



# U.S. NUCLEAR REGULATORY COMMISSION

## ENVIRONMENTAL STANDARD REVIEW PLAN

### 10.4.1 BENEFITS

#### REVIEW RESPONSIBILITIES

Primary— Organization responsible for the review of economic information

Secondary— None

#### I. AREAS OF REVIEW

This environmental standard review plan (ESRP) directs the staff's identification and tabulation of the benefits resulting from construction and operation of the proposed project. The reviewer may rely on an independent analysis of benefits by State or regional authorities, the applicant's analysis, or prepare an independent assessment. If a review of the applicant's analysis is conducted, the reviewer should ensure that the applicant's assumptions, data, and methods have been accepted by all appropriate ESRP reviewers. If reviewers have relied on an independent analysis, the review in this ESRP should be modified accordingly. The scope of the review directed by this plan should include the plant average annual electrical-energy generation in kilowatt-hours (kWh), enhanced reliability of the electrical distribution system, technical benefits such as development of technology, the quantities of other products (e.g., steam) produced, and other benefits (e.g., increased regional productivity, tax revenues, or new or improved recreational facilities) that have been identified. Benefits should be identified for the applicant's proposed project and for any alternatives identified as appropriate and practical to mitigate predicted environmental impacts.

At the early site permit stage, 10 CFR 51.75(b) provides that an assessment of benefits, such as need for power, need not be covered in the EIS unless the applicant chooses to include this information in its environmental report.

The benefits of plant construction and operation should be summarized in tabular form similar to that shown in Table 10.4.1-1. Each benefit identified by the reviewer should be discussed in the text and presented in the table.

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10.4.1-1

NUREG-1555

#### **USNRC ENVIRONMENTAL STANDARD REVIEW PLAN**

This Environmental Standard Review Plan, NUREG-1555, has been prepared to establish guidance for the U.S. Nuclear Regulatory Commission staff responsible for environmental reviews for nuclear power plants. The Environmental Standard Review Plan is not a substitute for the NRC's regulations, and compliance with it is not required.

These documents are made available to the public as part of the Commission's policy to inform the nuclear industry and the general public of regulatory procedures and policies. Individual sections of NUREG-1555 will be revised periodically, as appropriate, to accommodate comments and to reflect new information and experience. Comments and suggestions for improvement will be considered and should be sent to the U.S. Nuclear Regulatory Commission, Office of New Reactors, Washington, D.C. 20555-0001.

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**Table 10.4.1-1.** Benefits of the Proposed Project

<b>Benefit Category</b>	<b>Project as Proposed</b>	<b>With Option 1</b>	<b>With Option 2</b>
Description of Project	As Proposed	[Short Description]	[Short Description]
<u>Monetary Benefits</u>			
Net Electrical Generating Benefits			
Average Production of Other Commercial Products			
State and Local Tax Payments During Construction/Refurbishment During Operations			
Effects on Regional Productivity (specify)			
<u>Technical and Other Nonmonetary Benefits (specify)</u>			
Technical Development			
Recreational Facilities			
Aesthetic Values			
Environmental Enhancement			
Improvements to Local Facilities			
Other			

Review Interfaces

The reviewer for this ESRP should obtain input from or provide input to the reviewers for the following ESRPs, as indicated:

- ESRP 3.2. Obtain data on net electrical generating benefits and other commercial products.
- ESRPs 4.4.2 and 5.8.2. Obtain data on annual tax payments and incremental increases in regional productivity.

- ESRPs 4.1.1 through 5.8.3. Obtain data on all non-monetary benefits.
- ESRP 8.4. Obtain conclusions and analysis for assessment of need for power.
- ESRP 9.3. Obtain data on differences in benefits (if any) among sites.
- ESRPs 9.4.1 through 9.4.3. Obtain data on differences in benefits (if any) among systems configurations.
- ESRP 10.4.3. Provide input as required to conduct and present the final benefit-cost balance for the proposed project.

### Data and Information Needs

The type of data and information needed will be affected by site- and station-specific factors, and the degree of detail should be modified according to the anticipated magnitude of the potential impacts. The following data or information should be obtained:

- the net electrical generating benefits of the proposed plant (from ESRP 3.2)
- the average annual production of other commercial products (from ESRP 3.2)
- expected annual tax payments to local and State governments (1) for the construction period and (2) during plant operation (from ESRPs 4.4.2 and 5.8.2)
- incremental increase in regional productivity (1) during the construction period and (2) during the operation period or during the renewal period (from ESRPs 4.4.2 and 5.8.2)
- those technical (e.g., technology development) and nonmonetary benefits (e.g., new recreational facilities) identified by the reviews for ESRP Chapters 4.0 and 5.0.

