

# *Question and Response Report*

*for:*

**Module 01: Responsibilities and functions of the Government**

# IRRS Question and Response Report

Question No: 001

Module 01: Responsibilities and functions of the Government

## Question

What legislative and statutory framework do you have, e.g. laws, ordinances, decrees or other legal provision to regulate the safety of facilities and activities?

## Response

Particular descriptions of the statutory framework will be given in answers to more specific questions, but here is an overview of the framework. Major statutes establish the regulatory framework for the safety of facilities and sources, radiation protection, safe transport of radioactive material, safe management of waste, decommissioning, emergency planning, and financial indemnification arrangements for third parties in the event of a major accident. The Atomic Energy Act of 1954, as amended (AEA), establishes the regulatory apparatus and the basic licensing requirements, covering essentially all areas having to do with public health and safety and the environment, including facility safety, radiation protection, waste management, transportation, and financial indemnification arrangements for third parties (the latter covered by the Price-Anderson Act, which is part of the AEA). Reorganization Plan No. 3 of 1970 reassigns responsibility for environmental standards to the then newly established U.S. Environmental Protection Agency (EPA). The Energy Reorganization Act of 1974 (ERA) establishes the U.S. Nuclear Regulatory Commission (NRC) and reassigns the chief safety regulatory responsibility to it. The Nuclear Waste Policy Act of 1982 establishes a program to develop a national high-level waste repository and assigns regulatory responsibilities in this area to both the NRC and EPA. The Low-Level Radioactive Waste Policy Amendments Act of 1985 aims at the development of low-level waste facilities. Basic regulatory authority over the transportation of hazardous radioactive material is assigned to the U.S. Department of Transportation in the Hazardous Materials Transportation Uniform Safety Act of 1990. Presidential Executive Order 12148 assigns to the Federal Emergency Management Agency responsibility for establishing Federal policy on emergency response, including response to accidents at civilian nuclear facilities. Under the authorities granted in these statutes, the regulatory bodies have issued a wide range of rules that set more specific standards than those contained in the fundamental statutes, and these rules have been applied in adjudicatory decisions and in guidance documents that help fix interpretations of key terms and requirements in the statutes and the regulations. Also, where the regulatory bodies share responsibilities, as, for example, the NRC and EPA do for decommissioning, the agencies have entered into memoranda of understanding that help ensure that there are neither gaps nor duplication in regulation.

Question No: 002

Module 01: Responsibilities and functions of the Government

## Question

How does the Regulatory Body have assigned to it responsibility for:

- Authorization;
- regulatory review and assessment;

## Response

All of these functions are assigned to the NRC by the AEA and the ERA. For example, Section 101 of the AEA requires that civilian production and utilization facilities be licensed, and Section 201 of the ERA assigns the licensing (authorization) and related functions (e.g., review and assessment) to the NRC. The agency's enforcement authorities are set out in Chapter 18 of the AEA. Section 161.b of the AEA gives the agency broad authority to establish safety principles, criteria, regulations, and guides. That section says, in part, that the agency is authorized to "establish by rule [a term which, in U.S. Federal law, includes guides], regulation, or order, such standards and instructions to govern the possession and use of special nuclear material, source material, and byproduct material as the Commission may deem necessary or desirable to promote the common defense and security or to protect health or to minimize danger to life or property."

Question No: 003

Module 01: Responsibilities and functions of the Government

## Question

Does the Regulatory Body have adequate authority and power: 1) staffing; 2) financial resources to discharge its assigned responsibilities?

## Response

The NRC has adequate authority and power, staffing, and financial resources to discharge its assigned responsibilities. In particular, the agency is given the legal power to discharge the responsibilities assigned to it by law, as several of the answers to other questions confirm. Moreover, the agency has the resources—both money and staffing—to ensure the safe operation of existing nuclear power plants and review of applications for new reactors. By law, the NRC must recover, through fees billed to licensees, approximately 90 percent of its budget authority for fiscal year (FY) 2009, less the amounts appropriated from the Nuclear Waste Fund for high-level radioactive waste activities and from general funds for waste incidental to recycling and generic homeland security activities. Fees are to be collected each year by September 30.

The agency's budget is controlled annually by legislation, and while there will be differences of opinion in Congress that may affect the agency's budget, it is especially noteworthy that, in recent years, Congress has increased the agency's budget so that the NRC can review the large number of new power plant applications that have been submitted to the agency. Congress' oversight and responsiveness tend to obviate the need for the sort of mechanism suggested by the 2006 self-assessment—statutory permission for the agency to expand or contract with the number of applications—by allowing the NRC to rely on user fees and not go through the full budget process again in order to meet demand.

# IRRS Question and Response Report

Question No: 004

Module 01: Responsibilities and functions of the Government

## Question

Are there other responsibilities assigned to the regulatory body which may jeopardize or conflict with its responsibility for regulating safety?

