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United States Court of Appeals

United States Court of Appeals
District of Columbia Circuit

FOR THE DISTRICT OF COLUMBIA CIRCUIT

FILED MAR 16 1982
GEORGE A. FISHER
CLERK

No. 81-1050

THE CONNECTICUT LIGHT AND POWER COMPANY, ET AL.
PETITIONERS

v.

NUCLEAR REGULATORY COMMISSION, RESPONDENT

CAROLINA POWER AND LIGHT COMPANY, INTERVENOR

Petition for Review of an Order of the Nuclear Regulatory Commission

Argued January 29, 1982

Decided March 16, 1982

James Michael McGarry, III, with whom *McNeill Watkins II* was on the brief for appellant, and entered appearances for intervenor.

Sheldon L. Trubatch, Attorney, Nuclear Regulatory Commission, with whom *Anne S. Almy* and *Martin Green*, Attorneys, Department of Justice, and *Stephen F. Eilperin*, Solicitor, Nuclear Regulatory Commission, were on the brief for respondent. *Harvey J Shulman* and *G. Paul Bollwerk, III*, also entered appearances for respondent.

Bills of costs must be filed within 14 days after entry of judgment. The court looks with disfavor upon motions to file bills of costs out of time.

Before: WALD, MIKVA and GINSBURG, *Circuit Judges*.

Opinion for the Court filed by *Circuit Judge* MIKVA.

MIKVA, *Circuit Judge*: Connecticut Light and Power Company ("Connecticut Light" or "Company") challenges a decision by the Nuclear Regulatory Commission ("NRC" or "Commission") to adopt a stringent fire protection program for nuclear power plants in service before January 1, 1979, 10 C.F.R. § 50.48, App. A, App. R (1980). In the wake of a damaging fire at the Browns Ferry Nuclear Power Plant, a 1976 Commission report recommended improved fire protection standards for operating nuclear power plants.[1] Based on the *Browns Ferry Report*, the Commission developed technical guidelines for evaluating the fire safety of both new and operating nuclear plants.[2] Because of the extensive problems involved in redesigning a nuclear plant already built and in service, the guidelines for operating plants differed from those for plants not completed. For several years after the promulgation of the guidelines, Commission staff pursued the approach of evaluating the safety of operating plants by applying the guidelines on a plant by plant basis. In a number of cases, the evaluation process resulted in fire protection programs acceptable

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[1] NUCLEAR REGULATORY COMMISSION, RECOMMENDATIONS RELATED TO BROWNS FERRY FIRE (1976), Joint Appendix (J.A.) 18 (hereinafter *Browns Ferry Report*). The Browns Ferry fire was ignited by a candle that a workman was using to inspect for air leaks. The fire caused considerable damage to the plant, and rendered the emergency core coolant system for one of the plant units temporarily inoperable. Danger to the public was averted because back up systems were able to shut down the unit safely. Nonetheless, the fire raised serious concerns about the adequacy of fire prevention practices and fire control measures at nuclear power plants.

[2] AUXILIARY POWER CONVERSION SYSTEMS BRANCH, NUCLEAR REGULATORY COMMISSION, BRANCH TECHNICAL POSITION 9.5-1, Appendix A (1976), J.A. 74-96 (hereinafter *Branch Technical Position 9.5-1*).

to both Commission staff and the plants in question. Disagreements persisted, however, on some issues that were common to a number of plants. As a result, some five years after the Browns Ferry fire the Commission decided to embark on the rule-making challenged here. *Notice of Proposed Rule-Making*, 45 Fed. Reg. 36,082 (May 29, 1980).

Connecticut Light and Power Company, licensed by the Commission to operate nuclear generating plants, objects to a number of features of the Commission's adoption of the fire protection program. First, Connecticut Light contends that the notice of proposed rule-making was inadequate because it gave no indication of the technical basis on which the Commission had relied in formulating the proposed rules and because the rules as adopted differed in major respects from the rules proposed in the notice. In this connection, Connecticut Light also complains that the Commission allowed only thirty days for comment, the statutory minimum for notice and comment rule-making, 5 U.S.C. § 553(d) (1976), a period Connecticut Light contends was inadequate given the complexity and relatively innovative character of the rules at issue here. Second, Connecticut Light argues that the Commission failed to offer an adequate technical justification for the fire protection rules in the form in which they were ultimately adopted. Finally, Connecticut Light claims that the Commission failed to comply with its own regulations governing the imposition of new requirements for nuclear plants already in service.[8]

