established the structure for consolidating and updating the guidance (draft NUREG-1541), wrote a significant section of the text generically applicable to radiation safety programs, and, as a pilot test, developed revised, risk-based, performance-oriented guidance on portable gauge licensing. Draft NUREG-1556, Vol. 1, "Consolidated Guidance about Materials Licenses: Program-Specific Guidance about Portable Gauge Licenses," was completed in September 1996, and is scheduled to be distributed in early October 1996.

During this Module 1 work, the staff gained experience working in teams and using a groupware product, Lotus Notes. The use of teams allowed materials staff members from the regions and Headquarters to bring their varied expertise to bear on the subject. The use of groupware permitted all members of the writing teams to work collaboratively on a document, with much of that work conducted at the employees' duty stations. Version control was an important feature of the groupware product. The staff learned the importance

of conducting at least a portion of the work in a group meeting situation -- group interactions led to an improved product.

A team of managers developed a set of metrics by which to ensure efficiency, timeliness, and high quality products. These metrics applied to the writing team as well as to the technical and management review teams. In the pilot test some of the initial metrics (particularly the amount of time needed to provide adequate technical and managerial reviews) were too ambitious. The BPR team is examining these results and considering the appropriate changes to be applied to subsequent products.

With the model for the Module 1 activities almost complete, the BPR team is transferring the actual consolidation and writing of guidance to other members of the staff outside of the BPR project. The model has been, and will continue to be, used not only for development of licensing guidance but also for inspection program development.

In the licensing area, the staff will focus its early efforts on guidance for those license categories with numerous licensees (e.g., portable and fixed gauges) and those affected by major rule changes (e.g., radiography licensees affected by the revision of 10 CFR Part 34). To the extent possible and without resorting to additional rulemaking, the staff will provide guidance that takes a graded, performance-based approach to licensing. For more details on this approach, see the response to Item 8.a in Attachment 1. Each document will be published for comment as a draft NUREG. Comments received on each draft will be addressed, the draft will be finalized, and a copy will be provided to the IT team for incorporation into its Module 2 work (i.e., the review and issuance of licenses).

The BPR team will work with the guidance writing teams to further refine the new process to consolidate, revise, and develop guidance, and determine the implications on the "process diamond." This work is iterative. The development of each guidance document will involve tests of the process and lead to needed process changes and validation, or modification, of the "process diamond" work.

Module 2 - License Review and Issuance: The BPR team is working on pilot tests of the new process based on the existing portable gauge guidance, Draft Regulatory Guide DG-0008, "Applications for the Use of Sealed Sources in Portable Gauging Devices." The pilot tests have four components:

- o Development of IT systems to permit the receipt and computer-assisted review of electronic versions of applications using Rapid Application Development (RAD)¹.
- o Concurrent "process diamond" work to support the new process.
- o Small-scale test at Headquarters.
- o Small-scale test in one or two regional offices.

Development of IT systems: As demonstrated to the Commission during the July 1996 briefing and August 1996 visits to the BPR laboratory, contractor staff is developing computer screens and supporting IT to aid: (a) applicants in the preparation of their applications; (b) assist reviewers in the review (and associated documentation) of applications; (c) provide a mechanism for quality assurance reviews (and associated documentation); and (d) allow managers to quickly and easily obtain needed reports.

Using the RAD approach, technical staff (i.e., end users) work with contractor IT staff to develop and refine the automated process. This is another example of the iterative nature of the BPR process.

Concurrent "Process Diamond" Work: Concurrent with the IT development work, the BPR team will also continue its further refinement of the license review and issuance process and the implications on not only the IT aspect, but also the other portions of the "process diamond." As described above, this work is iterative and, with the pilot tests and similar work in Module 3, will provide detailed metrics for the licensing process.

Small-Scale Tests - General Comments: The purpose of the small-scale or pilot tests is to validate that the process and automated system perform as envisioned. The tests are also designed to observe the behavior of the staff in using the new process and automated system and to validate the "process diamond" work carried out earlier. These pilot studies are testing activities, not "production" activities, so "bugs" will be found during the tests and they will be addressed after each pilot is completed. The staff will invite Agreement States and volunteer licensees to participate, keeping in mind the need for Office of Management and Budget clearance (under the Paperwork Reduction Act) if more than nine licensees or organizations participate.

Pilot Test at Headquarters: The first pilot test, to be conducted at Headquarters, will be restricted to portable gauge applications (using the

¹"RAD" is a systems development methodology which uses iterative prototyping and other techniques for quickly and effectively developing computer systems.

current guidance in draft Regulatory Guide DG-0008, "Applications for the Use of Sealed Sources in Portable Gauging Devices") and will involve knowledgeable regional technical and administrative staff, with contractor and Headquarters participation as well. The pilot tests will assume that an application in electronic form has entered the new system. By assuming this focus, issues outside the control of the BPR team (e.g., electronic signatures and fundamental policy issues on use of the Internet) can be deferred for appropriate Agency-wide resolution without impacting the pilot tests.

Changes (e.g., in the process, IT, or training) will be made as needed, based on the experience gained during the Headquarters test and appropriate training provided to participants in the regional pilot tests.

Pilot Test in One or Two Regional Offices: Regional pilot tests will involve processing portable gauge applications under both the existing and new systems: (a) to ensure technical accuracy both of the review (e.g., were the same deficiencies found?) and of the resulting license documents (e.g., does license contain same conditions?); (b) to test metrics associated with the new process; and (c) to determine what additional training, management systems, IT systems, etc., need to be implemented to make the new process successful.

Module 3 - In/Out Processing Activities: The major tasks currently underway in Module 3 involve modeling, developing, and testing the use of the Internet as the primary vehicle for transferring information between NRC and applicants and licensees. It should be noted that participants in the April 1996 public workshop, identified the Internet as their preferred vehicle. Although other media (e.g., disk, CD-ROM, paper) are available, the staff believes that the use of the Internet provides the most efficient and far-reaching solution to the problems involved in dealing with the heterogeneous licensee base represented by the Office of Nuclear Material Safety and Safeguards (NMSS) licensees, as well as with the Agreement States and the public. However, the staff is mindful of the need to provide access to all applicants regardless of their level of computer literacy and will ensure that paper submittals continue to be a viable option in the new process.

This segment of the project is subject to fairly rapid changes that parallel the changes in Internet technology. However, the basic building blocks of the approach have been defined and are relatively stable. The BPR team has created an internal developmental WEB site, for testing purposes, reachable at the URL:<http://nmss26>. As products become stable, they will also be made available for external access through links to the NMSS home page. These WEB sites contain documents of interest (e.g., Information Notices sent to NMSS licensees, draft and final NUREGs) to materials licensees and applicants, Agreement States, staff, and the public. The site also functions as a central point for the posting of guidance documents currently out for public comment.