## Response

The agency is not assigned responsibilities that jeopardize or conflict with its responsibility for regulating safety. In particular, it is not assigned responsibility for promoting nuclear power. In fact, both of these functions had been assigned to the NRC's predecessor agency, the Atomic Energy Commission, and the NRC was established precisely to separate the promotion of nuclear power from the regulation of it.

Question No: 005

Module 01: Responsibilities and functions of the Government

## Question

Are there adequate infrastructures in place to deal with: decommissioning; close-out or closure; site rehabilitation; safe management of spent fuel and radioactive waste?

## Response

In the context of operating reactor regulation, the infrastructure necessary to support decommissioning involves the assurance of adequate funding, the closeout of reactor operations, and the safe management of spent nuclear fuel and radioactive waste generated in the process of decommissioning. The infrastructure consists of legislation, regulations, regulatory guidance, and the NRC staff itself.

The AEA broadly authorizes the Commission to establish regulations that provide adequate protection for public health and safety in the utilization of radioactive material, including in the storage and handling of radioactive waste. Under the authority of AEA Sections 161.b, and 161.p and AEA Section 182.a, the NRC has established regulatory requirements governing the decommissioning (including decommissioning funding) of power reactors. These requirements are discussed further below.

The Commission established regulations at Title 10 of the Code of Federal Regulations (10 CFR) 50.75, "Reporting and Recordkeeping for Decommissioning Planning," and at 10 CFR 50.82, "Termination of License," that specify requirements ensuring the availability of adequate funding for decommissioning and adequate planning of decommissioning activities, respectively. The NRC issued Regulatory Guide (RG) 1.159, "Assuring the Availability of Funds for Decommissioning Nuclear Reactors," to provide methods acceptable to the NRC staff for determining the amount of funding necessary for decommissioning and for providing financial assurance. Also, the NRC issued RG 1.184, "Decommissioning of Nuclear Power Reactors," to provide methods acceptable to the NRC staff for implementing the initial activities and major phases of the decommissioning process.

The overall responsibility for decommissioning funding assurance, reactor decommissioning, and spent fuel management resides in three NRC offices: (1) the Office of Nuclear Reactor Regulation (NRR), (2) the Office of Federal and State Materials and Environmental Management Programs (FSME), and (3) the Office of Nuclear Material Safety and Safeguards (NMSS), respectively. Regional offices provide inspection and enforcement resources. NRR has the responsibility to ensure that adequate funding for decommissioning is available from secure financial instruments and that appropriate planning for decommissioning has been completed. FSME has the responsibility for regulating decommissioning, closeout, closure, license termination, site rehabilitation, and low-level radioactive waste. NMSS has the responsibility for regulating spent nuclear fuel storage and high-level waste disposal. The three organizations, in conjunction with the NRC regional offices, have adequate infrastructures (resources, staff, and funding) to conduct regulatory activities associated with decommissioning such as licensing, safety authorizations, and inspection. All NRC offices have adequate technological infrastructures, including computers, computer programs, and funding for technical support from the U.S. National Laboratories and consultants.

Within FSME, the Division of Waste Management and Environmental Protection (DWMEP) is responsible for the safe decommissioning of and the low-level wastes generated from power and research reactors and complex fuel cycle sites. Overall project management, including licensing and termination/closure, of these sites is conducted within FSME at NRC Headquarters. NRC regional offices (I, III, IV for decommissioning) conduct routine and special inspections of the sites and are responsible for the inspection and enforcement programs. Regional offices have adequate resources, infrastructure, and funding to conduct their mission. DWMEP provides programmatic technical support, resources for independent radiological surveys, laboratory sample analysis, and training for the regional offices. Consistent with the NRC Strategic Plan, DWMEP maintains an operating plan to ensure that achieving goals and obtaining results are the focus, and fiscal planning and budgeting of resources are maintained at an adequate level.

The NMSS Division of Spent Fuel Storage and Transportation (SFST) is responsible for regulating spent nuclear fuel storage and related greater-than-Class-C radioactive waste from nuclear reactors that is stored in an independent spent fuel storage installation licensed under 10 CFR Part 72, "Licensing Requirements for the Independent Storage of Spent Nuclear Fuel and High-Level Radioactive Waste, and Reactor-Related Greater than Class C Waste." SFST has sufficient resources and budget to manage new applications for the storage and transportation of spent fuel and to maintain the licensing of existing facilities.

# IRRS Question and Response Report

Question No: 007

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## Question

Are there adequate financial indemnification arrangements in place for third parties in the event of a nuclear or radiation accident?

## Response

The Price-Anderson Act, Section 170 of the AEA, provides insurance funds and, if necessary, indemnity funds to pay claims for third parties injured in a nuclear incident. These claims would be for damages to persons off the site of the nuclear facility, including for property injury or bodily damage resulting from the incident. Licensees of large power reactors are required to obtain primary liability insurance from American Nuclear Insurers in the amount of \$300 million and to participate in the secondary retrospective insurance pool. Under the secondary retrospective insurance pool requirements, licensees are required to pay up to \$111 million in retrospective premiums in the event that an incident at any reactor site exceeds the primary insurance available. No licensee is required to pay more than \$16.5 million per reactor per year. The total funds available under the Price-Anderson system exceed \$10.5 billion.

