

NEI COMMENTS ON REVISED PORTIONS OF THE NRC ENVIRONMENTAL STANDARD REVIEW PLAN (NUREG – 1555)

The Nuclear Energy Institute (NEI)¹ is pleased to submit the following comments on selected sections of the NRC Environmental Standard Review Plan ("ESRP" or NUREG-1555), which provides guidance to the NRC Staff in implementing 10 CFR Part 51 in connection with nuclear power reactor environmental reviews. The NRC Staff is updating portions of the ESRP (beginning with the high priority sections) to support expected applications for combined licenses (COLAs) for new plants. This update is intended to address and reflect changes in NRC regulations, environmental laws and electric markets (deregulation), as well as lessons learned from the Staff's review of Early Site Permits (ESPs).² These comments address those revised ESRP sections made available for "use and comment" beginning in July 2007. (All citations to ESRP sections below refer to these updated versions.) We understand that the NRC will consider public comments received before issuing each section as a final revision to the ESRP.

I. SECTION-SPECIFIC COMMENTS

Comments on the ESRP Introduction

Introduction, p. 3, lines 18-19:

The ESRP states that in the context of the acceptance review, the technical sufficiency of the information in the ER "would be based on a comparison of the contents of the ER to the guidance in Regulatory Guides 4.2 and 4.7, and in the applicable ESRPs." The ESRP also states that RG 4.2 provides guidance for COLs. Because RG 4.2 is outdated and not fully consistent with the ESRPs, we suggest that RG 4.2 be updated to reflect the NRC's most recent licensing experience.

Introduction, pp. 11-13:

The discussion of "new and significant" information in the ESRP provides a definition of "new" information but not "significant" information. Given the importance of this term, the ESRP should provide Staff reviewers with a working definition of the term "significant" in this context. In the Supplementary Information accompanying the 10 CFR Part 52 final rule, the Commission addresses new and significant information in the context of COLAs that reference ESPs. The Commission states that new information may or may not be significant, and adds: "For an issue to be significant, it must be material to the issue being considered, that is, it must have the potential to affect the finding or conclusions of the NRC staff's evaluation of the issue." 72 Fed. Reg. 49,431 (Aug. 28, 2007). We recommend that the ESRP provide a definition be based on the Commission's statement and the Introduction to Supplement 1 to Regulatory Guide 4.2. The industry recommends the following definition:

For information to be "significant" it must be material to the issue being considered, that is, it must have the potential to affect the finding or conclusions of the staff's evaluation of the issue. The NRC established three significance levels for environmental impacts: SMALL,

1 The Nuclear Energy Institute (NEI) is the organization responsible for establishing unified industry policy on matters affecting the nuclear energy industry, including the regulatory aspects of generic operational and technical issues. NEI's members include all entities licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect/engineering firms, fuel fabrication facilities, nuclear materials licensees, and other organizations and individuals involved in the nuclear energy industry.

2 See July 4, 2007 memorandum from A. Kugler to B. Clayton, NRC Office of New Reactors, re the ESRP update, Enclosure. 1.

MODERATE, and LARGE. One of these three significance levels was assigned to each impact evaluated and resolved in the ESP EIS. For the purposes of this significance evaluation, new information is considered significant if it has the *potential* to change an NRC assigned level of significance; that is, from SMALL to MODERATE or from MODERATE to LARGE for adverse impacts, or if it has the *potential* to change an NRC finding or conclusion regarding alternative energy sources or designs. Changes in impacts of a beneficial nature need not be addressed in the COLA ER; i.e., they are not 'significant'.

Introduction, p. 12:

The ESRP states: "The conclusions from the ESP EIS may be used in the COL application and considered by the NRC staff." (Emphasis added). This statement does not accurately reflect amended 10 CFR 52.39 and 10 CFR 51.92(e). Accordingly, this statement in the ESRP should be revised as follows:

"Issues that are resolved in the ESP EIS have finality in accordance with 10 CFR 52.39. As required by 10 CFR 51.92(e), the COL EIS must incorporate by reference the ESP EIS. Additionally, the COL EIS must provide an analysis of issues that were not resolved in the ESP EIS and provide an analysis of "new and significant information" for issues that were resolved in the ESP EIS."

Introduction, p. 13:

The ESRP states: "the NRC staff may (1) inquire about changes to information disclosed in an EIS for an ESP that is referenced in a COL application, and (2) identify new information that may affect the assumptions, analyses, or conclusions in the ESP EIS." This statement does not fully reflect the "new and significant" principle. The statement in the ESRP should be modified as follows:

~~"the NRC staff may (1) inquire about changes to information disclosed in an EIS for an ESP that is referenced in a COL application~~ information in an Environmental Report that is contained in a COL application that references an ESP, and (2) identify new and significant information that may affect the assumptions, analyses, or conclusions in the ESP EIS."

Comments on Chapter 2 (Environmental Description)

Section 2.5.4 (Socioeconomics/Environmental Justice):

Section I of this ESRP indicates that the environmental justice review requires identification and description of low-income and minority populations (emphasis added). This is consistent with Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, and LIC-203, which provides detailed guidance on determining if there are any minority or low-income populations. The remainder of the ESRP, however, sometimes substitutes the term “communities” for “populations”, e.g.,

- Text on p. 2.5.4-3 asks for a more specific description of any unique minority or low-income communities within each environmental-impact area that are likely to be disproportionately affected by the propose project;
- p. 2.5.4-5 confusingly uses “populations” and “communities” in the same sentence;
- p. 2.5.4-6 contains several references to “communities.”).

If the NRC intends to expand on the Executive Order and direct review of impacts to minority and low-income communities, it should add a definition of that term, to distinguish it from the previously defined term “minority and low-income populations.” Otherwise, NRC should limit use of “communities” to cases where reviewers are being directed to solicit input from community leaders or other representatives and replace it with “populations” when discussing impacts.

In the Data and Information Needs portion of ESRP Section 2.5.4, the NRC has added a new ESRP action to interview representatives within the minority communities. The guidance states that the purpose of this action is to ensure that minority and low-income populations are not overlooked. The approach, however, should be consistent with the NRC’s environmental justice policy statement³ and the agency’s information needs. While interviewing local individuals or small groups is a source of information, interviewing local individuals or small focused groups may lead to biased perceptions of the proposed project. The focus of interviews should be to identify impacts peculiar to the population. Further, interviews should only be conducted where a disproportionate impact has been identified and additional data may be needed to further characterize these recognized impacts. (The ESRP does state that this is a matter of professional judgment for obtaining input for disproportionate and adverse impacts.) The NRC Staff should document this interview input in the EIS.

Section 2.5.4., p. 4, 3rd bullet:

This bullet refers to the CEQ guidance on environmental justice, which is not binding on the NRC. The second sentence should be revised to read: “This guidance is not binding on the NRC staff, but should be followed as appropriate, subject to the NRC policy on environmental justice referenced above.”

