Regulatory Analysis for the 10 CFR Part 51, Advanced Nuclear Reactor Generic Environmental Impact Statement Proposed Rule

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U.S. Nuclear Regulatory Commission
Office of Nuclear Material Safety and Safeguards
Division of Rulemaking, Environmental, and Financial Support

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ABSTRACT

The U.S. Nuclear Regulatory Commission (NRC or the Commission) is proposing to amend the requirements in Part 51 of Title 10 of the *Code of Federal Regulations* (10 CFR), "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions," to include the results of the Advanced Nuclear Reactor Generic Environmental Impact Statement (ANR GEIS). In September 2020, the Commission approved the development of a GEIS for the construction and operation of ANRs using a technology-neutral, plant parameter envelope (PPE) approach and directed staff to codify the GEIS's findings in the *Code of Federal Regulations.* This document presents a draft regulatory analysis of the benefits and costs of the proposed rule requirements, the ANR GEIS, Regulatory Guide 4.2, "Preparation of Environmental Reports for Nuclear Power Stations," and COL-ISG-030 "Environmental Considerations for Advanced Nuclear Reactor Applications that Reference the Generic Environmental Impact Statement," relative to the baseline case (i.e., the No-Action alternative).

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ABBREVIATIONS AND ACRONYMS

ac	acre(s)
ANR	advanced nuclear reactor
CFR	*Code of Federal Regulations*
COL	combined license
EIS	environmental impact statement
ER	Environmental Report
ESP	early site permit
FRN	*Federal Register* notice
GEIS	generic environmental impact statement
LWR	light-water reactor
N/A	not applicable
NEIMA	Nuclear Energy Innovation and Modernization Act of 2019
NEPA	National Environmental Policy Act of 1969, as amended
NPV	net present value
NRC	U.S. Nuclear Regulatory Commission
OFR	Office of the Federal Register
OL	operating license
OMB	Office of Management and Budget
PPE	plant parameter envelope
RG	regulatory guide
ROW	right-of-way
SEIS	supplemental environmental impact statement
SME	subject matter expert
SPE	site parameter envelope
SRM	staff requirements memorandum

EXECUTIVE SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) is proposing to amend its regulations that govern the NRC's National Environmental Policy Act (NEPA) reviews. The rulemaking would codify the generic findings of the Advanced Nuclear Reactor Generic Environmental Impact Statement (ANR GEIS). The ANR GEIS would use a technology-neutral regulatory framework and performance-based assumptions to determine generic environmental impacts of new commercial advanced nuclear reactors. The ANR GEIS would streamline the NEPA reviews for future advanced reactor applicants. The proposed rule would codify these generic findings into the NRC's regulations in Part 51 of Title 10 of the *Code of Federal Regulations* (10 CFR), "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions," thus making the NRC's licensing process more efficient. Specifically, these findings would be codified into Subpart A of 10 CFR Part 51, which sets forth the NRC's regulations to implement its obligations under NEPA. Major provisions of this proposed rule and guidance would include:

- Addition of a new Appendix C to Subpart A of 10 CFR 51 to document the Commission's findings in the ANR GEIS.
- Changes to the regulations for the preparation of environmental reports for new reactors (e.g., 10 CFR 51.50, "Environmental report—construction permit, early site permit, or combined license") to provide the applicant with the option to use the ANR GEIS.
- Changes to the regulations for the preparation of environmental impact statements for new reactors (e.g., 10 CFR 51.75, "Draft environmental impact statement—construction permit, early site permit, or combined license") to provide the NRC staff with the option to use the ANR GEIS.
- Draft revisions to Regulatory Guide (RG) 4.2 to provide guidance to applicants regarding the use of the ANR GEIS. In addition, the staff has prepared a draft interim staff guidance document, COL-ISG-030, to provide guidance to the staff regarding the use of the ANR GEIS.

This regulatory analysis discusses two alternatives – Alternative 1, the no-action or status quo alternative, and Alternative 2, pursuance of the proposed rule. For Alternative 2, the regulatory analysis evaluates the costs and benefits of the proposed rule requirements and development of the ANR GEIS and associated guidance documents. It derives the key findings summarized in Table ES-1.

Table ES-1 Total Costs and Benefits of Alternative 2

Description	Undiscounted	7% NPV	3% NPV
Industry	$8,564,784	$5,047,780	$6,777,377
NRC	$8,623,104	$4,749,675	$6,624,783
Total Benefit	**$17,187,888**	**$9,797,455**	**$13,402,159**
Industry Cost	($400,000)	($361,604)	($382,694)
NRC Cost	($2,313,955)	($2,072,666)	($2,204,611)
Total Cost	**($2,713,955)**	**($2,434,269)**	**($2,587,305)**
Net Benefits	**$14,473,933**	**$7,363,186**	**$10,814,854**

According to Executive Order 12866, an economically significant regulatory action is one that would have an annual effect on the economy of $100 million or more. This proposed rulemaking does not reach this threshold.

1.0 INTRODUCTION

The U.S. Nuclear Regulatory Commission (NRC or the Commission) is proposing to amend the requirements in Part 51 of Title 10 of the *Code of Federal Regulations* (10 CFR), "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions" (10 CFR Part 51-TN250) to include the results of the Advanced Nuclear Reactor Generic Environmental Impact Statement (ANR GEIS). The NRC is adding these new regulations to its existing environmental regulatory framework by incorporating the findings from NUREG–2249 ("Generic Environmental Impact Statement for Advanced Nuclear Reactors" [ANR GEIS]) through the rulemaking process. The ANR GEIS rule will define the number and scope of the environmental impact issues that must be addressed by the NRC during advanced reactor environmental reviews. As part of this rulemaking, the results of the ANR GEIS will be used to revise and update guidance to advanced nuclear reactor applicants in Regulatory Guide (RG) 4.2, "Preparation of Environmental Reports for Nuclear Power Stations" (NRC 2018-TN6006). Guidance is also being prepared to describe how NRC staff should review information submitted by an advanced nuclear reactor applicant in its Environmental Report and how to prepare the resulting environmental impact statement (EIS). This guidance will be documented in COL-ISG-030, "Environmental Considerations for Advanced Nuclear Reactor Applications that Reference the Generic Environmental Impact Statement," and formalized into more durable guidance in NUREG-1555, "Standard Review Plans for Environmental Reviews for Nuclear Power Plants.

This document presents the regulatory analysis of the NRC's proposed new environmental protection regulations from the ANR GEIS as they relate to the issuance of early site permits (ESP), construction permits, operating license (OL), and combined licenses (COL) for advanced reactors. These new regulations will be presented in Table C–1, "Summary of Findings on NEPA Issues for Advanced Nuclear Power Plants," in Appendix C to Subpart A, "Environmental Effect of Issuing a License or Permit for an Advanced Nuclear Power Plant," of 10 CFR Part 51. (Hereafter, this table is referred to as "Table C–1" in this document.) This regulatory analysis includes the development of the rulemaking package, including the guidance to applicants and staff described above.