Licensees also enter into indemnification agreements with the Commission. These agreements spell out certain other terms and conditions with which licensees are required to conform. Although there are no longer indemnity funds available in the event of a nuclear incident at a large power reactor, the Commission has certain responsibilities to ensure that funds will be available to pay claims. These include, among other things, working with NRC licensees and American Nuclear Insurers to ensure the smooth functioning of the system and determining the severity of an incident, which would then put certain legal actions into play. The financial protection and indemnification requirements are included in 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements."

Question No: 008

Module 01: Responsibilities and functions of the Government

## Question

Is there an adequate technological infrastructure to ensure the safety of facilities and activities?

## Response

The NRC conducts operational reactor safety and security inspection and licensing program activities in a manner that is credible and ensures the safety of facilities and their activities. These programs include regulatory assurances that facilities are adequately designed, properly constructed, and correctly maintained, and that trained and qualified operating and technical personnel can prevent or cope with accidents and other threats to public health and safety. These NRC programs establish strict rules, safety standards, and guidance for licensees. The licensees have the responsibility to design, construct, and operate nuclear reactors safely and securely. To the extent possible, considering security, business, and privacy issues, these processes are conducted in an open and public manner. Industry performance is a key input in evaluating the effectiveness of the reactor licensing program. Proactive, periodic, and event-based inspections are performed to assess licensee compliance with regulatory requirements. Programs are in place to identify and evaluate adverse trends and take appropriate action.

The agency ensures it has the technological infrastructure to support the licensing and inspection programs for operating reactors through staff development and, when necessary, the use of consultants or contracted technical services. Staff development processes include training, qualification, and knowledge management. When staff resources are insufficient or require augmentation in specific technical areas, the agency has processes to hire expert consultants or contract for technical services from commercial or government entities.

Several NRC management directives (MDs), including MD 10.77, "Employee Training and Development," dated February 8, 2005, and MD 10.78, "NRC Intern Program," currently being revised, provide the objectives of the agency staff development programs. Specific guidance for operating reactor inspection and licensing staff qualification is provided in Inspection Manual Chapter 1245, "Qualification Program for Operating Reactor Programs," dated November 9, 2009, and NRR Office Instruction ADM-504, "Qualification Program," respectively. These programs ensure that the staff members implementing inspection and licensing activities have appropriate competencies to ensure the safety of facilities and activities. In addition, the NRC Knowledge Management Program described in SECY-06-0164, "The NRC Knowledge Management Program," dated July 25, 2006, provides guidelines to ensure that the agency maintains and improves organizational capacity to do its work by more effectively using individual and collective knowledge resources.

Measures are in place to acquire the services of consultants to conduct research, support inspections, or perform other licensing activities as needed to enhance regulatory efficiency and effectiveness. Section 170.a of the AEA requires that the NRC take measures to ensure that private consultants are capable of providing impartial, technically sound, and objective support and advice. However, the AEA authorizes an exception for the NRC to contract with the U.S. Department of Energy (DOE) or the operator of a DOE facility if a conflict of interest cannot be mitigated, provided that the NRC has adequate justification to proceed without mitigation. Specific guidelines for procurement of consulting services are provided in NRC MD 11.1, "NRC Acquisition of Supplies and Services," dated March 29, 2006, and MD 11.7, "NRC Procedures for Placement and Monitoring of Work with the U.S. Department of Energy (DOE)," dated March 2, 2007. These requirements and guidelines ensure that any consultants used to support inspection and licensing activities are effectively independent of the operator of the licensed facility.

# IRRS Question and Response Report

Question No: 009

Module 01: Responsibilities and functions of the Government

## Question

Is the prime responsibility for safety clearly assigned to the operator? How is this achieved?

## Response

The primary responsibility for safe design and operation is clearly assigned to the operator. This assigning is achieved principally through licensing and continuing regulatory oversight and enforcement throughout all stages in the lifetime of a facility: No license is granted unless the applicant can show that the applicant will comply with the relevant statutes and the NRC's rules and orders that implement those statutes. These statutes, rules, and orders constitute the body of standards the agency believes are necessary and useful for ensuring public health and safety and the common defense and security. Also, under the statutory provisions for liability payments in the event of a major nuclear accident, the industry bears the liability (see Section 170 of the AEA and the implementing regulations at 10 CFR Part 140). (It is worth noting that only during a war or a national emergency does the NRC have any authority at all to operate civilian nuclear power plants; see Section 108 of the AEA.)

# IRRS Question and Response Report

Question No: 010

Module 01: Responsibilities and functions of the Government

## Question

Describe how the legislation:

- I. sets out effective objectives for protecting individuals, society and the environment from radiation hazards?
- II. specifies facilities, activities and materials that are included in the scope and what is excluded from the requirements?

