PDR-016

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

JUN 11 1985

Ms. Marianne Geeker
Hunton & Williams
2000 Pennsylvania Avenue, NW
P. O. Box 19230
Washington, DC 20036

IN RESPONSE REFER
TO FOIA-85-383

Dear Ms. Geeker:

This is in response to your letter dated May 21, 1985, in which you requested, pursuant to the Freedom of Information Act, a copy of a specified report.

The requested document, as identified on the enclosed appendix, is being placed in the NRC's Public Document Room (PDR), 1717 H Street, NW, Washington, DC 20555, where it will be available for your inspection at no charge or reproduction at a nominal charge of five cents ($0.05) per page, as specified in 10 CFR 9.14. The document will be filed in PDR folder FOIA-85-383 under your name.

Sincerely,

J. M. Felton, Director
Division of Rules and Records
Office of Administration

Enclosure: As stated

Re: FOIA-85-383

APPENDIX

1. 04/1983 Office of Inspector and Auditor - Report to the Commission - Review of Reactor Operator Licensing. (39 pages)

United States
Nuclear Regulatory Commission

Report to the Commission

Review of Reactor Operator Licensing

Office of Inspector and Auditor

April 1983

NOTICE

This is An
Internal Management Document
Prepared For The Commission
Not to Be Released Outside Of NRC

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

April 19, 1983

MEMORANDUM FOR: Chairman Palladino
Commissioner Gilinsky
Commissioner Ahearne
Commissioner Roberts
Commissioner Asselstine

FROM: James J. Cummings, Director
Office of Inspector and Auditor

SUBJECT: OIA AUDIT OF REACTOR OPERATOR LICENSING

Attached is our report on the results of our review of reactor operator licensing. The audit was performed at NRC Headquarters and Region III between May and October 1982, and included a review of pertinent documents and discussions with various NRC officials and contract examiners. It focused on the current operator licensing program and requirements rather than the one being developed in the long range human factors plan. Where appropriate we identified long range efforts underway.

NRC is responsible for licensing nuclear power plant operators to assure that they are capable of understanding and controlling both the day-to-day operation of their power plants and the potentially complex reactor transients and accidents which might occur. These operators have direct and immediate responsibility for preventing, mitigating, and overcoming operational problems and accidents at their plants.

NRC's operator licensing functions are carried out through the Operator Licensing Branch (OLB) of NRR's Division of Human Factors Safety (DHFS). OLB's current responsibilities include preparing, administering and grading reactor operator (RO) and senior reactor operator (SRO) examinations, instructor certification examinations and annual requalification examinations, and auditing operator requalification training programs.

The examination process - creating, administering and grading the examinations - is manpower intensive because each examination is unique and is custom tailored for the specific reactor on which the applicant is being tested.

Since the accident at Three Mile Island (TMI), the operator licensing program has taken on more importance and the responsibilities of the operator licensing staff have increased accordingly. However, OLB has been unable to sufficiently increase its staff to meet those responsibilities. It has

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mitigated this staffing problem by contracting with three DOE national laboratories for license examiners and by regionalizing the operator licensing function. In the longer term, OLB is studying ways to make the process more resource efficient.

FINDINGS

For years the licensing of RO's and SRO's was simply another part of NRC's power reactor licensing activity. However, the accident at TMI highlighted the importance of the operator and senior operator in the safe operation of a nuclear plant. Since then the Commission has taken a number of steps in this area including the creation of DHFS, upgrading the examinations by raising the passing grade and including additional subject areas, requiring simulator examinations, directing that all requalification examinations be performed by NRC, and directing that the need for licensing or certifying additional plant personnel be considered. In order to accommodate this increased workload and to reduce the staffing shortage in the human factors area, the Commission directed in its 1982 PPG that more resource efficient methods be pursued.

Although DHFS has taken steps to improve the operator licensing program, a number of problems still exist. These include:

-- OLB has to contract out a large percentage of its work because of its expanded workload and its difficulties in hiring staff;

-- OLB has not performed any requalification examinations and is not in a position to do so now. As a consequence, DHFS did not renew any licenses for a ten month period, thereby allowing about 900 renewal applicants to continue to operate plants based on timely renewal. For those that were renewed, the renewals were based almost entirely on applicant and utility input;

-- The operator licensing function has been transferred to two regions and is being transferred to other regions although the pilot tests were not a true test of regionalization and formal guidance and policy direction were not provided to the regions; and

-- OLB has had no management information system capable of providing even the most basic information needed to manage the operator licensing function.

CONCLUSIONS

Since the accident at TMI, NRC's operator licensing program has changed significantly. Not only has NRC imposed new and more stringent requirements on operators and utilities but the Commission has imposed new requirements on OLB. All of these changes have resulted in an increased workload which OLB has not been able to match with increased staffing. In the long run OLB believes the new licensing techniques being explored will make the program less manpower intensive, but many of these new techniques are still years away. In the short run, OLB has concentrated its efforts at resolving its staffing problems in two ways: (1) contracting for license examiners, and (2) regionalizing the operator licensing program.

While we recognize that OLB has little choice but to contract for examiners in the short run we are concerned with the extent and length of time of such contracting. We also believe OLB could do more, in terms of creative pay and hiring programs, to try to attract qualified examiners to NRC.

We are also concerned that the program to regionalize operator licensing was not properly tested or planned and that adequate provision has not been made for ensuring consistent programs in the regions.

One of the effects of the OLB staff shortage has been NRC's inability to perform any requalification examinations. As a result, OLB has little basis on which to renew operator licenses except utilities' and applicants' certifications.

Finally, OLB has lacked a management information system capable of efficiently and quickly providing operator licensing statistics. This has affected OLB's ability to respond to inquiries and has prevented OLB from using historical data to either forecast future workload or measure program effectiveness.

RECOMMENDATIONS

Our report contains six recommendations which address the concerns identified above.

AGENCY COMMENTS

On March 22, 1983, the EDO provided comments on a draft copy of this report (see Appendix I). Generally the EDO agreed with the majority of the recommendations and indicated that actions have been taken to correct them. He took exception to our recommendations concerning the need to reevaluate the basis for operator licensing regionalization and to the use of a regularly scheduled examination period for each utility. He believes that regionalization has been carefully evaluated over the past 18 months and is considered highly successful; however, he intends to reevaluate the situation and plans for extending operator licensing to Regions IV and V later this fiscal year. Concerning the examination timeframe concept, the EDO agreed that while it appeared to be a good idea, from a realistic standpoint, it was not practical and did not provide adequate flexibility.

Comments concerning the current status of the major findings and comments from the Region II and III Administrators were also provided and appear as an enclosure to Appendix I. Our analysis of the EDO's comments begins on page 17. We have also incorporated the comments where we believed appropriate throughout the report.

Attachment:
As stated

cc: W. Dircks, EDO
Heads of Offices
Regional Administrators

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OIA AUDIT OF REACTOR OPERATOR LICENSING

INTRODUCTION

NRC is responsible for licensing nuclear power plant operators to assure that they are capable of understanding and controlling both the day-to-day operation of their power plants and the potentially complex reactor transients and accidents which might occur. These operators have direct and immediate responsibility for preventing, mitigating, and overcoming operational problems and accidents at their plants.

Reactor operators (RO's) and senior reactor operators (SRO's) are licensed pursuant to the Atomic Energy Act of 1954, as amended, or Section 202 of the Energy Reorganization Act of 1974. 10 CFR 55, Operators' Licenses, codifies and establishes the procedures and criteria for issuing licenses. NRC's operator examinations consist of written, oral, and simulator components. In addition to passing all the components, the applicants must satisfy a number of criteria specified in 10 CFR 55 before taking the examination. Licenses are issued for two years. If the licensee wishes to retain the license, it must be renewed.

The written, oral and simulator examinations for RO's and SRO's are designed to test the applicant's understanding of the facility design and his familiarity with the controls and operating procedures of the facility. The written examination is based in large part or information in the facility's final safety analysis report, operating manuals, and license.

The examination process - creating, administering and grading the examinations - is manpower intensive because each examination is unique and is custom tailored for the specific reactor on which the applicant is being tested.

Prior to April 1980, NRC's operator licensing functions were carried out through the Operator Licensing Branch (OLB) of the Office of Nuclear Reactor Regulation (NRR). After the accident at Three Mile Island (TMI), however, the operator licensing program took on more importance and in April 1980, OLB became a part of the new Division of Human Factors Safety (DHFS). DHFS was established within NRR to provide a focal point for increased emphasis on the people-oriented aspects of safety. It was to deal with safety-related aspects of the man-machine interface, plant procedures and tests, qualifications and licensing of persons in certain functions, and the organization and management of the plant and the corporate staff as a whole. It was also given the responsibility for implementing various requirements of the TMI Action Plan and other directives resulting from the accident.