This introduction is divided into three sections. Section 1.1 states the problem and the objective of the rulemaking, Section 1.2 provides background information about the pertinent regulatory requirements in 10 CFR Part 51, and Section 1.3 describes the methodology used in the ANR GEIS.

1.1 Statement of the Problem and Objective of the Rulemaking

In recent years, interest in developing and licensing ANRs in the United States using new technologies has increased. The increased interest is demonstrated by the recently enacted Nuclear Energy Innovation Capabilities Act of 2017 (Public Law 115-248; TN6468) and Nuclear Energy Innovation and Modernization Act of 2019 (NEIMA, Public Law 115-439; TN6469). One purpose of NEIMA is to provide a program for developing "the expertise and regulatory processes necessary to allow innovation and commercialization of advanced nuclear reactors."

Under the NRC's environmental protection regulations in 10 CFR Part 51, which implement Section 102(2) of the National Environmental Policy Act of 1969 (NEPA, 42 U.S.C. §§ 4321 *et seq.*; TN661), licensing of an advanced nuclear power plant requires the preparation of an EIS. On September 21, 2020, the Commission issued Staff Requirements Memorandum (SRM)-20-0020 (NRC 2020-TN6492), which directed staff to develop a GEIS for the

construction and operation of ANRs using a technology-neutral, plant parameter envelope (PPE) approach and codify the GEIS's findings in the *Code of Federal Regulations.* In November 2020, the staff committed to a schedule for development of the ANR GEIS and for major rulemaking activities and milestones. The purpose of the ANR GEIS, upon which the rulemaking is based, is to present impact analyses for environmental issues common to many or most advanced reactors that can be addressed generically, thereby eliminating the need to repeatedly reproduce the same analyses each time a licensing application is submitted and allowing applicants and NRC staff to focus future environmental review efforts on issues that can only be resolved once a site is identified. These generic impact analyses are documented and described in the ANR GEIS. The ANR GEIS is intended to improve the efficiency of licensing advanced reactors by (1) identifying the types of environmental impacts that may occur from constructing, operating and decommissioning an advanced reactor, (2) assessing impacts that are expected to be generic (the same or similar) for many or most advanced reactors, and (3) defining the environmental issues that will need to be addressed in project-specific supplemental EISs addressing specific projects.

The objective of the rulemaking is to codify the environmental findings from the GEIS in Table C–1 and amend the regulations in 10 CFR Part 51 for advanced reactor construction and operation, based on the technical findings in the ANR GEIS.

1.2 Background

On June 25, 2019, Senators Barrasso and Braun, from the U.S. Senate Committee on Environmental and Public Works, sent a letter to NRC Chairman Svinicki requesting that the NRC "initiate a process to develop a Generic Environmental Impact Statement (GEIS) for the construction and operation of advanced reactors" (Barrasso and Braun 2019-TN6465). On July 29, 2019, Chairman Svinicki responded that staff would prepare for the environmental review of applications for advanced reactors by conducting an exploratory process to determine "whether the development of a GEIS for advanced reactors would provide an adequate environmental review and yield sufficient benefit to support taking this approach"(NRC 2019-TN6467). Upon review, the staff determined that using a GEIS could accelerate and streamline the environmental review process of advanced reactors and began to plan the timing and approach of the exploratory analysis required by the Commission.

On November 15, 2019, the NRC staff issued a *Federal Register* notice (84 FR 62559-TN6470) announcing an exploratory process and soliciting comments to determine the possible utility of developing a GEIS for licensing ANRs. The exploratory process included two public meetings, a comprehensive public workshop attended by multiple stakeholders, and a site visit to the Idaho National Laboratory, one location that is being contemplated for some ANRs. As part of the exploratory process, the staff considered its experience with previous NRC GEIS documents that support power reactor license renewals, in situ uranium recovery facilities, and decommissioning. The staff gathered information to determine whether a GEIS for construction and operation of ANRs might be viable.

On February 28, 2020, the staff issued SECY-20-0020 (NRC 2020-TN6493) detailing the results of the exploratory process whereby the staff determined that development of a GEIS for advanced reactors would be beneficial because it would generically resolve many environmental issues, saving resources and providing predictability for potential applicants. On April 30, 2020, the NRC issued a *Federal Register* notice (85 FR 24040-TN6458) informing the public of its intent to develop an advanced reactor GEIS and to conduct a scoping process to gather information necessary to prepare an advanced reactor GEIS for ANRs. The NRC held a

webinar on May 28, 2020, to receive comments from the public about the scope of the GEIS (NRC 2020-TN6459). Based on comments received during the scoping period, the staff determined that using a technology-neutral, performance-based approach to develop the ANR GEIS that is inclusive of as many advanced reactor technologies as possible and would, where possible, decouple resource areas from reactor power level.

In response to the staff's exploratory and scoping process, and as described in Section 1.1 above, the Commission issued SRM-20-0020 (NRC 2020-TN6492) dated September 21, 2020, which approved the development of a GEIS for the construction and operation of ANRs using a technology-neutral, PPE approach and directed staff to codify the GEIS's findings in the *Code of Federal Regulations.*

1.3 ANR GEIS Methodology

In preparing the ANR GEIS, the staff determined that certain environmental impacts associated with licensing an advanced nuclear power plant were the same or similar for all commercial nuclear power plants and as such, could be treated generically. In this way, repetitive reviews of these environmental impacts could be avoided.

Because neither the advanced reactor technology nor the site is known, the NRC staff performed its generic analyses based on a hypothetical reactor meeting a series of performance-based assumptions termed the PPE and situated on a hypothetical site meeting a series of performance-based assumptions termed the site parameter envelope (SPE) (NRIC 2021-TN6940).

The analysis began by identifying specific types of impacts relevant to each of the 16 environmental resource areas identified by the NRC staff. Each type of impact is termed an issue. Each issue corresponds to a type of environmental impact that could potentially result from ANR construction, operation, or decommissioning. The analysis identifies 121 specific issues. Each issue is analyzed to determine whether it is possible to identify values and assumptions in the PPE and SPE that could effectively bound a meaningful generic analysis. These issues were then assigned a significance level. The significance levels follow the definitions presented in the footnotes in Table B–1 in Appendix B of Subpart A of 10 CFR Part 51 (TN250). They are the same environmental significance levels and definitions used in the License Renewal GEIS (NRC 2013-TN2654) and in recent EISs prepared by the NRC staff for COLs and ESPs for new light-water reactors (LWRs). However, the ANR GEIS categorizes resource area issues into categories in a manner that is different from previous GEIS documents developed and used by the NRC.

For the ANR GEIS, the values and assumptions were set such that the subject matter experts (SMEs) could reach a generic conclusion of SMALL adverse impacts, which are designated as Category 1 issues (i.e., issues for which a generic analysis was possible). Issues for which the impacts are beneficial are also designated as Category 1.