Section 2.5.4., p. 4, last paragraph:

The paragraph states that the reviewer should “alert the EPM of the existence of any unusual circumstances that warrant an environmental justice review.” It is unclear what circumstances this might refer to. The numeric population criteria for an environmental justice review are set forth in the NRC’s policy statement, Section III. Additional clarification is needed on this point.

³ Commission Policy Statement on the Treatment of Environmental Justice Matters in NRC Regulatory and Licensing Actions, 69 Fed. Reg. 52,040 (Aug. 24, 2004).

Section 2.5.4, p. 5, 4th bullet:

This section requires "a description of minority and low-income populations of particular interest or unusual circumstances, such as minority communities exceptionally dependent on subsistence resources or..." This wording is at odds with the Executive Order and there has been confusion about the use of the term "subsistence." Executive Order 12898, Section 4-401, indicates that Federal agencies, whenever practicable and appropriate, shall collect, maintain, and analyze information on the consumption patterns of populations who principally rely on fish and/or wildlife for subsistence. As indicated by the use of the term "principally," the Executive Order is focusing on populations that rely on fish and/or wildlife for more than 50 percent of their diet. Thus, the NUREG-1555 language should be revised as follows (underlined text is suggested addition; strikethrough text is suggested deletion):

"a description of minority and low-income populations of particular interest or unusual circumstances, such as ~~minority communities exceptionally dependent on subsistence resources~~ those who rely on fish and/or wildlife for more than 50 percent of their diet (i.e., subsistence populations) or ----"

As a practical matter, we are unaware of such populations in the contiguous 48 states. Alaska is the only state that has well-documented subsistence populations. NRC should consider adding words to this effect in NUREG-1555 in order to eliminate needless effort on the subject.

Comments on Chapter 3 (Plant Description)

Sections 3.0 to 3.6:

These sections are silent regarding the content of a combined license environmental impact statement (COL EIS) that references an early site permit (ESP) EIS which uses a plant parameter envelope (PPE). The ESRP should be augmented to indicate that a COL EIS that references an ESP EIS only needs to demonstrate conformance to the PPE, and does not need to provide all of the plant and system descriptions identified in these sections of the ESRP. While plant parameters outside the PPE may represent "new and significant" information, plant parameters within the PPE are bounded by the PPE conclusions and therefore should not alter the conclusions of the ESP EIS. Thus, these parameters would not represent new or significant information.

Section 3.7 (Power Transmission System):

The ESRP recognizes that the COL applicant may not be the owner/operator of the transmission lines, and that the transmission corridors and design may not be identified at the time of issuance of the COL. However, the ESRP provides little or no guidance for this situation other than to state that the reviewer should use what information is available. (We agree with this statement.)

In addition, NRC should supplement the ESRP to provide further guidance for the Staff reviewer in situations where the COL applicant is not the owner/operator of the transmission lines, and the transmission corridors and design are not identified at the time of issuance of the COL. Possible revised language is as follows:

"In cases in which the design is not known, it should be assumed that standard industry practices will be used. In cases in which the transmission line right of way is not known, one or more likely corridors should be identified. These corridors may be "macro" corridors, and may be several miles wide."

Sections 3.8 and 5.7.2 (Transportation of Radioactive Material), pp. 3.8-2, 5.7.2-2:

The ESRP requires a description of the transportation packaging systems. However, because this information probably will not be known at the time the COL application is submitted, we suggest that the ESRP be revised to state:

"description of the types of transportation packaging systems ~~to~~ that might be used for fresh fuel, irradiated fuel, and other radioactive wastes."

Sections 3.8 and 5.7.2, pp. 3.8-3 and 5.7.2-2:

The ESRP states that NRC has generic analyses of the environmental impacts of spent fuel shipment, but then adds that "these analyses cannot serve as the initial licensing basis for new reactors." It is unclear why not, if the new reactors are bounded by the assumptions in the analysis. Although 10 CFR 51.52(b) requires an analysis of the impacts of transportation if the reactor design is not bounded by the assumptions in 10 CFR 51.55(a), there is nothing in 10 CFR 51.52(b) that prohibits use of generic analyses for this purpose. We therefore recommend that the quoted sentence be deleted. (Alternatively, the NRC should explain the basis for its conclusion that the agency's generic analyses of the environmental impacts of spent fuel shipments cannot serve as the initial licensing basis for new reactors.)

Comments on Chapter 4 (Environmental Impacts of Construction)

Section 4.1.1 (Land Use Impacts), p. 3, 4th bullet:

This bullet asks for information on mineral resources. The relevance of such information is unclear, and such data would also appear to be unrelated to any significant environmental issue. The item should be deleted.

Section 4.1.1, Subsection III.1(c), 1st bullet:

This bullet discusses removal of less than 2% of such land, or up to 500 hectares (1235 ac.). This sentence should be clarified to indicate what "such land" is referring to and what the percentage is referring to. The latter might be the 6-mile radius that makes up "vicinity," but the math does not support that conclusion (6-mile radius = 113.0976 square miles * 640 acres per square mile = 72,383 acres, 2 % of which is 1,448 acres).

Section 4.1.2 (Transmission Corridors and Offsite Areas),

The bullet at the top of p. 4.1.2-4 states that the redress plan should include restoration for transmission lines if the application is withdrawn or terminated. This statement is inconsistent with 10 CFR 50.10(d)(3)(iii) in the amended Limited Work Authorization (LWA) rule, which only requires a redress plan for "activities performed under the limited work authorization," not pre-construction activities, including transmission lines. See 72 Fed. Reg. 57,416, 57,442 (Oct. 9, 2007). The bullet should therefore be deleted.

Additionally, this section states, in part: "In some cases transmission lines may be constructed and operated by an entity other than the applicant. In such cases, impact information may be limited and the reviewer should proceed with the assessment using the information that can be obtained" (emphasis added).

As with ESRP Section 3.7, the guidance in this section should address the various sets of requirements that may apply to different applications. Factors to be considered are the relationship of the reactor operator/owner to the transmission system owner/operator, the State review and approval requirements and reviews required by other Federal agencies. Also, in many instances, the planning horizon for transmission line siting and construction is much longer than the planning horizon for the plant license application. Selecting and surveying a transmission route at the time of COL submittal will force a utility to either purchase the property well in advance of need or allow for land speculation along the specified route until such time as the utility could purchase the property.

Accordingly, ESRPs 4.1.2, 5.6.1 and 9.4.3 should be clarified to indicate that the level of detail appropriate for a review should be less than that for evaluation of design alternatives or alternatives to the proposed action (*e.g.*, issuance of a combined license). The ESRPs should still identify alternative corridor routes as an area of focus, but the evaluation of "routings that are environmentally preferable to the proposed system" should not be expected to consist of more than reconnaissance-level information. This is consistent with the recent LWA rule change that defines transmission line work as a preconstruction activity that does not require NRC review and approval.