As of September 18, 1982, DHFS consisted of 84 people in four branches: the Human Factors Engineering Branch, which reviews and evaluates the man-machine interface; the Licensee Qualifications Branch, which establishes requirements and qualifications standards for various plant personnel; the Procedures and Test Review Branch, which evaluates various procedures with respect to their design, engineering and operational aspects; and the Operator Licensing Branch. OLB's current responsibilities include preparing, administering and grading RO and SRO examinations, instructor certification examinations and annual requalification examinations, and auditing operator requalification training programs.

NRC's operator licensing staff consisted of 13 professionals located in Headquarters, four in Region III and one in Region II. Plans were for the regional groups to consist of about six examiners each, with most of the Headquarters staff positions being transferred to the regions. As of March 4, 1983, there were nine professionals in Headquarters, six in Region III and five in Region II. In addition, OLB uses consultants and contract examiners from the Department of Energy's national laboratories to augment its staff.

The total number of operator licensees and the number of new and renewed licenses for fiscal years 1977-1982 appear below:

	1977	1978	1979	1980	1981	1982
TOTAL	1000	1052	992	1158	1327	a/
NEW	364	238	212	297	304	483
RENEWAL	249	212	256	233	285	177

The total number of senior operator licensees and the number of new and renewed licenses for fiscal years 1977-1982 appear below:

	1977	1978	1979	1980	1981	1982
TOTAL	1417	1438	1437	1488	1684	a/
NEW	284	243	184	245	313	389
RENEWAL	463	499	434	589	477	563

a/ Not available

Information provided by OLB indicated that the number of actual operator and senior operator examinations given was about 1,700 in 1981 and 2,000 in 1982.

LONG RANGE HUMAN FACTORS PLAN

The Commission's 1982 Policy and Planning Guidance (PPG) required the development of a long range human factors plan by mid-1982, and gave additional direction concerning 1) alternative approaches for resolving certain human factors concerns, 2) the need to evaluate and improve the licensing and training requirements for operators, 3) the need to preserve resource efficient methods, and 4) the possible need to license or certify certain key licensee employees. The EDO has issued both program and budget guidance concerning the human factors area and long range human factors program.

The draft Human Factors Program Plan, submitted to the Commission as SECY 82-462 on November 19, 1982, provides an overview of NRC programs and issues to be resolved in major personnel areas including management, staffing and training, and examinations. It also recommends studying changes to the examination process to better test the operators' problem solving abilities and to better predict the operators' on-the-job performance. In a February 16, 1983, Staff Requirements Memorandum, the Secretary advised the EDO

that the Commission had approved the general programmatic direction of the Human Factors Program Plan subject to a number of conditions. The Commission also directed, in its review and approval of OIA's 1983 Audit Plan, that OIA audit the implementation of the Human Factors Plan later this year.

Some study of the examination process has already begun and some changes have already been made. Efforts are underway to make at least a preliminary determination of the validity of the current licensing examinations and to determine ways in which to make the current examination process more resource efficient. Efforts are also underway to develop a new, standardized examination process that is both valid and resource efficient. Identification of that process will be completed in FY 1983 and implementation of the process is slated for FY 1985.

Other efforts which have recently been completed or are nearing completion include a study of the feasibility and value of licensing nuclear power plant managers and other licensee officers (SECY 82-155); a peer panel review of reactor operator qualifications (SECY 82-162); a status report on current shift manning (SECY 82-219); and revisions to ANSI/ANS 3.1, Selection Qualification and Training of Personnel for Nuclear Power Plants.

SCOPE

Our audit was conducted from May to October 1982 at NRC Headquarters and Region III. The audit focused on the current operator licensing program and requirements rather than the one being developed in the long range plan. We do, however, where appropriate identify long range efforts underway. Our audit was conducted in accordance with generally accepted Government auditing standards and included a review of pertinent documents and discussions with various NRC officials and contract examiners.

FINDINGS

For years the licensing of RO's and SRO's was simply another part of NRC's power reactor licensing activity. However, the accident at TMI highlighted the importance of the operator and senior operator in the safe operation of a nuclear plant. Since then the Commission has taken a number of steps in this area including the creation of DHFS, upgrading the examinations by raising the passing grade and including additional subject areas, requiring simulator examinations, directing that all requalification examinations be performed by NRC, and directing that the need for licensing or certifying additional plant personnel be considered. In order to accommodate this increased workload and to reduce the staffing shortage in the human factors area, the Commission directed in its 1982 PPG that more resource efficient methods be pursued.

Although DHFS has taken steps to improve the operator licensing program, a number of problems still exist. These include:

-- OLB has to contract out a large percentage of its work because of its expanded workload and its difficulties in hiring staff;

-- OLB has not performed any requalification examinations and is not in a position to do so now. As a consequence, DHFS did not renew any licenses for a ten month period, thereby allowing about 900 renewal applicants to

continue to operate plants based on timely renewal. For those that were renewed, the renewals were based almost entirely on applicant and utility input;

-- The operator licensing function has been transferred to two regions and is being transferred to other regions although the pilot tests were not a true test of regionalization and formal guidance and policy direction were not provided to the regions; and

-- OLB has had no management information system capable of providing even the most basic information needed to manage the operator licensing function.

Details of the findings follow:

MUCH OF THE OPERATOR LICENSING FUNCTION IS CONTRACTED OUT

OLB's workload expanded considerably after the TMI-2 accident as a result of various requirements levied on the utilities. These included the requirement for having two SRO's on each shift for newly licensed plants; adding simulator examinations; adding training requirements for heat transfer, fluid flow and thermodynamics and mitigating accidents; raising the passing grades to 80 percent overall and at least 70 percent on all portions of the written examinations; and requiring SRO candidates to have three months on shift as an extra person, thereby forcing utilities to have more RO's available to fill in and to provide the base for SRO selection. In addition, the Commission placed increased requirements on OLB to administer all requalification examinations. All of these requirements, in turn, required OLB to expend more staff resources on examining and licensing the additional operators and implementing the various new requirements. In SECY 82-232 OLB asked the Commission for, and later received, relief from the requirement to perform all requalification examinations in-house and from the requirement to perform simulator examinations on plants with non-plant specific simulators. These were both labor intensive requirements. A request for Commission approval to drop the written portion of the requalification examinations, however, was not granted.

Although the operator licensing workload has increased significantly, OLB has been unable to sufficiently increase its Headquarters staff. In 1977 OLB had a branch chief and seven examiners. In July 1979, it had increased to nine examiners. By July 1980, although it was authorized 26 positions, OLB had only 12 examiners. As of September 18, 1982, OLB consisted of a branch chief and ten examiners in addition to four examiners in Region III and one examiner in Region II. The staff authorization for 1983 is for a total of 14 in OLB, and six each in Regions II and III. As of February 25, 1983, OLB had a branch chief and eight examiners, Region III had a section leader and five examiners, and Region II had a section leader and four examiners. Many of the regional positions were filled by NRC transfers. OLB has projected funding plans sufficient to increase the OLB staff to 69 examiners by the end of FY 1985, but the current shortage of qualified individuals within the nuclear industry and the problems DHFS has had in attracting qualified individuals to be examiners leaves some doubt that the projection will be met. The staff, however, indicates that the projections may be met. We have been told that some of the problems DHFS has encountered relate to low salaries, long and odd

working hours, a considerable amount of travel, and relocation to Washington, D.C.

While we recognize that problems exist, we do not believe OLB has done all that it can to hire examiners. For example, although the specific educational requirements to be an examiner have not been specified, the Director, DHFS, stated that a degree is preferable but not absolutely necessary. In fact, OLB has hired individuals without college degrees, but with considerable nuclear experience, to be examiners.

Another problem arises when the determination is made on what position classification and corresponding salary can be given to these individuals. The non-degreed applicant is typically limited to a job classification whose potential is about two grades lower than that for a degreed individual. DHFS explained that the Division of Organization and Personnel (O&P) told them that it is cautious on this because of its concern that these individuals, once hired by the agency, could switch to other jobs in that same series and not be qualified, i.e., not have the requisite degree. Therefore, a lower graded position is offered to the applicant. We were told that as a result, potential examiners may have been discouraged from joining NRC, not because they were not qualified, but rather because they did not have a degree which would immediately qualify them for a job series with a salary commensurate with their experience. Staff stated that these individuals were also concerned with the time required to establish their qualifications through alternate means. We believe that both the OLB and O&P staffs should be more imaginative in overcoming difficulties of this sort in recruiting or hiring qualified examiners.