## Response

I. Legislation describes the objectives in general terms. For example, Section 161.b of the AEA authorizes the Commission to issue such orders and regulations as the Commission “may deem necessary or desirable to promote the common defense and security or to protect health or to minimize danger to life or property.” Environmental legislation, which is implemented by EPA, is similarly general. The AEA clearly assigns to the NRC the responsibility for regulating nuclear safety at nuclear power plants. Other statutes assign to EPA some responsibilities for setting environmental standards for nuclear power plants, and to the Occupational Safety and Health Administration for setting industrial safety standards at such plants.

It is rare for U.S. legislation to set specific environmental or health and safety standards; regulations issued by the regulator provide more detail about these processes than legislation could possibly do. The regulatory agencies believe that they make good use of the discretion they have to set the standards they think are necessary to protect persons and the environment. Nonetheless, Congress itself has debated from time to time whether it has delegated too much standard setting to the regulatory agencies. That debate led to the enactment, in 1996, of the Congressional Review Act (5 U.S.C. 801–808), which requires, generally speaking, that all rules, including health and safety rules, be sent to Congress for review. Major rules cannot become effective until they have sat before Congress for 60 days. No NRC rule has ever been overturned by Congress.

II. Chapters 6, 7, 8, and 10 of the AEA specify the facilities, activities, and materials that are included in, and those that are excluded from, the scope of requirements. The ERA, which established the NRC, contains further inclusions and exclusions, particularly with regard to DOE facilities (see ERA Section 202). Generally speaking, the NRC does not regulate DOE facilities, especially DOE’s nuclear weapons facilities. However, the NRC will regulate any high-level waste repository DOE might construct.

III. The processes are set out in Chapter 16 of the AEA, in the Administrative Procedure Act, and in the National Environmental Policy Act (NEPA). These statutory provisions are implemented by more detailed regulations in 10 CFR, especially Parts 2, 50, and 51. Generally speaking, the authorizations and processes take account of the magnitude and nature of the hazards, and the legislation gives the agency sufficient authority to tailor its processes to the risks. For example, general licenses are issued by rule for certain activities posing only low hazards, but nuclear power plant licenses are detailed, plant-specific, and issued only after detailed and lengthy review by both the NRC staff and the statutory Advisory Committee on Reactor Safeguards.

IV. The responses to the subquestions of Question 017 address each of the criteria for this part of Question 010. Taking a summary view here, it can be said that the NRC and other regulators of some aspects nuclear power operations—EPA, the Federal Emergency Management Agency, the Occupational Safety and Health Administration, and the U.S. Department of Transportation—have fully adequate authority granted them by legislation. For example, Section 161b of the AEA authorizes the NRC to issue such orders and regulations as it “may deem necessary or desirable to promote the common defense and security or to protect health or to minimize danger to life or property.” Section 234 of the AEA authorizes the agency to impose civil penalties, and other provisions of Chapter 18 of the AEA authorize the government to impose criminal penalties.

V. The NRC’s funding is determined ultimately the way the funding for other units of the Federal Government is determined: by legislation that originates in the U.S. House of Representatives and is approved by the U.S. Senate and signed by the President (see Article 1, Section 7 of the U.S. Constitution). Thus, the NRC, like other units of government, cannot increase its funding at will but must instead make the case to Congress for adequate funding. Consequently, the agency will sometimes find itself arguing for more funding than it is given by Congress and the President. However, the agency’s funding has always been adequate to its fundamental safety mission.

VI. Section 103.c of the AEA requires that each license for a nuclear power plant be for a specified period. The general authorities in Sections 161.b, 161.i, and 161.o authorize the Commission to issue rules and orders governing the decommissioning of sites and the termination of licenses. Section 161.x also authorizes the Commission to require that licensees accumulate adequate funding for decommissioning. Section 186 of the AEA sets out some procedures for the revocation of licenses, and Section 189 contains procedural requirements for suspension and revocation of licenses. Under the authority of all these provisions, the Commission has issued rules and regulations that describe the procedures in more detail.

VII. Under Section 189 of the AEA, licensees may ask the NRC for a hearing on an enforcement action, as is fitting, because a party against whom enforcement is taken has certain rights that must be respected. Interested parties with standing to sue can seek Federal court review of any final NRC action. Though parties who appeal can ask for a stay of the action they are appealing, it is highly unlikely that stays would be granted for actions that had the potential to compromise safety. The procedure for seeking court review has little potential to compromise safety, in part because the review is held in Federal appellate court, not Federal trial court. The trial courts focus on fact-finding, but the appellate courts focus on questions of law. The agency is thus the basic Federal fact-finding body on matters of nuclear power safety. Generally speaking, the appellate courts review the agency’s actions to determine only whether they are “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law” (see 5 U.S.C. 706). Opponents of more stringent standards have seldom sought judicial review of them.