In addition to these Internet activities, the BPR team will further refine the in/out processes and do the related "process diamond" work. The team will

determine the needs of the new materials licensing process and provide that information to the group currently developing the Agency-Wide Documents Access and Management System. Since the IT infrastructure of the Reactor Program System is similar to the IT infrastructure of the new materials licensing process, the BPR team is also coordinating with the Office of Nuclear Reactor Regulation to avoid duplication of effort and to share developmental work.

Revised Schedules and Milestones

The overall schedule and milestones are presented in Attachment 5. In addition, the BPR team has a detailed schedule and work plan (including resource loading) to manage the day-to-day operations of the BPR project. The detailed schedule and work plan will change based on the iterative approach used in non-IT applications and the RAD used for IT work. However, adjustments within the detailed schedule and work plan should not affect the overall schedule and milestones shown in Attachment 5.

Training Plans

The BPR team has identified many of the training and skills requirements that will be necessary for individuals to work successfully in the new process. Additional details will result from the "process diamond" work described above. Training is both formal (classroom and individualized) and informal, including "on-the-job" training. Training will be accomplished in stages and can be broken down into the following major categories:

- o NRC Overview and Context
- o Licensing Process, Technical, and Administrative
- o Interpersonal and Communications
- o Information Technology

Attachment 6 lists the training and skills requirements identified to date in each of these major categories. Not all of the training listed in Attachment 6 would apply to all participants in the new process. Training for the jobs/roles in the new process (e.g., technical reviewer, integrated products manager) will be job-specific and developed in greater detail as part of the "process diamond" work. Much of this training is already available through NRC's Professional Development and Technical Training Centers. However, to accommodate the training needs associated with the new process, it may be necessary to develop new NRC courses or to locate courses offered by other government or private organizations.

In a small pilot program, the staff is prototyping a developmental, tiered approach to assisting administrative staff in obtaining the skills needed when the new process is implemented. Initially, administrative personnel in the Division of Industrial and Medical Nuclear Safety (IMNS) within NMSS are

participating in this pilot program. If successful, the program may be expanded to include other administrative staff throughout NMSS.

As currently envisioned, each participating IMNS secretary will have three rotational assignments in BPR. These assignments are developmental, with the individuals contributing suggestions regarding the skills, training, and experiential situations needed to prepare them for their roles in the new system. As part of the rotational assignment, the first participant assisted in the preparation of Table 1 and received Tier 1 training in the three indicated areas. In FY 1997 this participant will return for Tier 2 and Tier 3 training. Just as the IT and "process diamond" work are iterative, so too are the activities in this pilot program. When the first participant returns for later rotational assignments, the training may differ from that shown in Table 1, based not only on the individual's further suggestions and recommendations, but also on those of subsequent participants. The staff will consider the "lessons learned" from this pilot program in the development of detailed training programs for those filling other roles in the new process.

Table 1: IMNS Administrative Skills Pilot Program: A Developmental, Tiered Approach To Training

Training Level	Subject Matter
Tier 1	Lotus Notes, Internet, Word Perfect 6.1
Tier 2	Document Scanning/Optical Character Recognition, Workflow Management, File Management, PowerPoint
Tier 3	Team Building/Dynamics, Time Boxing, Stress Management

Interactions With Agreement States

As part of the effort to obtain direct, focused input on the new licensing process, the BPR team used the September 1996 All-Agreement States meeting to interact on a more individualized basis with Agreement States' representatives during tours of the BPR Center. The staff invited State representatives to participate in the pilot tests of the new licensing process. In addition to soliciting State interest, the staff discussed with the States technical and programmatic issues that could hamper State participation and potential mechanisms for the interface. Several States expressed interest in making themselves available for a pilot using the computer-assisted licensing program that has been developed by NMSS and its contractors.

As described in greater detail in Item 2 of Attachment 1, during Phase II the staff has had a number of interactions, on BPR-related matters, with the Agreement States. These interactions include:

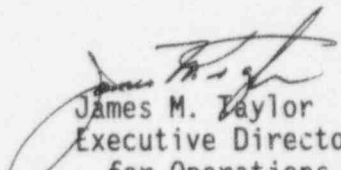
- o BPR team's visits to the Agreement States of Utah, Texas, and Illinois

- o North Carolina's participation in the writing team revising the portable gauge guidance
- o Illinois' participation in two technical reviews and comments on proposed rule to extend certain material licenses by 5 years
- o Washington's and New Hampshire's participation in a management review
- o Maryland's participation in the April 1996, public workshop
- o NRC's presentations on BPR at Agreement State Managers' Workshop, and at meetings of Conference of Radiation Program Control Directors, All Agreement States, and Organization of Agreement States

During the remainder of Phase II of the BPR project, the staff will continue to keep the States apprised of BPR-related activities, continue to solicit ideas from the States (based on their experiences) to incorporate into the new process, and continue to invite State participation in guidance development and review.

COORDINATION:

This paper has been coordinated with the Office of the General Counsel (OGC) and OGC has no legal objection.


James M. Taylor
Executive Director
for Operations

Attachments:

1. Systematic Discussion of the Directives in 6/16/95 SRM
2. The Process Diamond
(Figure 4.1 from NUREG-1539)
3. The Management Model
(Figure 2.1 from NUREG-1539)
4. New Materials Licensing Vision
(Figure 8.1 from NUREG-1539)
5. Overall Schedule and Major Milestones
6. Training and Skills Requirements
Identified to Date

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SPECIFIC DETAILED RESPONSES TO SRM DATED JUNE 16, 1995

1. The Commission (with all Commissioners agreeing) has approved, subject to the Commission comments below, the staff proposal to
 - a. extend qualified materials licenses for five additional years

RESPONSE TO 1.a.: On January 19, 1996, the U.S. Nuclear Regulatory Commission published revised regulations in the Federal Register (61 FR 1109) to extend certain nuclear materials licenses for 5 years. The revisions became effective on February 15, 1996, resulting in the extension of 5655 of NRC's 6300 eligible materials licenses, and in the subsequent reduction of the number of pending licensing renewal actions by approximately 70 percent.

The one-time, 5-year automatic license extension did not apply to uranium milling and processing facilities, nor to nuclear fuel production facilities. In addition, those materials licensees that could present a relatively greater potential risk from a health and safety standpoint did not have their licenses automatically extended. The extended licenses provide the same authorizations and impose the same limits on licensee activities as before.

The rulemaking does not affect NRC's inspection program for these materials licensees. NRC will continue to inspect activities under extended licenses with the same frequency as before and, if violations of NRC requirements are found, NRC will require corrective actions or issue orders that would modify, suspend, or revoke the license in question.

