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SUPPORTING STATEMENT FOR 10 CFR PART 52: EARLY SITE PERMITS, STANDARD DESIGN CERTIFICATIONS, AND COMBINED LICENSES FOR NUCLEAR POWER PLANTS

Background

The Nuclear Regulatory Commission (NRC or Commission) has long believed that standardized nuclear power plant design and other means of achieving early resolution of licensing issues could enhance the safety and reliability of nuclear plants and afford more effective public participation in the licensing process while reducing the complexity and uncertainty of that process. To achieve these aims, the Commission has published a new 10 CFR Part 52, which provides for issuance of early site permits, standard design certifications, and licenses which combine construction permits and conditional operating licenses for commercial nuclear power reactors. Although Part 52 contains several information collection requirements, discussed below, for the most part it does not impose new burdens but instead changes the timing of the burdens. Indeed, it is to be expected that, even with the few new burdens which Part 52 imposes, promulgation of Part 52 will actually reduce the paperwork burden borne by applicants for construction permits and operating licenses.

Justification

Pursuant to the Atomic Energy Act of 1954, as amended, and Title II of the Energy Reorganization Act of 1974, the Commission issues licenses for the use of nuclear material in commercial power plants. Such licenses are issued in accordance with such conditions as the NRC may by rule or regulation establish to effectuate the purposes and provisions of the statutes. Heretofore, the regulations have provided for a two-step process of licensing. Under this process, an applicant first applied for a construction permit, providing only preliminary design information. Then, as construction neared completion and design information became final, the applicant applied for an operating license. This process, involving as it did two separate applications and two submittals of design information, was cumbersome. The burden on both the applicant and the agency was compounded by the fact that most of the plants brought forward for licensing were custom-designed. Thus, information already in the possession of the agency was very often useless in reviewing a new design.

The regulations in 10 CFR Part 52 try to reduce these licensing burdens in principally two ways: first, by providing for the certification by rulemaking of standardized reactor designs, thus making it possible to use the same design information for the licensing of several plants; second, by providing for the issuance of a single license for both operation and construction, thus doing away with the necessity for two applications and two submittals of design information. (The new Part 52 also provides for the approval of a nuclear power plant site in advance of the submission of any application for a construction permit for that site, but this provision will probably have a neutral effect on information collection burdens, since it simply moves some of the issues usually resolved in a construction permit proceeding to an earlier stage). Of course, the Commission's principal aim in issuing this new Part is to enhance safety through the use of standardized designs; such designs permit more focused review and allow the industry to transfer experience in maintenance and operation from one plant to another more easily. But a secondary aim is to reduce the licensing burdens on both the industry and the agency.

Thus, the information collection requirements of this Part in the long run will reduce the information collection burdens borne by applicants. They are, moreover, in the opinion of the Commission, the least burdensome requirements which are still consistent with the performance of the statutory duties of the Commission.

Need for and Practical Utility of the Information Collection

In what follows, each Part 52 section which requires information collection is discussed. However, here at the beginning, it is important to note, that Part 52's collection requirements are, with few exceptions, based on information collection requirements which OMB has already reviewed and cleared. This is because Part 52, as noted above, for the most part does not add to burdens but reallocates those burdens to earlier stages in the licensing process, or reduces them through the use of standardized designs. Thus Part 52 often incorporates by references information collection requirements set forth in 10 CFR Part 50 and other Parts of Title 10, Chapter I of the CFR.

In general, the information submitted pursuant to the sections enumerated below is reviewed by various NRC offices charged with the responsibility of assuring that licensed activities are conducted in accord with the law. The information collected is used to assess the adequacy and suitability of the applicant's site, plant design, construction, training and experience, and plans and procedures for the protection of the public health and safety. The NRC review of such information, and the findings derived from that information, will form the basis of Commission decisions and actions concerning the issuance, modification, or revocation of site permits, design certifications, and combined licenses for nuclear power reactor plants.

Early Site Permits.