DHFS has been able to mitigate its staffing problems in the short term by using more contract examiners to supplement its own staff. NRC is also hoping that by regionalizing the operator licensing function new hires will not have to relocate to Headquarters and additional staff can be hired.

OLB has contracted with three Department of Energy national laboratories and a number of independent consultants to administer the majority of its operator licensing examinations. The contracts with Oak Ridge National Laboratory (ORNL), Pacific Northwest Laboratory (PNL) and the Idaho National Engineering Laboratory (INEL) provide for approximately 44 staff years of effort at a cost of $4.6 million for FY 1982 and 46 staff years at $5.0 million for FY 1983. On February 25, 1983, NRC, in Headquarters and the regions combined, employed a total of 20 license examiners, including the branch chief and section leaders. Although OLB does not maintain statistics on the number of examinations given by contractors, a simple comparison shows that OLB contracted for over twice as many professional staff years as it currently has in-house in 1982 and 1983.

Problems with Using Contractors

Contracting out the examination process, which is the heart of operator licensing, presents NRC with what we believe to be a variety of problems. The most significant is that NRC must assure that it maintains control over its health and safety responsibilities. Having a contractor prepare, administer and grade the examinations, regardless of the amount of review by NRC or the claim that NRC has the final word in issuing licenses, still leaves the

fitness determination very much with the contractor. Contracting out the examination process presents further difficulties in assuring fairness and consistency in the process. In this regard, our review identified specific problems in training new examiners and in providing adequate guidance on licensing policies and procedures.

OLB's contracts with the national laboratories provide that the contract examiners prepare, administer and grade their own license examinations. OLB attempts to ensure fairness and consistency in all aspects of the examinations by having an OLB examiner review each contractor prepared examination before it is administered and the grading of each examination afterwards. However, because of the number of examinations to be reviewed and because no two examinations are the same, OLB spent limited time reviewing contractor prepared examinations before they were given. The OLB review of the contractors' grading of examinations concentrated mainly on those which are borderline pass/fail situations. Since January 15, 1982, the OLB section leaders have been relieved of their examination duties to spend more time overseeing the contract examiners and reviewing their efforts. We believe that the effect of this is mixed, however, since it removes OLB's most experienced examiners from giving examinations, thereby requiring more contractor assistance.

Additional checks on the fairness of the written examination are provided by the utility training staff critiquing the examination while it is being given at their facility, and the applicant receiving the graded examination and the Operator Examination Report prepared for NRC by the contract examiner.

Maintaining control and assuring fairness and consistency is even more difficult on oral and simulator examinations where there is a much more subjective grading of the candidate. In these areas OLB does not review the questions prior to the examination, is not present at the examination, and has only the examiner's notes and scoring of the candidate to review after the examination. OLB has to rely almost entirely on the contract examiner and his judgment.

OLB attempts to ensure fairness and consistency by providing training to the new examiners. Prior to giving any examinations, the examiners attend NRC's basic nuclear school at Chattanooga, Tennessee, and spend about a month on site at a nuclear reactor facility. This is done in order to provide them with a good background of what operators do. Following that, they witness an experienced examiner give a number of RO and SRO examinations and then are watched by an experienced examiner as they give a few RO and SRO examinations. After this training they are deemed ready to solo, and begin giving examinations. A number of these examiners believed, however, that this training did not prepare them to begin giving examinations as soon as they did. They felt that although they witnessed a few examinations, the examinations were often on the same day or on two consecutive days which allowed for little time to reflect on their experience and question things that were unclear to them.

Another method of assuring fairness and consistency in the review process is to provide guidance to the examiners. However, the only organized compilation of policy and procedural guidance available to them is OLB's examiner's manual which is over ten years old and inadequate. In addition, the examiners did not have a single standardized reporting form which is easy to understand and use during the examination and during the review, and which is tailored to the

revised examinations. Efforts are underway to update the manual, revise the reporting form, and to bring the examiners together more often to discuss problems, ideas and techniques.

Longer Term Solutions to the Staffing Problem

DHFS also has underway several long range efforts intended to increase resource efficiency. One change being studied involves the nature of the written examination. Most, if not all of the questions are of a subjective or essay type and require the grader to manually mark the examinations and determine partial credit for incomplete answers.

In October 1981, DHFS established the Safety Technology Program and began efforts to update or streamline this activity. DHFS is currently looking at a number of possibilities which would help streamline the licensing effort including changing the make-up of the examinations to include objective type questions (true/false, multiple choice) with machine gradable answers, and possibly giving CPA or college board type examinations for the written portion at a regional location rather than at specific plants.

Another effort was started in September 1981 when OLB contracted with ORNL to do an examination validation project and to establish a data bank of questions and answers for prior NRC examinations. It was estimated that about three of the ten days of preparation time currently required for each examination would have been saved by using the question bank. Because OLB was not satisfied with ORNL's progress on the project which included looking at previous NRC examinations; evaluating the content, difficulty and reliability of the examinations; and creating statistical data for each question or type of question to determine how good a question is, the contract was cancelled in September 1982.

OLB has since contracted the validation effort to the Batelle - Pacific Northwest Laboratory and the question bank effort to the Idaho National Engineering Laboratory. The questions from about 100 examinations over the past 1½ years are now on file and another 200 examinations are being input via an Office of Resource Management work order, making a data base of about 10-15,000 questions with answers. The system will provide many ways of accessing the questions and is expected to be operational in about six months. A number of issues have not been resolved, however, such as the security of the system, who will be able to add to or delete from the data base, and how the separate purchase of the remote terminals for OLB, each region and each lab will be coordinated. We believe there may be additional delays if these issues are not resolved.

Another area in which we believe changes could be made to reduce staff requirements is in the scheduling of NRC examinations. Examinations are currently given on a schedule driven mostly by the utilities. When they believe that their people are about ready to be examined, the utilities request that NRC administer examinations on a specific date. NRC attempts to accommodate utilities and, if an examiner is available, the date is set. We were told that changes are often made to the schedule at the request of the utilities. We believe that if examinations were scheduled on a fixed timeframe for each utility, considerable time and effort could be saved by NRC by reducing the travel time and the number of trips necessary, and a greater degree of

predictability would be provided to both NRC and the utilities. Examinations could, for example, be given at Plant A the first two weeks of April every year. Although this would require a transitional period during the first year and some flexibility for unusual circumstances, the set dates would provide a clear and specific timeframe for the utilities and eliminate the current scheduling and rescheduling of examinations.

Conclusion

Since the TMI-2 accident the operator licensing workload has increased considerably but DHFS has been unable to obtain the staff necessary to perform the work. It has tackled the problem by contracting out a large portion of its work and is studying ways to make the operator licensing process more resource efficient.

Given the current situation, there appears to be little alternative to using contract examiners in the short run. We believe that this should not be looked upon as a long range solution, however, and DHFS should be taking action to assure that this activity is returned to an in-house status in the near future. Meanwhile there are a number of areas, as described above, which can be improved.

REQUALIFICATION EXAMINATIONS ARE NOT BEING ADMINISTERED BY NRC

Section 55.33 of 10 CFR requires that each licensed individual demonstrate his continued competence every two years in order for his license to be renewed. Competence may be demonstrated, in lieu of reexamination, by satisfactory completion of a requalification program which has been reviewed and approved by the Commission.

Periodic requalification is necessary to maintain competence, particularly to respond to abnormal and emergency situations. The complexity of design and operating modes of reactors require that ongoing comprehensive requalification programs be conducted for all licensed RO's and SRO's as a matter of sound principle and practice.

Appendix A of 10 CFR 55 specifies that the requalification program must include: a) annual written examinations which determine areas in which retraining is needed to upgrade licensed operator and senior operator knowledge; and b) written examinations which determine licensed operators' and senior operators' knowledge of subjects covered in the requalification program and provide a basis for evaluating their knowledge of abnormal and emergency procedures.

Prior to July 1979, the staff relied on its audit of the utilities' requalification program tests to provide adequate assurance of the licensees' continued ability to safely operate the plants. In SECY 79-330E, "Qualifications of Reactor Operators," dated July 30, 1979, the staff proposed that to enhance the level of confidence in the requalification programs, NRC examiners would administer about ten percent of the requalification examinations. The Commission, however, directed the staff to conduct written, oral and simulator examinations for all requalification candidates. The staff, citing increased

workload from new and replacement examinations, lack of simulator availability and lack of qualified NRC staff and contractor personnel, did none.