For example, an applicant may provide reconnaissance-level information regarding:

- Potential transmission routes or corridors, to include the likely areas of impact;
- Information generally expected to bound the impacts of development of corridors, or more specific evaluation of impacts, where final routes are known;
- Procedures and/or criteria for how candidate corridors will be evaluated to determine the final routes;

- Procedures and/or criteria to be used when specific routing activities are conducted, i.e., to avoid environmental impacts; and
- Procedures to mitigate construction impacts to sensitive areas.

Information regarding what federal or state approvals are required for route selection should also be provided.

Where existing transmission networks are expected to be used without substantive rework or upgrade, evaluation of that network should not be expected to be significant.

Since the review requirements for transmission systems are currently located in numerous sections of the ESRP (*e.g.*, sections 2.2, 2.3, 2.6, 2.8, 4.1, 4.2, 4.6, 5.1, 6.5, 6.7, 9.4, 10.1 and 10.2), the overall requirements should be addressed early in the guidance and referenced in the other sections.

Section 4.3.1 (Terrestrial Ecosystems):

Since the opening paragraph in Subsection I is the first place that the phrase “important species and their habitats” is used, this would be an appropriate place to add the clarifier “(as defined in ESRP 2.4.1, page 2.4.1-7, Table 2.4.1-1).”

Section 4.3.1, Table 2.4.1-1:

Table 2.4.1-1 includes as “important species” those that states list as species of concern. States have lists of species that are subject to state protection, comparable to species that the federal government lists as threatened or endangered pursuant to the Endangered Species Act. States typically also maintain lists of other species that have no legal status. These lists of species of concern generally are subject to no peer review and states often have very informal controls over who can add what species to the lists. These informal lists can include several hundred species, so identifying the species in the field and evaluating impacts can be no small matter. Appearance on such a list should not be considered indicia of significance in the NEPA sense; inclusion of a species by a single person who might not even be a state employee satisfies no CEQ criterion for making something significant. Because the species are not subject to federal protection and the states have not chosen to extend legal protection to them, NRC should eliminate guidance that would call for their evaluation solely because they appear on a state list as a species of concern. See also Section III(2), page 4.3.1-7.

Section 4.3.2 (Aquatic Ecosystems): See Comments 20 and 21 on ESRP 4.3.1.

In Section 4.3.2, Subsection II (Acceptance Criteria), the first bulleted item refers to the terrestrial environment. Please confirm that this is intentional.

In Section 4.3.2, Subsection III (2)(f), p. 4.3.2-7, the text should be revised to limit consultation and preparation of biological assessments to federally listed threatened or endangered species, not to important species.

Section 4.4.3 (Environmental Justice Impacts):

On p. 4.4.3-2, add the phrase “as compared, with the general population of the impacted area” at the end of the first bullet (making the text comparable to that of the second bullet).

On p. 4.4.3-3, the bullet referencing the regulatory positions and criteria of the CEQ regulations should be modified to reflect that this guidance “should be followed as appropriate — subject to the guidance of the NRC policy on environmental justice matters referenced above.”

Also on p. 4.4.3-3, at the end of the last paragraph on the page addressing the purpose of the environmental justice assessment (on page 4.4.3-4), the following sentence from the NRC's policy statement should be added: "[An environmental justice review] is not a broad-ranging review of racial or economic discrimination."

On p. 4.4.3-4, in paragraph (4)(a) at the end of the first sentence, add the following: "as compared with impacts on the general population in the impacted area." In the same sentence, before the words "disproportional environmental impacts," add the words: "peculiar or."

Sections 4.7 & 5.11 (Cumulative Impacts Related to Construction Activities/ Cumulative Impacts Related to Station Operation):

Correct Interpretation of CEQ Guidance: In the discussion of cumulative impacts in both ESRP section 4.7 and 5.11, Item (3) in Section III (Review Procedures) directs the Staff reviewer, among other tasks, to identify and tabulate the cumulative impacts associated with construction (or operation) of the proposed plant and obtain input from other reviewers. The guidance then states:

"CEQ guidance is that agencies should focus on cumulative impact information that is relevant to reasonably foreseeable significant adverse impacts, is essential to a reasoned choice among alternatives, and can be obtained without exorbitant cost (CEQ 2005)."

The above quote from the ESRP does not appear to be entirely consistent with the intent of the CEQ guidance in 40 CFR 1502.22 (incomplete or unavailable information), the basis for this guidance. 40 CFR 1502.22 states:

"When an agency is evaluating reasonably foreseeable significant adverse effects on the human environment in an environmental impact statement and there is incomplete or unavailable information, the agency shall always make clear that such information is lacking. (a) If the incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives and the overall costs of obtaining it are not exorbitant, the agency shall include the information in the environmental impact statement."

According to CEQ guidance, the NRC should focus on information that is "relevant to reasonably foreseeable significant adverse impacts" and "essential to a reasoned choice among alternatives" (CEQ, 2005). The focus is, first and foremost, on "significant adverse impacts." Before obtaining additional information on cumulative impacts, the agency must find that the incomplete information is relevant to a "reasonably foreseeable" and "significant" impact. Only if the incomplete cumulative effects information meets that threshold must the NRC consider the "overall costs" of obtaining the information. The term "overall costs" encompass financial costs and other costs such as costs in terms of time (delay), program and personnel commitments.

By adding commas after "adverse impacts and "among alternatives," the ESRP text changes the meaning of the CEQ guidelines such that if any one of three conditions exist, then information should be obtained. Because the regulation is only applicable when there is a potential for significant impact to the environment and the information has been judged to be "incomplete or unavailable," the ESRP seems to misapply the CEQ guidance. Even though the industry does not disagree with the overall guidance of the ESRP, the guidance presented in the ESRP should properly reflect the requirements of the referenced regulations (in this case, the CEQ guidelines). Sections 4.7 and 5.11 should be revised accordingly.

Additional Information for Reviewers on Addressing Cumulative Impacts:

Some members of the industry have pointed out that, given the introduction of new ESRP Sections 4.7 and 5.11, additional background information on the topic of cumulative impacts could be useful for NRC reviewers. (Such information would also be useful to the industry to clarify the legal and regulatory bases for the Staff's approach to the cumulative impact issue in conducting environmental reviews for COLAs.) As drafted, Sections 4.7 and 5.11 contain only minimal discussion of this term. NRC should consider revising these sections to provide additional discussion. Guidance on this subject prepared by the Council on Environmental Quality is relevant and useful.⁴

⁴ See Considering Cumulative Effects under the National Environmental Policy Act, Council on Environmental Quality (Jan. 1997); see also June 24, 2005 memorandum from CEQ Chairman James L. Connaughton to Heads of Federal Agencies, Guidance on the Consideration of Past Actions in Cumulative Effects Analysis.

Comments on Chapter 5 (Environmental Impacts of Station Operation)

Section 5.3.1.1 (Cooling System Impacts/Hydrodynamic Descriptions and Physical Impacts), Subsection III(1), p. 5.3.1.1-5:

The first bullet indicates that guaranties of future water commitments are necessary to compute intake velocities. It would be rare to have such commitments and NRC's analysis should not be contingent on having them. NRC has enough experience evaluating intake velocities (and other characteristics) to make reasonably informed analyses without having guaranties or every possible datum. The draft changes should be deleted.