Sections 52.15 and 52.17. These sections of 10 CFR Part 52 set forth the requirements for the contents of applications for early site permits, which represent Commission approval of sites for use for commercial nuclear power plants. These approvals are available to applicants even in advance of submittal of the preliminary design information which 10 CFR Part 50 requires of applicants for construction permits. In other respects, though, sections 52.15 and 52.17 require from applicants much of the information which 10 CFR Part 50 now requires of applicants for construction permits, such as an environmental report; the number, type, and thermal power level of the facilities for which the site may be used; the boundaries of the site; the proposed general location of each facility on site; the anticipated maximum levels of radiological and thermal effluents each such facility will produce; the type of cooling systems, intakes, and outflows that may be associated with each facility; the seismic, meterorologic, hydrologic, and geologic characteristics of the proposed site; the existing and projected future population profile of the area; and a showing that there are no significant impediments to the development of emergency planning for the area.1 The only requirement in section 52.17 which is not already in Part 50 is the requirement for a plan for redress of the site if the permit should expire and the site not have been used for a nuclear power plant. It is estimated that such a plan would require roughly a staff-year to produce. Such a plan is required only of applicants who wish to be able to perform certain site preparation activities.

This information is needed by the Commission to perform its statutory duty of assessing and assuring an acceptable environmental effect of the contemplated nuclear power plant site, the safety and suitability of the subject site, and the adequacy of emergency planning and preparedness, in accordance with the applicable standards set forth in 10 CFR Part 50 and the Appendices thereto.

Section 52.29. This section of 10 CFR Part 5. Ontains requirements for a renewal application of any early site permit previously issued by the Commission. It requires the updating of information contained in the original application under 52.15 and

¹section 52.17(b) also provides the applicant the option of submitting full or partial emergency plans. The burden of choosing this option is simply the burden of complying with 10 CFR 50.47 and the relevant portions of 10 CFR Part 50, Appendix E, both already cleared by OMB.

52.17. This information is needed for the same reasons and purposes set out above with respect to the applicant's original filing under 52.17. Section 52.29 imposes the same burden which is imposed by 10 CFR 50.55(d), which requires the updating of construction permits several years after issuance.

Almost all of this information is required by 10 CFR Part 50 of applicants for construction permits, but construction permit applicants who can reference an early site permit will not have to resubmit the information contained in the early site permit. Thus, at bottom, the early site permit is a partial construction permit, a partial approval based on information submitted at the earliest possible time. Whatever is submitted then will not have to be submitted later. The Part 50 information collection requirements for applicants for construction permits have been cleared by OMB under clearance number 3150-0011. It is the Commission's expectation that no application for an early site permit will be filed for at least the next three years, if not longer. Of course, no renewal applications are expected for a much longer time. Thus the relevant burdens for the near future are zero.

Section 52.35. Last of Part 52's information requirements relating to early site permits, this section, while permiting the holder of an early site permit to put the site to non-nuclear use during the term of the permit, requires the holder to notify the agency of the non-nuclear use. This information is necessary so that the NRC may determine whether the non-nuclear use is consistent with the terms of the permit. It is projected that such notification, which would describe the non-nuclear use and discuss whether such use were consistent with eventual nuclear use of the site, would require roughly a staff-week to produce.

Certifications of Standard Designs.

Part 52's provisions on standardization of designs are the centerpiece of the rulemaking. They provide for certification of a design before it is known what sites it might be used at. Once certified, the design can be referenced in any number of applications for construction permits, operating licenses, or combinations of the two, thus making one submittal of design information serve for several licensings.

<u>Sections 52.45 and 52.47.</u> These sections of 10 CFR Part 52 set forth the requirements for the contents of applications for the certification of standard plant design. Except in two respects, this information is design information already required of applicants for operating licenses under 10 CFR Part 50, particularly Appendix 0 of Part 50. This information includes the site parameters postulated for the design; proposed resolutions of what are called Unresolved Safety Issues (the Commission is required to report annually to Congress on these issues); a design-specific probabilistic risk assessment; and proposed tests, analyses, inspections, and acceptance criteria that are necessary to provide reasonable assurance that a plant which references the design is built and will operate within the specifications of the design. The Commission staff needs to review such information so that it can fulfill its statutory duty to determine whether the design meets the standards and objectives of the Atomic Energy Act and 10 CFR Part 50 and it Appendices, in particular whether the proposed standard design will provide reasonable assurance of adequate protection to public health and safety and the common defense and security.