VIII. Section 184 of the AEA says that no license may be transferred unless the Commission gives its consent in writing. NRC regulations set out the requirements that transferor and transferee must meet (see especially 10 CFR 50.80, “Transfer of Licenses”).

IX. Section 161.a of the AEA authorizes generally the establishment of such advisory bodies. Section 29 of the AEA establishes a permanent advisory committee to the Commission, the Advisory Committee on Reactor Safeguards. Additional advisory committees may be and have been established. These committees do not relieve the NRC of its regulatory responsibility. Section 9(b) of the Federal Advisory Committee Act says, “Determinations of action to



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be taken...with respect to matters upon which an advisory committee...makes recommendations shall be made solely by...an officer of the Federal Government.”

X. The ERA, which established the NRC, also established an Office of Nuclear Regulatory Research within the NRC, with appropriate authorities in research and development. The AEA allows the Commission to engage in or contract for research, and it obliges other Federal agencies to provide such research services as they may be reasonably able to provide (see Section 205 of the AEA, 42 U.S.C. 5845).

XI. Section 170 of the AEA, along with associated definitions in Section 11, is known as the Price-Anderson Act, which establishes U.S. law with respect to liability for nuclear damage. While the United States has not revised its longstanding liability law to have precisely the same definitions as appear in the later adopted Vienna Convention, the U.S. law meets the overarching requirements of the Convention for Supplemental Compensation adopted at the International Atomic Energy Agency (IAEA) in 1997.

XII. The Price-Anderson Act (Section 170 of the AEA, together with certain definitions in Section 11) sets out the arrangements to provide funds to pay for liabilities up to the established limit on liability (see 10 CFR Part 140).

XIII. Sections 161.b and 161.p of the AEA provide authority for the NRC regulations at 10 CFR 50.75 and 50.82–83 that establish requirements to assure proper decontamination and decommissioning, including the funding to pay for it. In addition, Section 1801 of the AEA requires a Uranium Enrichment Decontamination and Decommissioning Fund to be established in the U.S. Treasury, to pay for such expenses at government-owned facilities.

XIV. Section 222 of the AEA establishes criminal penalties, including fines and imprisonment, for violations of specified sections of the AEA. Section 223 establishes somewhat lesser criminal penalties for willful violations of other sections of the AEA. Section 234 establishes civil monetary penalties for violations of licensing requirements, violations of specified sections of the AEA, or violations of any regulation or license issued under them.

XV. Under Article VI of the U.S. Constitution, treaties entered into under U.S. law are “the supreme law of the Land.” AEA Sections 121, 122, and 123 establish the supremacy of international arrangements, require the NRC to give maximum effect to policies contained in international arrangements, and set forth the requirements for entering into agreements of cooperation. The United States participates in the peer review mechanisms of the Convention on Nuclear Safety, and in more than 35 bilateral agreements aimed at exchanges of information that will enhance safety.

XVI. Section 189.a of the AEA (42 U.S.C. 2239) offers a hearing to any person with an interest in any licensing proceeding or rulemaking. Publication of notice of such rights and how they may be pursued is also required. Under 10 CFR Part 2, “Rules of Practice for Domestic Licensing Proceedings and Issuance of Orders,” the NRC regulations sets forth rules for participation in NRC hearings. U.S. statutes also provide for consultation or other types of participation by governmental organizations. For example, NEPA requires consultation among Federal agencies involved in actions affecting the environment, the U.S. Department of Homeland Security has responsibilities for emergency management, and the U.S. Department of Transportation has responsibilities for regulating the safety of the transport of hazardous materials, including radioactive materials.

Probably no other Federal regulatory body provides more opportunities for involvement by the public than the NRC. Even after the 2001 attacks on the World Trade Center, the amount of information the NRC makes available is enormous. The agency provides for public notice and comment not only in rulemakings but also in the development of guidance. The opportunities the NRC provides for public involvement under NEPA exceed what the Act requires, and the agency’s consultation with other Federal and State agencies during the NEPA process is extensive. In licensing proceedings, the NRC provides opportunities for formal hearings, which few other science-based agencies do.

There has long been a debate on whether the NRC’s public processes are too many and too formal, with little contribution to safety. The debate has focused particularly on hearings on contested issues in nuclear power plant proceedings. A few years ago, the agency revised the rules governing those hearings to make the hearings less formal (see 69 Federal Register 2182; January 14, 2004, codified at 10 CFR Part 2). The new rules were upheld by a Federal appellate court in litigation brought by three citizens’ groups (see Citizens’ Awareness Network, et al., v. NRC, 391 F.3d 338 (2004)). The NRC continues to work to make sure that its processes are open to public involvement and contribute to safety without unnecessary and unproductive procedural complications.

