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POLICY ISSUE (Information)

SECY-83-499

For: The Commission

From: William J. Dircks
Executive Director for Operations

Subject: STATUS REPORT ON STUDY OF DESIGNATED REPRESENTATIVES

References:

- (1) 1983 Policy and Planning Guidance dated January 1, 1983, Page 11, Quality Assurance Planning Guidance, Item Number 2
- (2) Program Guidance, W. J. Dircks to Office Directors dated May 20, 1983, Page 4, Inspection and Enforcement Programs, Item Number 2
- (3) SECY-83-26, Information Report on Certification of Licensee Quality Assurance Programs and On Designated Representatives dated January 19, 1983
- (4) Memorandum from S. J. Chilk, SECY, to W. J. Dircks, EDO, dated October 7, 1982 on Staff Requirements - Briefing

Purpose: To provide the Commission with a status report on (a) the staff's review of the Federal Aviation Administration's (FAA) program of delegating to private persons certain functions of the FAA and (b) the possible form, benefits, and drawbacks of alternatives to an NRC designated representative program for consideration at nuclear plants under construction.

Discussion: The study of the FAA's designated representative (DR) program is being explored by the staff as a method for providing greater assurance that selected work activities are completed correctly through an increase in direct observation, testing, and verification without a commensurate increase in NRC manpower. The basic premise behind the consideration of a DR program is that NRC would have a greater assurance of quality in the design and construction of nuclear power plants if NRC performed more direct inspections, but that NRC is or will be unable to increase the number of inspectors required for a greater effort.

The enclosure to this paper gives a description of the FAA's program of employing designated representatives. This description is based on discussions with FAA headquarters and field personnel

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and aircraft industry designated representatives, and review of FAA rules, regulations, and administrative orders and directives. The second part of the enclosure presents the conceptual framework within which the FAA program and two variants could work in the NRC inspection program and some of the issues associated with each concept.

The first alternative postulates a program virtually identical to the FAA program. Industry personnel would be designated by the NRC and would be deputized to carry out specific work activities at the direction of NRC. The second alternative requires that certain QC inspectors on the licensee's staff provide feedback directly to NRC on the results of specially selected regular QC inspections. This alternative differs from the first in that NRC would not be directing the certified QC inspector to conduct any work activities, but rather would cover only those already committed to by the licensee in the PSAR and implementing procedures and avoids a requirement for new legislation. The certified QC inspector would not be a deputized representative of the NRC. In contrast to the first two alternatives, the third alternative explores approaches for achieving the objectives of the DR program which do not involve the "deputizing" or "certifying" of licensee employees as agents of the NRC.

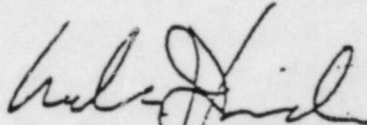
The FAA DR program and its possible applicability to NRC's programs were discussed with the Quality Assurance Review Group during the group's June and September 1983 meetings. The Review Group was established by the staff to provide expert peer review to the staff on the Congressional quality assurance study. The members of this group encompass a broad range of expertise in nuclear and non-nuclear fields. No consensus of opinion was requested from the group; but generally, the comments were not supportive of an NRC DR program. The main issue was the apparent conflict of interest for a DR between the employer (the licensee) and the NRC.

Future Plans:

The study of the designated representative program began before the enactment of the Congressionally-directed study of nuclear quality assurance (reference Section 13, Quality Assurance, of the NRC Authorization Act for FY 82/83, Public Law 97-415). In SECY-83-26 (Reference 3), the staff indicated that recommendations on the applicability of the FAA designated representative program would be made in mid-1983. The staff believes that it is premature to make a final recommendation on the designated representative program before completing the evaluation of the other new and alternative program concepts being considered in the Congressionally-directed study on nuclear quality assurance. The third alternative, while obviously not a DR-type program, illustrates how some of the objectives of a DR program might be achieved through other means. In addition, staff resources are

not available to prepare a complete analysis of the designated representative program, including legal and value-impact analysis or any required legislation and revisions to NRC regulations, until after the Congressionally-directed study is completed in April 1984. At that time, the staff plans to proceed with preparation of a final recommendation, along with other actions resulting from completion of the Congressionally-directed report.