The Commission has not heretofore required of all applicants that they propose resolutions of the Unresolved Safety Issues (USIs), or tests and inspections that would show that a plant had been built well. Of course, as the Commission goes about the process of resolving USIs and inspecting plants under construction, much information is required of licensees under existing and cleared provisions in 10 CFR Part 50. Part 52's provisions on these points merely require that this information be in hand before construction begins. They therefore, at bottom, do not impose new paperwork burdens. Our estimates of the burdens are based on our experience with inspections and the process of addressing and resolving USIs. Some designers who have designs now before the agency for review have already addressed USIs even in the absence of any requirement to do so. We estimate that addressing the Unresolved Safety Issues will entail a burden of about 6000 hours and that proposing the necessary test, inspections, and analyses likewise will entail a burden of about 6,000 hours.

Part 52's requirement for a design-specific probabilistic risk assessment (PRA) is new, though even here there is strong precedent in the Commission's rules and in industry practice. 10 CFR 50.34(f), for instance, did require such an assessment of certain named plants, and such assessments have increasingly come into use by designers. It may with confidence be said that designers offering designs to the Commission for certification will have prepared those designs using probabilistic risk assessments throughout the design process, since they are an inestimable aid to discovering safety deficiencies and confirming safety enhancements. The Commission's requirement for such assessment in effect asks only that the designer submit the final version of the assessment he has been performing for his own purposes throughout the design process. The preparation of a design-specific PRA involves about 10,000 staff hours. This estimate is based on recent industry experience in the preparation of plant-specific PRAs, which are somewhat more burdensome, since they involve a number of site-specific elements

that certified designs will not include, and they take into account operating history.

In fact, it is generally true that the burden of complying with these sections will be less than the burden of complying with the incorporated portions of Part 50, because a standardized design cannot include systems and structures which would be specific to a given power plant site.

Section 52.57. This section of 10 CFR Part 52 provides a procedure for application for renewal of a design certification issue under 10 CFR 52.45 and 52.47, as described above. The regulation requires updating any of the information that was submitted under 52.45 or 52.47. This updating of information would be required by the Commission staff to make the same determinations as set out above with respect to Section 52.47. The burden of this updating is comparable to the burden of meeting the Commission's current and approved requirement for annual updates of the licensee's Final Safety Analysis Report (FSAR). The latter burden entails about 1000 staff hours a year. We estimate that the burden of updating the information in a design certification which has been in effect for ten years is 10,000 staff hours, or a burden equivalent to ten annual updates of an FSAR under current regulations.

In sum, for the most part, the information requirements of sections 52.45 and 52.47 only incorporate the requirements of 10 CFR Part 50, with what is hoped will be a considerable reduction in burden, since one certification can be incorporated by reference in a multitude of licensing proceedings. Part 50's information collection requirements have been cleared by the OMB under number 3150-0011. The Commission has before it now three designs which may be pursued to certification, though at the present time they are before us simply for a so-called Final Design Approval (not certification) under Appendix O (cleared by OMB) of Part 50. Such an Approval is a prerequisite for certification. Thus, for the near future, the total paperwork burden imposed by Part 52's information collection requirements for design certification is expected to be no more than that entailed by 1 response per year.

Combined Construction Permit and Operating License.

Sections 52.75, 52.77, 52.79, and 52.91(a)(2). Under current NRC licensing practice, an applicant receives a construction permit without any assurance that he can operate the plant once construction is complete. Instead, the applicant must apply for an operating license and submit at that time complete design information, to supplement the preliminary information submitted in connection with the construction permit. Part 52 opens up a more sensible path, one which Section 161h of the Atomic Energy Act makes available. That section says that the Commission may combine in a single license activities licensed separately. Part 52 proposes to do that for construction permits and operating licenses. It thus requires that the design information normally not submitted until construction is complete be submitted before construction. Once submitted and approved, this design information then does not have to be reconsidered after construction is complete. Ideally, the applicant for this "combined license" would incorporate by reference both an early site permit and a certified design and thus have to submit only a fraction of the information now submitted for a construction permit and operating license.