XVII. The NRC’s Backfit Rule, 10 CFR 50.109, “Backfitting,” specifies the nature and extent of the application of newly established requirements to existing facilities and current activities. Authority for that rule is derived from Section 161.b of the AEA, which allows the Commission to set standards for the use of nuclear material that it “believes are desirable or necessary to protect health or minimize danger to life.” In 10 CFR 50.109, the NRC elaborates its criteria for backfitting reactors, essentially, requiring that a backfit be imposed only if the costs of it are “justified” by a “substantial increase in safety,” or if minimum safety or current standards require the change. The current LGI would want these criteria to be specified in statute, but 10 CFR 50.109 is well-established now, having been in existence for over 20 years upheld in Federal court.

# IRRS Question and Response Report

Question No: **010AS**

**Module 01: Responsibilities and functions of the Government**

## Question

- I. What measures does the Regulatory body take to demonstrate its credibility and independence in the eyes of the general public?
- II. What means does the Regulatory body take to assess its credibility and independence in the eyes of the general public.

## Response

I. The NRC demonstrates credibility by strictly following an established comprehensive regulatory framework that provides multiple opportunities for stakeholder input; ensures the agency's independence from industry and from promotion of the industry; and results in an objective, well documented, and publically available decision that is directly correlated to the NRC's strong commitment to the public and the environment.

Legislation provides opportunities for involvement of interested parties in regulatory processes and ensures the agency's independence. Section 189 of the AEA provides for hearings related to licensing and rulemaking proceedings upon the request of persons whose interest is affected by such proceedings. The ERA provides a statutory framework that clearly separates the regulation of nuclear power plants from the promotion of nuclear power and ensures that the NRC has final Executive Branch say on nuclear power plant safety. In addition, general legislation (e.g., the Freedom of Information Act, the Government in the Sunshine Act, NEPA) provides for substantial public access to information and government activities related to regulatory decisionmaking. Regulations implementing this legislation for the Commission are contained in Parts 2, 9, and 51 of 10 CFR.

Beyond these legislative requirements, the NRC has a solid regulatory foundation that includes the following:

- a set of fair and comprehensive regulations with clear guidance documents
- a reactor oversight program to ensure the safe operation of nuclear power plants
- an inspection and enforcement program that shows the public that the NRC will not accept violations of safety and security requirements
- a security program to ensure the radioactive materials will not fall into the hands of people who will do the public harm
- a research program to ensure that the best scientific information available is being used

The NRC works hard to engage the public in a variety way, provides multiple opportunities for dialogue, and emphasizes the value of diverse opinions in making regulatory decisions. The NRC makes an effort to communicate to all of its stakeholders that they are a valued part of the regulatory process. The NRC communicates clearly, openly, and transparently the reasons behind an agency decision.

In addition, the NRC is committed to adherence to the Principles of Good Regulation. The NRC Principles of Good Regulation are as follows:

- Independence: Nothing but the highest possible standards of ethical performance and professionalism should influence regulation. However, independence does not imply isolation. All available facts and opinions must be sought openly from licensees and other interested members of the public. The many and possibly conflicting public interests involved must be considered. Final decisions must be based on objective, unbiased assessments of all information, and must be documented with reasons explicitly stated.
- Openness: Nuclear regulation is the public's business, and it must be transacted publicly and candidly. The public must be informed about and have the opportunity to participate in the regulatory processes as required by law. Open channels of communication must be maintained with Congress, other government agencies, licensees, and the public, as well as with the international nuclear community.
- Efficiency: The American taxpayer, the rate-paying consumer, and licensees are all entitled to the best possible management and administration of regulatory activities. The highest technical and managerial competence is required, and must be a constant agency goal. The NRC must establish means to evaluate and continually upgrade its regulatory capabilities. Regulatory activities should be consistent with the degree of risk reduction they achieve. When several effective alternatives are available, the option that minimizes the use of resources should be adopted. Regulatory decisions should be made without undue delay.
- Clarity: Regulations should be coherent, logical, and practical. There should be a clear nexus between regulations and agency goals and objectives, whether explicitly or implicitly stated. Agency positions should be readily understood and easily applied.
- Reliability: Regulations should be based on the best available knowledge from research and operational experience. Systems interactions, technological uncertainties, and the diversity of licensees and regulatory activities must all be taken into account so that risks are maintained at an acceptably low level. Once established, regulation should be perceived to be reliable and not unjustifiably in a state of transition. Regulatory actions should always be fully consistent with written regulations and should be promptly, fairly, and decisively administered so as to lend stability to the nuclear operational and planning processes.

Regulatory independence is a principle of good regulatory practice, in which the regulator seeks all available facts and opinions from the regulated and interested parties and makes a documented decision based on objective, unbiased assessment of all information. The NRC demonstrates independence by establishing and following a public involvement process that seeks all available facts and opinions from all stakeholders and documents its decision based on objective, unbiased assessment of all information. More information on the NRC's public involvement process, including laws and policies related to openness (e.g., opportunities for hearings, Freedom of Information Act, and public inspection of documents per 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding") can be found in NUREG/BR 0215, "Public Involvement in the Nuclear Regulatory Process," issued October 2004.