Status: Complete

1. The Commission (with all Commissioners agreeing) has approved, subject to the Commission comments below, the staff proposal to . . .
 - b. proceed with phase II of the BPR project, . . .

RESPONSE TO 1.b.: In SECY-95-114, the staff proposed its vision of the new materials licensing process (see Attachment 4 to the Commission Paper), which incorporates three key features: a new way of working in teams, a new regulatory approach to guidance development, and a new licensing process that may involve computer-assisted, individual, or team reviews of applications. In late FY 1995 and throughout most of FY 1996, the Materials Licensing Business Process Redesign (BPR) team emphasized

the first two aspects of the vision -- working in teams, and consolidating and revising guidance used in materials licensing. Since the team has now conducted a pilot test involving the development of revised guidance for portable gauges, the team is ready to transfer further guidance development activities to personnel operating outside of the BPR project.

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Changes (e.g., in the process, IT, or training) will be made as needed, based on the experience gained during the Headquarters test, and appropriate training will be provided to participants in the regional pilot tests.

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Module 3 - In/Out Processing Activities

The major tasks currently underway in Module 3 involve modeling, developing, and testing the use of the Internet as the primary vehicle for transferring information between NRC and applicants and licensees. It should be noted that participants in the April 1996 public workshop, identified the Internet as their preferred vehicle. Although other media (e.g., disk, CD-ROM, paper) are available, the staff believes that the use of the Internet provides the most efficient and far-reaching solution to the problems involved in dealing with the heterogenous licensee base represented by the Office of Nuclear Material Safety and Safeguards (NMSS) licensees, as well as with the Agreement States and the public. However, the staff is mindful of the need to provide access to all applicants regardless of their level of computer literacy and will ensure that paper submittals continue to be a viable option in the new process.

This segment of the project is subject to fairly rapid change that parallel the changes in Internet technology. However, the basic building blocks of the approach have been defined and are relatively stable. The BPR team has created an internal developmental WEB site, for testing purposes, reachable at the URL:<http://nmss26>. As products become stable, they will also be made available for external access through links to the NMSS home page. These WEB sites contain documents of interest (e.g., information notices sent to NMSS licensees, draft and final NUREGs) to materials licensees and applicants, Agreement States, staff, and the public. The site also functions as a central point for the posting of guidance documents currently out for public comment.

In addition to these Internet activities, the BPR team will further refine the in/out processes and do the related "process diamond" work. The team will determine the needs of the new materials licensing process and provide that information to the group currently developing the Agency-Wide Documents Access and Management System. Since the IT infrastructure of the Reactor Program System is similar to the IT infrastructure of the new materials licensing process, the BPR team is also coordinating with the Office of Nuclear Reactor Regulation to avoid duplication of effort and to share developmental work.

Status: In progress

1. The Commission (with all Commissioners agreeing) has approved, subject to the Commission comments below, the staff proposal to . .

- c. separate the payment of fees from the process of issuing a license and continue streamlining the fee structure for materials licenses.

RESPONSE TO 1.c.: In FY 1995, the NRC took certain actions in its final fee rule to streamline and simplify the fee structure for its licensees. For example, in FY 1995, NRC eliminated the materials "flat" inspection fees in 10 CFR Part 170, by including the costs of inspections in "certain materials licensees'" Part 171 annual fees. In FY 1996, to stabilize annual fees and to further streamline fees, NRC eliminated the materials "flat" renewal fees in Part 170 by including the costs of renewals in certain materials licensees' Part 171 annual fees. This action is also consistent with NRC's recent BPR initiatives to extend the duration of materials licenses (see response to Item 1.a. above). In addition, NRC adjusted the annual fees for all licensees only by the percentage change (plus or minus) in NRC's total budget authority, adjusted by the changes in 10 CFR Part 170 fees for services and the number of licensees paying fees. This resulted in the FY 1996 annual fees being reduced 6.5 percent below the FY 1995 levels. The FY 1996 fee schedule also provides that annual fees for certain materials licenses will be due on the anniversary date of the license.

The staff will continue to explore ways to further streamline fees. One of the goals is to separate fee payments from the process of reviewing license applications, consistent with the BPR process. The staff will continue its efforts to determine the most cost-effective means to ensure that fee payment is not a critical path item in the new licensing process.

Status: In progress

2. The staff should develop better communications and coordination with the Agreement States and should actively seek their views on this project. In particular, the staff should solicit the views of the Agreement States in (1) how this new process could be even more effective and efficient, (2) how the process might affect Agreement States, and (3) what role Agreement States might be called upon to play in the development of the program. Their role should shift from a briefing and information mode to one whereby full advantage may be taken by NRC staff of the States' experience in developing innovative and more efficient regulatory administrative processes, e.g., Illinois and Texas. To the maximum extent possible under FACA, the States should be afforded the opportunity to participate and provide input to the project.

RESPONSE to 2: Report on Visits to Agreement States: The staff visited several Agreement States to view, and discuss innovations made to, the

States' licensing processes. In 1995, the staff visited the State radiation control programs in Utah, Texas, and Illinois. The States were supportive of NRC's BPR project, indicating their basic agreement with the staff's approach. The staff's visits to these States confirmed the validity of the vision of the new licensing process and reinforced other ideas -- namely, importance of "customer" service, various means of communications, and improved guidance. Specifically, the State of Utah uses a Total Quality Management approach to focus on "customer" service, and solicits feedback from licensees after each interaction (e.g., licensing action, inspection). The State of Texas conducts periodic topical workshops for its licensees, providing a mechanism for sharing information between regulators and the regulated community, as well as among members of the regulated community. The State of Illinois has guidance documents for applicants that may be good reference materials for the staff as it consolidates and updates the materials licensing guidance.

Agreement State Participation in BPR Activities: Each of the States the team visited expressed an interest in participating in NRC's BPR initiative, primarily in the area of guidance development. However, each expressed concerns about resources available for participation. In light of these resource concerns, the States may choose to participate in a review capacity (e.g., of revised or new materials licensing guidance documents), as opposed to assisting in the development and writing of guidance. In other forums (e.g., licensing training courses), State personnel suggested that NRC explore ways to develop and establish computer-based collaborative work tools. This would allow State personnel to contribute to the guidance development process while overcoming the significant obstacle of out-of-State travel that presents fiscal and political problems.

In addition to States' interest in participating to some extent in guidance development, they are also interested in having access to the guidance. States may choose to use the guidance "as is" or as a "starting point" for modification of the guidance to suit State needs. State access to materials licensing guidance has been an important aspect of the team's vision of the new licensing process. During the remainder of Phase II, the staff will work with the States to determine the best method(s) of providing this capability.