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[8] Connecticut Light also makes the blanket contention that the NRC should not have employed notice and comment rule-making at all for the fire protection program, but should have continued to treat the problem of fire protection for plants already in service on a plant by plant basis. This contention does not merit separate treatment. The NRC's authority to engage in notice and comment rule-making to set safety standards for nuclear power plants is clear. 42 U.S.C. §§ 2201(i), 5841(f) (1976); 10 C.F.R. §§ 2.800 to 2.808 (1980). If in-

We affirm the fire protection regulations as adopted by the Commission. The administrative record contains adequate support for the Commission's determination that adoption of the rules was urgently needed to protect the public safety. We cannot conceal, however, our concerns about some of the procedures followed by the Commission in the rule-making process by which the program was adopted. The Commission complied but barely with the procedures mandated by the Administrative Procedure Act for notice and comment rule-making, 5 U.S.C. § 553 (1976).

The process of notice and comment rule-making is not to be an empty charade. It is to be a process of reasoned decision-making. One particularly important component of the reasoning process is the opportunity for interested parties to participate in a meaningful way in the discussion and final formulation of rules. *Ethyl Corp. v. Environmental Protection Agency*, 541 F.2d 1, 48 (D.C. Cir.) (*en banc*), *cert. denied*, 426 U.S. 951 (1976). The procedures followed by the NRC here came perilously close to foreclosing any useful participation whatsoever during the rule-making process itself.

An equally important component of the process of reasoned decision-making is the agency's own explanation for the rules it adopts. While an agency need not justify the rules it selects in every detail, it should explain the general bases for the rules chosen. Such explanations help assure public confidence in the rule-making process. Disclosure of the agency's rationale is particularly important in order that a reviewing court may fulfill its statutory obligation to determine whether the agency's choice of

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deed the NRC has presented adequate justification for applying the fire protection program to all operating nuclear power plants, its decision to employ rule-making cannot be regarded as an abuse of discretion, particularly given the fact that safety issues common to a number of plants remained unresolved more than five years after the Browns Ferry Fire.

rules was arbitrary or capricious, 5 U.S.C. § 706(2)(A) (1976); *Ethyl Corp.*, 541 F.2d at 34. The NRC has not made our task on review easy. If the Commission had provided any less in the way of reasoned explanation for the fire protection program selected, we would be compelled to remand the program to the NRC.

I. The Fire Protection Program

The NRC proposed and adopted a comprehensive program to prevent, detect, control, and extinguish fires in operating nuclear power plants. Although the program includes a number of specific requirements debated in the plant evaluations that followed the Browns Ferry fire, three specific parts of the program are challenged in this appeal. They are the methodology mandated for protecting duplicate systems to shut down reactor units safely in case of fire, the requirements for the design of alternative shutdown mechanisms when needed as a substitute for duplicate systems, and the method stipulated for protecting the lubrication system for the reactor's coolant pump.

In most cases in a nuclear power plant, it is possible to design duplicate systems for shutting down reactor units in case of an emergency such as a fire. The duplicate system is provided as a back-up, in case the primary shutdown system should be damaged or destroyed. It is thus especially important to ensure that the duplicate shutdown system cannot be damaged by whatever emergency disables the primary shutdown system.

In the plant by plant evaluations after the Browns Ferry fire, and in the notice of proposed rule-making, the Commission followed a "postulated hazards" approach to the protection of duplicate safe shutdown capacity. On this approach, a plant's protection of such redundant shutdown capacity is tested by reference to a number of factors. In the fire protection program as proposed, these factors included the likely area within which a fire might

spread, the fire extinguishing system used in the area, the accessibility of the area to fire fighters and equipment, the relative fire danger in the area, the availability of alternative methods for shutting down the reactor unit safely, and the fire retardant capacity of protective devices such as fire retardant coatings. 45 Fed. Reg. 86,087 (1980). Pursuant to these guidelines, NRC staff had approved the methods used to protect duplicate shutdown capacity in a number of nuclear plants in service before January 1979. The final rule adopted by the Commission, however, abandoned the postulated hazards approach. In its stead, the Commission stipulated three approved methods for protecting duplicate shutdown capacity. These are: separation of the redundant system by a barrier able to withstand fire for at least three hours; separation of the redundant system by a distance of twenty feet containing no intervening combustible material, together with fire detectors and an automatic fire suppression system; and enclosure of the redundant system in a fire barrier able to withstand fire for one hour, coupled with fire detectors and an automatic fire suppression system. 10 C.F.R. § 50, App. R, III.G.2 (1980). These methods give no credit for fire retardant coatings and do not consider the relative fire danger of the area in which the redundant shutdown system is located.