In summary, the NRC seeks to demonstrate its credibility and independence to the general public by having statutory independence within the executive branch of the U.S. Government, an established solid regulatory framework, and no responsibility for promoting nuclear power, and by encouraging and providing multiple opportunities for public input, clearly communicating and documenting agency decisions, and adhering to the Principles of Good Regulation.

- II. An assessment of credibility and independence is directly monitored by the NRC's Office of Public Affairs (OPA) and indirectly measured in each office's operation plan performance.



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OPA provides a daily compilation of press coverage through the agency's Intranet. OPA assesses media coverage for accuracy and analyzes the breadth and tone of the coverage to determine how well the agency is delivering its message. An additional review of letters to the editor or opinion pieces provides an additional layer of assessment for public perceptions of the agency and its regulatory process.

Although there is no direct measurement on the broad topic of credibility and independence, each NRC office measures characteristics that are inputs to the overall public perception of trust and confidence in the regulator. For example, each office periodically assesses openness per its operating plan. The results of these assessments are provided annually to the Commission and Congress. In addition, stakeholder feedback regarding the openness of the NRC's reactor oversight process is gathered and assessed on an annual basis as part of the self-assessment process described in Inspection Manual Chapter (IMC) 0307, "Reactor Oversight Process Self-Assessment Program." Other operating plan performance measures typically include timeliness of regulatory actions, such as inspection, completion, and enforcement action disposition, that indicates the efficiency of NRC actions. Other performance measures affirm the technical accuracy of regulatory actions to assess the clarity and reliability of NRC regulation.

**Question No:** 011

**Module 01: Responsibilities and functions of the Government**

## Question

Are there authorizations granted by other bodies than the independent regulatory body? If so, does the legislation ensure that those of the independent regulatory body are not challenged?

## Response

Applicants for nuclear power plant licenses must obtain authorizations from a number of Federal, State, and local governmental bodies. For example, EPA issues permits that limit the amounts of pollutants that can be released from a plant, the Federal Emergency Management Agency approves emergency plans, State public utility commissions regulate certain aspects of the economics of power plants, and local governments impose land use restrictions. Nonetheless, legislation ensures that the NRC's safety judgments about nuclear power plants are not challenged by these other authorizations, because legislation assigns to the NRC alone the authority to regulate the design and operation of these facilities. However, an authorization issued by the NRC does not necessarily mean that a plant will be built and operated. Such an authorization is a necessary but not sufficient condition of construction and operation. It is conceivable, for example, that a plant might be authorized by the NRC, only to be stopped by a State moratorium on construction, a moratorium based on economic considerations (see the U.S. Supreme Court case, *Pacific Gas & Electric v. State Energy Resources Conservation and Development Commission*, 461 U.S. 190 (1983)). In such instances, the NRC's safety judgment would not be challenged, but neither would nor could it be rightly expected to render ineffective other authorizations based on considerations other than safety. Also, most of these other agencies would probably pass the test of independence in LGI 2.2.(2). For example, even though the head of EPA, unlike NRC Commissioners, serves at the pleasure of the President, EPA is effectively independent of any organization that promotes or applies the technologies that EPA regulates.

**Question No:** 012

**Module 01: Responsibilities and functions of the Government**

## Question

How does the Regulatory Body establish and maintain its effective independence from organizations and bodies charged with the promotion of nuclear technologies? (See also the separate module on Regulatory Independence)

## Response

The most important means by which the NRC maintains its effective independence from organizations and bodies charged with the promotion of nuclear technologies is the legislation that established the NRC, the ERA. The ERA assigns regulatory responsibility to the NRC and promotional responsibility to what has since become DOE; moreover, the legislation ensures that the NRC's safety judgments are not reviewed by DOE.

Beyond this basic separation, the NRC has a number of means for maintaining its effective independence from both DOE and other bodies that promote nuclear technology (e.g., industry groups). For example, Section 201 of the ERA requires that NRC Commissioners have no employment other than serving as a member of the Commission. Under 5 CFR 5801.102, "Prohibited Securities," of the Commission's regulations, NRC employees may not invest in nuclear power utilities or vendors. Section 170.a of the AEA requires that the agency's contractors show that they do not have conflicts of interest. Other laws—for example, the Administrative Procedure Act, the Government in the Sunshine Act, and the Freedom of Information Act—and various Commission policies and practice ensure that the Commission's business is conducted in public view and with appropriate consideration for the views of all interested parties. The agency also has policies that govern more informal contacts between NRC personnel and licensee personnel. Finally, the Commission is advised by various bodies (see the responses to Questions 055 to 063) that are constructed so as to provide independent advice.

**Question No:** 014

**Module 01: Responsibilities and functions of the Government**

## Question

Are there any plans to introduce new legislation in the near future?

## Response

There are no plans to introduce major legislation having to do with the regulation of the design and operation of nuclear power plants—certainly no legislation that would affect the fundamental authority and independence of the agency. Legislation affecting the NRC's authority is relatively rare.