Any State's participation in NRC's new streamlined materials licensing process (other than in the areas of guidance development and use) may be dependent on several factors, such as the number of licenses the State administers, the extent to which the State agrees with NRC's graded, and more performance-based, approach to licensing, and whether the new licensing process is readily adaptable to other State-regulated activities (e.g., naturally-occurring and accelerator-produced radioactive materials, X-ray units, accelerators). It may not be cost-effective for a State with a small number of licensees to consider an automated system. Similarly, it may not be cost-effective to modify the system designed for NRC's activities to include the wider variety of

State-regulated activities. In addition, many States are comfortable with their current, more prescriptive approach to materials licensing; some State programs provide support to applicants in the development of license applications. Such States may not wish to follow NRC's lead to a more performance-based approach, especially as it is not a matter of compatibility for the States.

In spite of resource concerns and regulatory philosophical differences, several States have assisted the staff in the BPR work. In October 1995, a representative of the State of Illinois participated in a peer review of the Materials Electronic Library (MEL) consolidation effort, and in June 1996, a representative of the State of North Carolina participated in the development of revised licensing guidance for portable gauges. Representatives of the States of Illinois, New Hampshire, and Washington participated in the July 1996, technical and August 1996, management reviews of the portable gauge document.

Other Mechanisms for Receiving Agreement State Input: In addition, the staff sought input on the progress of NRC's BPR initiative from the Agreement States' Managers workshop, the Conference of Radiation Control Program Directors, the All Agreement States Meeting, and the Organization of Agreement States. Four representatives from the State of Maryland attended the April 25, 1996, public workshop. The States (as well as others) identified a number of issues that will require evaluation, such as electronic communication abuse (e.g., bogus license applications and electronic signature issues).

Status: Continuing

3. The staff should seek the views of the public, regulated community, and the Agreement States on the proposal to grant a one-time five year extension of licenses to qualified material licensees.

RESPONSE TO 3: To address this issue, the staff engaged in rulemaking. On September 8, 1995 (60 FR 46784), NRC published for comment a rule proposing to extend, on a one-time basis, qualified materials licenses by 5 years. NRC received 28 letters of public comment: 21 from licensees, 1 from an Agreement State, none from non-Agreement States, 2 from consulting firms, 2 from private citizens, and 2 from trade associations. Eighteen commenters supported the proposed rule and one was opposed. Eight commenters supported the rulemaking to varying degrees, but offered suggestions for modification of the rule. One comment addressed issues to be considered by the NRC should the rulemaking be implemented, without stating support for or opposition to the proposed rule. There were no substantive changes to the rule. As indicated above in response to Item 1.a., the final rule was published January 19, 1996 (61 FR 1109), with an effective date of February 15, 1996.

Status: Completed

4. At the completion of Phase II, the staff should provide its recommendations to the Commission for carrying out and overseeing the final Phase if approved by the Commission.

RESPONSE TO 4: The staff plans to brief the Commission in early CY 1997 and to provide its recommendations to the Commission for carrying out and overseeing the final phase of the BPR if approved by the Commission.

Status: Future activity at, or near, the end of Phase II

5. The staff should address program coordination between Headquarters and the Regions, including if, how and when the process would be implemented in the Regions.

RESPONSE TO 5: The staff believes that close coordination between Headquarters and the regions is essential throughout the BPR process and is achieved through the use of Agency-wide teams. Accordingly, the BPR Core Team includes both Headquarters and regional representatives. Throughout this BPR effort, the staff has been guided by Steering and Executive Committees. The Executive Committee provided guidance at early stages of BPR and is available for further guidance on an as-needed basis. Both groups consist of NRC senior executives from both Headquarters and the regions whose roles are to provide guidance, to integrate the project with related Agency activities, to consider aspects of the process for Agency-wide implementation, and to approve the implementation of process-improvement recommendations. Attachment 3 to the Commission Paper illustrates this management model. The work on this project has been discussed in the NMSS and Agency-wide labor-management partnership meetings. The partnership has identified a Union representative who has participated in Core Team projects.

As discussed in Item 1.b. above, during Phase II, the staff plans to conduct pilot tests of the new process both at Headquarters and in one or two regions, using knowledgeable regional technical and administrative staff with contractor and Headquarters participation as well. The staff will coordinate closely with all appropriate NRC personnel in the planning, training, and testing aspects of the project.

Status: In progress

6. a. The staff should report to the Commission plans for applying business process reengineering (BPR) to other areas of the materials program, including the plans to apply BPR to the inspection program and the Sealed Source and Device program.

RESPONSE TO 6.a.: To apply BPR to the inspection process, the staff plans to use a methodology that is similar to that used in the evaluation of NRC's licensing process. In addition, the staff will develop a prototype design of the new inspection process, and will develop a pilot implementation of the entire licensing and inspection process. Note that

the team approach and process used for consolidation and revision of licensing guidance have been, and will be, used for inspection program development.

Major considerations in the timing of the materials inspection process BPR are the effect of decisions that arise from the strategic assessment of NRC's materials use program and the availability of resources. Therefore, the staff will defer starting the redesign of the inspection process until late in FY 1997. At that time, the findings of the strategic assessment can be incorporated into the BPR effort.

The BPR of the Sealed Source and Device (SSD) program is also scheduled to begin late in FY 1997. In addition, the SSD database will be accessible by the BPR licensing and inspection systems. The staff has prepared, and published for comment, a standard review plan for SSDs. NMSS continues to pursue efforts to more fully integrate the SSD program into its licensing activities.

Status: Future activity to begin in late FY 1997

6. b. Much of the present materials regulatory program has been affected by GAO, Congressional and internal NRC recommendations as well as NRC commitments made in response to those recommendations. The staff must identify these recommendations and commitments and, as appropriate, either reconcile changes in NRC practice resulting from BPR that diverge from past commitments or provide a documented rationale for proceeding with changes. In all cases, there should be a clear, complete record that demonstrates that the BPR process includes a full consideration of the historical basis for the present materials regulatory program.

RESPONSE TO 6.b.: The staff reviewed past Government Accounting Office (GAO), Congressional, and internal NRC reviews and recommendations that might impact BPR, as well as NRC commitments in response to those recommendations.

A total of 16 GAO recommendations were found that might impact the BPR for materials licensing. The majority relate to licensing issues, but inspection, enforcement, and other regulatory issues were also addressed.

The 1972 and 1976 GAO reports contain the most far-reaching GAO recommendations. In 1972, GAO recommended significant changes in the regulation of medical uses as well as in enforcement and in inspection documentation. In 1976, GAO recommended requiring license applicants to describe detailed radiation safety programs and also made recommendations for improving communications between licensing and inspection staffs, using inspection results to systematically identify generic inadequacies, and improving management oversight of licensing actions.