In some cases, it is also necessary to provide alternative shutdown capacity in order to protect the reactor unit in case of fire. For example, it may be impossible to redesign an operating plant in order to protect a duplicate shutdown system adequately. To protect the public safety, alternative shutdown systems must be protected against damage, just as redundant shutdown systems must be. The Commission proposed a postulated hazards approach to the evaluation of alternative shutdown capacity, under which a plant was to be required to show it could protect at least one means for shutting down the plant from damage for at least seventy-two

hours following a fire. *Notice of Proposed Rule-Making*, 45 Fed. Reg. 36,089 (May 29, 1980).

The final rules adopted by the Commission, however, abandoned the postulated hazards approach to the protection of alternative shutdown capacity. Instead, the final rules stipulated that alternative shutdown capacity must be protected by one of the methods acceptable for the protection of redundant shutdown capacity. 10 C.F.R. § 50, App. R, III.G.2 (1980). In addition, the Commission continued to require that one back up method for ensuring safe shutdown in case of fire should be able to remain operable for at least seventy-two hours following a fire. *Id.* § 50, App. R. III.L.1. One important aspect of this requirement is that the back up method should be sufficiently isolated from associated electrical circuitry to prevent damaged circuits from spreading a continuing fire into the back up system. *Id.* § 50, App. R. III.L.7. It may be especially difficult and expensive to redesign operating nuclear power plants to meet this last provision.

The third aspect of the fire protection program challenged here concerns the protection of lubricant for the reactor's coolant system. The lubrication oil in the reactor's coolant system must be protected in order to protect the coolant system, and ultimately the reactor itself. Because the oil is flammable, however, it poses a significant fire hazard. The NRC originally proposed two acceptable methods for protecting the lubricant: an oil collection system, which drains the pump lubricant away from the reach of the fire; and an automatic fire suppression system, which attempts to put out the fire before it can reach the lubricant. *Notice of Proposed Rule-Making*, 45 Fed. Reg. 36,090 (May 29, 1980). During the process of plant by plant evaluation that preceded the rule-making, NRC staff had approved fire suppression systems for protecting the lubricant in a number of

plants.[4] The Commission, however, concluded that only an oil collection system could sufficiently protect the coolant pump lubricant from fire. The final rule, therefore, stipulates only one method for protecting the lubrication oil: an oil collection system. 10 C.F.R. § 50, App. R, III.O (1980).

This rule-making followed an extensive process of plant by plant evaluations that had culminated in NRC staff approval of entire fire protection programs at many nuclear power plants and of important portions of such programs at others. Even so, the original notice of proposed rule-making contained no indication of whether plants would be required to alter approved features to comply with the new regulations. The final rule specified that most of the particular requirements would not be imposed upon plants that had received staff approval of features before the effective date of the new rule. 10 C.F.R. § 50.48(b) (1980). Three particular requirements, however, were to be applied to all nuclear plants operating before January 1, 1979, regardless of whether they had received staff approval of these aspects of their fire protection program. *Id.* These include the portions of the fire protection program challenged here: the standards for protecting duplicate and alternative safe shutdown capacity and the method for protecting the reactor coolant pump lubricant.[5]

The final rules, however, contain an additional, critical element of flexibility. Within thirty days of the rules'

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[4] An example is the Robinson 2 unit, owned by Carolina Power & Light Company. Carolina Power and Light is an intervenor in this lawsuit. Its brief explains in great detail how the fire protection program as finally adopted by the NRC may require operating plants to make changes beyond those already undertaken at the direction of NRC staff during the plant by plant evaluation process.

[5] They also include an emergency lighting requirement not challenged here. 10 C.F.R. § 50.48(b) & App. R, III.J (1980).

effective date, licensees were allowed to apply for exemptions from any aspect of the fire protection program, including those requirements applied to plants in spite of prior staff approval of protection systems that did not conform to the new rules. *Id.* § 50.48(c)(6). Implementation of the new rules is tolled pending final Commission action on the exemption request. *Id.* Exemptions are to be granted by the Commission upon a showing by the licensee that the required plant modification "would not enhance fire protection safety in the facility or that such modifications may be detrimental to overall facility safety." *Id.* Apparently a number of such exemption requests were filed within the time provided and are now under consideration by the NRC. Final decisions by the NRC on the exemption requests will themselves be subject to judicial review, 5 U.S.C. § 702 (1976).

II. The Adequacy of the Notice of Proposed Rule-Making

A. *Disclosure of the Technical Basis for the Proposed Rules.* The Administrative Procedure Act requires an agency engaged in informal rule-making to publish a notice of proposed rule-making in the Federal Register that includes "either the terms or substance of the proposed rule or a description of the subjects and issues involved." 5 U.S.C. § 553(b)(3) (1976). Connecticut Light's most serious complaint about the notice of proposed rule-making here is that it failed to indicate or explain the technical basis on which the Commission had relied in selecting the proposed rules.

