

ENVIRONMENTAL STANDARD REVIEW PLAN

FOR ES SECTION 4.4.1 ENVIRONMENTAL IMPACTS OF CONSTRUCTION -
SOCIOECONOMIC IMPACTS: PHYSICAL

REVIEW INPUTS

Environmental Report Sections

- 4.1 Site Preparation and Station Construction
- 4.2 Transmission Facilities Construction
- 4.5 Construction Impact Control Program

Environmental Reviews

- 2.1 Site Location
- 2.2 Land
- 2.5 Socioeconomics
- 3.1 External Appearance and Plant Layout
- 3.7 Power Transmission Systems

Standards and Guides

Air Quality Act of 1967, Public Law 90-148.

Clean Air Amendments of 1970

Code of Federal Regulations, Title 40, Chapter I, Part 50, National Primary and Secondary Air Quality Standards.

Code of Federal Regulations, Title 40, Chapter I, Part 51, Requirements for Preparation, Adoption, and Submittal of Implementation, Subpart 51.16, July 1, 1974 (or later revisions).

Code of Federal Regulations, Title 29, Chapter XVII, Part 1910, Occupational and Health Standards.

Code of Federal Regulations, Title 29, Chapter XVII, Part 1926, Safety and Health Regulations for Construction.

Other

The site visit
Responses to requests for additional information
Consultation with local, State, and Federal agencies

REVIEW OUTPUTS

Environmental Statement Sections

- 4.4.1 Socioeconomic Impacts: Physical (Construction)

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0. Environmental Reviews

- 4.6 Measurements and Controls to Limit Adverse Impacts During Construction
- 5.8.1 Socioeconomic Impacts: Physical (Operation)
- 9.3 Alternative Plant and Transmission Systems
- 10.1 Unavoidable Adverse Environmental Impacts

I. PURPOSE AND SCOPE

The purpose of this environmental standard review plan (ESRP) is to direct the staff's identification and assessment of the direct physical impacts of construction-related activities* to the community. Among these are the construction disturbances of noise, odors, vehicle exhaust, dust, vibration, and shock from blasting.

The scope of the review directed by this plan will include consideration of impacts resulting from construction of the plant, transmission corridors and access roads, other offsite facilities, and project-related transportation of goods and materials. The review will be of sufficient detail to predict and assess potential impacts, and to recommend how these impacts should be treated in the licensing process. Where necessary, the reviewer will recommend consideration of alternative locations, designs, practices and procedures that would mitigate predicted adverse impacts.

II. REQUIRED DATA AND INFORMATION

The kinds of data and information required will be affected by site- and station-specific factors and the degree of detail will be modified according to the anticipated magnitude of the potential impact. The following information will usually be required:

* Construction-related activities are those that occur solely as a result of plant construction.

- A. Distribution of people, buildings, roads, and recreational facilities vulnerable to impact from construction-related activities (from the ER).
- B. Applicable standards for levels of noise, dust, and gaseous pollutants (from consultation with Federal, State and local agencies).
- C. Predicted noise levels at sensitive areas identified in item A above (from the ER).
- D. Predicted air pollutant levels at sensitive areas identified in item A above (from the ER).

III. ANALYSIS PROCEDURE

The reviewer's analysis of construction impacts to the community will be linked to the environmental reviews directed by the ESRPs for ES Sections 2.1, 2.2, 2.5, 3.1, and 3.7, in order to ensure that those environmental factors most likely to be impacted by the proposed construction are adequately described. The reviewer will ensure that information presented in the applicant's environmental report is complete and accurate. The reviewer should recognize that physical impacts to a community from construction of a nuclear plant are not markedly different from any other large heavy construction project.

For any particular construction-related activity the reviewer will first consider the distribution of residents and transients who could be affected. This will include determination of sensitive use patterns (e.g., hospitals, residences, recreational areas) and the allowable limits of impacts. The reviewer will then identify the potential impacts on the community and will predict their extent and magnitude. Impacts to be considered for the most part will be those from dust, noise, shock from blasting, and polluting gases and particles. Impacts may be considered in qualitative terms where the effect on the community is expected to be minor. Where adverse impacts (i.e., impacts that should be mitigated or avoided) can be predicted, the reviewer will conduct

a more detailed analysis and will, where practical, make quantitative estimates of the magnitude of the impacts.

The reviewer will identify the applicant's commitments to mitigate the physical impacts. Wetting down roadways and construction sites, scheduling of noisy operations during daytime hours, and suppression of blast and shock effects through the use of mats are some of the means available for mitigation.