Thus, the chief information collection requirements for combined licenses are fundamentally statements that say, if the application for a combined license does not reference an early site permit or a certified design, it must contain the information the site permit or certification would have contained, together with any other information which is required of applicants under the existing and approved 10 CFR Part 50 and would not have been covered by an early site permit or design certification had they existed, such as the antitrust information required by Section 105 of the Atomic Energy Act (to assure that any relevant anticompetive considerations are brought to the attention of the Attorney General and the Commission) and emergency plans that provide reasonable assurance that adequate protective measures can be taken in the event of a radiological emergency at the site. In the cases of both antitrust and emergency planning information, Part 52's requirements are the requirements of 10 CFR Part 50, already reviewed and cleared by OMB. In all other respects, sections 52.75, 52.77, and 52.79 constitute the same burdens and are supported by the same justifications as sections 52.15, 52.17, 52.45, and 52.47.

Section 52.103. The only other information collection requirement in Part 52 is a requirement in section 52.103(a) for a notice to the Commission of the intended dates of fuel loading and operation. Such a notice would be given after construction was complete and near to the projected date of operation. Given the minimal information such a notice would contain, it is estimated that it would entail a burden of no more than 5 staff hours.

It is highly unlikely that Part 52's provisions on combined licenses will impose burdens in the near, or even medium-term future. There have been no new construction permit applications for many years now. None are on the horizon. The next one is very likely to incorporate by reference an early site permit and a certified design, but we are several years away from

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certification of a design. Thus the near-term burden of these requirements is zero.

Circumstances Which Justify Variation from OMB Guidelines

The collection of information required by the regulation comports with the guidelines set out in 5 CFR 3120.6 with the exception of requiring repondents to submit proprietary information to the extent necessary for a complete application under this Part 52 (see 5 CFR 1320.6(i)). This requirement is necessary to satisfy statutory requirements that the Commission must be able to investigate and analyze the prospective operation of the plant in question as well as follow any paper trail through the siting and construction process. See Section 182 of the Atomic Energy Act. There is a substantial need for this variation from the guidelines in the nuclear plant licensing process. The Commission's regulations and case law provide adequate protection for applicant's proprietary information.

Consultation Outside the Agecy

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Development of Part 52 involved extensive public input. The Commission announced its intention to pursue rulemaking on standardization in its Policy Statement on Nuclear Power Plant Standardization (52 Fed. Reg. 34884). The Policy Statement provided for a forty-five-day comment period and gave notice that a public workshop would be held during the comment period. The proposed rule was issued in the fall of 1988 and a second, seventy-five-day comment period was provided, and another public workshop was held. The statement of considerations accompanying the proposed rule stated that the rule contained information collection requirements and invited comment on the Commission's overall estimate of the paperwork burdens the requirements would entail. Although over 70 comments, ranging from one-page letters to 105-page rewrites of the rule, were received, no comments on the paperwork burden were submitted. Commenters understood that one of the principal aims of Part 52 is to reduce the burdens of the licensing process.

Confidentiality of Information

None, except for proprietary information, discussed above.

Sensitive Questions

None.

Estimated Annualized Cost to the Federal Government

The Commission estimates that the NRC staff will spend some 11,000 hours annually to review the "Total Burden" (see Burden Table, p. 13 below) which would be imposed by Part 52. Therefore, the estimated Federal cost is expected to be \$660,000 (\$60 X 11,000). This estimate is based upon staff experience in reviewing similar documents (tests, inspections, and analyses submitted under 10 CFR Part 50; plant-specific probabilistic risk assessments; and vendor documents addressing the Unresolved Safety Issues).

Reduction of Burden Through Information Technology

There are no legal obstacles to reducing the burden associated with this information collection. However, because of the types of information and the infrequency of submission (only once, for each permit, license, or certification) the applications and reports described herein do not lend themselves to the ready use of automated information technology for submission.

Efforts to Identify Duplication

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In general, information required by the NRC in applications, reports, or records concerning the licensing of nuclear power plants or the granting of a construction permit does not duplicate other Federal information collection requirements. This information is not available from any source other than the applicants or licensees involved.