The staff has not yet fully and completely assessed whether or not new legislative authority would be required to implement the alternatives for an NRC designated representative program which are presented in the enclosure. Although specific statutory authority may be required for such a program (depending on its form and substance), it would be advisable, in any case, to inform the Congress of such a potentially controversial program if the Commission wishes to pursue a program for use of private persons to carry out NRC responsibilities.



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Enclosure:
Study on Concept of
Designated Representatives

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Study on Concept of
Designated Representatives
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Study on Concept of Designated Representative

I. Background

At the September 29, 1982 Commission briefing on quality assurance, the Commission asked the staff to study the designated representative program employed by the FAA and to determine the applicability of such a program concept to NRC programs. The purpose for considering the designated representative program is to explore methods of improving the NRC's assurance of quality of the design and construction of nuclear power plants by increasing the direct observation and inspection of work activities. Enhanced NRC assurance could be achieved by requiring direct feedback to the NRC from appropriately qualified and designated representatives that certain work activities have been correctly completed. The program concept could supplement direct NRC inspection and could increase hardware inspection efforts without a commensurate increase in NRC staffing. It could also bring more flexibility to the NRC staffing for inspection as onsite construction workloads vary. Depending upon the approach and scope of an NRC designated representative program, the costs of the program will generally be borne by the licensee.

II. FAA Designated Representative Program Description

A. Legislative History

In 1950, legislation was passed which authorized the Administrator of Civil Aeronautics (now FAA) to delegate to properly qualified private persons certain functions of the Administrator. These functions which could be delegated included certain examination, inspection and testing activities necessary to support design, production and airworthiness approval by the Administrator for commercial aircraft. The Administrator was also required to establish standards for implementation, management, and oversight of this authority for delegation. The legislation was introduced in response to the large increase in the aviation industry after World War II and the resulting increased need for government safety inspection. The program for delegation of functions was seen as efficient and economical. In 1950, it was estimated that the designated representative program would save the government \$4-5 million per year.

The Federal Aviation Act of 1958, which established the FAA as the successor agency to the Civil Aeronautics Agency, retained the legislative authority of the Administrator of the FAA to delegate certain

functions of the FAA to private persons. Section 314 of the Act provides the delegation authority to the Administrator while Sections 602-605 of the Act identify the areas of designated representative support in the issuance of airman and aircraft certificates. The FAA has established the basic requirements for designated representatives in Part 183 of 14 CFR. These regulations include the privileges of a designated representative and prescribe the limitations in the exercise of these privileges.

B. Types of Designated Representatives

Part 183 of the Federal Aviation Regulations (14 CFR) identifies the types of functions which the FAA can delegate. This list includes, for example, Aviation Medical Examiners, Pilot Examiners, Parachute Rigger Examiners, Flight Navigator Examiners, and Aircraft Maintenance Inspectors. The NRC review focused principally on the Designated Engineering Representative (DER) and the Designated Manufacturing Inspection Representative (DMIR) which are a part of the FAA program for assuring the quality of the design and construction of commercial transport aircraft.

The DER functions principally in support of FAA issuance of a Type Certificate. The Type Certificate is an FAA approval of an aircraft design based on engineering review of reports, drawings and data, and on flight tests and tests of materials and parts. The FAA review during the Type Certificate process is very detailed and includes a design review of basically all parts and pieces of the aircraft. The DER activities are a very integral part of this FAA review process and represent approximately 95% of the certification process. The DMIR provides support to the FAA for the issuance of Airworthiness approvals, although on occasion, the DMIR may provide support in the Type Certification program during the production of prototype aircraft or parts for testing. The DMIR provides conformity inspection assistance to the FAA during the long prototyping process which precedes the Type Certificate. Later, since most follow-on transport aircraft incur numerous changes to the original type design, DMIRs are instrumental in performing FAA conformity inspections on a continuing basis to these aircraft on the production line.