The FY 1982-1984 Commission Budget provided funding for FY 1982 to implement the requalification program by administering 100 percent simulator and 20 percent written and oral requalification examinations. Although those funds were available for the examinations, none were performed. The staff again explained this by citing increased workload as the problem.

DHFS/NRR did not officially inform the Commission for almost a year that no requalification examinations had been performed. SECY 82-232, dated June 7, 1982, explained that the staff had experienced problems in obtaining qualified personnel to conduct the requalification examinations. However, the staff estimated that it could conduct requalification examinations for 25-30 percent of the currently licensed operators if the examinations were given during scheduled site visits for replacement examinations. (A replacement examination is one given to a new candidate in order to fill a vacancy at an operating reactor facility.) The staff also recommended that simulator examinations be given only at plants with plant specific simulators and that NRC give simulator examinations to only 20 percent of them. The paper did not discuss the fact that the operator licensing function, which would include requalification examinations, was to be given to two regions (II and III).

In an August 3, 1982, memorandum, the Secretary advised the EDO that the Commission approved the recommendations of the SECY paper but indicated that written examinations should not be deleted from the assessment of operator qualifications. The Commission also indicated that written examinations of at least 20 percent per year of the licensed operators should be added to the simulator examinations of at least 20 percent per year of the licensed operators for requalification testing for plants with plant-specific simulators.

OLB continues to audit the requalification examinations given by the utilities. The OLB plan calls for one audit per facility every two years. These audits typically consist of a check of one section of three RO and three SRO examinations to determine the adequacy of the technical content of the examinations and the utility management's evaluation of the results. In FY 1981, OLB expended about 15 staff days of effort in conducting about 20 of these audits.

OLB planned to administer a pilot requalification examination at four utilities in November 1982. It also planned to use the requalification examination as an audit of both the utility's requalification training program and the utility's requalification examination. However, OLB's plans to administer some examinations is not an indication that the program is back on course. While some preparatory work has been done at Headquarters, no official policy or procedure or definitive statement concerning NRC administered requalification examinations has been established. No final decisions have been made on basic issues such as what type of examination will be given, what information will be covered, how applicants will be selected to take the examinations, whether those chosen will have to sit for and pass both the utility's and NRC's requalification examinations, and similar issues. In addition, the content and schedule of the requalification examinations must still be reviewed and approved by the Committee to Review Generic Requirements (CRGR), whose main role is to effectively control new requirements and to

assure their safety significance. In short, we believe that NRC is still not ready to administer the requalification examinations.

The EDO in responding to the issues in our draft report stated that "The audit correctly indicates that requalification examinations administered by the NRC have not commenced. Initial pilot tests have indicated that the revised examination format (short answer versus essay) described in SECY-82-232 has not proven to be an accurate indicator of an applicant's knowledge or does it reflect utility requalification program deficiencies. Therefore, alternative written examination concepts have been reassessed and alternative recommendations will be proposed by NRR by March 31, 1983."

OLB expects to have the final decisions and CRGR's approval on the various issues sometime after the pilot tests. In addition to resolving these policy questions, the program must go through the necessary shakedown period including providing guidance to the examiners, creating and administering the first examinations in this area, obtaining and reviewing some results, and making appropriate revisions. Also, we believe that regionalization will most likely cause additional delays because the regions do not have the necessary staff to do the examinations, and no guidance has been given to them as to how to perform the examinations. As a result, we believe NRC's requalification examination program still has a long way to go.

Renewal of Licenses

The most apparent problem that delays in implementing a requalification examination program create is in the area of license renewals. Both operator and senior operator licenses are issued for two years, and must be renewed if the operator is to continue to operate a reactor. Each renewal is also good for two years. 10 CFR 55.33 requires that an application for renewal of a license be signed by the applicant and contain certain information including 1) the number of hours the applicant has operated the facility, 2) a statement that during the effective term of his current license the applicant satisfactorily completed the utility's requalification program, 3) evidence that the licensee has competently and safely discharged his license responsibilities (NRC may accept as evidence of this a certificate of an authorized representative of the facility licensee), and 4) a certificate of medical examination completed by a licensed medical practitioner.

The license will be renewed if NRC finds the physical condition of the applicant should not cause operational errors which would endanger the public, the operator was actively and extensively engaged as an operator or senior operator and competently and safely discharged his responsibilities, the applicant has completed or is currently enrolled in a requalification program, and there is a continued need for a license to operate or direct operators at the designated facility.

All of the input to be reviewed for renewal is submitted by the utility, the applicant, or a medical practitioner hired either by the applicant or the utility. The entire renewal process is a paper review. In fact, the review is considered so routine that, aside from the medical form which may be reviewed by an NRC consultant physician, at Headquarters it was being performed largely by the OLB secretaries (in the absence of the licensing

assistant), although the actual license has to be signed by the OLB branch chief. For those applications received through Region III, the section leader there performed the reviews before forwarding them to OLB. Although the OLB branch chief stated that a review of the applications is performed by the section leaders, most section leaders stated that they do not usually review renewal applications unless there is an apparent deficiency.

We believe that a problem with renewals arises in regard to the requalification requirement. Although the utility can certify that the applicant has satisfactorily completed a requalification program, unless NRC audits the program or independently administers examinations NRC has no basis for evaluating the adequacy of the program. While OLB has performed some limited audits of the requalification examinations administered by the utilities, these audits are not used in the review of renewal applications. As stated above, the Commission's position is that NRC will administer requalification examinations. Because NRC is not administering requalification examinations, NRC must rely almost entirely on the utilities' certifications to renew licenses.

This situation has created specific difficulties within DHFS regarding "timely renewal" of licenses. 10 CFR 55.33b provides that if the properly executed forms are submitted 30 days prior to the expiration date of the license, the license will continue in effect until it is reviewed and appropriate action taken. This allows the licensee to continue to operate the reactor while NRC reviews the submittals. We found, however, that for the first ten months in FY 1982, DHFS did not renew any licenses even though about 900 applications had been submitted. All these applications had been processed and needed only the DHFS Director's signature for issuance.

The Director, DHFS, told us the reason he held up the renewals was that staff had been instructed by the Commission to administer the requalification examinations which are a prerequisite for a license renewal; and because DHFS had not administered any requalification examinations, he did not intend to issue the renewal licenses until the Commission was informed. Therefore, he did not sign them. A Commission paper was prepared in February and forwarded to the EDO on March 9, 1982. However, it was returned to DHFS for revisions and so the Commission was not informed that the requalification examinations were not performed until June 7, 1982, when SECY 82-232 was issued.

That paper, however, did not mention that hundreds of renewal licenses had been held up. The only mention of renewals was the recommendation that the Commission note that the staff will issue renewal licenses to candidates who have completed approved requalification programs and filed applications for renewal prior to June 1, 1982. After the Commission had approved SECY 82-232 in August 1982, OLB issued 740 of the renewal licenses. The remainder of less than 200 had been submitted after June 1, 1982 and could not be issued.

The plan for the renewal applications submitted after June 1, 1982, was that renewals at each facility would be held up until the requalification examinations are given at the particular plant. Although, as we noted earlier, OLB had not decided how it would implement the Commission's directive to do 20 percent of the written, oral, and simulator requalification examinations, the general theory was that if the 20 percent sample do well on the examination the licenses of all operators from that plant who had submitted applications

would be renewed. Due to DHFS' inability to get the requalification examination program set up quickly, it soon had another large backlog of unissued renewal applications. Although the NRC administered requalification examinations have yet to begin, the EDO notified the Commission in SECY 83-20 that these backlogged renewal licenses will be issued, and that the staff will continue issuing renewals until such time as the first NRC requalification audit examination is given at the particular facility.

It is unclear as to what impact the delay has had on the licensees since their licenses are automatically extended until NRC takes action if the renewal application was properly prepared and submitted at least 30 days prior to expiration of the license. However one OLB official characterized the effect on the utilities as "Trauma!" because they did not know how long their operators could continue without a renewed license. In addition, in recommending issuance of renewals without NRC administered requalification examinations, SECY 83-20 stated the action was needed to "...remove doubts about the validity of licenses that have passed the 'expiration' date and reduce the uncertainty concerning the appropriateness of allowing these individuals to continue licensed duties." At the very least, the situation presented NRC as inefficient and demanding punctuality from licensees even though it can not meet its own criteria. It has done nothing to enhance NRC's image.

One additional point should be clear. Even when the requalification examination program is implemented, most of the examinations will have to be administered by contract examiners.