The Commission responded affirmatively to these recommendations. It may be argued however, that two decades later, the baseline for radiation safety regulatory oversight is significantly different. There have been significant changes to NRC's regulations (e.g., 10 CFR Parts 20, 35, 36, and 39). At the same time the regulated community has continued to mature and both NRC and the Agreement States have gained two decades of regulatory experience. As previously described, the highly prescriptive approach espoused in the 1976 GAO Report to Congress is being shifted to a more risk-informed, performance-based philosophy. As a result, not all the GAO recommendations and Commission responses may necessarily be appropriate in the context of 1996 and future regulatory needs and resources.. BPR will function as the process for implementing the new philosophy.

Status: Continuing activity during consolidation and revision of guidance documents

6. c. The staff should keep the public and licensees informed of plans and progress of the BPR.

RESPONSE TO 6.c.: The staff has used the following methods of communication: public workshop, NMSS Newsletter, two NUREGs, NRC Home Page on the Internet, and Federal Register notices about the one-time extension of certain material licenses.

Public Workshop: To encourage Agreement State, licensee, and public participation in the BPR process, a public workshop was held at NRC's Headquarters on April 25, 1996. Twenty-two licensees, regulators, and members of the public attended. Included in this number were four representatives from the State of Maryland, representatives from the U.S. Food and Drug Administration, and a representative of the Canadian Atomic Energy Control Board. Licensee attendees represented many different categories of use.

The workshop consisted of staff presentations on several aspects of the BPR project and breakout sessions to discuss 10 questions on which the team sought attendee input. Participants also received copies of NUREG-1539, "Methodology and Findings of the NRC's Materials Licensing Process Redesign," and draft NUREG-1541, "Process and Design for Consolidating and Updating Materials Licensing Guidance."

In general, the attendees were supportive of the BPR project, offered future assistance, and confirmed many of the staff's ideas. For example, they emphasized the importance of electronic means of communication, especially the Internet, recommended writing documents in an easy-to-understand style, and endorsed a move to a more performance-based approach to licensing. Many of the issues or concerns, particularly in the area of information technology, either have been or are being considered by the staff.

The participants also struggled with some of the same issues raised in the Staff Requirements Memorandum -- namely, the risk-based, graded approach to licensing and integrity of documents submitted electronically. The graded approach to licensing is a concept under development. A concrete example is draft NUREG-1556, Vol. 1, which was completed in September 1996, and is scheduled to be distributed in early October 1996. The attendees also expressed concern that electronically submitted applications may not be authentic and might be more easily forged (than in the current process) and then suggested some steps NRC might take to ensure authenticity.

The participants also mentioned some broader issues. They suggested that NRC present a balanced view of licensee performance, instead of focusing on deficiencies. They indicated that the current practice provides the public with an unfavorable perception of NRC and licensee performance. They also discussed the need to educate the public, stating that Federal agencies (including NRC) and industry (including licensees) need to take responsibility to educate the public about radiation.

The attendees provided highly useful comments on the BPR process, as well as very specific comments on the development of the MEL. This workshop was one of a series of planned interactions with the Agreement States, licensees, and the public to gather suggestions and ideas to ensure the success of this initiative.

Other Mechanisms Used to Reach the Regulated Community: The NMSS Newsletter has contained several articles informing licensees of the status of the BPR effort. NUREG-1539 and draft NUREG-1541 were published in final form and for comment, respectively, and are also accessible via NRC's Home Page (<http://www.nrc.gov>) by choosing "Nuclear Materials," then "Business Process Redesign project." As the staff identifies other documents of interest to licensees and the public (e.g., draft NUREG-1556, Vol. 1), it will make them available via Internet. The staff informed licensees of the one-time 5-year extension of certain materials licensees by sending them copies of both the proposed and final rules.

Status: Continuing activity

7. The Commission suggested that the staff establish a target goal (e.g., 60-90 days) for processing license applications under the new system to provide an indicator of overall success when implemented.

RESPONSE TO 7: The original charter for the Materials Licensing BPR project was to develop a new process design that accomplishes the following:

- o Maintains or raises the level of public safety achieved by the current process.
- o Performs an order of magnitude faster than the current process.

experts (e.g., members of the Health Physics Society and American Association of Physicists in Medicine, individuals who are certified by various professional boards in health, radiation, or medical physics, etc.). In addition, NRC has issued or revised its regulations in 10 CFR Parts 20, 35, 36, and 39, and is working on revisions to 10 CFR Parts 33 and 34.

With these regulatory changes, the increased knowledge, greater professionalism, and infrastructure, it is appropriate for NRC to shift its regulatory emphasis, to take a graded approach to licensing based on the empirical risk involved in the proposed activity (i.e., as demonstrated by past events), and to allow licensees greater flexibility. The staff plans to move to a more performance-based approach to licensing where the empirical risk is low and/or the professional safety infrastructure is more extensive.

Practical Application: This graded approach involves obtaining less information, less detailed information, or some combination of the above, when issuing licenses for activities where the radiation safety risks are relatively low (e.g., portable and fixed gauges, self-shielded irradiators). In these devices where many safety features are engineered into their design and experience has shown there are minimal risks involved, applicants could provide certain commitments rather than detailed, step-by-step procedures, thus reducing the burden on the applicant when applying for a license as well as allowing the licensee flexibility to make some changes (so long as the basic commitment is fulfilled) without needing to amend the license. This type of case would lend itself to computer-assisted review to determine if the application meets established NRC regulatory requirements. This type of processing will improve NRC's speed and efficiency in handling these cases, which comprise approximately 35 percent of NRC's licenses.

If the proposed activities are at the next level of complexity or hazard, applicants would be expected to provide more information and/or more detailed information (perhaps even step-by-step procedures) in support of their requests. These applications would usually be handled by a single reviewer with computerized tools.

Team Review: In the case of proposed activities at the highest level of complexity or hazard (e.g., broad-scope licenses or first-of-a-kind uses), it may be appropriate for an Agency-wide team composed of individuals with specialized training or experience to conduct the review with computerized tools. For example, a person with expertise in Sutton's equations might be needed to review the waste incineration portion of an application, whereas a person with expertise in hydrology might be needed to review an application involving use of radioactively labeled pesticides in field tests.

Initially, all licensing actions will undergo a 100 percent QA review, with the expectation that the fraction undergoing QA review may be reduced as the staff gains experience with, and confidence in, the new process. The staff expects that the electronically facilitated process

- o Exploits modern IT as a fundamental part of the new process.
- o Reduces resources to meet 1998-1999 staffing levels.