Section 5.3.1.2 (Cooling System Impacts/Aquatic Ecosystems), Subsection III(1), p. 5.3.1.2-7:

The third bullet should be deleted. The text appears to require a conclusion regarding compliance with a matter outside of the NRC's jurisdiction. As the *Yellow Creek* decision established, NRC must defer to EPA and the states in this regard.

Section 5.3.1.2 (Cooling System Impacts/Aquatic Ecosystems), Section I:

The text introduces the term "etiological agents" as including microorganism, parasites, and thermo-stable viruses, formerly referred to collectively as thermophilic microorganisms. This seems to be an example of requiring analysis of something for which there is no basis for concluding that there is an issue of significance. The GEIS for license renewal identified no nuclear plants for which this was an issue. As a result of NRC requirements and guidance, industry evaluated the issue for most license renewals and found no issue. The literature covering the topic indicates that occurrences of the issue are rare and, from the standpoint of an agency's impacts on the environment, limited to enclosed environments like buildings, swimming pools, or spas. There have been some cases that have been suspected of being caused by swimmers stirring up naturally-occurring populations in sediments and inhaling them, but these, too, are rare. Why devote NRC and industry resource to analyzing something so remote and speculative?

Section 5.8.3 (Socioeconomic Impacts/Environmental Justice Impacts), p. 5.8.3-2: Consistent with earlier comments, the first bullet under Data and Information Needs should be revised to read as modified below:

"pathways where any environmental impact during routine operations and reasonably anticipated accidents may interact with cultural or human health circumstances that may result in environmental impacts on minority and low-income populations that are peculiar to that population or disproportionate as compared with the general population of the impacted area."

Additionally, in Section 5.8.3, p. 5.8.3-3, the bullet under Accepted Criteria in the CEQ guidance should be amended (consistent with earlier comments) to add at the end: "subject to the NRC policy on environmental justice matters."

In Section 5.8.3, p. 5.8.3-4, we suggest conforming paragraph (6)(a) to the proposed language above for paragraph (4)(a) in Section 4.4.3 on p. 4.4.3-4.

Section 5.11 (Cumulative Impacts related to Station Operation), Section I, p. 5.11-1: The bulleted item title should be revised to read "ESRPs 5.1 through 5.9."

In Section 5.11, Section I, p. 5.11-2, the first bullet indicates that cumulative impact information would be considered in the benefit/cost evaluation in Chapter 10. This would result in the benefits of the proposed project being weighed against cumulative impact contributed by other past,

present, and future activities. We recommend that this portion of the guidance be deleted, and that project benefits should instead be compared only to projected costs, consistent with NEPA practice. Alternatively, the project benefits discussion should be expanded to include cumulative benefits.

In Section 5.11, Section I, Data and Information Needs, p. 5.11-2, we suggest revising the first bullet to read as follows:

“Identification of past, present, and future Federal, non-Federal, and private actions that have had, or could have, meaningful cumulative environmental impacts with that, when combined with environmental impacts of the proposed action, could have cumulatively significant impact.”

Conforming changes should be made to the remainder of the ESRP 5.11 text.

Comments on Chapter 7 – (Environmental Impacts of Postulated Accidents involving Radioactive Materials)

Section 7.1 (Design Basis Accidents):

While ESRP 7.1 was not included for update in the recent Staff update effort, we note that additional guidance on this subject may be warranted regarding the use of realistic assumptions in environmental evaluations of accidents. The ESRP states:

“Events up through Class 8 accidents were previously the only accidents considered in SARs and staff SERs. They were and are currently used, together with conservative assumptions, as the design basis events to establish the performance requirements of engineered safety features.” (p. 7.1-2).

“Among the conservative assumptions used pursuant to the Chapter 15 analyses is the use of adverse meteorological dispersion conditions (i.e., 95th percentile χ/Q). Actual consequences will likely be far less severe than those given for the same events in SARs where more conservative evaluations are used. For this reason, DBAs (up through Class 8) are evaluated using more realistic meteorological conditions. Consequences predicted in this way will be far less severe than those given for the same events in SARs where more conservative estimates of meteorology are used.” (p. 7.1-3).

“ . . . a general discussion of DBAs and the methodology used to calculate realistic dose consequences.” (p. 7.1-5).

In public meetings and in informal pre-application situations, NRC Staff has indicated that realistic dose analyses are expected in environmental reviews. This position is generally consistent with the above quotes from ESRP 7.1, specifically regarding the use of the 50th percentile (more realistic) X/Q dispersion coefficient.

However, while the ESRP clearly points out the preference to use 50th percentile form of X/Q, ESRP 7.1 provides no additional guidance on what assumptions, if any, should be realistic. In fact, it should be recognized that the DBA source term used in environmental reviews is the same as that used in safety analyses and is both non-mechanistic and highly conservative. One could argue that proposing a DBA itself, requiring all system failures to create such source terms is conservative and not, in itself, a “realistic” assumption. On the surface, the ESRP 7.1 expectation of realistic assumptions does not, therefore, appear to be fully consistent with the pre-condition that a conservative source term be assumed.

Because the use of realistic assumptions is expected for estimating doses in environmental reviews (meeting NEPA requirements and goals), the NRC should consider revising ESRP 7.1⁵ to allow the option to use a realistic source term. In addition, other possible revisions might include providing additional guidance on the regulatory background for this expectation; and (in addition to the use of the 50th percentile X/Q parameter), providing additional guidance and/or criteria as to what other assumptions and inputs should be considered and used in environmental reviews.

⁵ In that ESRP 5.4 also expects realistic dose analyses (normal releases), ESRP 5.4 would also profit from similar updates, as that suggested for ESRP 7.1.

Finally, in those circumstances where gaseous dose calculations (accident or normal) are reported by the COL applicant using more conservative assumptions but are only a small fraction of the regulatory limits (e.g., ~ 1% to 2% of the limits), the estimated doses are already quite low. The use of more realistic assumptions may further reduce dose results but to perform additional dose calculations, using realistic assumptions, would seem to require an inefficient and ineffective use of both applicant and Staff resources, given that the result would only further reduce already small estimated doses. ESRP 7.1 should be amended to address this situation, thus, making COLA ER and Staff review more efficient with no adverse impact on review quality or compliance with regulations.

Section 7.2 (Severe Accidents)

Draft ESRP 7.2 specifies in Review Procedure Item (6) the question of whether ER Section 2.3.2 should include a list of public surface water users within 80 km of the site. ESRP 2.3.2 Data and Information Needs requires a quantitative description of present and known future surface-water uses (withdrawals, consumptions, and returns) that are within the hydrological system in which the site is located and that may affect or be affected by the plant. We recommend revising Draft ESRP 7.2 Review Procedure Item (6) to conform with the analogous language of ESRP 2.3.2 Data and Information Need.