The purpose of the comment period is to allow interested members of the public to communicate information, concerns, and criticisms to the agency during the rule-making process. If the notice of proposed rule-making fails to provide an accurate picture of the reasoning that has led the agency to the proposed rule, interested parties will not be able to comment meaningfully upon the

agency's proposals. As a result, the agency may operate with a one-sided or mistaken picture of the issues at stake in a rule-making. In order to allow for useful criticism, it is especially important for the agency to identify and make available technical studies and data that it has employed in reaching the decisions to propose particular rules. To allow an agency to play hunt the peanut with technical information, hiding or disguising the information that it employs, is to condone a practice in which the agency treats what should be a genuine interchange as mere bureaucratic sport. An agency commits serious procedural error when it fails to reveal portions of the technical basis for a proposed rule in time to allow for meaningful commentary.[6]

The notice proposing the fire protection program made little reference to technical material. It referred only to the *Browns Ferry Report* and to the guidelines laid down in *Branch Technical Position 9.5-1* and employed in the

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[6] *Sierra Club v. Costle*, 657 F.2d 298, 397 n.484 (D.C. Cir. 1981); *National Crushed Stone Association v. EPA*, 601 F.2d 111, 117 (4th Cir. 1979), *reversed on other grounds*, 449 U.S. 64 (1980); *United States v. Nova Scotia Food Products Corp.*, 568 F.2d 240 (2d Cir. 1977); *Home Box Office, Inc. v. FCC*, 567 F.2d 9, 55 (D.C. Cir.), *cert. denied*, 434 U.S. 829 (1977); *Portland Cement Association v. Ruckelshaus*, 486 F.2d 375, 392 (D.C. Cir. 1973), *cert. denied*, 417 U.S. 921 (1974). *See also Aqua Slide 'N' Dive Corp. v. Consumer Product Safety Commission*, 569 F.2d 831, 838 (5th Cir. 1978) (failure to subject technical material to adversarial comment affects weight that may be accorded the material by reviewing court). *Cf. FCC v. WNCN Listeners Guild*, 450 U.S. 582, 591 n.22 (1981) (failure to disclose a staff study on the effectiveness of market allocation mechanisms in accommodating diversity "even if a procedural lapse, [not] . . . a sufficient ground for reopening the proceeding before the Commission.") Because we find that the Commission did provide minimally sufficient indication of the technical materials upon which it relied here, we need not reach the issue of whether a given set of omissions is a procedural lapse serious enough to warrant a remand to the agency.

plant by plant safety evaluations. 45 Fed. Reg. 36,082 (May 29, 1980). Otherwise, the Commission asserted that "[t]he position of the staff and the licensees regarding the provisions of this rule is documented and well known." *Id.*

Connecticut Light contends to the contrary that the Commission's position was not well-known at all. Some technical papers relied upon by the Commission, Connecticut Light asserts, were either not public or were not identified as relevant by the Commission until long after the comment period had closed.[7] Utilities wishing to comment on these technical studies, the Company argues, would thus have either been unable to review some relevant documents, or would have faced the situation of having to guess which of a myriad of entries in the Commission's public documents room has played an important role in the development of the fire protection program.

The Commission's belief that its position was well-known was not entirely unreasonable. It was based in the

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[7] Connecticut Light's position here is fueled by the NRC itself. In an opinion denying a motion by several nuclear power plant licensees for a stay of the portions of the fire protection program challenged here, the NRC justified the fire protection program by reference to a range of technical material and staff documents. *Memorandum and Order* No. CLI-81-11 (NRC June 12, 1980). At oral argument, NRC counsel specifically represented to the court that the experience accumulated during the plant by plant evaluations, together with the Sandia test results listed in note 8 *infra*, were the most important bases of the rule as proposed. Both final safety reports and the communications that took place during their development are in the NRC public documents room. So are the relevant Sandia reports. In this opinion, therefore, we consider only whether the accumulated experience of the safety evaluations of individual plants, the Sandia reports, the *Browns Ferry Report*, *Branch Technical Position No. 9.5-1*, and the comments submitted to the Commission during the comment period, provide adequate justification for the rules as finally adopted by the Commission.

first instance on the wide circulation of the *Browns Ferry Report* and *Branch Technical Position 9.5-1*. Indeed, Connecticut Light does not contest the availability or importance of these documents in this appeal. The Commission also contends that it relied heavily on the safety evaluations that had been prepared by NRC staff during the plant by plant evaluation process. These safety reports were on file in the NRC public documents room during the comment period. Of course, it would be unfair to charge one utility with knowledge of the details of what went on during a safety review of another utility's nuclear power plants. The NRC, however, did not assume that the utility companies had or should have shared information developed in individualized safety reviews. Instead, it relied on the utilities' *common* knowledge of problems that had recurred in plant after plant and of reports that had been publicly filed. There was in fact a common store of experience on which the NRC drew, that had been developed and accumulated in interaction with the utilities during the five-year period that followed the Browns Ferry fire.