Conclusion

OLB does not currently have a requalification examination program for reactor operators. As a result, except for its limited audits of the utilities' requalification examinations, OLB has no independent measure of the adequacy of the applicant's abilities or the utility's requalification program on which license renewals are based. Problems concerning renewing licenses have already occurred within DHFS and, unless substantial improvements are made quickly, these problems will continue.

OPERATOR LICENSING IS BEING REGIONALIZED WITHOUT ADEQUATE TESTING AND FORMAL GUIDANCE

In mid 1977, a memorandum of understanding (MOU) between NRR and IE implemented the decision to regionalize the operator licensing function on a trial (or pilot test) basis by establishing Headquarters controlled sections in Region II and Region III. The sections were to report to Headquarters but were to receive administrative support from the host regions. The Region II section was established and an individual from Headquarters was assigned. However, because of the TMI-2 accident and the accompanying need for experienced personnel, that individual was recalled to Headquarters and the pilot test program was halted. Region III did not become part of the test program.

In December 1980, the Directors of NRR and IE signed another MOU on the regionalization of the operator licensing function. The regionalization was expected to improve NRC's ability to hire examiners, to cut down on their travel time, to have examiners closer to the licensees and to become more

specialized and knowledgeable of the plants and the licensees. Again the MOU provided that a region would be a host facility and would provide administrative support, although control over the group and its activities remained with Headquarters OLB. It appears that the program would basically be a test of whether the work could be performed by an NRR group physically separated from the Headquarters group, but it would not be a test of regional involvement in or management of the effort.

Before the program was continued, it was overtaken by events in the form of the Chairman's decision to seek regionalization to the extent possible throughout the agency. An OLB section was established in Region III in August 1981 with the section leader being assigned from OLB; however it was unclear as to which program the reactor operator licensing project was being regionalized under, and therefore, what guidelines should be used in the pilot test. OLB decided the Region III section was to be set up based on the December 1980 MOU.

Under this pilot test Region III provided administrative support in the form of office space and secretarial help. The program was managed out of OLB Headquarters. The purpose of the test was to see whether the function could be performed from an office building apart from the Bethesda Headquarters. The test proved that it could. The more important question of whether the region could manage and implement the operator licensing effort with only policy guidance and coordination from Headquarters, was not tested.

Subsequent to the pilot test, a new MOU was initiated by the Director, NRR, and the Administrators of Regions II and III. In it the Director, NRR, delegated to the Administrators the authority to issue and renew RO and SRO licenses and instructor certifications, as well as numerous other related functions such as the preparation, administration and grading of all examinations. Under this MOU NRR's role is to provide program direction and guidance to the regions and, presumably through that, ensure consistency among the regions' efforts. At the time the MOU was signed the only organized compilation of policy and procedural guidance available to the Regional Administrators, in addition to the MOU, as to what the program is and how it should be operated was the ten year old examiner's manual, which is generally recognized as being both inadequate and out of date. The section leader in Region II was also assigned from OLB.

Subsequently, it was determined that the transfer of authority should be made via a delegation and assignment memorandum and an appropriate rule change. The delegation memorandum was signed by the EDO on November 22, 1982, and the rule change became effective on December 22, 1982. As of February 25, 1983, Region III has six examiners, and Region II has four examiners.

In effect, the heart of the entire area of licensing RO's and SRO's and certifying instructors in two regions, has become the responsibility of those two regions, even though the pilot regionalization efforts never tested the feasibility or desirability of doing so.

Our review of the most recent MOU showed that it had, for the most part, taken into consideration the principal concerns raised by the pilot programs. Most of the concerns which were not specifically addressed in the MOU were primarily internal administrative suggestions and were being handled through other

administrative channels and procedures. Other issues have surfaced since the program was regionalized, however. The section leaders in both Regions II and III stated that one such issue is that the regionalized sections are now under the control of the Regional Administrators. As such, they have to take their place in the region's order of priorities for limited resources especially in the area of secretarial and administrative support.

Another concern that has been raised is that regionalization may result in five regions going in five directions. For example, the industry has expressed concern about potential inconsistencies in the administration of NRC policy. These concerns may be compounded by requirements that each region separately contract with DOE laboratories for examiners. The regions were also concerned about the lack of management information systems to handle their expanding workload and new duties. At the September 23-24, 1982, NRC management meeting, issues on management information and ADP systems were discussed at length. Some of the problems include the integration of the separate vertical systems in the regions and at Headquarters and the regions' need to access these systems, as well as the interaction of the systems in order to perform the region's expanding functions. Regionalization has changed the need for coordinated systems. In addition, the regional division directors met in Bethesda on September 16, 1982, and stated that they lacked adequate management information to (1) account for their resources expended in operations other than inspection, (2) track resolution of technical issues, and (3) manage administrative functions. The Administrators seconded these inadequacies. RM officials stated that they are aware of these problems and are working within the regions to allay their concerns.

Some efforts have been made to ensure consistency throughout the regions including filling the regional section leader positions with OLB personnel, scheduling more frequent policy meetings, and rewriting the Examiner Standards. However, we believe that strong management control and coordination will still be required to ensure that the programs are carried out properly and are consistent from region to region.

Conclusion

Regionalization of the operator licensing program has proceeded based largely on the Commission's desire to regionalize and with little additional rationale or planning. The pilot tests were really not a true test of regionalization. Further, formal guidance and policy direction from NRR, which is needed to assure program consistency, does not currently exist. As a result, we believe the regionalization program for operator licensing needs prompt and continued management attention.

OLB HAS NOT HAD A MANAGEMENT INFORMATION SYSTEM

During our audit we attempted to obtain statistics on operator examinations and licensing. We found that these statistics were not readily available, largely because OLB did not have a management information system or a convenient or automated way to compile management information for operator licensing. Although OLB offered to compile the information for us, a substantial effort in manually listing and tabulating data would have been required to determine even the basic statistics such as the number of licensees,

the number of applicants for licenses, the status of applications, the number of candidates who passed or failed examinations, the number of licenses that are due for renewal, which licensees are due for renewal, which are on timely renewal and which have expired. Statistics and information concerning who gave the examination, and whether questions on an examination were the same as questions on previous examinations are equally difficult to obtain. To compile this type of information OLB has to manually search over 3,000 individual docket files. Because this data is not readily available, OLB does not compile it for use in planning and managing the operator licensing program. It also makes responding to the various inquiries concerning basic statistical data such as that listed above very difficult.

In addition, we found that some statistics that were available were questionable. Specifically, an analysis of the operator licensing statistics in the NRC Annual Reports since 1977 showed that of those RO licenses which were active at the end of any given fiscal year, only about 50 percent were renewed over the next two years. Since licenses are issued for only two years, we questioned why only 50 percent were renewed. OLB explained that this was the result of high turnover rates for operators and upgrading of RO's to SRO positions. Because a 50 percent turnover rate seemed too high, we checked with the Institute for Nuclear Power Operations. They told us that based on actual turnover figures they collected, they calculated the annual turnover rate for 1981 at 13.5 percent. As a result, we could not explain the difference between NRC's 50 percent and the estimated two year turnover rate of 27 percent (two times INPO's one year figure of 13.5 percent), except by attributing it to faulty statistics.

About a year ago OLB perceived the need to develop and implement a computerized system to track applications during their active life and to provide historical data on the applicants. At any given time there are about 400-500 active applications, including both initial and renewal applications. Oak Ridge National Laboratory was contracted to set up such a system for OLB, with the intent that it would be transferred to and maintained on the NIH computer.

OLB was not satisfied with ORNL's progress and finally cancelled the contract. The ORNL data has been transferred to NIH and the applications tracking system has been developed in-house by OLB and the Office of Resource Management (RM). During the week of February 11, 1983, the installation of the initial phase of the tracking system was completed, and terminals have been ordered for Regions II and III. Each of the other regions, and each of the national laboratories involved, will have to procure its own computer terminals with specifications that were provided by OLB. As of February 1983, the user's manual was still under development, and questions concerning updating and retaining the data base, security, etc., were still being resolved. RM officials stated that the EDO's announcement #115, dated October 1, 1982, directs that all ADP and word processing hardware and software be reviewed and approved by RM. RM has drafted Manual Chapter 0904 to implement this directive, but it is still in draft.

OLB is also attempting to obtain the information needed for the system by requiring license applicants to complete Form 398, Personal Qualifications Statement which would supply information on individual applicants. This information will be evaluated for determining licensing eligibility and

compiled to generate statistical data and reports on operator licensing activities. The form has since been approved by OMB for this use.