During Phase I, the staff determined metrics for the existing licensing process (the "as-is" model) and, to encourage the staff to think broadly and creatively, established ambitious target goals for the new system. The BPR team found that, on average, licensing actions are "in-house" for 84 days (also called "cycle" time) and are subject to 54 handoffs, but only require an estimated 1.8 days of actual processing time. (The remaining 82 days are spent in queues awaiting attention.) In defining the new process, the staff's target goals, as stated in SECY-95-114, were an average cycle time of 4 days with nine handoffs.

Based on experience gained in actually developing the new system, the staff now believes that a more accurate metric for the new process is an average cycle time of less than 12 days. During the pilot, the staff will determine the feasibility of achieving these goals and determine any needed changes.

As discussed in greater detail in response to Item 1.b above, the BPR process is ongoing and iterative, employing multiple tests of each process or subprocess activity. Initially, the BPR team uses its best judgment in setting metrics to measure timeliness, quality, and efficiency. Based on the experience gained during the iterative process, the metrics are modified or adjusted. These "lessons learned" are incorporated and further adjustments are made as needed. In this way, the staff can have confidence in the final metrics because they are based on experience, not ad hoc staff judgment.

Status: Continuing activity

8. a. The staff should provide the Commission with a more detailed explanation of the graded approach to new license review that matches review level to the safety hazard and employs individuals in teams with specialized expertise.

RESPONSE TO 8.a.: The graded approach to licensing is based on recognition of changes not only in NRC's regulations, but also, more importantly, changes in the regulated community, such as, increased professionalism and more extensive health and medical physics infrastructure. The phrase, "graded approach," is actually very similar in intent and purposes to the concept of risk-informed, performance-based regulation.

Historical Background: Since NRC's predecessor, the Atomic Energy Commission, began issuing licenses more than 40 years ago, the industry has matured from one in which radioactive material was in short supply and little was known about its hazards, to one in which the uses of radioactive material are now routine, there is greater knowledge about the hazards, and there is a community of professional safety

may be capable of reviewing only some categories of licenses, such as gauges and small irradiators. However, NRC reviews a large number of license applications from these categories.

Status: Continuing

8. b. In particular, the manner in which the safety significance is factored into the license application should be addressed.

RESPONSE TO 8.b.: As the licensing guidance is consolidated and updated, it will provide the reviewer as well as the applicant with current and consistent approaches to the licensing of nuclear material. The guidance consolidation, development, and updating effort will involve Agency-wide teams to write and review the documents, thus ensuring that the knowledge and experience of many technical and managerial staff are brought to bear on each issue. Use of Agency-wide teams will ensure that our empirical knowledge of risks of various licensed activities and of the level of the professional safety infrastructure is taken into account as we determine, for different categories of licensees, the appropriate setting on the performance-prescriptive indicator. In addition, the staff plans to publish new or revised guidance documents for public comment to ensure full consideration of all views.

For more detail, see the discussion of "Module 1" in the response to Item 1.b. above.

Status: Continuing

8. c. Also, the staff should provide clarification of how the accuracy of information in a license application will be assured by an "automated review" process.

RESPONSE TO 8.c.: Regardless of how an application is filed (whether a paper application or an electronic application), the staff operates on the presumption that the information submitted is complete and accurate. The principal way of verifying completeness and accuracy is by inspection. New licenses are typically inspected within 6 months of issuance. Failure to provide complete and accurate information is a violation of 10 CFR 30.9, 40.9, or 70.9 and subject to enforcement action.

NRC is dealing with the generic issues of authenticity and "signature" on electronically filed documents. The BPR team will address the authenticity and "signature" issues by using guidance developed in the generic consideration of these matters.

Status: In progress

9. a. Before embarking on an entirely new process, the staff should consider implementing a small scale test program to determine the feasibility of success of the larger scale program.

RESPONSE TO 9.a.: The staff's plans for Phase II include small-scale or pilot tests and are described in response to Item 1.b. above.

STATUS: Ongoing

9. b. The staff should explicitly set forth the training requirements that will be necessary for this process to be a success.

RESPONSE TO 9.b.: The BPR team has identified many of the training and skills requirements that will be necessary for individuals to work successfully in the new process. Additional details will result from the "process diamond" work described above. Training is both formal (classroom and individualized) and informal, including "on-the-job" training. Training will be accomplished in stages and can be broken down into the following major categories:

- o NRC Overview and Context
- o Licensing Process, Technical, and Administrative
- o Interpersonal and Communications
- o Information Technology

Attachment 6 to the current Commission Paper lists the training and skills requirements identified to date in each of these major categories. Not all of the training listed in Attachment 6 would apply to all participants in the new process. Training for the jobs/roles in the new process (e.g., technical reviewer, integrated products manager) will be job-specific and developed in greater detail as part of the "process diamond" work. Much of this training is already available through NRC's Professional Development and Technical Training Centers. However, to accommodate the training needs associated with the new process, it may be necessary to develop new NRC courses or to locate courses offered by other government or private organizations.

In a small pilot program the staff is prototyping a developmental, tiered approach to assisting administrative staff in obtaining the skills needed when the new process is implemented. Initially, administrative personnel in the Division of Industrial and Medical Nuclear Safety (IMNS) within NMSS, are participating in this pilot program. If successful, the program may be expanded to include other administrative staff throughout NMSS.

As currently envisioned, each participating IMNS secretary will have three rotational assignments in BPR. These assignments are developmental, with the individuals contributing suggestions regarding the skills, training, and experiential situations needed to prepare them for their roles in the new system. As part of the rotational assignment, the first participant assisted in the preparation of Table 1 and received Tier 1 training in the three indicated areas. In FY 1997 this participant will return for Tier 2 and Tier 3 training. Just as the IT and "process diamond" work are iterative, so too are the activities in this pilot program. When the first participant returns for later

rotational assignments, the training may differ from that shown in Table 1, based not only on the individual's further suggestions and recommendations but also on those of subsequent participants. The staff will consider the lessons learned from this pilot program in the development of detailed training programs for those filling other roles in the new process.

Table 1: IMNS Administrative Skills Pilot Program: A Developmental, Tiered Approach to Training

Training Level	Subject Matter
Tier 1	Lotus Notes, Internet, Word Perfect 6.1
Tier 2	Document Scanning/Optical Character Recognition, Workflow Management, File Management, PowerPoint
Tier 3	Team Building/Dynamics, Time Boxing, Stress Management

Status: In progress

10. The Commission requested that an opportunity for licensee input be added to the plans for Phase II.

RESPONSE TO 10: As indicated above in response to Item 6.c, the staff obtained licensee and public input during the April 1996, workshop, the comment period on the proposed rule for one-time extension of certain materials licenses, and the comment period on draft NUREG-1541. The staff will continue to use the NMSS Newsletter and the Internet to keep licensees informed of its activities in the BPR project and for updates. For more details, see response to Item 6.c. In addition, the staff plans to invite volunteer licensees to participate in the pilot test described in response to Item 1.b above.