After considering potential values and assumptions for the PPE and SPE for some environmental impact issues, the staff could not reach a generic conclusion. In some cases, this was due to requirements of other statutes, such as the National Historic Preservation Act (54 U.S.C. §§ 300101 *et seq.*; TN4157) and the Endangered Species Act (16 U.S.C. §§ 1531 *et seq.*; TN1010). In other cases, the wide range of potential reactor designs and potential site locations made it impossible for the staff to reach a generic conclusion in the ANR GEIS. These issues are designated as Category 2 issues, which would require a project-specific analysis in

an NRC EIS. In addition, there are two issues for which the state of the science is currently inadequate, and no generic conclusion on impacts is possible. These are designated as N/A (i.e., impacts are uncertain), which are nether Category 1 nor 2.

An applicant addressing a Category 1 issue in its Environmental Report (ER) may refer to the generic analysis in the ANR GEIS for that issue without further analysis, provided that it demonstrates that the relevant values and assumptions of the PPE and SPE used in the resource analysis are met or bounded and there is no new and significant information that would require project-specific analysis[1]. The applicant will have to document how the values and assumptions are met in the application package. The extent of the information necessary to demonstrate that a value or assumption is met will vary. In some cases, the demonstration may only require showing that the project design or site is bounded by a parameter value or assumption (e.g., building height). But in other cases, analysis may be required to demonstrate that a value or assumption has been met (e.g., noise levels).

If the relevant values and assumptions for a Category 1 issue are not met, the applicant would have to supply the requisite information necessary for the staff to perform a project-specific analysis. One source of guidance for applicants providing information to the staff in an ER is the latest version of RG 4.2 (NRC 2018-TN6006). The applicant may, however, be able to incorporate by reference all or part of the generic analysis provided in the ANR GEIS and focus on providing the additional project-specific information needed. Applicants addressing Category 2 issues in an ER would have to provide all the information typically needed by the staff to perform a project-specific analysis and may rely on guidance available in RG 4.2. The staff expects that applicants would rely on the generic conclusions for Category 1 issues to the extent that the conclusions can be technically supported. A variety of potential scenarios were evaluated based on combinations of resource areas for which the Category 1 issues might apply/not apply based on the type of site and design that is selected. These scenarios are presented in Table 4.3, “Relative Expected Effort of Alternative NRC ANR NEPA Review Cases.”

After accepting the license application and ER, the NRC prepares a Supplemental EIS (SEIS) to the ANR GEIS that evaluates the environmental impact of project-specific (Category 2) issues and considers any new and significant information for Category 1 and/or any other newly identified issues. The draft SEIS is made available for public comment. After considering public comments, the NRC prepares and issues a final SEIS in accordance with 10 CFR 51.91, “Final environmental impact statement—contents,” and 51.93, “Distribution of final environmental impact statement and supplement to final environmental impact statement; news releases” (10 CFR Part 51-TN250). Together, the final SEIS and the GEIS serve as the requisite NEPA analysis for the advanced nuclear reactor license environmental reviews.

When addressing Category 1 issues in SEISs, the NRC staff may likewise refer to the generic analysis in the ANR GEIS for a given issue without further analysis, provided that the relevant values and assumptions in the PPE and SPE are met and there is no new and significant information that changes the conclusions in the GEIS. Staff may also have to briefly document how the values and assumptions are met. If the relevant values and assumptions are not met, staff would have to complete a project-specific analysis in accordance with the latest version of the Environmental Standard Review Plan or related guidance (such as any relevant interim staff guidance). Staff may however be able to streamline the effort by incorporating all or a portion of

[1] As used in this document, when the staff states that the project meets a value or assumption of the PPE or SPE, it should be read as to mean that the project meets or is bounded by the value or assumption.

the generic analysis in the ANR GEIS and expanding it to account for project-specific information.

2.0 IDENTIFICATION AND PRELIMINARY ANALYSIS OF ALTERNATIVE APPROACHES

The analysis considers two alternatives. The following sections describe each alternative.

2.1 Alternative 1: No-Action

Under Alternative 1, the No-Action alternative, the NRC would not issue an ANR GEIS and codify its results in 10 CFR Part 51 (TN250). The NRC would evaluate all environmental impacts in a project-specific EIS. Applicants for an advanced reactor license would continue to comply with the existing provisions of 10 CFR Part 51 and submit ERs that evaluated all environmental impacts on a case-by-case basis.

2.2 Alternative 2: Issue ANR GEIS and Codify Findings in 10 CFR Part 51

Under Alternative 2, the NRC would issue the ANR GEIS and would amend certain provisions of 10 CFR Part 51 related to the environmental review for advanced nuclear power plant licenses and add Table C–1. The NRC would also issue two revised guidance documents on applying the ANR GEIS findings for both applicants and the NRC staff, as discussed in Section 1.0 above.

This ability to rely on these generically determined Category 1 issues will result in a time and cost savings for both the applicant and the NRC as the EIS for an application is developed. An evaluation of the estimated benefit of reliance on Category 1 issues in the GEIS is discussed in Section 3.0.

Table C–1 of Appendix C to Subpart A of 10 CFR Part 51 summarizes the findings of the ANR GEIS, for which 121 environmental issues were analyzed. The table identifies issues as Category 1, Category 2, or Uncategorized issues, and, as identified in the Category column, most of the issues were found to be Category 1 issues. This means they are issues for which a generic analysis of environmental impacts is possible, provided that relevant values and assumptions in the PPE and SPE are met. The table also identifies mitigation measures and parameters and values that apply to each issue.

3.0 EVALUATION OF BENEFITS AND COSTS

This section describes the analysis conducted to identify and evaluate the benefits and costs expected from utilization of the results of the ANR GEIS, which will be codified in the final revisions of Appendix C to Subpart A of 10 CFR Part 51 (TN250). Section 3.1 identifies the attributes that Alternative 2 is expected to affect. Section 3.2 describes the methodology used to analyze the benefits and costs associated with expected changes to the affected attributes. Section 3.3 analyzes the implementation of Alternative 2, which will involve implementation and operational costs for industry and the NRC.