More broadly, a number of ESRP sections (particularly in the Review Interfaces portion) direct the Staff reviewer to obtain certain information from another ESRP. A review of these ESRP information interfaces identified a number of important discrepancies – for example, criteria in ESRP A directing the Staff to obtain information from ESRP B, where that information is not called for in ESRP B. To correct these discrepancies, the Staff should review and “scrub” ESRP interfaces as it revises the ESRP.⁶ This would be useful to applicants as well as to the Staff. (Given the lack current regulatory guidance on the preparation of environmental reports (i.e., an updated RG 4.2), COLA applicants glean information concerning Environmental Report content requirements through scrutiny of ESRP Review Interfaces, Data and Information Needs, Review Procedures, and Evaluation Findings.)

Section 7.3 (Severe Accident Mitigation Alternatives):

Section I (Area of Review) includes the following added statement.

“The purpose of the review is to ensure that plant and procedure changes with the potential for improved severe accident safety performance are identified and evaluated.”

While the purpose and scope of the ESRP is properly addressed by this revision, the ESRP is essentially unchanged on the matter of SAMA as it extends beyond design alternatives to plant procedures and training. The ESRP should be further revised to provide guidance on this aspect of SAMA, including in which the COLA references a design certification that includes resolution of severe accident mitigation design alternatives (SAMDA). In that case, the COL applicant would be left to demonstrate that the SAMDA evaluation is bounding and whether or not consideration of procedure/training modifications should be pursued, depending of the averted cost values established in the SAMDA analysis and site specific work, presented by the COLA ER 7.3. This

⁶ Specific discrepancies include:

- ESRP 3.4.1 obtains from ESRP 2.3.3 baseline water temperature information, including monthly variation and stratification for the body of water used for cooling intake and discharge. The Data and Information Needs section of ESRP 2.3.3 does not specify monthly data, or any stratification information.
- ESRP 3.4.1 obtains from ESRP 3.6.1 information on biocides or other chemicals anticipated to be used to control organisms in the cooling system. ESRP 3.6.1 does not require development of that type of information.

approach is generally patterned after approach that is being used by Southern Nuclear in its Vogtle Early Site Permit application. ESRP 7.3 should be updated to reflect these latest NRC-industry agreements on this aspect of SAMA.

Comments on Chapter 8 (Need for Power)

As a whole, the revisions to ESRP Chapter 8 do not adequately account for the changing regulatory environment, although the guidance does generally reference changes in this area. In the 1970s, the typical applicant for a nuclear power plant was an electric utility regulated by a state public utility commission. As a regulated electric utility, the applicant had the legal authority to exercise the power of eminent domain to build generating facilities and any necessary supporting infrastructure. Today, new nuclear power plants may be constructed and operated by an unregulated merchant generator that will operate in a competitive marketplace. A merchant generator will not build and operate a plant unless it believes that there is a benefit to its making that investment, such as a need for power or because that facility will generate electricity at a lower cost than its competitors. Additionally, a merchant generator will not build and operate a nuclear power plant if there is a superior alternative source of energy.

Further, the guidance does not address the use of computer software that makes integrated resource planning possible, or state utility regulations that require long term planning (*e.g.*, for a 10-year period). Utilities typically use both vendor and internal computer algorithms for forecasting, often applying sophisticated statistical methods to assess trends and predict future growth, future customer characteristics, system capabilities, pricing models and impacts on expected sales, and weather adjustments. In sum, the type of forecast methodology and the level of detail for state planning and reliability purposes are far different and substantially more complex than in the past.

The information in the ESRP concerning the regulatory framework governing need for power should be updated in future ESRP revisions to avoid adversely affecting environmental licensing reviews on this topic. On a related point, production of the amount of detailed raw data (*e.g.*, 10 to 15 years of historical information) requested by Chapter 8 would be quite burdensome for applicants, particularly in light of the size and complexity of today's consolidated utilities that may span multiple states, jurisdictions, having a wide variance of customer and generation mixes.

Given the changing industry and regulatory environment, and improved forecast methodologies, the industry generally hoped for a more comprehensive change to ESRP Chapter 8 that would clearly describe the review methods that the NRC Staff will use in its assessments of the benefits of the project. As discussed below, the chapter can be improved by enhancing guidance on alternatives to the NRC conducting an independent need for power analysis, such as integrated resource planning (IRP) used by states and regional transmission operators. The guidance should also include alternative assessments in lieu of the more traditional need for power analysis which would acknowledge benefits of a project beyond the need for power.

Enhancements to Need for Power Guidance

The expectation for a traditional, detailed evaluation of forecasting models and econometrics does not recognize that where the utility is regulated under traditional state franchise rules, the states have a detailed review process to address these issues prior to issuing certificates of necessity or allowing the capitalization of power plant costs or including the plants in utility rate bases. In other cases where the electric generator is unregulated, regional transmission operators (RTOs) and independent system operators (ISOs) have been performing alternative analyses, in lieu of traditional analyses, as part of their planning and disclosure to the unregulated market.

Given the amount of data and specialized analysis tools now required as part of the state and regional planning process, we suggest that this is the time for the Staff to re-evaluate its role in assessing "need for power," taking into account the role of states, RTOs/ISOs, and other planning

organizations. Such re-evaluation and focus would offer guidance better tailored to conduct reviews in today's de-regulated marketplace involving broad and varied electric energy systems.

NEI offers the following suggestions as areas that warrant re-evaluation:

- Define the role of state programs more clearly. Currently, the ESRP guidance suggests that the applicant may use the state's conclusions about need for power if the state program is (1) systematic, (2) comprehensive, (3) subject to confirmation, and (4) responsive to forecasting uncertainty. However, there is little definition, and no guidance, for reviewers to use in determining whether the state program is "sufficient." The NRC should rely on state programs that are approved by the state public utility commission or applicant reports that comply with state reporting regulations. Considerable weight should be accorded the electrical demand forecast of a state commission that is responsible by law for providing current analyses of probable electrical demand growth or which has conducted public hearings on the subject. Although the Commission's responsibilities regarding the benefits of a proposed project have their primary roots in NEPA rather than the AEA, NEPA does not foreclose heavy reliance on the judgment of local regulatory bodies charged with energy planning. *Rochester Gas and Electric Corporation* (Sterling Power Project, Nuclear Unit No. 1), ALAB-502, 8 NRC 383, 388-389 (1978).⁷
- Define the role of regional organizations more clearly. In a deregulated market, an applicant should be able to rely on reports submitted to regional reliability organizations. Under the Energy Policy Act of 2005 and certain state legislation, these regional operators or RTOs have quasi-governmental authority to require demand forecasts along with reserve and capacity margin calculations. In some cases these organizations even report to the legislature under state law. An applicant should be able to definitively rely on statements and calculations made in support of those reports. Thus, the "independent review" the Staff must perform under NEPA should reflect the highly refined and regulated practices the industry now has in place to ensure that new generation is necessary, or that there is a market for the power.
- Acknowledge alternative determinations of "need for power." The NRC guidance should consistently note that when a state commission or RTO suggests that the Region of Interest has a need for power, that "local" determination is sufficient to support a benefit analysis for the additional generation.
- Incorporate greater flexibility on data requirements. Due to the very large, multiple state, service areas that now exist in many cases, consolidation of detailed historical and projected data, as envisioned by the ESRP, may not be practical. This is particularly true regarding the number and type of generating units, a comprehensive listing of intertie agreements and contracts, firm and non-firm sales, etc. The ESRP should be revised to permit submission of summary information. Details, as may be needed, could be supplied via on-site inspection and audit.