Status: Complete

11. The Commission also requested:

- a. a more specific breakdown of the one-time and recurring costs (both dollars and FTEs) for the new licensing process . . .

RESPONSE TO 11.a.: An analysis was performed for the NMSS materials licensing effort, based on investment costs, ongoing costs, and financial benefits associated with the major initiatives. The costs and benefits were time-phased over a 4-year period according to the release plan established. The costs to fully implement the new process fall into four categories:

1. Technical Infrastructure Costs - hardware, software, network components, maintenance, and support.

2. Application Development Costs - software specification and development; training materials development; documentation development, testing and integration; additional costs of acquiring and deploying development environment; additional costs of operating development environment; and travel costs and expenses.
3. Transition Costs - data conversion, software-related training, new-process-related training, and staff reassignment.
4. Capital Infrastructure Costs - facility and equipment.

The costs are based on actual costs to date, plus forecasts based on the new process vision, and are included in Table 2 below.

Table 2: Estimated Costs to Implement New Process

Costs*	One Time, \$K	Recurring, Annual, \$K
Technical Infrastructure	460	200
Application Development	1834	140
Transition	435	75
Capital Infrastructure	100	50
Total	2829	465

*Inception of the Project (September 94) to Date: 2150 (\$K)

The benefits of the BPR effort are associated with the early implementation actions (e.g., the one-time license extension) and projections of full-time equivalent (FTE) reductions because of the implementation of the new process. The one-time license extension resulted in the extension of 90 percent of the materials licenses over a 5-year period. This yields a significant reduction in the number of license renewals, resulting in an equivalent FTE savings of approximately nine FTEs. However, the license extension will result in an estimated 25 percent increase in the number of license amendments that would have been included in license renewals. This reduces the FTE savings to approximately six FTEs. This FTE savings will be applied to achieving the Office goal of eliminating the licensing backlog.

The labor rate for completing future licensing actions, using the new facilitated process, is not solidified as yet, and therefore no changes have yet been made in budget labor rates. However, it is projected that a technical reviewer's workload associated with licensing and reporting may be reduced by approximately 30 percent.

The ultimate result of the BPR effort will be to place NMSS in the position to respond to changes in work load requirements, types of work that need to be accomplished, budgetary restrictions, and uncertainties associated with levels of personnel.

Status: Complete

11. The Commission also requested . . .

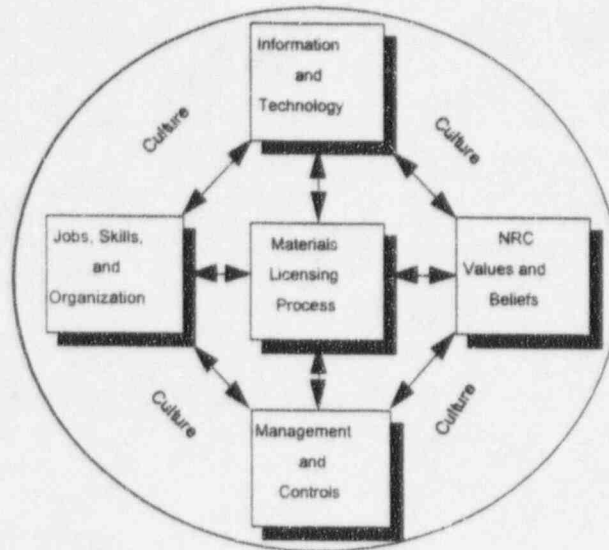
- b. a clarification of how consistency between "self-managed" teams will be assured.

RESPONSE TO 11.b.: The staff believes that consistency in license reviews and regulatory products, produced through self-managed teams, can be maintained because of the following factors:

- o Significant QA and managerial review is built into the process. At least initially, 100 percent of all licensing actions will be subject to a QA review. As experience is gained with the process, the QA sampling may be changed with appropriate management approval. For each regulatory product under development, at least two types of Agency-wide team reviews are performed: (1) peer review; (2) a management review at the Division Director level from both Headquarters and the regions. It is also recognized that for certain products, a review by the individuals having the highest levels of authority (e.g., Office Directors and above) may be necessary. During the BPR process to date, the Executive Committee has been the functional equivalent of this high-level team, and the Steering Committee has served as the management review team.
- o The isolation of personnel working in NRC's regional environment will be reduced in that teams will consist of knowledgeable individuals from different regions and Headquarters working together through the use of computer groupware combined with real-time team sessions.
- o There will be no change in the qualifications of the reviewers. Individuals who now have signature authority will retain that authority under the new system. Additionally, the training and qualification process will be similar to that which is currently in place, with the addition of the training that will be needed both to use the new system, and to work efficiently in teams. (See also "Training Plans" in the attached Commission Paper.)
- o All reviewers will be using the same guidance, which will be provided electronically.

The prototype of the self-managed work team concept being currently used to develop materials licensing guidance has demonstrated the ability to quickly develop non-controversial regulatory products. A subcommittee of the Steering Committee is reviewing the management controls and overall organizational strategy needed to support successful self-managed work teams.

Status: Continuing development of management controls, measures, and metrics during Phase II



The process diamond provides an overall view of the total impact of change on an organization.

Figure 4.1 The Process Diamond. *Changing any part of the process diamond affects all other parts.*