3.1 Attributes Affected by the Rulemaking

This section identifies the factors within the public and private sectors that the rulemaking is expected to affect. These factors are classified as "attributes" using the list of potential attributes provided in Chapter 5 of the NRC's "Regulatory Analysis Technical Evaluation Handbook" (NRC 2020-TN6806). Affected attributes include the following:

- *Industry Implementation*. Industry applicants will incur costs associated with reviewing the proposed rule and implementing the final rule. Potential applicants will review and likely develop comments to submit as part of the rulemaking process. This requires staff time and resources for reading, assessing, and developing comments. In addition, potential applicants will incur costs as they evaluate how to implement the GEIS in generating an ANR application using the provisions of the proposed rule and the eventual final rule. Such internal procedures include prescribing how determinations for Category 1 versus Category 2 designations will be made and how the assessment process will be documented in the application.
- *Industry Operation*. As a result of the generic analysis of environmental issues, applicants will recognize a savings to prepare the ER by relying on the analysis in the GEIS for Category 1 issues and the ability to incorporate by reference the findings in the ANR GEIS, rather than analyzing the impacts in their ER. Applicants will incur costs for Category 1 issues associated with demonstrating their project is bounded by the analysis in the GEIS. However, these costs are assumed to be required as part of the characterization of the affected environment under existing NEPA guidance and approaches for COL and ESP reviews. No incremental costs would be incurred by addressing Category 2 issues in project-specific analyses and presenting the information in the ER because these costs would be incurred if an applicant submitted an ER with or without relying on the GEIS.
- *NRC Implementation.* The NRC will incur costs related to implementing the provisions of the proposed rule. Some of these costs have already occurred and do not factor into this regulatory analysis. Future costs of implementation include completion and publication of the Draft ANR GEIS, resolving public comments on the GEIS, completion and publication of this regulatory analysis and the rulemaking package for public review and review by the Office of Management and Budget (OMB) and Office of the Federal Register (OFR), including the processing of formal review comments. Future implementation costs also include those associated with completion and publication of the final rule and supporting documents.
- *NRC Operations*. Similar to the industry operation, the NRC will recognize cost savings by relying on the generic analysis of Category 1 issues. As part of the characterization of the affected environment, the NRC will need to verify that the project is bounded by the ANR GEIS. Category 2 issues will need to be analyzed in the SEIS. However, the project-

specific analysis of Category 1 issues for the SEIS referencing the GEIS will cost less than the analysis for an EIS that does not reference the GEIS.

- *Improvements in Process*. Category 1 and 2 issues have been added to Table C–1 of 10 CFR Part 51, which will improve the quality of the information provided to the NRC by focusing on issues most relevant to specific applications and facilitate advanced reactor environmental reviews. This information is necessary for the NRC to ensure compliance with Federal environmental statutes and regulations and to evaluate the potential environmental effects of continued nuclear power plant operations. Additionally, the applicant's research for new and significant information pertaining to Category 1 issues will improve the knowledge base for these issues.
- *Improvements in Efficiency for the Applicant and Improvements in Efficiency for the NRC.* The ANR GEIS and the issues and findings in Table C–1 will improve the efficiency of the environmental review. Improving the clarity and efficiency of the regulatory provisions reduces the cost to industry to prepare environmental reports for advanced reactor applications and permits the NRC to focus resources on project-specific issues of importance (i.e., project-specific analyses), which also reduces the cost to the NRC.

3.2 Analytical Methodology

This section describes the methodology used to analyze the incremental benefits and costs associated with Alternative 2. The benefits of Alternative 2 include any desirable changes in affected attributes (e.g., savings) while the costs include any adverse changes in affected attributes (e.g., costs).

The analysis evaluates the following attributes affected by Alternative 2 on a quantitative basis:

- industry implementation
- industry operation
- NRC implementation
- NRC operation.

The analysis evaluates improvements in process affected by Alternative 2 on a qualitative basis due to the difficulty and uncertainty involved in quantifying the benefits and impacts to this attribute.

3.2.1 Baseline for the Analysis

The analysis measures the incremental impacts of Alternative 2 relative to a baseline (Alternative 1, the No-Action alternative).

3.2.2 Affected Applicants

Advanced reactor applicants for an NRC license can refer to Table C–1 in 10 CFR Part 51 and the GEIS to streamline the preparation of their ER. The NRC estimates that approximately eight advanced reactor applications will be received over the 10-year period before the ANR GEIS will be updated. This estimate is based on letters of intent received from potential applicants; the NRC anticipates receiving one application per year in 8 years of the 10-year period from 2024 to 2034. Consideration of the potential ANR applications under the proposed rule is discussed in Sections 3.3.2 and 3.3.4.

The analysis period for this regulatory analysis covers that period between 2024 and 2034 for the benefits and the costs of implementation. Thus the costs and benefits are analyzed for that period based on the guidance provided in NUREG-0058 (NRC 2020-TN6806). Results are presented in undiscounted terms and using financial discounting with discount rates of 3 and 7 percent to reflect the time value of money. All dollar amounts are presented in 2021 constant dollars.

3.3 Analysis of Alternative 2 Implementation

The NRC evaluated each provision contained in Alternative 2 relative to the applicable baseline (Alternative 1, the No-Action alternative). Based on this analysis, the NRC developed equations to estimate the benefits and costs using available data, augmented by assumptions when necessary, and guidance contained in NUREG-0058 (NRC 2020-TN6806).

The NRC labor rate is the weighted average of the NRC staff labor rate and the NRC contractor labor rate. NRC contractors may perform a significant portion of the analyses addressed by the proposed rule. For the regulatory analysis, data about the relative effort expended on previous COL and ESP reviews by NRC staff and NRC contractors were collected and summarized in terms of costs and hours. The NRC staff labor rate was given as $137 per hour per internal agency guidance. The NRC contractor labor rate was estimated based on recent review costs billed to NRC divided by the hours billed and equates to approximately $190 per hour inclusive of all labor costs. The weighted average of these two rates was estimated based on the relative number of hours per most typical review experience. This rate equates to $168 per hour and represents the NRC average labor rate used in the analysis.

General Assumptions

- Effective year of proposed rule = 2024
- NRC Composite rate (weighted) = $168.00
  - NRC staff rate = $137.00/hour
  - NRC contractor staff rate = $190.00/hour
- Industry staff rate = $163.50/hour
- The analysis presents all benefits and costs in constant 2021 dollars. For net present value calculations, the analysis discounts to the first year of incurred costs or savings (i.e., 2022).

The industry rate was estimated to be the average between the NRC staff rate and the NRC contractor rate.

The following sections address the implementation and operational costs to industry and the NRC associated with issuing the ANR GEIS and codifying findings in 10 CFR Part 51 to accelerate and streamline the process of conducting environmental reviews related to the licensing of advanced reactors.

3.3.1 Industry Implementation

Under Alternative 2, industry applicants would be expected to review and comment on the proposed rule and take actions to implement the provisions of the rule for environmental reviews triggered by the expected applications under this rule. The NRC staff assumed that these implementation activities would apply to the eight applicants expected to submit applications under this rule during the 2024–2034 period. Further, the staff assumed each applicant would devote $50,000 to these preparatory activities, allocated somewhat evenly between rule reviewing and commenting on the proposed rule and implementing the provisions of the eventual final rule. The annual costs are summarized in Table 3.1. As shown in the table, it is

assumed that preparatory activities for the eight applications are split evenly between 2022 and 2023.

Table 3.1 Annual Industry Implementation Costs (2021 Constant Dollars)

Year	Undiscounted	7% NPV	3% NPV
2022	($200,000)	($186,916)	($194,175)
2023	($200,000)	($174,688)	($188,519)
2024	$0	$0	$0
2025	$0	$0	$0
2026	$0	$0	$0
2027	$0	$0	$0
2028	$0	$0	$0
2029	$0	$0	$0
2030	$0	$0	$0
2031	$0	$0	$0
2032	$0	$0	$0
2033	$0	$0	$0
2034	$0	$0	$0
Total Costs	($400,000)	($361,604)	($382,694)

3.3.2 Industry Operations

Alternative 2 evaluates issues that each applicant must assess and include in their application to the NRC, which will be documented in Table C–1. The analysis specifies each issue that is evaluated quantitatively. For each Table C–1 issue, the regulatory analysis lists the assumption(s) and equation(s) used to estimate the benefits and/or costs to industry.