Finally, the Commission did rely on some technical studies that were not mentioned in the notice of proposed rule-making. Two sets of studies made by Sandia Laboratories, both important to the development of the proposals for protecting duplicate and alternative shutdown capacity, are paramount examples of this.[6] These studies concerning the effectiveness of separation distances in preventing fire from spreading from one set

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[6] Sandia Laboratories, *A Preliminary Report on Fire Protection Research Program* (July 6, 1977 Test), No. SAND 77-1424 (October, 1977), J.A. 123; Sandia Laboratories, *A Preliminary Report on Fire Protection Research Program—Fire Retardant Coatings Tests* (December 7, 1977-January 31, 1978), No. SAND 78-0518 (March 1978), J.A. 287; Sandia Laboratories, *A Preliminary Report on Fire Protection Research Program Fire Barriers and Fire Retardant Coatings Tests*, No. NUREG-CR-0381 (Sept. 1978), J.A. 349.

of cables to another and the usefulness of fire retardant coatings, however, had already been subject to widespread public comment. The separation distance studies were part of the basis of a petition by the Union of Concerned Scientists (UCS) to require the NRC to alter its fire protection standards.[9] They were subject to public comment during the review of the UCS petition and a public memorandum by the NRC staff responded specifically to criticisms of the separations tests submitted during that review.[10] The fire retardant coatings studies, also public, formed part of the basis for a petition for reconsideration by the UCS.

During the comment period, the utilities repeatedly asked the NRC to identify the technical studies upon which the proposed rules were based. The NRC was unhelpful and the comments submitted are noticeably general.[11] Certainly, it would have been better practice for the NRC to have identified these technical materials specifically in the notice of proposed rule-making. Nonetheless, this rule-making process took place against a background of five years during which the Commission explored safety proposals in a public forum and exposed the important technical studies to adversarial comment.[12]

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[9] See J.A. 153, 258.

[10] *NRC Staff Report on Union of Concerned Scientists' Petition for Emergency and Remedial Action* (December 15, 1977), J.A. 260.

[11] *See, e.g.*, Comments of Northeast Utilities, J.A. 538; Comments of Edison Electric Institute, J.A. 563; Comments of Baltimore Gas & Electric Company, J.A. 591.

[12] At oral argument, counsel for the Commission conceded that it would have been reasonable for the Commission to include references to technical data in the notice of proposed rule-making. He contended only that the Commission's failure to do so here should not be fatal to this rule-making because of the extensive background of interaction between licensees of nuclear plants and the Commission in the five years between the Browns Ferry fire and the notice of proposed rule-making itself.

Given this context, we conclude that the technical background of the rules was sufficiently identified to allow for meaningful comment during the rule-making process.

B. *Differences Between the Fire Protection Program as Proposed and as Adopted.* Connecticut Light's second major challenge to the NRC procedures here is that the Commission adopted final rules that differed significantly from the rules announced in the notice of proposed rule-making. Connecticut Light contends that because of the differences the NRC should have renoticed the changed rules and set a new comment period. Connecticut Light regards three particular changes as crucial: the change from the postulated hazards approach to a list of three acceptable methods for protecting duplicate and alternative shutdown capacity, the decision to give no credit for fire retardant coatings, and the determination that a collection system is the only acceptable means for protecting the coolant pump lubrication oil. We find that the rules as adopted were sufficiently similar to the rules as proposed that renoticing was not required. An important factor in our decision, however, is that with the exemption provision the practical impact of the final rules is very similar to what it would have been if the proposed rules had gone into effect.