A standard Airworthiness Certificate is one method of FAA approval that an aircraft has been manufactured in conformance to an FAA approved type design (Type Certificate) by a manufacturer with an FAA approved quality control program and facilities. An Airworthiness Certificate from the FAA is required for a U.S. registered aircraft to be operated.

The DER and DMIR are authorized to perform certain examinations, inspections, and tests on behalf of the FAA and, depending on the specific limitations in their designation, provide FAA approval or recommend approval by the FAA. A point to note is that the DER

activities are focused to ensure that the design meets the applicable rules and regulations while the DMIR principally is ensuring that aircraft and components are manufactured consistent with FAA approved design, specifications, and quality control programs. The FAA retains the responsibility for the review and approval of the quality control program and manual and the facilities for manufacture of the aircraft.

C. How the Designated Representative Program Works

The FAA has established guidelines and standards for qualification, selection, authority, responsibility, and supervision of designated representatives. Specific FAA Orders have been issued to address, in part, the role and guidelines for the DER and DMIR programs.

1. Selection

Generally, candidates for the DER or DMIR program are recommended to the FAA by private aviation industry firms, although a private person may request FAA appointment as a DER (to act as a private contractor or consultant to the aviation industry). There are currently about 800 DERs of which about 160 are private consultants. There are approximately 500 DMIRs; all the DMIRs are employees of their respective aviation industry firms. The FAA Orders specify the minimum qualifications which include 8 years of experience in the related field for the DER, of which 4 years of college education may be substituted for experience. The DMIR requires 5 years of experience with 2 years in a supervisory or similar position. Both the DER and DMIR require current experience in the technical area for which designation is sought. The selection of the DER is also contingent on at least one year of direct contact with the FAA while actively engaged in the processing of work for FAA approval in the area for which he is seeking appointment.

The FAA staff in the field offices make the decision on the designation (or rejection) of the DER or DMIR candidates. The designation of a DER or DMIR is for a 12-month period which may be renewed or terminated by the FAA, as appropriate. The limitations on the authority and responsibility of the DER or DMIR are stated in his or her designation.

2. Training and Work Activities

The designee is guided by the same requirements, instructions and procedures applicable to FAA employees in the performance of similar duties. FAA field personnel provide indoctrination, training, and supervision necessary for the conduct of the designated activities. During the term of the designation, the salary of the DER or DMIR is paid by the industry employer. During discussions with several DERs and DMIRs, they indicated

that there is no salary differential associated with their designation, although there is employee prestige associated with the government designation. At the Boeing Company, the staff met with three designated representatives, who had been FAA designees for 16-17 years.

3. Conflict of Interest

The FAA attempts, to the extent possible, to restrict its DRs to work activities which require objective decisions based on established criteria for acceptance/rejection. The objective is to avoid putting the DER or DMIR in a potential position of conflict with the company management. The FAA also attempts to minimize possible conflicts of interest for the DR by scheduling the DR's review and inspection activities at points at which the FAA licensee makes a presentation of a completed activity to the FAA. Examples are the submission of a completed engineering design for FAA DER review or the conduct of an FAA DMIR inspection after the FAA licensee has completed all of the normal in-house inspections. Interpretation of FAA rules and regulations remains with the FAA. The DER and DMIR are to refer any questions on interpretation of requirements to the FAA.

4. Supervision

Supervision of the DER and DMIR is provided by the FAA field offices. In the case of the DER, the FAA will review approximately one-third to one-half of the DER's submittals. After one year of satisfactory performance, the review level may be reduced, but not lower than approximately five percent of submittals. In the case of the DMIR, the FAA principal inspector for the particular aviation industry firm will spot-check the DMIR's work accomplishments and annually accompany the DMIR during the conduct of authorized activities. In addition, the FAA conducts periodic Quality Assurance Systems Analysis Reviews (QASAR) at manufacturers which provide feedback on the manufacturer's implementation of quality control and inspection programs. The QASAR audit is conducted by a team of FAA personnel at approximately 18 month intervals.