Use of Similar Information

There is no similar information available to the NRC. In the applications and reports described herein, the applicant may, however, incorporate by reference earlier submissions where appropriate. Indeed, one of the two principal aims of design certification is to make it unnecessary to collect the same information from two different applicants for operating licenses.

Effort to Reduce Small Business Burden

The information collection required by this regulation will not be a burden on small business since no small business will be seeking the permits, certifications, and licenses made available by this part.

Consequences of Less Frequent Collections

This information is not collected on a repetitive basis from a single applicant. Indeed, the idea of the proposed regulation is to avoid collecting similar information even from other applicants. Thus, in one sense, the rule provides for less frequent collection. However, we cannot collect the information any less frequently than provided in this rule. Less frequent collection of the information called for in this regulaion would compromise NRC ability to make approporiate licensing decisions and adversely affect the adminstration of the duties of the Commission under the law. Applications are required only when licensing action is sought.

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BURDEN TABLE

10 CFR PART 52

Section	Burden Hours Per Response	No. of Reponses <u>Annually</u>	Annual
Early Site Permits:			
52.15(b)	The same as 10 CFR 50.30(a), (b), and (1), approved by OMB under control no. 3150-0011		
52.17(a)(1)	The same as 10 CFR 50.33(a)-(d) and 50.34(a)(1), approved by OMB under control no. 3150-0011		
52.17(a)(2)	The same as 10 CFR 51.45 and 51.50, approved by OMB under control no. 3150-0021		
52.17(b)	The same as 10 CFR 50.47 and 10 CFR Part 50, App. E, Section II, approv by OMB under control no. 3150-0011		
52.17(c)	1900	0	0
52.29(a)	The same as 10 CFR 50.55(d) (as applied to construction permits), approved by OMB under control no. 3150-0011		
52.35	40	0	0
Design Certifi- cations:			
52.45(d)	The same as 10 CFR 50.30(a) and (b) (as applied to construction permits approved by OMB under control numbe 3150-0011),	

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52.47(a)(1) (i)-(iii)	The same as 10 CR Parts 20, 50, 73, and 100 (as these are applied to applicants under Part 50), approved by OMB under control nos. 3150-0014, 3150-0011, 3150-0002, and 3150-0093, respectively (see discussion of this section in Supporting Statement)		
52.47(a)(1) (iv)-(vi)	10,000 (PRA) + 6,000 (inspections) + 6,000 (USIs)	1	22,000
52.47(a)(1) (vii)-(ix) and (b)(3)	(part of the burden of complying with 52.47(a)(1)(i)-(vi))		
52.57(a)	10,000	0	0
Combined Licenses:			
52.75	The same as 10 CFR 50.30(a) and (b), approved by OMB under control no. 3150-0011		
52.77	The same as 10 CFR 50.33 and 50.33a, approved by OMB under control no. 3150-0011		
52.79(a)(2)	(If an early site permit is not referenced) The same as 10 CFR 51.45 and 51.50, approved by OMB under control no. 3150-0021		
52.79(b)	The same as (1) 10 CFR Parts 20, 50, 73, and 100 (as these are applied to applicants under Part 50), approved by OMB under control nos. 3150-0014, 3150-0011, 3150-0002, and 3150-0093, respectively; and (2) 52.47(a). The bulk of the burden may be met by referencing a design certification.		
	To meet 52.47(a)(1)(iv) and (v), if application does not reference a design certification: 10,000 (PRA) + 6,000 (USIS)	0	0

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52.79(a)(3)	1900 (if the applicant wishes to perform certain site preparation activities and the application does not reference an early site permit)	0	0
52.79(c)	6,000 (if application does not reference a design certification)	0	0
52.79(d)	The same as 10 CFR 50.34(b)(6)(v), approved by OMB under control no. 3150-0011		
52.103(a)	5	0	0

TOTAL:

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^{*}To comply with 52.47(a)(1)(iv)-(vi). This is in addition to the burden of complying with the relevant portions of 10 CFR Parts 20, 50, 73, and 100.