An agency adopting final rules that differ from its proposed rules is required to renotice when the changes are so major that the original notice did not adequately frame the subjects for discussion. The purpose of the new notice is to allow interested parties a fair opportunity to comment upon the final rules in their altered form. The agency need not renotice changes that follow logically from or that reasonably develop the rules it proposed originally. Otherwise, the comment period would be a perpetual exercise rather than a genuine interchange resulting in improved rules. *Weyerhaeuser Co. v. Costle*, 590 F.2d 1011, 1031 (D.C. Cir. 1978);

Ethyl Corp. v. Environmental Protection Agency, 541 F.2d 1, 48 (D.C. Cir.) (*en banc*), *cert. denied*, 426 U.S. 951 (1976).[18]

Here, the final rules were a "logical outgrowth" of the rules as proposed. *Weyerhaeuser Co. v. Costle*, 590 F.2d at 1031. The NRC had proposed two methods for protecting coolant pump lubrication oil; the final rule mandated one of these methods, a collection system, because of concern about the flammability of the lubrication oil. The NRC had proposed a method for protecting alternate and duplicate shutdown capacity that included consideration of the effects of fire retardant coatings; the final rule ignored the coatings because of concern about their reliability. With respect to both of these changes, the notice of proposed rule-making clearly revealed both the precise "subject matter" and the "issues" involved as required by the APA, 5 U.S.C. § 553(b)(3) (1976). The final rules were simply more stringent versions of the proposed rules.

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[18] The authorities cited by Connecticut Light in support of its argument that new notice was required in this case all involved major failures to indicate the nature or scope of the final rule adopted. In *Kollett v. Harris*, 619 F.2d 184 (1st Cir. 1980), the notice announced the general subject of income and exclusions from income of persons eligible for Supplemental Security Income benefits, but not the particular topic of the challenged rule, the implementation of the statutory provision concerning the attribution of parental income to children, 42 U.S.C. § 1382c(f)(2) (1976). In *American Standards, Inc. v. United States*, 602 F.2d 256 (Ct. Cl. 1979), the court held that a proposal to compute a deduction for certain trade corporations by the consolidation of taxable incomes did not adequately warn the public that the Treasury intended to include the case in which a corporation had a net loss. *American Iron & Steel Institute v. Environmental Protection Agency*, 568 F.2d 284 (3d Cir. 1977), involved a notice of proposed rule-making that completely failed to indicate that the regulations proposed would apply to a subcategory of the steel industry, the specialty steel segment.

The question is somewhat closer with respect to the change in methods of protecting duplicate shutdown capacity from the postulated hazards approach to the stipulation of the three acceptable alternatives. Connecticut Light contends that it did not have a fair opportunity to comment on the latter approach, because the approach was entirely novel. The NRC replies that it adopted the stipulated alternatives approach because of criticism about the complexity of the postulated hazards approach.[14] It also points out that with the exemption procedure the stipulated alternatives approach is not a major shift in NRC policy.

In explaining the interplay between the adoption of the stipulated alternatives approach and the exemption procedure, the Commission stated:

> Requirements that account for all of the parameters that are important to fire protection and consistent with safety requirements for all plant-unique configurations have not yet been developed. In light of the experience gained in fire protection evaluations over the past four years, the Commission believes that the licensees should reexamine those previously approved configurations of fire protection that do not meet the requirements as specified in Section III.G. to Appendix R. Based on this reexamination the licensee must either meet the requirements of Section III.G. of Appendix R or apply for an exemption that justifies alternatives by a fire hazard analysis.

45 Fed. Reg. 76,603 (Nov. 19, 1980). The practical effect of the exemption procedure is thus to give utilities a fourth alternative: if the company can prove that

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[14] A number of power companies commented unfavorably upon the "excessive detail" of the proposed postulated hazards approach. *See* Comments of Northeast Utilities, J.A. 539; Comments of Yankee Power Company, J.A. 558-59; Comments of Edison Electric Institute, J.A. 576; Comments of Consumers' Power Company, J.A. 587; Comments of Florida Power & Light Company, J.A. 590.

another method works as well as one of the three stipulated by the NRC, in light of the identified fire hazards at its plant, it may continue to employ that method. The NRC at oral argument characterized the final rule as adopted with the exemption provision as "functionally . . . the same" as the postulated hazards approach. As counsel for the NRC explained at oral argument in response to a question about whether the difference between the proposed and final rules was merely one of nomenclature:

> As it works out practically, yes, [the difference is one of nomenclature] because we now have in house these at least forty-four exemption requests for just the one redundant separation part of the rule and the staff will be doing the same kind of review of analyses and the utilities will be doing the same kind of analysis that they would have done under the proposed rule.

Counsel further explained that the postulated hazards approach placed the burden on the utility to show how its protection program could meet likely fire hazards, and the exemption procedure similarly placed the burden on the utility to show that safety would not be enhanced by installing one of the alternatives stipulated in the rule.

Certainly, a rule that continues to allow a proposed approach as an alternative to other stipulated methods may be regarded as the logical successor to the proposed approach. On this basis, we conclude that the NRC was not obligated to renotice the fire protection program when it shifted from reliance on the postulated hazards approach to the stipulated alternatives approach in conjunction with the exemption procedure.