D. National Academy of Science Study

A recent study by the National Academy of Sciences, entitled "Improving Aircraft Safety, FAA Certification of Commercial Passenger Aircraft" (Washington, D. C. 1980), examined, in part, the DR program employed by the FAA. The study concluded that, given the thousands of drawings, calculations, reports and tests that the FAA must be certain meet applicable requirements, the DR program which augments the capability of the FAA to review and certify the aircraft design and production, is not only appropriate but indispensable. The National Academy of

Sciences study also found that the DR position is a sought-after assignment. The DRs generally hold key technical or supervisory positions in private firms and typically have 15-20 years experience. The study observed that the individual appointments evidently contributed to a high degree of dedication and motivation in the individual's performance. This motivation is apparently based on a number of factors including peer recognition in being selected, better promotion potential, and, especially for the DMIR, the ability to work in many different technical areas.

E. House Committee on Government Operations Report

The House Committee on Government Operations' investigation of the FAA designee program ("A Thorough Critique of Certification of Transport Category Aircraft by the Federal Aviation Administration," H.Rep. 96-924, 1980) found that the FAA relies excessively on, and does not properly manage, its designated representatives. Although the Committee reached the same conclusion as the National Academy of Sciences, namely, that the designee program was necessary, the Committee's conclusion was based not on the desirability of the program, but on the infeasibility of eliminating it, due to the lack of the FAA resources and technical expertise to replace it.

III. NRC Program Alternatives

A. General Considerations

The designated representative (DR) program is being studied as a method for providing greater assurance that selected work activities are completed correctly through an increase in direct observation, testing, and verification without a commensurate increase in NRC manpower. The basic premise behind the consideration of a DR program is that NRC would have a greater assurance of quality in the design and construction of nuclear power plants if NRC performed more direct inspections, but that NRC is or will be unable to increase the number of inspectors required for a greater effort.

A DR program would vest a licensee employee with some of the authorities now reserved to NRC inspectors. In doing this, the activities of a DR must be structured so that there is no actual or perceived transfer of responsibility from the licensee to the NRC for the quality of the nuclear power plant design or construction. The licensee must retain responsibility for the quality of the nuclear power plant, with the DR simply providing NRC with increased assurance that the licensee's achieved quality of completed activities meets the NRC requirements and the licensee's commitments.

Many persons familiar with application of the DR concept to the FAA have pointed out that the FAA regulates an industry that replicates many identical products, whereas the NRC regulates one-of-a-kind

types of activities. Recognizing that there are certain institutional and industry differences between the FAA and NRC, it does appear, however, that the function of the nuclear quality control inspector would be a logical area for applying and testing the DR concept to NRC's situation. QC inspectors are required to be independent of those performing the work. They perform examinations and tests through direct observation. Criteria are established for the qualifications of QC inspectors and for the acceptance/rejection of the completed work activity.

Thus far, the staff has concentrated its efforts on the construction phase of a nuclear power plant. The applicability of the concept to the design and engineering phase (similar to the FAA Designated Engineering Representative Program) and to the operating phase have not yet been addressed.

In considering the DR program concept, it is important to note that the FAA's DR program was instituted at the start of a rapidly expanding civil aviation industry and the concept became embedded in aviation industry practice. In contrast, the NRC would be beginning its program several decades into the nuclear industry's construction history, with the potential for consequent problems of acceptance.

B. NRC DR Program Alternatives

Three alternatives to the FAA DR program concept for NRC consideration are described in the following sections. The first alternative postulates a program virtually identical to the FAA program. Industry personnel would be designated by the NRC and would be deputized to carry out specific work activities at the direction of the NRC. The second alternative requires that certain QC inspectors on the licensee's staff provide feedback directly to NRC on the results of specially selected regular QC inspections. This alternative differs from the first in that NRC would not be directing the certified QC inspector to conduct any work activities, but rather would cover only those already committed to by the licensee in the PSAR and implementing procedures. The third alternative explores alternative approaches for achieving the objectives of the DR program which do not involve the "deputizing" or "certifying" of licensee employees as agents of the NRC. The alternatives, with pros and cons, are discussed in greater detail in the sections below.