The ESRP should give the reviewer flexibility to relax the amount of detailed information requested if the need for power is so compelling that such detail is not needed (*e.g.*, if the

⁷ The U.S. Supreme Court has noted that there is little doubt that under the Atomic Energy Act, state public utility commissions or similar bodies are empowered to make the initial decision regarding the need for power. *Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council*, 435 U.S. 519 (1978).

RTO/ISO has performed a projection of baseload needs and the addition of the proposed project would only fulfill a small portion of that projected need). In such cases, the development, collection, and preparation of detailed information currently contemplated (historical and projected power uses, details contractual arrangements, etc.) would be costly for the applicant to prepare and costly for the NRC Staff to review. Where the need for baseload power is compelling, the amount of information should be proportionally reduced, so long as sufficient (summary) information is provided to support the “compelling” argument and supporting documentation detail is available for inspection and audit.

- Increase reliance on socioeconomic indicators. The growth in demand for power should be discussed in terms of socioeconomics. Currently, nearly every utility commission and RTO in the country recognizes that demand for power grows with the population. Where the state or regional predictions show a demand, the NRC should defer to those conclusions, and the applicant should be able to rely on them in describing the benefits of the new plant. The need for power should be based first on the demand growth predicted in IRP, state planning, or RTO reporting.

Other Benefits of a Project

Neither the Atomic Energy Act nor NEPA authorizes the NRC to determine generally whether power is needed, or whether a specific energy alternative must be implemented in the place of the proposed nuclear plant. NEPA also does not compel the NRC to conduct an independent evaluation of the market environment or the economics of a particular proposed power plant.⁸ Relying on “benefits” other than “need for power” is consistent with the existing guidance, which recognizes that there are alternative ways to demonstrate “need” without a traditional need-for-power analysis. For example, the guidance notes that the need for the proposed facility may be demonstrated based on a need to diversify sources of energy, reduce average cost to consumer, or to reduce reliance on fossil fuels generally.⁹

The Commission has also recognized that there may be *multiple* benefits to a proposed project (*i.e.*, benefits other than meeting a “need”). In the licensing proceeding for Louisiana Energy Services’ Claiborne Enrichment Center, all parties agreed that the product to be produced by LES, enriched uranium, was already in excess supply. But, the Commission went on to consider the potential benefits of enhanced competition from another market participant and the project furthering national policy goals even when those benefits could not be quantified. *Louisiana Energy Services, LLP* (Claiborne Enrichment Center), CLI-98-3, 47 NRC 77, 89-96. The Commission directed the Licensing Board to consider multiple benefits of the proposed uranium enrichment facility — including enhanced competition from another market participant, furtherance of national policy

⁸ NEPA does not specifically call for a discussion of “need for power.” Instead, NRC NEPA regulations require that the benefits of the project be addressed. Traditionally, “need for power” at the NRC has been synonymous with the benefits of the proposed action. Public Service Co. of Oklahoma (Black Fox Station, Units 1 and 2), ALAB-573, 10 NRC 775, 804 (1979) quoting Rochester Gas and Electric Corp. (Sterling Power Project, Nuclear Unit No. 1), ALAB-502, 8 NRC 383, 388 n. 11 (1978); see also Kansas Gas and Electric Co. (Wolf Creek Generating Station, Unit 1), ALAB-462, 7 NRC 320, 327 (1978).

⁹ Approval of a reactor license without a demonstrated need for power is not entirely unprecedented. Although a license was never actually issued, the Commission preliminarily indicated that it would approve the environmental review of the Clinch River Breeder Reactor based solely on the Congressional objectives (e.g., technology development) associated with the project despite clear indications that the power from the project was not needed.

goals, and the creation of an alternative, more energy-efficient technology — when performing the ultimate cost-benefit balancing under NEPA.

The issue of need was treated similarly in the more recent LES licensing proceeding for the National Enrichment Center (“NEF”). There, LES in its ER and the NRC Staff in its EIS, cited a number of benefits to justify the NEF. Specifically, LES relied on a combination of policy benefits (*e.g.*, domestic enrichment capacity, national security associated with fuel supply, new technology), supply/demand analyses, and, to some extent, enrichment contracts. See NUREG-1790, “[EIS] for the Proposed [NEF] in Lea County, New Mexico,” at 1-3 to 1-5 (June 2005).

In light of this history, the ESRP guidance should be expanded to encompass alternatives (and combinations of alternatives) to the traditional need for power analysis, including the following:

- As an alternative to a showing of need for additional generating capacity, NRC should (consistent with precedent) allow applicants to establish “need” by showing that the nuclear plant would substitute for plants that burn fossil fuels in short supply. *Niagara Mohawk Power Corp.* (Nine Mile Point Nuclear Station, Unit 2), ALAB-264, 1 NRC 347, 353-354 (1975); see also *Kansas Gas and Electric Company* (Wolf Creek Generating Station, Unit 1), ALAB-462, 7 NRC 320, 327 (1978). The substitution theory has been upheld as providing an adequate basis on which to establish need for the facility. *New England Coalition on Nuclear Pollution v. NRC*, 582 F.2d 87, 97-98 (1st Cir. 1978). This reasoning should be extended to the replacement of carbon-intensive fossil-fueled plants with nuclear power plants.
- In deciding NEI’s 2001 petition for rulemaking on need for power (PRM-52-2), the Commission acknowledged that the construction and operation of a nuclear power plant could have multiple benefits, such as reducing greenhouse gases and other air pollutants and increasing energy efficiency by retiring older, less efficient sources of power. 68 Fed. Reg. at 55,909.
- A proposed reactor might have the benefit of satisfying a national policy objective, such as the expansion of nuclear power or energy independence. There may also be state or local policy objectives that factor into the need for power, including tax revenues, improved air quality, and jobs. These policies may be evident in federal, state or local resolutions or other indicia of a desire to promote additional nuclear capacity.
- A merchant COL applicant could rely on power contracts to purchase the electrical output of the proposed plant. Such contracts may provide, in many ways, better evidence of a need for power than a demand forecast.

At bottom, to demonstrate a “need” for the facility or the benefits of a project, the NRC should no longer demand that an applicant rely solely on power supply/demand projections. Instead, applicants should be free to propose alternative benefits to the proposed project in lieu of the traditional need for power analysis.