C. *The Thirty-Day Comment Period.* Connecticut Light's final objection to the notice and comment procedures followed by the NRC is that the NRC allowed but a thirty-day comment period, without extension.

Notice of Proposed Rule-Making, 45 Fed. Reg. 36,082 (May 29, 1980). This is the statutory minimum, 5 U.S.C. § 553(d) (1976). The NRC justified thus limiting the comment period because of the extensive background of public comment and open meetings that preceded the rule-making concerning the fire protection program. Connecticut Light, however, objects that the provision requiring the separation of associated circuits in particular was a novel proposal and that members of the industry therefore should have been granted a longer comment period.

We cannot say that the NRC's choice of a comment period was unreasonable. Neither statute nor regulation mandates that the agency do more. While the technical complexity of the regulations is such that a somewhat longer comment period might have been helpful, the NRC had been exploring without complete success the problem of fire protection at nuclear plants with members of the industry for over five years. We shall not gainsay the Commission's conclusion that "it is timely and necessary . . . to state what the minimum fire protection requirements will be in each of these contested areas of concern." 45 Fed. Reg. 36,083 (May 29, 1980).

III. The NRC's Justification for the Final Rules

Under the Administrative Procedure Act, an agency adopting rules by notice and comment rule-making must provide "a concise general statement of [the rules'] basis and purpose." 5 U.S.C. § 553(c) (1976). This statement need not be comprehensive, but it must indicate sufficiently the agency's reasons for the rules selected, so that the reviewing court is not faced with the task of "rummaging" through the record to elicit a rationale on its own. *United States ex rel. Checkman v. Laird*, 469 F.2d 773, 783 (2d Cir. 1972) (Leventhal, J.); *See also American Public Transit Association v. Lewis*, 655 F.2d 1272, 1278 (D.C. Cir. 1981); *Harborlite Corp. v. ICC*,

618 F.2d 1088, 1093 n.9 (D.C. Cir. 1979). In this case, the Commission has come close indeed to requiring this court to search dusty attic corners of the record to bring to light an adequate rationale for the Commission's action.

We are asked here to consider three aspects of the final rule: the methods stipulated for protecting duplicate and alternate shutdown capacity, the refusal to consider fire retardant coatings as protective devices, and the decision to allow only a collection system to protect the reactor coolant pump lubrication oil. As justification for stipulating the three methods of protecting shutdown capacity, 10 C.F.R. § 50, App. R, III.G.2 (1980), the Commission referred to the extreme importance of ensuring safe shutdown capacity in case of fire. It found the postulated hazards approach insufficiently protective because "it is not possible to predict the specific conditions under which fires may occur and propagate." Instead, the Commission decided to proceed on a known basis, the design features of the three protective methods selected. 45 Fed. Reg. 76,606 (Nov. 19, 1980). Finally, the Commission noted that comments had suggested the need to simplify the rule and that adoption of the three methods would certainly provide "clarification" of what was acceptable. *Id.*

The Commission's assertions about the protective capacities of the stipulated methods were not supported by specific reference to technical materials. Such technical guidance would have simplified this court's task on review considerably. Nonetheless, it is fairly clear that the Commission intended to refer generally to the tests of fire propagation among cable systems conducted by Sandia Laboratories.[15] These tests are far from conclusive proof that the three methods stipulated are the only methods capable of protecting safe shutdown capacity. They do, however, provide some record support for the effectiveness

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[15] See note 8, *supra*.

of the methods chosen. In light of the fact that the exemption procedure will allow power plants to show that alternative measures provide equivalent safety protection, we find that the record provides sufficient support for that aspect of the fire protection program applying to shutdown capacity.

The Commission's refusal to include fire retardant coatings as devices for protecting cable systems was based on "some separate effects tests." 45 Fed. Reg. 76,603 (Nov. 19, 1980). These appear to have been the Sandia tests of fire retardant coatings.[16] Once again, the technical material is insufficient to support the conclusion that a protective system including fire retardant coatings could never be as effective as the three methods allowed by the Commission for the protection of safe shutdown capacity in App. R, III.G.2. The Sandia tests conclude that retardant coatings offer varying amounts of cable protection. Moreover, it is by no means clear that the Sandia tests evaluated all of the coatings that are now available.