1. Alternative 1 - NRC DR Program

The first alternative proposes that NRC deputize industry personnel as designated representatives of the NRC to carry out NRC directed work activities. For example, NRC might direct the DR to carry out selected NRC inspection procedures in an area that NRC had not planned, or did not have the resources to inspect. In accordance with FAA experience, conflict of interest issues

with a DR could be minimized by only requiring the DR to perform mandatory, hold-point type reviews and inspections, after the licensee has completed all of his normal in-house inspections. This alternative would provide the NRC with expanded inspection coverage and direct feedback on the status of completion of selected work activities. Enabling legislation and implementing regulations would be required to delegate NRC responsibilities to industry personnel and regulatory changes to introduce mandatory NRC hold points for DR review and inspection. In addition, NRC staff would have to develop criteria for selection of designated representatives and also would be required to provide training, supervision, and management of the DR program. Although detailed analysis of this subject has not been done, it is expected that NRC DRs would number no more than 20 persons per plant.

Pros:

1. Provides expanded inspection capability, particularly in the areas of direct observation and hardware inspection.
2. The expanded inspection capability can be achieved without increasing the number of inspectors employed by the NRC.
3. NRC would likely have higher standards for its designated representatives than are currently the case for licensee QA/QC personnel. This greater competency could result in greater NRC confidence in the overall quality of the licensee's inspection staff effort.

Cons:

1. Represents a potential for significant conflict of interest when a licensee employee is required to conduct an NRC inspection and report the findings directly to NRC. Problems or breakdowns in this area could have safety significance and decrease public confidence in NRC's inspection programs.
2. Requires large initial expenditure of NRC resources to prepare and secure legislative changes to the Atomic Energy Act and to develop the implementing regulations, selection criteria, training, and management programs.
3. The administrative overhead of a DR program would require either an increase in NRC employees or a reassignment of existing inspectors to administration of the DR program. Such reassignment would reduce direct NRC inspections.

4. Greater involvement by the NRC in the review and acceptance of licensee's inspection results tends to move further away from the maxim that the licensee is responsible for inspection and that NRC merely audits the licensee's performance. The greater NRC's direct involvement in licensee programs, the greater the tendency for the licensee to "let NRC decide if it is acceptable."
5. The DR program would have limited applicability to plants currently under construction. Enabling legislation, implementing regulations, and program startup would require a minimum of three years. Based on current schedules for nuclear power plants under construction, the DR program would impact about 15 plants in FY87; most of which would be in the late stages of construction.
6. Costs to licensees could be significant and could be perceived as an unlimited regulatory burden. NRC's ability to increase its inspection of licensees at will simply by requiring the licensee to hire more designated representatives could be viewed as a pro or a con, depending on the viewer's position.
7. Raises questions of NRC legal liability for actions of the DR. One court has concluded that an FAA authorized inspector was an employee for purposes of the Federal Tort Claims Act; consequently, the Government could be liable for the acts of a DR. (In Re Air Crash Disaster Near Silver Plume, CO., 445 F. Supp. 384 (D.Kan 1977)). A second case, Hudson, et al vs. United States, No. CA 3-80-0047-R (N.D. Tex., Nov. 18, 1982) held that the FAA authorized inspector was not a federal employee. Although these cases did not involve an FAA DER or DMIR, the courts' reasoning could be extended to cover these personnel. This issue could clearly be resolved if authorizing legislation for an NRC DR program specifically stated that an NRC DR shall not be considered to be an employee of the government as that term is defined in the Federal Tort Claims Act.
8. Raises questions of personal liability of an NRC DR. The FAA holds its DRs legally accountable and liable for negligent conduct. FAA regulated companies have generally extended liability coverage to their employee DRs, and this would be perceived as an additional expense to NRC licensees. Absent regulations to the contrary, a licensee's refusal to extend this liability coverage could reduce the effectiveness of the DR program through a lack of people willing to become designated representatives.
9. NRC may become involved in licensee personnel actions which affect NRC DRs (hiring, firing, promotion, transfers, etc.). The licensees may perceive this to be NRC involvement in licensee management prerogatives.