General assumptions are listed below (each Table C–1 benefit and cost described below applies to all applicants except where noted):

- Any applicant submitting an advanced reactor application in the period of the proposed rule will incur the operations costs or recognize the operations savings in the same year as the application submittal.
- Applicant labor savings are assumed to scale based on the recent COL and ESP review experience of NRC staff and contractors, and equate to 1.75 times the labor hours required by NRC contractor staff who are reviewing and confirming the original analysis done by the applicant. The 1.75 factor is assumed to represent the additional effort on the part of the applicant to prepare the application from scratch. This factor is assumed to apply regardless of the complexity of the ANR application.
- Savings enabled by the proposed rule occur when a generic impact analysis is determined to be an adequate analysis approach compared to standard impact analysis practices that are required by current guidance for new reactor reviews. The reduced labor effort required with generic analysis compared to previous (baseline) approaches is the savings.
- Savings estimates are analyzed for environmental reviews that would be considering ANR applications focused on facilities incorporating designs where multiple nuclear units would be installed in a single facility. These types of facilities most closely align with the previous review experience of the NRC and reflect the most recent ANR review experience associated with the Clinch River ESP review. Thus, the savings reported for the most likely

review experience are likely to be upper bound estimates for the potential range of applications that may be expected.

- Many potential ANR applications may use innovative technology, a smaller reactor size, or a single small unit. In these cases, several environmental resources may not be affected, and the resulting savings would not be realized, because unaffected resources would not be part of the savings baseline.
- A Category 1 issue is assumed to be analyzed based on the generic analysis provided in the ANR GEIS and would not require analytical effort apart from making the determination that generic analysis applies. It is assumed that applicant will assess new and significant information for the determination of Category 1 applicability as part of the typical characterization of the affected environment in the ER; therefore, no additional costs are incurred to make this determination.
- A Category 2 issue is assumed to require a level of effort similar to that required without a GEIS, and thus, would not result in savings or added costs for applicant staff.

Table 3.2 presents the issue-by-issue cost savings impact attributable to the rule, which are enabled by using the ANR GEIS to provide the generic impact conclusions for the Category 1 issues, thereby avoiding the cost to industry of in-depth assessment for those issues. Table A-1 in Appendix A provides the detailed financial results that feed into this summary.

Table 3.2 2024–2034 Financial Impact of Industry Operations under the Proposed Rule by Issue (2021 Constant Dollars)

Applicant	Table 4-1 Issue Descriptions	Net Savings (Costs) per Application			Total Net Savings (Costs) - Rule		
		Labor Rate	Hours per Application	Total per Application	Undiscounted Total	7% NPV	3% NPV
Issue Number		**Industry Operations**					
1	Category 1 Construction - Onsite Land Use	$163.50	26	$4,251	$34,008	$20,043	$26,911
2	Category 1 Construction - Offsite Land Use	$163.50	184	$30,084	$240,672	$141,844	$190,446
3	Category 1 Construction - Impacts on Prime and Unique Farmland	$163.50	25	$4,088	$32,700	$19,272	$25,876
4	Category 1 Construction - Coastal Zone and Compliance with The Coastal Zone Management Act	$163.50	14	$2,289	$18,312	$10,792	$14,490
5	Category 1 Operations - Onsite Land Use	$163.50	3	$491	$3,924	$2,313	$3,105
6	Category 1 Operations - Offsite Land Use	$163.50	25	$4,088	$32,700	$19,272	$25,876
7	Category 1 Construction - Visual Impacts in Site and Vicinity	$163.50	11	$1,799	$14,388	$8,480	$11,385
8	Category 1 Construction - Visual Impacts from Transmission Lines	$163.50	11	$1,799	$14,388	$8,480	$11,385
9	Category 1 Operations - Visual Impacts During Operations	$163.50	23	$3,761	$30,084	$17,730	$23,806
10	Category 1 Construction - Emissions of Criteria Pollutants and Dust During Construction	$163.50	33	$5,396	$43,164	$25,439	$34,156
11	Category 1 Construction - Greenhouse Gas Emissions During Construction	$163.50	76	$12,426	$99,408	$58,588	$78,662
12	Category 1 Operations - Emissions of Criteria and Hazardous Air Pollutants During Operation	$163.50	50	$8,175	$65,400	$38,544	$51,752
13	Category 1 Operations - Greenhouse Gas Emissions During Operation	$163.50	48	$7,848	$62,784	$37,003	$49,681
14	Category 1 Operations - Cooling	$163.50	11	$1,799	$14,388	$8,480	$11,385

Applicant	Table 4-1 Issue Descriptions	Net Savings (Costs) per Application			Total Net Savings (Costs) - Rule		
		Labor Rate	Hours per Application	Total per Application	Undiscounted Total	7% NPV	3% NPV
Issue Number	**Industry Operations**						
	System Emissions						
15	Category 1 Operations - Emissions of Ozone and Nitrogen Oxides During Transmission Line Operation	$163.50	6	$981	$7,848	$4,625	$6,210
16	Category 1 Construction - Surface Water Use Conflicts During Construction	$163.50	17	$2,780	$22,236	$13,105	$17,596
17	Category 1 Construction - Groundwater Use Conflicts Due to Excavation Dewatering	$163.50	117	$19,130	$153,036	$90,194	$121,099
18	Category 1 Construction - Groundwater Use Conflicts Due to Construction-Related Groundwater Withdrawals	$163.50	97	$15,860	$126,876	$74,776	$100,398
19	Category 1 Construction - Water Quality Degradation Due to Construction-Related Discharges	$163.50	17	$2,780	$22,236	$13,105	$17,596
20	Category 1 Construction - Water Quality Degradation Due to Inadvertent Spills During Construction	$163.50	17	$2,780	$22,236	$13,105	$17,596
21	Category 1 Construction - Water Quality Degradation Due to Groundwater Withdrawal	$163.50	39	$6,377	$51,012	$30,065	$40,366
22	Category 1 Construction - Water Quality Degradation Due to Offshore or In-Water Construction Activities	$163.50	67	$10,955	$87,636	$51,650	$69,347
23	Category 1 Construction - Water Use Conflict Due to Plant Municipal Water Demand	$163.50	67	$10,955	$87,636	$51,650	$69,347
24	Category 1 Construction - Degradation of Water Quality from Plant Effluent Discharges to Municipal Systems	$163.50	150	$24,525	$196,200	$115,633	$155,255