The reviewer must become familiar with the provisions of standards, guides, and agreements pertinent to the construction of nuclear power plants. A listing of those believed pertinent to this environmental review are contained in the Standards and Guides section of this ESRP. The reviewer will consult with appropriate local, State, and Federal agencies to verify that current, applicable regulations and guides are available. This will include, for example, consultation with the Environmental Protection Agency for current ambient air quality standards and air pollutant levels and Office of Noise Abatement and Control guidelines and standards applicable to facility construction. The reviewer will verify that the applicant has made commitments to compliance with these applicable regulations and guides. The reviewer must also become familiar with general references on construction practices and impacts, a few of which are contained in the reference section of this ESRP. The reviewer will also examine proposed construction activities in light of recognized "good practice." The term "good practice" as used here will refer to those construction activities that tend to mitigate adverse physical impacts to the community. (Appendix A for ESRP 4.3.1 lists examples of construction activities considered to be in keeping with "good practice".)

IV. EVALUATION

Evaluation of each identified impact will result in one of the following determinations:

The impact is minor and mitigation is not required. When all impacts are of this nature, the reviewer will recommend design and construction as proposed.

The impact is adverse but can be mitigated by specific design or procedure modifications that the reviewer has identified and determined to be practical. For these cases, the reviewer will consult with the project manager and the reviewers for ES Section 9.3 for verification that the reviewer's recommendations are practical and will lead to an improvement in the benefit-cost balance. The reviewer will prepare a list of verified modifications and recommended measures and controls to limit the corresponding impact. These lists will be provided to the reviewer for ES Section 4.6.2.

The impact is adverse and cannot be successfully mitigated, and is of such magnitude that it should be avoided. When impacts of this nature are identified, the reviewer will inform the reviewers for ES Section 9.3 that an analysis and evaluation of alternative designs or procedures is required. The reviewer will participate in any such analysis and evaluation of alternatives that would avoid the impact and that could be considered practical. If no such alternatives can be identified, the reviewer will be responsible for providing this information to the reviewer for ES Section 10.1.

If the reviewer determines that the applicant is committed to comply with all applicable standards and that the applicant's proposed construction-related activities represent good construction practices, the reviewer may conclude that the impacts resulting from these activities will be acceptable.

Where predicted impacts are adverse, the reviewer will recommend consideration of mitigative measures, including alternative placement of structures, alternative schedules, alternative construction practices, or other conditions to be imposed by the construction permit.

V. INPUT TO THE ENVIRONMENTAL STATEMENT

This section of the environmental statement should be planned to accomplish the following objectives: (1) public disclosure of physical impacts resulting from construction-related activities; (2) presentation of the basis for the staff

analysis; and (3) presentation of staff conclusions, recommendations, and conditions regarding physical impacts of construction-related activities to the community.

If the site is remote from a community and the applicant is committed to meeting applicable guides and standards and to following good construction practices, these facts should be stated with only a very brief discussion noting that under these conditions physical socioeconomic impacts should be minor. Where this is not the case, each of the areas identified in the analysis section should be addressed briefly with conclusions regarding the significance of the impact on the community. The reviewer will discuss the applicant's commitments to meet applicable Federal, State, and local standards, and will describe mitigating actions that should be taken by the applicant during construction. If there are some unique impacts resulting from unusual methods, materials, or other construction-related activities, these impacts will be addressed in detail.

The reviewer will provide inputs or ensure that inputs will be made to the following ES sections:

Section 4.6. The reviewer will provide as input to ES Section 4.6 a list of the applicant's commitments and the staff's recommendations of practices to limit adverse environmental impacts of construction.

Section 5.8.1. The reviewer will identify those features of plant construction expected to result in operational impacts.

Section 9.3. When the reviewer concludes that there are physical impacts of construction that are adverse and should be avoided, the reviewers for ES Section 9.3 will be requested to consider alternative plant designs, locations or construction practices that would avoid the impacts.

Section 10.1. The reviewer will provide as input to ES Section 10.1 a list of the unavoidable physical impacts that are predicted to occur as a result of the proposed construction activity.

VI. REFERENCES

1. T. J. Schultz, Noise Assessment Guidelines; Technical Background for Noise Abatement in HUD's Operating Programs, U.S. Department of Housing and Urban Development, Report HUD TE/NA 172, 1971. (Report prepared by Bolt, Beranek, and Newman.)
2. Environmental Protection Agency, Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety, PB-239/429, March 1974.
3. Atomic Industrial Forum, General Environmental Guidelines for Evaluating and Reporting the Effects of Nuclear Power Plant Site Preparation, Plant and Transmission Facility Construction, Atomic Energy Forum, Inc., 475 Park Avenue, S., New York, N.Y., 10016, 1974.
4. Mitre Corporation, Analysis of Final State Implementation Plans -- Rules and Regulations, PB-213/498, Environmental Protection Agency, July 1972.
5. Occupational Safety and Health Act, Noise Provision, Federal Register, Vol. 39, No. 105, Part II, p. 10518, Dept. of Labor, OSHA, May 29, 1971.
6. J. T. O'Neil, "Control of Construction Noise," Proceedings: Inter-Noise 72, International Conference on Noise Control Engineering, October 1964, Sponsored by Institute of Noise Engineering.

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