2. Alternative 2 - NRC Certified QC Inspectors

This alternative would require that certain QC inspectors on the licensee's staff provide feedback directly to NRC on the results of specially selected regular QC inspections. NRC can currently request that the results of any QA/QC inspection by the licensee be provided to the NRC. However, this would differ in that NRC would be required to identify specific inspection points in advance in which the NRC had particular interest. The NRC would require a copy of a certified inspector's report of direct observation, inspection, or verification. The certified QC inspector would not be directed to carry out any work activities which were not already committed to by the licensee and contained in the QC program. This option does not expand the NRC inspection capability in the same way as would a DR since NRC would not have the authority to direct the certified QC inspector's activities to areas other than those the licensee already plans to inspect. The added value of a certified QA inspection program would stem mostly from the greater qualifications (required by NRC) and higher status of a "certified" QC inspector, the knowledge that NRC was paying special attention to the certified inspector's activities, and the requirement that the licensee's quality control inspection program be sufficiently developed to enable the NRC to identify those inspection activities for which NRC would require direct reporting. NRC would be required to develop programs and requirements for the qualifications and selection of the certified QC inspectors. Training requirements would be the responsibility of the licensee, as committed to in his QC program. NRC staff would still be required to provide management of the certified QC inspector program and to review the certified QC inspector's inspection results. A revision of NRC regulations would probably be required to implement a certified QC inspector program.

Pros:

1. NRC's inspection capability would be indirectly expanded without a commensurate increase in the number of inspectors employed by the NRC. Some increase would still be needed to review and follow up on certified QC inspector findings.
2. Does not add an additional layer of QC inspection. Uses existing programs.
3. Should not require licensees to hire additional QC inspectors.
4. Qualification standards for certified QC inspectors would be higher than is currently the case of licensee QA/QC personnel. This, in combination with the increased care that would come from increased NRC attention to certain licensee inspector's results, would result in greater NRC confidence in the overall quality of the licensee's inspection effort.

5. Probably does not raise questions of personal liability for the certified QC inspector since the NRC could not hold a certified QC inspector personally liable for the information provided. The licensee would be considered to be responsible for the correctness of information provided. However, a QC inspector giving false information to the government would be individually subject to a criminal sanction under 18 U.S.C. 1001.
6. Probably does not require enabling legislation, but does require a change in NRC regulations.

Cons:

1. The administrative overhead of a certified QA inspector program would require either an increase in NRC employees or a reassignment of existing inspectors to review the certified inspector's inspection results. Such reassignment would reduce direct NRC inspections.
2. Represents a lesser potential for conflict of interest than a designated representative concept. However, if NRC has reduced its own direct inspection effort to review the work of certified QC inspectors and a breakdown occurs in the certified inspector program at a particular plant, the effect on public confidence in NRC's inspection programs could be significant.
3. Requires a large initial expenditure of NRC resources to prepare changes to NRC regulations, develop selection and qualification criteria, approve licensee training programs, and to select inspectors for certification.
4. Has only a limited applicability to plants currently under construction. A certified QC inspector program would have greater applicability to current plants than a DR program, since it is expected that the program could be implemented in two years if legislation is not required. Based on current schedules for plant completion, the certified QC inspector program would impact approximately 20 plants, most of which would be in the late stages of construction.
5. Continues to raise questions of NRC legal liability for actions of the certified QC inspector. Though this area is less clear than for a DR, the possibility remains that NRC could be held partially responsible for the acts of omission or commission of the certified QC inspector.