Applicant	Table 4-1 Issue Descriptions	Net Savings (Costs) per Application			Total Net Savings (Costs) - Rule		
		Labor Rate	Hours per Application	Total per Application	Undiscounted Total	7% NPV	3% NPV
Issue Number		**Industry Operations**					
25	Category 1 Operations - Surface Water Use Conflicts During Operation Due to Water Withdrawal from Flowing Waterbodies	$163.50	109	$17,822	$142,572	$84,027	$112,818
26	Category 1 Operations - Surface Water Use Conflicts During Operation Due to Water Withdrawal from Non-Flowing Waterbodies	$163.50	39	$6,377	$51,012	$30,065	$40,366
27	Category 1 Operations - Groundwater Use Conflicts Due to Building Foundation Dewatering	$163.50	29	$4,742	$37,932	$22,356	$30,016
28	Category 1 Operations - Groundwater Use Conflicts Due to Groundwater Withdrawals for Plant Uses	$163.50	57	$9,320	$74,556	$43,941	$58,997
29	Category 1 Operations - Surface Water Quality Degradation Due to Physical Effects from Operation of Intake and Discharge Structures	$163.50	117	$19,130	$153,036	$90,194	$121,099
30	Category 1 Operations - Surface Water Quality Degradation Due to Changes in Salinity Gradients Resulting from Withdrawals	$163.50	194	$31,719	$253,752	$149,552	$200,796
31	Category 1 Operations - Groundwater Quality Degradation Due to Plant Discharges	$163.50	57	$9,320	$74,556	$43,941	$58,997
32	Category 1 Operations - Water Quality Degradation Due to Inadvertent Spills and Leaks During Operation	$163.50	16	$2,616	$20,928	$12,334	$16,560
33	Category 1 Operations - Water Quality Degradation Due to Groundwater Withdrawals	$163.50	43	$7,031	$56,244	$33,148	$44,506
34	Category 1 Operations - Water Use Conflict from Plant Municipal Water Demand	$163.50	16	$2,616	$20,928	$12,334	$16,560

Applicant	Table 4-1 Issue Descriptions	Net Savings (Costs) per Application			Total Net Savings (Costs) - Rule		
		Labor Rate	Hours per Application	Total per Application	Undiscounted Total	7% NPV	3% NPV
Issue Number		**Industry Operations**					
35	Category 1 Operations - Degradation of Water Quality from Plant Effluent Discharges to Municipal Systems	$163.50	16	$2,616	$20,928	$12,334	$16,560
36	Category 1 Construction - Permanent and Temporary Loss, Conversion, Fragmentation, and Degradation of Habitats	$163.50	168	$27,468	$219,744	$129,509	$173,885
37	Category 1 Construction - Permanent and Temporary Loss and Degradation of Wetlands	$163.50	168	$27,468	$219,744	$129,509	$173,885
38	Category 1 Construction - Effects of Building Noise on Wildlife	$163.50	60	$9,810	$78,480	$46,253	$62,102
39	Category 1 Construction - Effects of Vehicular Collisions on Wildlife	$163.50	50	$8,175	$65,400	$38,544	$51,752
40	Category 1 Construction - Bird Collisions and Injury from Structures and Transmission Lines	$163.50	60	$9,810	$78,480	$46,253	$62,102
41	Category 1 Construction - Important Species and Habitats – Other Important Species and Habitats	$163.50	84	$13,734	$109,872	$64,755	$86,943
42	Category 1 Operations - Permanent and Temporary Loss or Disturbance of Habitats	$163.50	19	$3,107	$24,852	$14,647	$19,666
43	Category 1 Operations - Effects of Operational Noise on Wildlife	$163.50	11	$1,799	$14,388	$8,480	$11,385
44	Category 1 Operations - Effects of Vehicular Collisions on Wildlife	$163.50	9	$1,472	$11,772	$6,938	$9,315
45	Category 1 Construction - Exposure of Terrestrial Organisms to Radionuclides	$163.50	38	$6,213	$49,704	$29,294	$39,331
46	Category 1 Operations - Cooling Tower Operational Impacts on Vegetation	$163.50	37	$6,050	$48,396	$28,523	$38,296

Applicant	Table 4-1 Issue Descriptions	Net Savings (Costs) per Application			Total Net Savings (Costs) - Rule		
		Labor Rate	Hours per Application	Total per Application	Undiscounted Total	7% NPV	3% NPV
Issue Number	**Industry Operations**						
47	Category 1 Operations - Bird Collisions and Injury from Structures and Transmission Lines	$163.50	19	$3,107	$24,852	$14,647	$19,666
48	Category 1 Operations - Bird Electrocutions from Transmission Lines	$163.50	19	$3,107	$24,852	$14,647	$19,666
49	Category 1 Operations - Water Use Conflicts with Terrestrial Resources	$163.50	83	$13,571	$108,564	$63,984	$85,907
50	Category 1 Operations - Effects of Transmission Line right-of-way (ROW) Management on Terrestrial Resources	$163.50	23	$3,761	$30,084	$17,730	$23,806
51	Category 1 Operations -Effects of Electromagnetic Fields on Flora and Fauna	$163.50	4	$654	$5,232	$3,084	$4,140
52	Category 1 Operations - Important Species and Habitats – Other Important Species and Habitats	$163.50	37	$6,050	$48,396	$28,523	$38,296
53	Category 1 Construction - Runoff and Sedimentation from Construction Areas	$163.50	128	$20,928	$167,424	$98,674	$132,484
54	Category 1 Construction - Dredging and Filling Aquatic Habitats to Build Intake and Discharge Structures	$163.50	128	$20,928	*$167,424*	*$98,674*	*$132,484*
55	Category 1 Construction - Building Transmission Lines, Pipelines, and Access Roads Across Surface Waterbodies	$163.50	128	$20,928	$167,424	$98,674	$132,484
56	Category 1 Operations - Important Species and Habitats – Other Important Species and Habitats	$163.50	128	$20,928	$167,424	$98,674	$132,484
57	Category 1 Operations - Stormwater Runoff	$163.50	20	$3,270	$26,160	$15,418	$20,701