The exemption procedure, however, indicates that the Commission did not intend to limit protective measures to the three methods stipulated in the rule, 10 C.F.R. § 50, App. R, III.G.2 (1980). If the utility can show that some combination of protective measures provides protection equivalent to that afforded by one of the Commission's three stipulated methods, it will be entitled to an exemption, regardless of whether the combination of measures includes fire retardant coatings. The statement that "based on present information, the Commission

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[16] Sandia Laboratories, *A Preliminary Report on Fire Protection Research Program—Fire Retardant Coatings Tests* (December 7, 1977-January 31, 1978), No. SAND 78-0518 (March 1978), J.A. 287; Sandia Laboratories, *A Preliminary Report on Fire Protection Research Program Fire Barriers and Fire Retardant Coatings Tests*, No. NUREG-CR-0381 (Sept. 1978), J.A. 349.

does not expect to be able to approve exemptions for fire-retardant coatings used as fire barriers," 45 Fed. Reg. 76,609 (Nov. 19, 1980), must therefore be regarded as mere mischievous dictum. Whatever the Commission's present expectations, it must remain open to power companies to show in individual exemption applications that fire retardant coatings in conjunction with other protective means can provide adequate levels of fire protection.

Finally, the Commission allowed only one method for protecting coolant pump lubrication oil, a collection system, 10 C.F.R. § 50, App. R, III.O (1980). This limitation was justified because of the possibility that uncollected oil might come in contact with hot surfaces, igniting a dangerous and inaccessible fire. 45 Fed. Reg. 76,708 (Nov. 19, 1980). Another inadequacy of the alternative initially proposed by the Commission, a water system for putting out fires in the lubricant, was that such a suppression system might not withstand an earthquake, a possible cause of a power plant fire. *Id.* at 76,609. But the Commission's rationale does not mandate the conclusion that a suppression system could never be as effective as a collection system; it does not, for example, take into account differences in seismic danger for different nuclear plants. Once again, however, the exemption procedure is crucial. Companies such as the intervenor Carolina Power and Light, which had installed a suppression system with approval of the Commission staff, will have an opportunity to show that their system is as protective of the public safety as the system chosen by the Commission.

IV. The Commission's Backfit Regulations

An agency is bound by its own regulations and commits procedural error if it fails to abide by them. *Panhandle Eastern Pipe Line Co. v. FERC*, 613 F.2d 1120, 1135 & n.84 (D.C. Cir. 1979), *cert. denied*, 449 U.S. 889

(1980). The NRC has adopted a specific regulation governing the imposition of structural changes upon nuclear plants for which construction permits have been issued, 10 C.F.R. § 50.109 (1980). Connecticut Light contends that the NRC failed to honor its regulation governing backfitting in promulgating the fire protection program.

We disagree. The NRC's regulations allow backfitting only if the Commission "finds that such action will provide substantial, additional protection which is required for the public health and safety or the common defense and security." *Id.* § 50.109(a). The regulation further provides, "Nothing in this section shall be deemed to relieve a holder of a construction permit or a license from compliance with the rules, regulations, or orders of the Commission." *Id.* § 50.109(b). The NRC interprets the complete regulation to require the additional public safety finding when backfitting is not imposed on power plants through the rule-making process. For example, NRC staff reviews sometimes require backfitting; at oral argument, counsel for the NRC indicated that § 50.109(a) was designed to protect power plants from precipitous staff recommendations. This interpretation of the regulations is sensible. During the rule-making process, the NRC is forced to justify the need for regulations involving backfitting by virtue of the rule-making itself. A further finding on the impact of the regulations on the public safety would be otiose. We therefore adhere to the NRC's construction of its backfit regulations and reject Connecticut Light's contention that the NRC failed to honor the regulations. *See Belco Petroleum Corp. v. FERC*, 589 F.2d 680, 685 (D.C. Cir. 1978) ("When construction of an agency regulation is in issue, courts owe great deference to the interpretation adopted by the agency and will uphold that interpretation if it is reasonable and consistent with the regulation.")

V. Conclusion

Our decision to uphold the NRC's adoption of the fire protection program is reluctant. At almost every step of the way, the NRC's procedures were less than exemplary. The notice of proposed rule-making was cursory and gave the industry the minimum acceptable opportunity to respond. The agency's statement of the basis for the program in its final form provided limited technical guidance indeed. Surely, the NRC is entitled to use its discretion to err on the side of protecting the public safety when it regulates nuclear power plants. If the NRC treats the safeguards of the administrative process in too cavalier a fashion, however, it may be impossible for the reviewing court to discern that its action has indeed furthered the public safety.

Nonetheless, this is a case in which the rule as tempered by the exemption procedure must be upheld. The fire protection program with the exemption procedure is not a radical departure from the program as it was developed after the Browns Ferry fire and as it was originally proposed. With the exemption procedure, power plants will be able to show that alternative fire protection systems protect the public safety at the same high level as the system chosen by the Commission. Their failure to make such showings will only be further proof that the Commission was indeed correct that the public safety urgently required a stringent fire protection program for nuclear power plants.