6. NRC may become involved in licensee personnel actions affecting certified QC inspectors. However, since these individuals are not NRC representatives, the potential for this concern is much less than for a DR.

3. Alternative 3 - Other Approaches

This alternative differs from Alternatives 1 and 2 in that the staff is exploring alternative approaches for achieving the objectives of the DR program which do not involve the "deputizing" or "certifying" of licensee employees as agents of the NRC. There are three approaches which the staff has identified that have the potential of providing greater assurance to NRC that selected work activities are completed correctly through an increase in direct observation, testing, and verification without a commensurate increase in NRC manpower. These approaches are: (1) increased use of third party inspections, (2) additional use of contractors to support and assist NRC inspections, and (3) refinement of NRC inspection planning to ensure that limited NRC inspection resources are directed to those areas of most importance.

New or additional third party inspection is a concept which Congress specifically directed the NRC to study and test in Section 13 of the NRC Authorization Act for FY 1982 and 1983, Public Law 97-415, as a means of improving the assurance of quality of nuclear power plant construction. The third party inspections were tested in the pilot program required by Section 13c of the Authorization Act. Final analysis and recommendations on the feasibility, practicality, and usefulness of the third party inspection concept are presently being formulated. Preliminary information indicates that the third party concept could be beneficial in augmenting present NRC inspection and oversight programs.

The NRC inspection program presently uses contractor assistance to provide specialized inspection expertise, one-time inspection effort, and other unique services which are not cost effective for NRC to perform, such as laboratory analysis. In FY 1984, the inspection program has allocated technical assistance funds to support the inspection program which represents approximately 25% of NRC inspection capability. Contractors have been used effectively to augment inspection teams with specialized expertise and to provide technical assistance. The Construction Appraisal Teams (CAT) and the Integrated Design Inspections (IDI) use contractor support extensively and have had very satisfactory experience and results. Additional avenues are being reviewed for areas of contractor inspection assistance, but contractor staff years cannot replace NRC staff years on a one-for-one basis. NRC must make the final regulatory determinations, based, in part, on contractor input.

The third approach concerns the review of NRC's inspection planning process to ensure the limited NRC resources are being directed to the areas of most importance. There are a number of research efforts underway which can assist the staff in this area; these include increased use of probabilistic risk analysis and systems assurance analysis. The latter approach is a NASA/NRC sponsored study which employs a systems type of analysis which specifically addresses the risk of failure and consequences on system safety, reliability, and quality. This analysis is more of an engineering deterministic approach which identifies the areas where risks of failure are the greatest. The staff is reviewing these approaches as means of possibly refining the inspection program to ensure that resources are utilized most effectively.

IV. Future Plans

It is important to bear in mind that the objective being sought is to find a method for providing greater assurance to NRC that the required level of quality in design and construction of nuclear power plants has been achieved. Alternative 1 seeks to achieve that goal by adding to the number of "NRC" inspectors. Alternative 2 seeks to improve the quality of the licensee's inspections. Alternative 3 seeks to explore alternative approaches to achieving the objectives of the DR program concept which do not involve the "deputizing" or "certifying" of licensee employees as agents of the NRC.

The study of the designated representative program began before the enactment of the Congressionally directed study of nuclear quality assurance (see Section 13, Quality Assurance, of the NRC Authorization Act for FY 82/83, Public Law 97-415). With the Congressionally-directed nuclear quality assurance study underway, it is premature to make a final recommendation on the concept and alternatives for a type of designated representative program before completing the evaluation of the other new and alternative program concepts being considered in the Congressionally-directed study. The possible form, benefits, and drawbacks of the NRC alternatives to a DR program will be evaluated with the other new and alternative program concepts. The staff will proceed with preparation of a recommendation on the alternatives to the designated representative program after completion of the Congressionally-directed study due in April 1984. Staff resources are not currently available both to complete the Congressionally-directed study on time and to prepare the required analysis of the designated representative program, including possible legal and value-impact analyses, legislative proposals, and regulatory changes.