Applicant	Table 4-1 Issue Descriptions	Net Savings (Costs) per Application			Total Net Savings (Costs) - Rule		
		Labor Rate	Hours per Application	Total per Application	Undiscounted Total	7% NPV	3% NPV
Issue Number		**Industry Operations**					
58	Category 1 Operations - Exposure of Aquatic Organisms to Radionuclides	$163.50	38	$6,213	$49,704	$29,294	$39,331
59	Category 1 Operations - Effects of Refurbishment on Aquatic Biota	$163.50	20	$3,270	$26,160	$15,418	$20,701
60	Category 1 Operations - Effects of Maintenance Dredging on Aquatic Biota	$163.50	97	$15,860	$126,876	$74,776	$100,398
61	Category 1 Operations - Impacts of Transmission Line ROW Management on Aquatic Resources	$163.50	48	$7,848	$62,784	$37,003	$49,681
62	Category 1 Operations - Impingement and Entrainment of Aquatic Organisms	$163.50	145	$23,708	$189,660	$111,779	$150,079
63	Category 1 Operations - Water Use Conflicts with Aquatic Resources	$163.50	48	$7,848	$62,784	$37,003	$49,681
64	Category 1 Operations - Important Species and Habitats – Other Important Species and Habitats	$163.50	145	$23,708	$189,660	$111,779	$150,079
65	Category 1 Construction - Radiological Dose to Construction Workers	$163.50	117	$19,130	$153,036	$90,194	$121,099
66	Category 1 Operations - Occupational Doses to Workers	$163.50	38	$6,213	$49,704	$29,294	$39,331
67	Category 1 Operations - Maximally Exposed Individual Annual Doses	$163.50	38	$6,213	$49,704	$29,294	$39,331
68	Category 1 Operations - Total Population Annual Doses	$163.50	42	$6,867	$54,936	$32,377	$43,471
69	Category 1 Operations - Nonhuman Biota Doses	$163.50	42	$6,867	$54,936	$32,377	$43,471
70	Category 1 Construction - Building Impacts of Chemical, Biological, and Physical Nonradiological Hazards	$163.50	52	$8,502	$68,016	$40,086	$53,822
71	Category 1 Operations - Operation Impacts of Chemical, Biological, and Physical Nonradiological Hazards	$163.50	35	$5,723	$45,780	$26,981	$36,226

Applicant	Table 4-1 Issue Descriptions	Net Savings (Costs) per Application			Total Net Savings (Costs) - Rule		
		Labor Rate	Hours per Application	Total per Application	Undiscounted Total	7% NPV	3% NPV
Issue Number		**Industry Operations**					
72	Category 1 Construction - Construction-Related Noise	$163.50	23	$3,761	$30,084	$17,730	$23,806
73	Category 1 Operations - Operation-Related Noise	$163.50	14	$2,289	$18,312	$10,792	$14,490
74	Category 1 Operations - Low-Level Radioactive Waste	$163.50	232	$37,932	$303,456	$178,846	$240,127
75	Category 1 Operations - Onsite Spent Nuclear Fuel Management	$163.50	232	$37,932	$303,456	$178,846	$240,127
76	Category 1 Operations - Mixed Waste	$163.50	232	$37,932	$303,456	$178,846	$240,127
77	Category 1 Construction - Construction Nonradiological Waste	$163.50	38	$6,213	$49,704	$29,294	$39,331
78	Category 1 Operations - Operation Nonradiological Waste	$163.50	25	$4,088	$32,700	$19,272	$25,876
79	Category 1 Operations - Design Basis Accidents Involving Radiological Releases	$163.50	172	$28,122	$224,976	$132,593	$178,025
80	Category 1 Operations - Accidents Involving Releases of Hazardous Chemicals	$163.50	103	$16,841	$134,724	$79,402	$106,608
81	Category 1 Operations - Severe Accident Mitigation Design Alternatives	$163.50	69	$11,282	$90,252	$53,191	$71,417
82	Category 1 Operations - Acts of Terrorism	$163.50	69	$11,282	$90,252	$53,191	$71,417
83	Category 1 Construction - Community Services and Infrastructure	$163.50	74	$12,099	$96,792	$57,046	$76,592
84	Category 1 Construction - Transportation Systems and Traffic	$163.50	147	$24,035	$192,276	$113,321	$152,149
85	Category 1 Construction - Economic Impacts	$163.50	74	$12,099	$96,792	$57,046	$76,592
86	Category 1 Construction - Tax Revenue Impacts	$163.50	42	$6,867	$54,936	$32,377	$43,471

Applicant	Table 4-1 Issue Descriptions	Net Savings (Costs) per Application			Total Net Savings (Costs) - Rule		
		Labor Rate	Hours per Application	Total per Application	Undiscounted Total	7% NPV	3% NPV
Issue Number		**Industry Operations**					
87	Category 1 Operations - Community Services and Infrastructure	$163.50	50	$8,175	$65,400	$38,544	$51,752
88	Category 1 Operations - Transportation Systems and Traffic	$163.50	25	$4,088	$32,700	$19,272	$25,876
89	Category 1 Operations - Economic Impacts	$163.50	50	$8,175	$65,400	$38,544	$51,752
90	Category 1 Operations - Tax Revenue Impacts	$163.50	98	$16,023	$128,184	$75,547	$101,433
91	Category 1 Operations - Uranium Recovery	$163.50	39	$6,377	$51,012	$30,065	$40,366
92	Category 1 Operations - Uranium Conversion	$163.50	39	$6,377	$51,012	$30,065	$40,366
93	Category 1 Operations - Enrichment	$163.50	39	$6,377	$51,012	$30,065	$40,366
94	Category 1 Operations - Fuel Fabrication(a)	$163.50	39	$6,377	$51,012	$30,065	$40,366
95	Category 1 Operations - Reprocessing	$163.50	39	$6,377	$51,012	$30,065	$40,366
96	Category 1 Operations - Storage and Disposal of Radiological Wastes	$163.50	39	$6,377	$51,012	$30,065	$40,366
97	Category 1 Operations - Transportation of Unirradiated ANR Fuel	$163.50	78	$12,753	$102,024	$60,129	$80,732
98	Category 1 Operations - Transportation of Radioactive Waste from ANRs	$163.50	78	$12,753	$102,024	$60,129	$80,732
99	Category 1 Operations - Transportation of Irradiated Fuel from ANRs	$163.50	155	$25,343	$202,740	$119,488	$160,430
100	Decommissioning	$163.50	81	$13,244	$105,948	$62,442	$83,837
	Totals		**6,548**	**$1,070,598**	**$8,564,784**	**$5,047,780**	**$6,777,377**

(a) Fuel fabrication impacts for metal fuel and liquid fueled molten salt are not included in the staff's generic analysis.

3.3.3 NRC Implementation

The NRC will incur costs to develop the ANR GEIS and all associated regulatory guidance to staff and applicants. The NRC recorded actual and planned costs required to bring the proposed rule to fruition, including the cost of the following:

- Generation of the draft Proposed Rule Package (ANR GEIS, *Federal Register* Notice [FRN], Regulatory Analysis, OMB Statement, revision of RG 4.2, and creation of COL-ISG-030 "Environmental Considerations for Advanced Nuclear Reactor Applications that Reference the Generic Environmental Impact Statement (NUREG-2249)"). These costs have already occurred and are not considered in the regulatory analysis. Only future or remaining implementation costs are considered in this analysis.
- Submittal of the draft Proposed Rule Package to the Commission. Public comment period.
- Generation of the Final Rule Package (ANR GEIS, *FRN*, Regulatory Analysis, OMB Statement, revision of RG 4.2, new COL-ISG-030) and its submittal to the Commission.
- Processing and addressing OMB and OFR formal review comments.
- Consolidation of the new GEIS-related Staff Guidance, COL-ISG-030 "Environmental Considerations for Advanced Nuclear Reactor Applications that Reference the Generic Environmental Impact Statement (NUREG-2249)" into more durable guidance in NUREG-1555, "Standard Review Plans for Environmental Reviews for Nuclear Power Plants."