## II. ACCEPTANCE CRITERIA

Acceptance criteria of the analysis of benefits are based on meeting the relevant requirements of the following:

- 10 CFR 51.45 and 51.71 with respect to the analyses required in the development of the environmental report (ER) and environmental impact statement (EIS)
- 10 CFR 51.50(b) with respect to reviewing applications for early site permits
- 10 CFR 51.50(c) with respect to reviewing applications for combined licenses

Regulatory positions and specific criteria necessary to meet the regulations identified above are as follows:

- Regulatory Guide 4.2, Rev. 2, *Preparation of Environmental Reports for Nuclear Power Stations* (NRC 1976), with respect to information needs and formats for benefit-cost balancing.

### Technical Rationale

The technical rationale for evaluating the applicant's described benefits is discussed in the following paragraphs:

In accordance with 10 CFR 51.45, the applicant should submit in the ER information needed for evaluating the benefits of the proposed plant. Similar information is required to be present in the EIS pursuant to 10 CFR 51.71.

Reasonably detailed information about the economic benefits of the proposed action is needed to assess any potential social or economic impacts that might occur as a result of plant construction or operation. Data in the ER should be adequate to make these determinations. With open access to transmission, it will not always be apparent where electrical generating benefits will occur or how they will be identified. The reviewer should carefully review the applicant's analysis and be familiar with the current practice and policy of governmental agencies with authority over electric power transmission.

### III. REVIEW PROCEDURES

To determine benefits, the reviewer should perform the following steps:

- (1) Ensure that all appropriate plant production benefits have been identified and quantified. Ensure that quantification of these benefits is correct and is consistent with the staff's findings in ESRP 8.4.
- (2) For other benefits, ensure the following:
  - All relevant benefits have been identified and established.
  - The quantification of each benefit is appropriate.
  - The relative significance of each benefit has been established and is appropriate to the impact.

Benefits should be described in a tabular format similar to Table 10.4.1-1. Extra columns and rows may be added as needed.

- (3) Base benefits on the description of the project as proposed by the applicant, including post application modifications made by the applicant in response to staff assessments of measures to mitigate predicted environmental impacts.

If staff identified alternatives have not been adopted by the applicant, identify and analyze benefits for the project as proposed by the applicant.

(4) Identify and tabulate any other potential benefits of project construction and operation in consultation with appropriate ESRP reviewers. These potential benefits may include the following:

- technical development
- State and local tax revenues
- incremental increase in regional productivity
- enhancement of recreational values
- enhancement of aesthetic values
- environmental enhancement
- creation and improvement of local roads or other facilities
- intangible benefits (e.g., reduced dependence on scarce fossil fuels).

(5) Quantify benefits in monetary or other appropriate terms whenever possible and determine their significance on a political boundary or regional basis.

When quantification of these benefits is not possible, make a qualitative assessment.

#### IV. EVALUATION FINDINGS

The reviewer should verify that sufficient information has been provided in accordance with the requirements of this ESRP section and that the evaluation supports the following type of concluding statement, to be included in the staff's EIS:

The staff reviewed the available information relative to the economic benefits of the proposed action. The staff concludes that the information is adequate to satisfy the requirements of 10 CFR 51.45 and the intent of 10 CFR 51.71.

#### V. IMPLEMENTATION

The method described in this ESRP should be used by the staff in evaluating conformance with the Commission's requirements, except in those cases in which the applicant proposes an acceptable alternative for complying with specified portions of the requirements.

#### VI. REFERENCES

10 CFR 51.45, "Environmental report."

10 CFR 51.50, "Environmental report—construction permit, early site permit, or combined license stage."

10 CFR 51.71, “Draft environmental impact statement—contents.”

10 CFR 51.75, “Draft environmental impact statement —construction permit, early site permit, or combined license stage.”

U.S. Nuclear Regulatory Commission (NRC). 1976. *Preparation of Environmental Reports for Nuclear Power Stations*. Regulatory Guide 4.2, Rev. 2, Washington, D. C.

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**PAPERWORK REDUCTION ACT STATEMENT**

The information collections contained in the Environmental Standard Review Plan are covered by the requirements of 10 CFR Part 51, and were approved by the Office of Management and Budget, approval number 3150-0021.

**PUBLIC PROTECTION NOTIFICATION**

The NRC may not conduct or sponsor, and a person is not required to respond to, a request for information or an information collection requirement unless the requesting document displays a currently valid OMB control number.

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