Conclusion

OLB is in need of a management information system to compile statistics on current and forecasted workload and to be able to easily and quickly respond to requests for information. Although OLB has had an MIS under development, and has just recently completed the initial phase of installation of the system, additional management attention is needed to ensure that the system is workable and that its implementation is completed without delay.

OVERALL CONCLUSIONS AND RECOMMENDATIONS

Since the accident at TMI, NRC's operator licensing program has changed significantly. Not only has NRC imposed new and more stringent requirements on operators and utilities but the Commission has imposed new requirements on OLB. All of these changes have resulted in an increased workload which OLB has not been able to match with increased staffing. In the long run OLB believes the new licensing techniques being explored will make the program less manpower intensive. However, many of these new techniques are still years away and serious problems currently exist in the operator licensing program. In the short run, OLB has concentrated its efforts at resolving its staffing problems in two ways: (1) contracting for license examiners, and (2) regionalizing the operator licensing program.

While we recognize that OLB has little choice but to contract for examiners in the short run we are concerned with the extent and length of time of such contracting. We also believe OLB could do more, in terms of creative pay and hiring programs, to try to attract qualified examiners to NRC.

We are also concerned that the program to regionalize operator licensing was not properly tested or planned and that adequate provision has not been made for ensuring consistent programs in the regions.

One of the effects of the OLB staff shortage has been NRC's inability to perform any requalification examinations. As a result, OLB has no basis on which to renew operator licenses except utilities' and applicants' certifications.

Finally, OLB has lacked a management information system capable of efficiently and quickly providing operator licensing statistics. This has affected OLB's ability to respond to inquiries and has prevented OLB from using historical data to either forecast future workload or measure program effectiveness.

Recommendations

In light of the above, we recommend that the EDO:

1. address the staffing problems in OLB by

    a. assuring that more resource efficient examination techniques are aggressively developed and promptly implemented, including

considering the establishment of fixed timeframe schedules for examinations,

b. directing DHFS and O&P to jointly explore creative pay, recruiting and hiring techniques to improve NRC's ability to hire operator examiners, and

c. assuring that adequate staff positions continue to be available for carrying out operator licensing responsibilities;

2. ensure that DHFS develops and administers an appropriate and resource efficient requalification examination in a timely fashion;

3. direct NRR to develop a policy for renewing RO and SRO licenses until such time as all license renewals are predicated on NRC administered requalification examinations;

4. reevaluate the regionalization of the operator licensing function and the basis on which it was proposed;

5. direct DHFS to expedite revision of the examiner's manual for use by Headquarters, regional, and contract examiners; and

6. ensure that a workable management information system is established for the operator licensing function without delay.

ANALYSIS OF EDO COMMENTS

On March 22, 1983, the EDO provided OIA with comments on a January 27, 1983, draft of this report. The EDO's comments consisted of (1) a two page transmittal memorandum responding to the recommendations, (2) a six page enclosure commenting on the draft report's major findings, (3) comments from the Administrators of Regions II and III, and (4) a marked-up copy of the draft report with suggested word changes. Copies of the first three items are included as Attachment I to this report.

The EDO agreed in whole or in part with five of the six recommendations and indicated that corrective action was either completed or underway. The EDO disagreed with Recommendation 4 that the regionalization of the operator licensing function and the basis on which it was proposed be reevaluated.

The EDO stated that regionalization of the operator licensing function has been carefully evaluated over the past 18 months and that both Regional Administrators consider it to be highly successful. He also said the program and the plans to extend it to Regions IV and V would be reevaluated later this fiscal year.

We believe the EDO's response is misleading in stating that regionalization has been carefully evaluated over the last 18 months. As we point out in the report (see page 13) operator licensing was not truly regionalized until November 1982. Prior to that time the regional operator licensing sections were under the control of OLB. Although the pilot test for regionalization was started 18 months ago, our audit found that the pilot test did not adequately address the question of whether the regions could manage and implement the

operator licensing effort with only policy guidance and coordination from Headquarters. We continue to believe this could cause problems for the regionalization program in the future if not resolved currently. We will, however, reevaluate this issue during our recently started audit of NRC's regionalization efforts (see Memorandum from the Director, OIA, to the Commission, dated February 25, 1983).

The comments of the Regional Administrators and the suggested changes in the marked-up copy of the draft report have also been incorporated in the final report as we believed appropriate.

Following is an evaluation of the EDO's comments in response to eight "major findings" in the OIA draft report as identified in the EDO's response.

1. Contract Examiners

Our report noted that the operator licensing program places substantial reliance on contract examiners and that this presents problems to NRC in controlling contract examiners and in assuring fairness and consistency in their examinations.

The EDO agreed that the number of contract examiners should be reduced. He further stated that steps have been taken in four areas to address the adverse effects of contracting out:

a. Additional training has been provided for examiners.

b. Contracting services through the national laboratories has allowed OLB to reduce its reliance on independent consultants and provides tighter control over the contract examination process.

c. Yearly audits on each examiner are being performed.

d. Each examination report undergoes two levels of NRC review.

In response to each of the EDO's action areas we note:

a. We believe the type of additional training identified in the EDO's response appears to adequately address our concern.

b. We should note that almost all contract examiners for power reactor examinations have come from national laboratories for some time. We see no change there. We see no basis for the EDO's comment that contracting with the national laboratories for examiners allows OLB to maintain tighter controls over the process. The examiners are still contractors, not NRC employees.

c. Although the EDO stated that the yearly audits of examiners began in 1982, we saw no indications of them during our audit.

d. The two level examination review is not new. As we point out in the report, however, the examination reports relating to oral and simulator examinations are very subjective and contain little hard

evidence for NRC to review. The NRC reviewer has to rely almost entirely on the judgment of the contract examiner.

We will evaluate the effectiveness of the EDO's efforts in monitoring and controlling contract examiner efforts during our follow-up audit.

2. Regionalization

Our report identified concerns about the effect of regionalization on the consistency of the operator licensing program and the fact that operator licensing must now take its place among regional priorities, especially for administrative and secretarial support.

The EDO stated that appropriate levels of administrative support were made available to the regions prior to the transfer of the functions. Although budgetary meetings were held, we found little direction or guidance provided from Headquarters to the regions. Also we found that the regions could have provided much better administrative support to the new staffs. We found one staff using cardboard boxes for file cabinets and another without a secretary (and neither with an adequate MIS).

The EDO also stated that regionalization has proven successful with respect to attaining necessary staff levels. We question the basis for this statement since many of the positions were filled via transfer of Headquarters personnel under the liberal transfer policy for regionalization.

The EDO also identified efforts being taken to ensure consistency. We will examine these efforts during our follow-up audit.

3. Scheduling

Our report identified an area in which we believe changes could be made to reduce examiner requirements; that area being the scheduling of examinations. We are not quite sure whether the EDO partially agrees or wholly disagrees with our suggestion. On the one hand he says it is a good but impractical idea. On the other hand, he says Generic Letter 83-01 has been issued to all facilities requesting their present examination schedules through 1985 and that this information will be used to schedule examinations more efficiently. This action is consistent with the intent of our suggestion. We will evaluate the EDO's actions during our follow-up audit.

4. OLB Staffing

Our report stated that OLB has had difficulty in filling examiner vacancies and we believe more could be done by OLB and O&P to hire qualified persons.

The EDO indicated that staff has had better results in filling operator licensing positions in the regions and indicates that the regions are within one position of being fully staffed. While we do not disagree with this statement, it should be noted that many of the positions were filed via transfer of Headquarters personnel under the liberal transfer policy for regionalization.

The EDO noted that NRR and O&P have worked out procedures for determining if non-degreed candidates qualify for professional engineering positions. He also noted that NRR and the Office of Administration are to discuss this situation promptly and suggest further EDO action if warranted.

The procedures for screening non-degreed candidates were already in effect during our audit. Other actions noted by the EDO such as alternative series designations and salary exceptions and any other actions recommended to the EDO will be examined during our follow-up audit.

5. Management Information System

Our report recommended the establishment of an MIS for operator licensing without delay. The EDO stated that the system is now operational although the correction and input of data is continuing and a User's Manual is to be available by March 31, 1983. The EDO also stated that terminals for Regions II and III have been ordered and that specifications for terminals were sent to other regional offices for their use in ordering equipment. We will examine these efforts during our follow-up audit.

6. Requalification

Our report stated that OLB has not yet begun administering requalification examinations and identified the impact this had and continues to have on the issuance of renewal licenses.