Sections 8.1 (Description of Power System), 8.2.1 (Power and Energy Requirements), 8.2.2 (Factors Affecting Growth of Demand), 8.3 (Power Supply) and 8.4 (Assessment of Need for Power).

The revised ESRP indicates that, if an applicant defines the Region of Interest as its service territory, need for power should be analyzed not only in that service territory but also in a broader “market area.” This guidance would require multiple analyses (of varying geographic or economic scope), expanding and complicating the assessment unnecessarily. Additionally, use of “relevant market

area” is arbitrary and not a good indicator of need in a variety of circumstances. For example, states may desire that a plant be sited in that state to address a state-wide load sink or promote state objectives. In such a case, the benefits (or “need for power”) may not be as apparent across the broader market area. If the region of interest is a utility’s service territory (the area that it is obligated to serve), the only relevance of a broader market area relates to whether imported power purchases are a viable and environmentally preferable alternative.

An applicant could address this issue by showing that imported power is not viable because of transmission constraints, that imported power would be generated by fossil fueled technologies that are not environmentally preferable, that its service territory is overly reliant on imports, or other reasons showing that imports are not viable or reasonable. Moreover, defining “market areas” is often a very complex and controversial issue. Accordingly, the proposed new focus on market area should be eliminated. Instead, the NRC should permit an applicant to demonstrate the benefits of a project at any relevant scope. This is consistent with NEPA cases — both in Federal Court and in NRC proceedings — that suggests that the NRC must take into account the goals of the project applicant. See *Hydro Resources Inc.*, CLI-01-04, 53 NRC 31,55 (2001); *Citizens Against Burlington v. Busey*, 938 F.2d 190, 198 (D.C. Cir. 1991).¹⁰

Section 8.2.1 (Power and Energy Requirements):

It should be recognized that information pertaining to RTO/ISO operating margins, projected demand, transmission constraints, or demand in relevant service and markets areas may not be available to Independent Power Producers (IPPs). IPPs are precluded from obtaining this information by FERC regulations since information of this sort could be used by IPPs to gain a competitive advantage in the marketplace. As such publicly available information may be all that can be used by IPPs for referencing in their environmental reports.

Section 8.2.1:

Hydrogen is mentioned as an alternative energy source. However, the only hydrogen generation source of any consequence envisioned at the present time involves use of large power generators. Use of these power generators would negate the competitive effects of hydrogen use.

Sections 8.2.1 (Power and Energy Requirements), 8.2.2 (Factors Affecting Growth of Demand), and 8.4 (Assessment of Need for Power), pp. 8.2.2-3, 8.4-5, 8.4-11-12:

The ESRP states: “Forecasts should include demand scenarios for midrange, high, low, 75th percentile, and 25th percentile conditions that incorporate consumer response to power cost changes as new power plants are integrated into the power system.” This criterion is too prescriptive. State or regional forecasts may be reliable and should be used by the NRC, even if they do not include all such scenarios. This statement should be deleted. In its place, the ESRP should simply state that the forecast should consider the effects of changes in various assumptions.

Sections 8.2.2 and 8.4:

The ESRP states that the preceding 15 years of data should be considered. This direction is excessive. Moreover, the information may not be available. A better approach would have the applicant provide projected or estimated load growth, which would form the basis for the need for the proposed project. Part of the basis for the projected growth could be historical growth projections coupled with the accuracy of those projections, which could form a basis for the

¹⁰ References to oil (see, for example, ESRP 8.2.2-4) should be removed from all of Chapter 8. EIA fuel use projections and generation source projections do not show oil as a generator fuel for any foreseeable period.

projections into the future. The projections should be reasonable and sufficiently substantive to justify the need for the output of the proposed project along with the associated impacts.

Section 8.2.2 (Factors Affecting Growth of Demand), pp. 8.2.2-4 - 10:

The ESRP requires detailed data (including saturation rates of major appliances, changes in efficiency codes and standards, rate structures, fuel switching assumptions, personal income in the area, generally known availability of gas and oil, use of renewable energy) that appears to be of little or no value in future forecasts. Furthermore, a merchant generator may not have access to this information, or the information may not be applicable to a merchant generator (*e.g.*, rate structures). These requirements should be deleted from the ESRP.

Section 8.3 (Power Supply), pp. 8.2-3 and 8.3-6:

The ESRP requires information on planned retirements and deratings. A merchant generator would likely not have such information for plants owned by its competitors. The ESRP should be modified to allow for reasonable estimates of planned retirements and deratings.

Section 8.3, pp. 8.3-6 to 8.3-7:

The ESRP states that discussion of power supply should consider distributed and self-generation, and measures to reduce demand. However, ESRP 8.2.2 also requires such factors to be considered in determining power demand. This appears to be double counting. Factors related to distributed and self-generation, and measures to reduce demand, should be taken into account in either ESRP 8.2.2 or ESRP 8.3, but not both.

Section 8.3, Table 8.3-1:

Table 8.3-1 requires information on capacity needs and net capacity needed. This information would appear to be more applicable to ESRP Section 8.4. Table 8.3-1 should be modified to delete the entries on capacity needed and net capacity needed.

Section 8.4 (Assessment of Need for Power):

The ESRP recommends assessing the need for power using the current best practices, including "development of resource supply curves that rank from low to high prospective supply options . . . on the basis of cost. . . ." Such an economic analysis is unwarranted. Chapter 8 should only establish that there is a need for additional generation. Whether there is a preferred alternative is addressed in Chapter 9. That assessment includes consideration of economics only if an alternative is environmentally preferable. Absent a determination that some alternative is environmentally preferable, the NRC should not usurp the state's authority to determine whether a proposed facility is in the public interest, or to duplicate integrated resource planning.

Comments on Chapter 9 (Alternatives to the Proposed Action)

Section 9.2.1 (Alternatives Not Requiring New Generating Capacity):

The ESRP requires data out to 6 years from start of commercial operation. In contrast, ESRP 8.2-8.3 requires information out to 3 years from commercial operation. These ESRP sections should be made consistent; ESRP 9.2.1 should only require data for 3 years from commencement of commercial operation.

Section 9.3 (Site Selection Process):

Generally consistent with Regulatory Guide 4.2, the NRC has expanded the guidance for "Candidate Areas" and "Potential Sites" to focus on a more elaborate top down site selection process — beginning with Regions of Interest (ROI), then extending to screening candidate areas, identifying potential sites, and screening candidate sites, and then selecting the proposed site and alternative sites. While this is an appropriate process for establishing a newly licensed "greenfield" site, this is not the most sensible or expeditious approach for a site that is co-locating at an existing nuclear site. Also, many existing nuclear sites were already developed to have multiple units where the environmental factors were addressed during initial site selection review and approval.