# IRRS Question and Response Report

Question No: 016

Module 01: Responsibilities and functions of the Government

## Question

- 1) How does the regulatory body maintain its independent technical expertise in the areas relevant to its safety mission?
- 2) How does the regulatory body maintain its current awareness of the "state-of-the-art" nuclear safety technology?

## Response

1) The NRC maintains a large staff of independent technical experts in areas relevant to its safety mission. A number of these staff members have advanced degrees in their areas of expertise and many years of experience. The NRC maintains this high level of expertise by providing training opportunities; by the agency's routine active participation with technical experts outside of the agency, both domestically and internationally; and by carefully recruiting new staff with educational and experience backgrounds that match the agency's technical needs. For example, NRC staff frequently participates in international cooperative programs sponsored by IAEA and by the Nuclear Energy Agency of the Organisation for International Co-operation and Development. The NRC's participation in these programs has contributed to an ongoing dialogue with our international colleagues on the state-of-the-art of a variety of nuclear safety technical issues.

2) The NRC also maintains cognizance of state-of-the-art nuclear safety technology through staff participation in national and international technical conferences and meetings, and participation in cooperative and coordinated safety research and development activities with leading national and international technical research and development organizations involved in state-of-the-art technology development. These activities provide a cornerstone for the development of the NRC's independent technical assessment capabilities and safety review infrastructure for over-the-horizon nuclear safety technologies.

The NRC also hosts the annual Regulatory Information Conference. This conference brings together experts from all over the world and provides a forum for the open discussion of issues and developments related to the safe use of nuclear technology.

The NRC routinely issues contracts for research projects to gain access to independent technical expertise. The NRC's major source of this expertise is the U.S. National Laboratory system. The National Laboratory system includes numerous separate research facilities, located throughout the United States, with extensive and varied technical capabilities. However the NRC also contracts with other Federal agencies, universities, and commercial businesses to carry out research projects and to obtain sources of technical expertise. The agency can also ensure independent expertise by establishing its own research and development center, as the agency did in 1987 when it established the Center for Nuclear Waste Regulatory Analyses to help resolve issues related to a geologic repository for high-level waste.

The NRC has the ability to set up and fund independent advisory bodies to provide expert opinion and advice. The NRC has an established, formal advisory committee. This organization, the Advisory Committee on Reactor Safeguards (ACRS), established by law, provides independent opinion and advice to the NRC Commission. The members are technical experts in various fields who enable the Committee to give expert advice. The Committee functions separately from the NRC staff and provides advice and opinion on topics such as the licensing and operation of nuclear facilities and related safety issues, the adequacy of proposed reactor safety standards, and technical and policy issues related to the licensing of evolutionary and passive plant designs. The ACRS also submits an annual report to the NRC Commission commenting on the adequacy of the NRC safety research program. In the area of nuclear materials, the ACRS advises on the transportation, storage, and disposal of high-level and low-level radioactive waste, including the interim storage of spent nuclear fuel; nuclear materials safety; decommissioning; the application of risk-informed, performance-based regulations; and the evaluation of licensing documents, rules, and regulatory guidance. The advice and opinions provided by the ACRS are a significant aspect of the regulatory process.

As previous noted, the NRC also has the ability to enter into contracts with independent experts to solicit their opinions and advice. For example, the NRC contracted with several internationally recognized experts to participate in an elicitation process to determine the failure frequency of reactor coolant system piping.

The NRC has the legal authority to require facility operators to provide any necessary information needed to ensure safe facility operation, including information from suppliers, even if this information is proprietary. Normally, facilities will provide the information requested by NRC staff without difficulty. The NRC regulatory process protects proprietary information. Additionally, under the conditions of a license issued by the NRC, a facility is legally required to submit information to enable the Commission to determine whether the license should be modified, suspended, or revoked. For reactor facilities, this requirement is contained in 10 CFR 50.54(f). And finally, under 10 CFR 2.202, "Orders," and 2.204, "Demand for Information," of the NRC regulations, the Commission can issue a demand for information and, if necessary, an order to require that information be provided.

# IRRS Question and Response Report

Question No: 016BS

Module 01: Responsibilities and functions of the Government

## Question

- 1) Is there a periodic review of nuclear safety requirements to ensure inclusion of state-of-the-art techniques and practices?
- 2) How is this translated into licensee requirements?

## Response

- 1) The NRC continuously reviews new information to determine if its nuclear safety requirements are appropriate. The new information originates from many sources, such as research, inspection, operating experience, international experience, licensee proposals, public comment, or professional engineering association determinations.
- 2) New NRC requirements are translated into licensee requirements by the promulgation of new or revised regulations, orders, license conditions, confirmatory action letters, or licensee commitments, depending on the safety significance of the requirement. New NRC requirements are subject to a process called a backfit review to determine if the new requirement is appropriate for a licensee.