The EDO stated that acceptance of facility certification for license renewal purposes is in accordance with 10 CFR 55, and will still be necessary when NRC administers requalification examinations. While it may be in accordance with 10 CFR 55, it is not in accordance with the Commission's directive to the staff. We are not overly concerned with facility certification; what we are concerned about is NRC's almost total reliance on it in renewing operator's licenses. While SECY 83-20 informed the Commission that NRR and the Regional Administrators are again issuing renewal licenses, it does not relieve OLB from establishing a requalification examination program.

The regional comment that OLB's limited audits and IE's inspection module addressing requalification programs together provide some basis for evaluating the adequacy of the program was known by us during our audit. Our review found, however, that even this limited information is not used in evaluating the renewal applications.

In addition, the regional comment that regionalization does not affect the requalification examination process does not consider that 1) the regions do not have the staff to do the examinations, and 2) no guidance has been provided to them.

7. Examiner's Manual

Our report recommended that DHFS expedite revision of the examiner's manual. The EDO stated that the manual will be completed by March 31, 1983. We will examine it during our follow-up audit.

8. OLB Examination Bank

Our report noted that OLB was developing a data bank of examination questions and answers and stated that problems were being experienced. The EDO stated that problems concerning the examination bank are being resolved. We will examine these actions during our follow-up audit.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

March 22, 1983

MEMORANDUM FOR: James J. Cummings, Director
Office of Inspector and Auditor

FROM: William J. Dircks
Executive Director for Operations

SUBJECT: COMMENTS ON OIA AUDIT OF REACTOR OPERATOR LICENSING

We have reviewed the draft report of your review of reactor operator licensing. Our comments are enclosed (Enclosure 1). Also enclosed for your information is a marked-up version of the draft report (Enclosure 2) which reflects those areas staff feels are inaccurate or not representative of the current status of activities in operator licensing. Two Regional comments (Enclosure 3) are also enclosed for your information.

The draft report contains several recommendations addressing the concerns identified in the report. We have the following responses to these recommendations:

1.a We agree in part. More resource efficient examination techniques are being developed and implemented as described in the Human Factors Program Plan (SECY-82-462). We have also requested utility projections of examination needs through 1985 (Generic Letter 83-01) to improve our planning and increase our efficiency.

1.b We agree. The Division of Human Factors Safety (DHFS) and the Division of Organization and Personnel, ADM have and will continue to explore methods to improve NRC's ability to hire operator examiners. ADM will advise EDO by April 1 of the results of preliminary discussions.

1.c We agree in part. The inhouse resources for operator licensing have been and will continue to increase as indicated in the FY 1983-1985 budget. However, reliance on contract examiners will be required for some time due to resource constraints. As regional staffing increases, however, more direct contractor oversight will be possible and the size of the contract efforts will be reduced.

2. We agree. DHFS will continue to pursue development of a requalification examination that is resource efficient and determined to have minimal adverse impact on facility licensed personnel. A revised proposal for requalification examinations will be forwarded for my consideration by the Office of Nuclear Reactor Regulation (NRR) by March 31, 1983, and if acceptable, the examination process will commence by May 1, 1983.

3. This item is already completed. NRR and the Region II and III Administrators are currently issuing renewal licenses in accordance with the requirements of 10 CFR 55.33. The Commissioners were informed of this policy in SECY-83-20.

4. We disagree. Our experience with regionalization of the operator licensing function in Regions II and III has been quite positive. Regionalization has been carefully evaluated over the past 18 months. Both Regional Administrators view the efforts thus far to be highly successful. Based on our experience, we are proceeding on a realistic schedule for extending operator licensing to Regions I, IV and V. We intend to reevaluate the situation and plans for extending operator licensing to Regions IV and V later this fiscal year.

5. We agree. Revision of the examiner's manual is a DHFS high priority item and will be completed by March 31, 1983.

6. We agree. Establishment of the Management Information System continues to be a DHFS high priority item. Correction and input of data is continuing and the User's Manual is being prepared. The User's Manual will be available by March 31, 1983 at which time the system will be fully functional.

William J. Dircks
Executive Director for Operations

Enclosures:
1. Comments on OIA Audit of Reactor Operator Licensing
2. Marked-up Draft of OIA Report (not included)
3. Regional Comment Letters (RIII & RII)

This memo replaces the previous memo of March 4, 1983, same subject. It has been revised to include a response to Recommendation 4 which was omitted from the March 4 memo.

ENCLOSURE 1

COMMENTS ON OIA AUDIT OF REACTOR OPERATOR LICENSING

The OIA audit of reactor operator licensing identifies several areas of concern. While we are in agreement with the majority of the findings, most have previously been identified by the Division of Human Factors Safety (DHFS) and actions have been taken to correct them. The following comments are intended to address the current status of the major findings of the audit.

1. Contract Examiners

The audit notes that the Operator Licensing Branch (OLB) should reduce its reliance upon contract examiners. This reliance is felt to have an adverse effect on certain aspects of the examination process, such as fairness, consistency and reliability. We agree that the number of contractor-administered examinations should be minimized. Although OLB has historically used contract examiners (over 20 independent consultants were employed by OLB on a part-time basis prior to 1979), steps have been taken to address the adverse aspects noted above. First, additional training has been provided for examiners including advanced technical training, simulator training, training in examination preparation and administration, and training in oral examination techniques. Second, contracting services through the national laboratories has allowed OLB to reduce its dependent upon independent consultants and therefore maintain tighter control over the contract

examination process. Third, in a further effort to ensure fairness, consistency, and reliability among all examiners, OLB is performing yearly audits on each examiner (starting in 1982). Finally, each examination report undergoes at least two levels of NRC review by experienced examiners or section leaders. The contracting effort was made to reduce problems that existed and recognize the difficulty in recruiting experienced by OLB headquarters. Some contract examiners have been removed from the function and several candidates proposed by the national laboratories have been rejected by OLB. As additional FTEs are phased into the regional operator licensing sections, the contract effort will be reduced and a greater degree of oversight given to remaining contract work.

2. Regionalization

The audit notes that the establishment of regional offices could lead to inconsistencies in the administration of the operator licensing function. In addition, a concern over the lack of administrative support is voiced. However, appropriate levels of administrative support were made available to Regions prior to transfer of the licensing function on December 22, 1982. We feel the regionalization process has proven successful with respect to program administration and the ability to attain necessary staffing levels.

In addition, consistency between regional offices and headquarters has long been stressed. NRC is attempting to avoid this problem by:

a. staffing the regional offices with examiners who have several years experience in OLB and are thus aware of the way policy has been administered;

b. updating regional section leaders on OLB policies via frequent meetings (at least quarterly) and monthly conference calls between the cognizant Branch Chiefs;

c. revising the Examiner Standards, with input from regional personnel, which will be used as the guide; and

d. providing regular audit reviews by headquarters examiners.

3. Scheduling

The audit concludes that considerable time and effort could be saved if a single examination were scheduled for each facility on a given date each year. We agree that in theory this concept would appear to be a good idea, but from a realistic standpoint it is not practical. Rigid scheduling does not allow the flexibility required to accommodate differences in training program lengths, effects of unplanned outages on training programs, or unanticipated personnel turnover. In an effort to improve the long range scheduling of examinations, we have issued Generic Letter 83-01 to all facilities requesting their present examination schedules through 1985. We will use this information to schedule examinations more efficiently.

4. OLB Staffing

While the audit correctly notes that OLB has had staffing problems, we believe that there have been significant efforts on the part of both the Division of Organization and Personnel (O&P) and DHFS to improve on the staffing situation and that there have been other factors contributing to the problems of hiring qualified individuals into OLB.

Although recruiting and hiring of qualified candidates for headquarters positions has been extremely difficult, we have had better results in filling positions at the regional offices. The two regions with operator licensing functions are within one position of being fully staffed. The attributes necessary for licensing examiners makes qualified candidates ideal for other positions both within the NRC and in industry. In face of this competition we have granted salary exceptions as necessary to make competitive offers.

NRR and O&P have also worked out procedures for determining if a non-degreed candidate qualifies for a professional engineering position by virtue of his training and experience, opening up an attractive advancement path for these individuals. Alternative series designations for other non-degreed individuals have been established and are being further studied to identify additional career paths to make the licensing examiner position more attractive. The Office of Administration and NRR are to discuss this situation promptly and suggest further actions to EDO if they are warranted.

5. Management Information System

The audit recommends that the Management Information System under development for OLB be established without delay. Although the system is now operational, a backlog of data for input, errors in original input data, and completion of a User's Manual has made completion of data loading and full utilization of the system difficult. Future input of data will be facilitated by the use of the OMB approved application form (Form 398, "Personnel Qualifications Statement"). In addition, terminals for Region II and III offices have been ordered. Specifications for terminals were sent to the other regional offices for their use in ordering equipment.