In particular, where an applicant seeks to add a nuclear unit at an existing nuclear site, a generic assessment may be sufficient to demonstrate that greenfield or non-nuclear brownfield sites are not obviously superior. An existing nuclear site would have been selected originally based on a comprehensive evaluation and determination that no obviously superior alternative in the region exists. Further, an existing nuclear site may have been originally intended and evaluated for additional nuclear units that were not built. Also, the characteristics and the impacts of operation at existing nuclear sites are well known. If this wealth of information demonstrates that there are no major environmental impediments to adding units at the existing nuclear site (*i.e.*, no factors that would make the development of a brand new site environmentally preferable), greenfield and non-nuclear brownfield sites should be exempted by generic analysis from detailed site-specific consideration. Under such circumstances, it simply makes no sense to be scouring a region to identify and evaluate new potential sites, or for NRC, in turn, to perform independent evaluation of those sites.

In the ESRP, the NRC does recognize that the normal site selection process for a proposed facility collocating with on existing nuclear site need not have the same level of evaluation. The NRC provides a limited discussion beginning at the bottom of page 9.3-11, under the Review Procedures for "Site Comparisons by Applicant." The NRC states:

Recognize that there will be special cases in which the proposed site was not selected on the basis of a systematic site-selection process. Examples include plants proposed to be constructed on the site of an existing nuclear power plant previously found acceptable on the basis of a NEPA review and/or demonstrated to be environmentally satisfactory on the basis of operating experience, and sites assigned or allocated to an applicant by a State government from a list of State-approved power-plant sites. For such cases, the reviewer should analyze the applicant's site-selection process only as it applies to candidate sites other than the proposed site, and the site-comparison process may be restricted to a site-by-site comparison of these candidates with the proposed site. The site selection process is the same for this case except for the fact that the proposed site is not selected from among the candidate sites based on a site by site comparison" (*underlines added for emphasis*).

Based on the guidance of the latter part of the above paragraph, the NRC is forgoing the initial evaluation process and instead would apply the "candidate site" selection phase. However, the application of the "candidate site" portion of the selection process is also not proper for existing nuclear sites. The candidate site selection process, as described in the ESRP, is one sequential step of the more extensive process. As discussed in guidance of the ESRP, the result of that process would be three to five alternative sites in addition to the preferred site. This still does not represent a selection process that would be applied for an applicant who has an existing, viable nuclear site.

Instead, the NRC should establish unique guidance within the ESRP for those cases where an existing nuclear site appears to be the most appropriate option and then perform as-needed comparisons against this site. As stated in the ESRP, the purpose of this evaluation process "is not to determine that the applicant has selected the best site [...], but is to determine if any candidate site can be judged as environmentally preferable and, if so, obviously superior to the applicant's proposed site."

If not based on a generic assessment for an existing site as described above, the goal of determining that an obviously superior site does not exist may be accomplished by a less laborious process which may allow for fewer alternatives. The scope of evaluation factors may also be reduced. The evaluation factors presented in Appendix A provide an expansive list of assessment requirements that is representative of a new site selection process. A subset of these factors would be more appropriate when evaluating an existing site. Many of the new plant licensees have chosen existing sites for economic reasons. However, unless there are significant environmental concerns with an existing site, the incremental increase in environmental impact necessarily would be much less than the impacts for a new site. A substantial expenditure of time and resources to evaluate multiple alternative options would not provide useful conclusions and would not be necessary to satisfy NEPA.

II. GENERAL COMMENTS

Environmental Reviews Should Appropriately Prioritize Consideration of Impacts

NRC regulations on the preparation of an ER direct that in discussing the impact of the proposed licensing action on the environment, “[i]mpacts shall be discussed in proportion to their significance.” See 10 CFR 51.45(b)(1). Case law interpreting the National Environmental Policy Act (NEPA) and Council on Environmental Quality (CEQ) regulations is consistent with this precept. See 40 CFR 1500.1(b) (“Most important, NEPA documents must concentrate on the issues that are truly significant to the action in question, rather than amassing needless detail.”)¹¹ The CEQ guidelines stress the importance of reducing “excessive” paperwork in NEPA analyses by reducing the length of environmental impact statements (EISs), preparing “analytic rather than encyclopedic” EISs, and “discussing only briefly issues other than significant ones.” 40 CFR 1500.4(a)-(d). To achieve the statute’s purpose, the CEQ guidelines direct that in EISs, “Impacts shall be discussed in proportion to their significance. There shall be only brief discussion of other than significant issues. As in a finding of no significant impact, there should only be enough discussion to show why more study is not warranted.”¹² 40 CFR 1502.2(b).

The Introduction to NUREG-1555 appears consistent with these precepts, stating (on p. 4) the Commission’s expectation that EISs prepared in accordance with NUREG-1555 will “emphasize the issues that are significant with scaled emphasis on less significant issues and background material” As successive revisions to NUREG-1555 appear more, not less, “encyclopedic” in scope, however, NRC should rigorously adhere to its obligation to address environmental impacts *in proportion to their significance*. As the agency’s experience in conducting environmental reviews for licensing actions continues to grow, its knowledge basis concerning which environmental impacts stemming from plant construction and operation are significant expands proportionally. On a related point, the NRC’s 1996 Generic Environmental Impact Statement NRC for License Renewal of Nuclear Plants (NUREG-1437) (license renewal GEIS) provided extensive information concerning these impacts, which has been effectively applied to license renewal-related environmental impact assessments for approximately 50 reactors.

On a related topic, the NRC Staff should examine carefully the practice of requiring applicants to supply background information – which we believe has led in some instances to excessive requests on the part of the agency. The sound direction in the ESRP Introduction to “emphasize the issues that are significant” should of course be followed by NRC Staff reviewers for all parts of the ESRP. Following this guidance should discourage demands for background information from the applicant simply because the individual ESRP calls for it, *regardless of its significance*. Recognizing that the updating of the ESRP will necessarily be a dynamic process, we urge the Staff to incorporate these NEPA concepts, as appropriate, in future versions of this important regulatory guidance.

Another related topic of interest that we would like to explore with the NRC is the possible preparation of a generic environmental impact statement (GEIS) for new plant licensing, analogous to that which the NRC prepared for license renewal. This would be particularly appropriate for new plants being sited on existing licensed sites. In this regard, the ESRP correctly notes that

11 The CEQ guidelines also exhort Federal agencies to: “[i]mplement procedures to make the NEPA process more useful to decisionmakers and the public; to reduce paperwork and the accumulation of extraneous background data; and to emphasize real environmental issues and alternatives. Environmental impact statements shall be concise, clear, and to the point” 40 CFR 1500.2.

12 CEQ regulations state that the “text of final environmental impact statements shall normally be less than 150 pages and for proposals of unusual scope or complexity shall normally be less than 300 pages.” 40 C.F.R. 1502.7.

information in the GEIS for license renewal, including the impact categorization approach (Small, Moderate, or Large) also may be used for the preparation of NEPA documents for other types of applications, including COLs. (Indeed, absent the development of newer applicable guidance, we suggest that information in the license renewal GEIS approach should be used.)