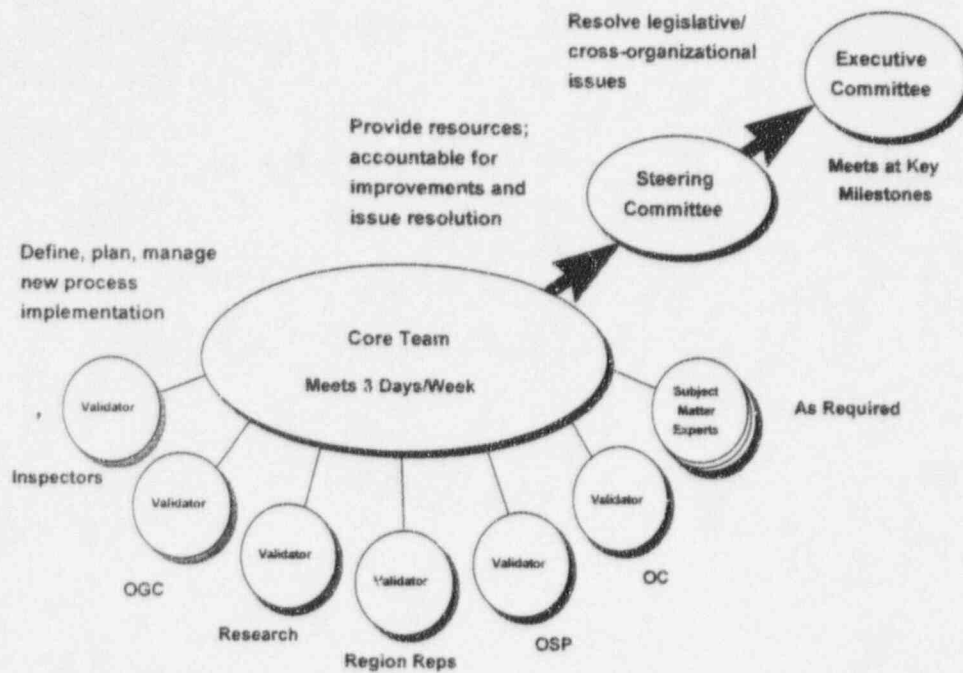


Figure 2.1 Management Model for NMSS Materials Licensing BPR Project. *The steering and executive committees provide effective management oversight of the NMSS BPR project.*

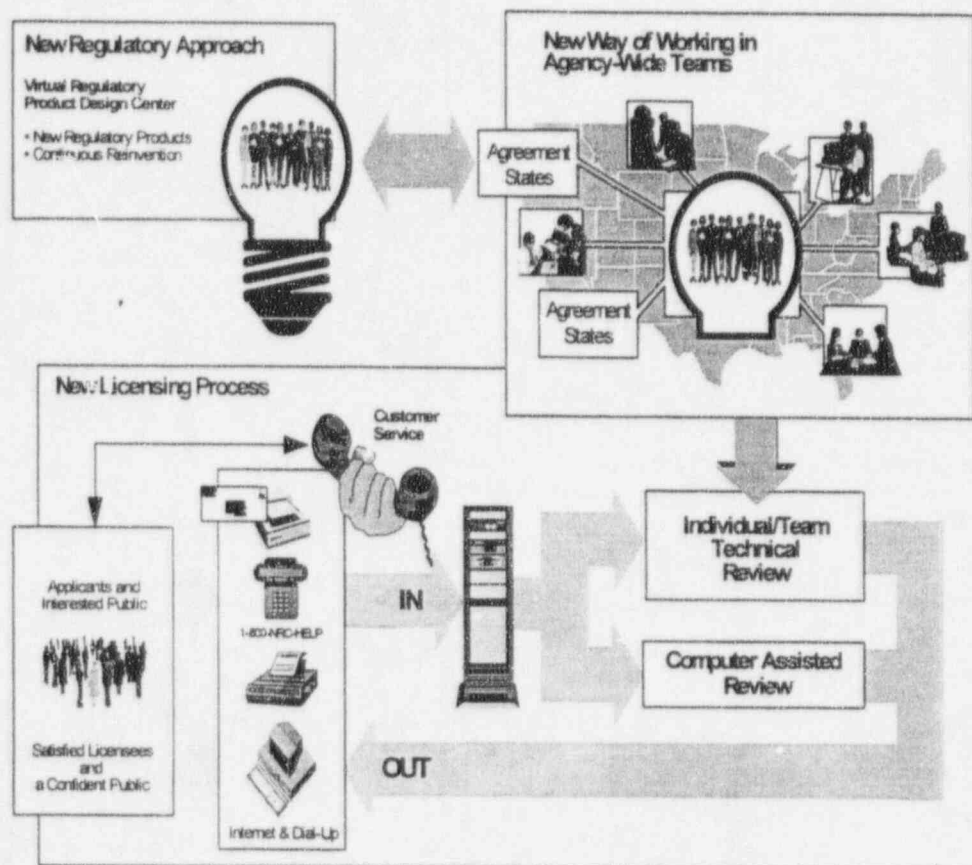


Figure 8.1 New Materials Licensing Process Vision. *The new licensing process links the materials licensing community.*

NMSS BPR Licensing Pilot Project Milestones

Sep '95 Jul

Aug

Sep

Oct

Nov

Dec

Jan

Feb

Mar

**Build and Lab Test Portable Gauge
Licensing System**

HQ

Pilot

Revise

Region Pilot

November 30, 1996

- Licensing Module
- IN/OUT Module
- Business Processes and
Organizational Framework
- Training Modules and Prototype

December 31, 1996

- Run HQ Portable
Gauge Pilot

January 31, 1997

- Revise System

February 21, 1997

- Run and Revise Regional
Portable Gauge Pilot

February 23, 1997

- Finalize Implementation,
Training, and Rollout plans

Portable Gauge Module

Consolidate and Update Materials License Guidance

TRAINING AND SKILLS REQUIREMENTS IDENTIFIED TO DATE

Nuclear Regulatory Commission (NRC) Overview and Context Training/Skills

- o NRC: What It Is and What It Does
- o Regulatory Process
- o Understand how the redesign aligns to NRC's goals, objectives, and success criteria
- o Develop and apply a customer-service focus and orientation

Licensing Process, Technical, and Administrative Training/Skills

- o How to use the redesigned licensing process to effect the way NRC does licensing
- o How to develop storyboards to develop regulatory products
- o Learn the new roles and organizational design as they apply to the redesigned licensing process
- o How to use metrics and measures to gauge the performance and results of the redesigned process and of individuals performing the process
- o Technical skills as defined in Individual Development Plans
- o Procurement, project, and contract management/administration, CISCCO

Interpersonal and Communication Training/Skills

- o Conflict Management
- o Stress Management
- o Team Management Mechanisms
 - Building high-performance teams
 - Time-boxing
 - Giving and receiving feedback
 - Facilitating
 - Be an effective and productive team member
 - Negotiating skills
 - Active Listening
- o Effective Communications
- o Empowerment (individual and team)
- o "One-pass" decision-making
- o Delegating
- o Managing for Results
- o Business Writing
- o Humor, Risk, and Change
- o Speed Reading
- o Telephone Skills
- o Assertiveness Training

Information Technology Training / Skills

- o Basic Windows, WordPerfect 6.1 series
- o Internet tools: Netscape, HTML series, etc.
- o Preparing presentations: PowerPoint
- o Using Lotus Notes
- o Using Materials Electronic Library
- o Using Skills Data Base
- o Using LIONS
- o Document imaging and optical character recognition
- o Tools needed to develop, maintain, and enhance computer systems and reduce future dependency on contractors: Sybase, Powerbuilder, Access, etc.