6. Requalification

The audit correctly indicates that requalification examinations administered by the NRC have not commenced. Initial pilot tests have indicated that the revised examination format (short answer versus essay) described in SECY-82-232 has not proven to be an accurate indicator of an applicant's knowledge or does it reflect utility requalification program deficiencies. Therefore, alternative written examination concepts have been reassessed and alternative recommendations will be proposed by NRR by March 31, 1983.

The audit also voices concern over the acceptance of facility certification for license renewal purposes. It must be noted that this acceptance is in accordance with 10 CFR 55 and will be necessary even after NRC administrated requalification examinations commence. Since all licensed personnel will not be examined by the NRC every 2 years (present plans call for an audit of approximately 20% of a facility's licensed personnel), facility certification of remaining personnel will still be required.

7. Examiner's Manual

The audit recommends that DHFS expedite revision of the examiner's manual for use by headquarters, regional and contract examiners. The manual is nearing final form. Efforts to ensure completeness and accuracy have conflicted with an agressive schedule due to the major revisions and regional input which were required. Nevertheless, manual revision is scheduled to be completed during March 1983.

8. OLB Exam Bank

The audit raises several points in regard to the exam bank currently under development. Problems relating to security, hardware requirements and coordination of various users are being addressed and provisions being made to solve these problems. Purchasing of hardware is being coordinated through the Office of Resource Management. A security plan is being developed for review by the Division of Security.

ENCLOSURE 3

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

FEB 10 1983

MEMORANDUM FOR: W. J. Dircks, Executive Director for Operations

FROM: James G. Keppler, Regional Administrator

SUBJECT: OIA DRAFT REPORT ON REVIEW OF REACTOR OPERATOR LICENSING

We have reviewed the subject report, especially focussing on parts of the report addressing the regionalization of the Operator Licensing Program. We do not agree with the report conclusion which states that "the regionalization program for operator licensing is in trouble," nor do we think the report supports that conclusion. Specific comments on the report are attached, and some general observations are set forth below.

The report highlights the lack of specific procedures for regionalization, but does not address the experience of the personnel and the frequent meetings and discussions which have been held to assure a uniform approach. In Region III, the Operator Licensing Section Chief was transferred to the Region from Headquarters in August 1981; he had been involved in the Operator Licensing program since 1961 and was fully familiar with the Headquarters policies and practices. He has maintained continued communications with NRR and Region II counterparts as the regional program has evolved.

The report also implies that the Operator Licensing Program has had low priority in the Regions from an administrative standpoint. In Region III, a full-time secretary was assigned to the Operator Licensing Section Chief upon his arrival in the Region. This secretarial support has continued to the present time, and has been sufficient to handle the administrative workload of the Operator Licensing Section.

Regionalization of the operator licensing program has been progressing in a step-wise manner for the past 18 months, and in my view, has been highly successful. We currently have on board in Region III the fully authorized staff of a Section Chief and five license examiners.

James G. Keppler
Regional Administrator

Attachments: Comments

cc w/attachments:
H. R. Denton, NRR
J. P. O'Reilly, RII

COMMENTS ON DRAFT OIA REPORT
REVIEW OF REACTOR OPERATOR LICENSING

Page 6 Third problem area - The statement concerning the transfer of the operator licensing function to the Regions without adequate preparation is somewhat strong and not completely supported by the facts of the investigation (see pages 22-26). As one may expect in any program, there are some areas that have not yet been resolved, but which are being worked on (e.g., - administration of lab contracts and use of the private consultants). The regionalization effort has occurred in a step-wise manner, starting with the transfer to Region III in August 1981 of an experienced individual as Section Chief, the selection of staff and numerous meetings and discussions at all organizational levels. The final transfer of the function including signature authority on licenses just occurred in December 1982.

Page 8 First paragraph - As a matter of clarification, the staff authorization for Region III for 1983 is for one Section Chief and five examiners. This staff requirement has been met as of January 10, 1983.

Page 18 First complete paragraph - It is not clear why regionalization will cause delays in the administration of requalification examinations. When the procedures for administering requalification exams are finally developed, there will be extra demands placed on the resources available to do this job, regardless of where the examiners are located, Headquarters or the Regions.

Page 19 Second paragraph - The statement concerning review of the renewal applications is not true for Region III. The Section Chief has been reviewing renewal applications since he started working in the Region.

Page 19 Third paragraph - As a matter of clarification, NRC through IE does have an inspection module which addresses licensee's requalification programs. As stated in this report, OLB has performed limited audits. These two items provide some basis for evaluating the adequacy of the program.

Page 22 Last paragraph - Region III was not included in the 1977 test program. This was limited to Region II.

Page 25 First paragraph - Regarding secretarial and administrative help, Region III assigned a secretary full-time to the Operator Licensing Section Chief from the first day of his arrival in the Region. There was some initial delay with equipment requirements (file cabinets, tables, bookcases, etc.), but not to a degree different from anywhere in the agency.

Page 25 Last paragraph - Regarding expressed concern about inconsistencies in the administration of the operator licensing function, OLB and regional personnel are aware of this possibility, and are working together to avoid this problem. This is being done by: (1) frequent meetings (at least quarterly) to discuss administration of policies; (2) the Region Section Leaders have several years experience in the OLB, thus they are aware of the way policy has been administered; and (3) the Examiner Standards have been rewritten, with input from the Regional personnel and will be used as the guide.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA ST., N.W., SUITE 3100
ATLANTA, GEORGIA 30303

ENCLOSURE 3

February 18, 1983

MEMORANDUM FOR: William J. Dircks, Executive Director for Operations

FROM: James P. O'Reilly, Regional Administrator

SUBJECT: OIA DRAFT REPORT ON REVIEW OF REACTOR OPERATOR LICENSING

We take strong exception to the conclusion in the subject report that "the regionalization program for operator licensing is in trouble". We believe that this new program is functioning well, and we fully expect decentralization to produce a substantial improvement in program effectiveness.

The subject report expresses concern about inadequate staffing of the operator licensing function and notes that, as of September 18, 1982, Region II had only one examiner. Since that time, we have added four examiners to our operator licensing staff, filling five of the six positions authorized by the FY-83 budget. Four of these positions were filled by reassignment of existing NRC staff, and one was filled by recruitment from outside the Agency. Positions for three additional staff members have been included in the Region II staffing plan. Although we have not been successful in identifying additional qualified volunteers from within the Agency to fill these vacancies, I am confident we can fill them if we are given authorization to recruit outside candidates.

OIA concluded that the Operator Licensing Branch relies too heavily on contract examiners to implement its licensing function. Region II strongly agrees. It is our understanding that this situation resulted at least in part because of an inability of the Operating Licensing Branch to recruit applicants to the Washington, D. C. area. Although the type of people needed for this effort are at a premium both inside the Agency as well as outside, Region II has found, as noted above, that it can recruit qualified applicants from outside the Agency. At the present time, a number of qualified outside candidates have expressed interest in the Region II positions, but we presently do not have permission to hire candidates from outside the Agency. I feel confident that if given permission to recruit and hire outside candidates, we would increase in-house staffing in this area and proportionately decrease contractor dependence for this function.

The OIA comment that regionalization will most likely delay the requalification exam process is unfounded. Delays have been caused by slow development of policy and program guidance. These issues are not adversely affected by decentralization; they should be benefitted. Regions are quite able to implement requalification programs once these policy and program guidance issues are resolved. Since decentralization has resulted in an overall increase in operator licensing staffing in the Agency, decentralization of the function should expedite implementation of the requalification exam program instead of delaying the implementation.

CONTACT: A. F. Gibson
242-6323

Region II has assigned high priority to providing quality administrative support to our operator licensing staff. This support includes management information systems to assist the staff in carrying out the program. Our staff members, with prior operator licensing experience, judge Regional administrative support to be superior to that previously provided prior to regionalization.

Since assuming operator licensing responsibility on December 17, 1982, Region II has administered 31 exams, issued 67 licenses and four denials, and is actively processing a large backlog of renewal applications received from NRR. The Operator Licensing Program has been successfully implemented in Region II, and we are fully committed to maintaining quality performance in this important area.

James P. O'Reilly

cc: V. Stello, Jr., DEDROGR
H. R. Denton, NRR
R. C. DeYoung, IE
R. C. Haynes, RI
J. G. Keppler, RIII
J. T. Collins, RIV
R. H. Engelken, RV