Table 3.3 lists the NRC costs of rule implementation.

Table 3.3 NRC Costs of Rule Implementation (2021 Constant Dollars)

Year	Undiscounted	7 Percent Discounting	3 Percent Discounting
2022	($1,138,613)	($1,064,124)	($1,105,449)
2023	($896,625)	($783,147)	($845,155)
2024	($238,988)	($195,085)	($218,707)
2025	($39,730)	($30,310)	($35,300)
2026	$0	$0	$0
2027	$0	$0	$0
2028	$0	$0	$0
2029	$0	$0	$0
2030	$0	$0	$0
2031	$0	$0	$0
2032	$0	$0	$0
2033	$0	$0	$0
2034	$0	$0	$0
Total	**($2,313,955)**	**($2,072,666)**	**($2,204,611)**

3.3.4 NRC Operations

Alternative 2 activities affect the environmental review time for each ANR licensing application. The Alternative 2 analysis included each environmental issue presented in Table C–1 of Appendix C to Subpart A of 10 CFR Part 51. For each of these environmental issues, the analysis lists the assumption(s) and equation(s) used to estimate the value (benefit/saving)

and/or impact (cost) to the NRC. Each of these issues was evaluated quantitatively and results are presented in Table 3.4 below. General assumptions are as follows:

- The NRC will recognize the savings resulting from the proposed rule changes in the 24 months after the NRC receives each application. The NRC is assumed to recognize approximately half of the savings in the same year as the application submittal and the other half in the year following the application submittal.
- Each cost and saving assumption associated with the proposed rule changes is based on extensive NRC staff experience in the review of COL and ESP applications.
- Savings estimates are analyzed for environmental reviews that would be considering ANR applications focused on facilities incorporating designs where multiple nuclear units would be installed in a single facility. Thus, the savings reported are upper bound estimates. For many potential ANR applications, the reactor size may be somewhat smaller or may use only a single small unit. In these cases, several environmental resources may not be affected, and the resulting savings would not be realized, because unaffected resources would not be part of the savings baseline.
- A Category 1 issue is assumed to be analyzed based on the generic analysis provided in the ANR GEIS and would not require analytical effort apart from making the determination that generic analysis applies. It is assumed that NRC staff will assess new and significant information for the determination of Category 1 applicability as part of the typical characterization of the affected environment of the EIS.
- A typical Category 2 issue is assumed to require a level of effort similar to the level of effort required without the GEIS, and thus, would not result in savings or added costs for applicant staff.

Table 3.4 presents the issue-by-issue cost savings impact attributable to the rule, which are enabled by using the ANR GEIS to provide the generic impact conclusions for the Category 1 issues, thereby avoiding the cost to the NRC of in-depth review for those issues. Table A-1 in Appendix A provides the detailed financial results that feed into this summary.

Table 3.4 2024–2034 Financial Impact of NRC Operation under the Proposed Rule by Issue (2021 Constant Dollars)

NRC	Table 4-1 Issue Descriptions	Net Savings (Costs) per Application			Total Net Savings (Costs) - Rule		
		Labor Rate	Hours per Application	Total per Application	Undiscounted Total	7% NPV	3% NPV
Issue Number	NRC Operations						
1	Category 1 Construction - Onsite Land Use	$168	82	$13,776	$110,208	$60,703	$84,668
2	Category 1 Construction - Offsite Land Use	$168	135	$22,680	$181,440	$99,939	$139,393
3	Category 1 Construction - Impacts on Prime and Unique Farmland	$168	23	$3,864	$30,912	$17,027	$23,748
4	Category 1 Construction - Coastal Zone and Compliance with The Coastal Zone Management Act	$168	9	$1,512	$12,096	$6,663	$9,293
5	Category 1 Operations - Onsite Land Use	$168	24	$4,032	$32,256	$17,767	$24,781
6	Category 1 Operations - Offsite Land Use	$168	28	$4,704	$37,632	$20,728	$28,911
7	Category 1 Construction - Visual Impacts in Site and Vicinity	$168	27	$4,536	$36,288	$19,988	$27,879
8	Category 1 Construction - Visual Impacts from Transmission Lines	$168	9	$1,512	$12,096	$6,663	$9,293
9	Category 1 Operations - Visual Impacts During Operations	$168	20	$3,360	$26,880	$14,806	$20,651
10	Category 1 Construction - Emissions of Criteria Pollutants and Dust During Construction	$168	154	$25,872	$206,976	$114,004	$159,011
11	Category 1 Construction - Greenhouse Gas Emissions During Construction	$168	134	$22,512	$180,096	$99,198	$138,360
12	Category 1 Operations - Emissions of Criteria and Hazardous Air Pollutants During Operation	$168	163	$27,384	$219,072	$120,667	$168,304
13	Category 1 Operations - Greenhouse Gas Emissions During Operation	$168	88	$14,784	$118,272	$65,145	$90,864
14	Category 1 Operations - Cooling System Emissions	$168	18	$3,024	$24,192	$13,325	$18,586

NRC Issue Number	Table 4-1 Issue Descriptions	Net Savings (Costs) per Application			Total Net Savings (Costs) - Rule		
		Labor Rate	Hours per Application	Total per Application	Undiscounted Total	7% NPV	3% NPV
	NRC Operations						
15	Category 1 Operations - Emissions of Ozone and Nitrogen Oxides During Transmission Line Operation	$168	15	$2,520	$20,160	$11,104	$15,488
16	Category 1 Construction - Surface Water Use Conflicts During Construction	$168	60	$10,080	$80,640	$44,417	$61,952
17	Category 1 Construction - Groundwater Use Conflicts Due to Excavation Dewatering	$168	123	$20,664	$165,312	$91,055	$127,003
18	Category 1 Construction - Groundwater Use Conflicts Due to Construction-Related Groundwater Withdrawals	$168	115	$19,320	$154,560	$85,133	$118,742
19	Category 1 Construction - Water Quality Degradation Due to Construction-Related Discharges	$168	62	$10,416	$83,328	$45,898	$64,018
20	Category 1 Construction - Water Quality Degradation Due to Inadvertent Spills During Construction	$168	24	$4,032	$32,256	$17,767	$24,781
21	Category 1 Construction - Water Quality Degradation Due to Groundwater Withdrawal	$168	73	$12,264	$98,112	$54,041	$75,375
22	Category 1 Construction - Water Quality Degradation Due to Offshore or In-Water Construction Activities	$168	56	$9,408	$75,264	$41,456	$57,822
23	Category 1 Construction - Water Use Conflict Due to Plant Municipal Water Demand	$168	49	$8,232	$65,856	$36,274	$50,595
24	Category 1 Construction - Degradation of Water Quality from Plant Effluent Discharges to Municipal Systems	$168	97	$16,296	$130,368	$71,808	$100,156
25	Category 1 Operations - Surface Water Use Conflicts During Operation Due to Water Withdrawal from Flowing Waterbodies	$168	152	$25,536	$204,288	$112,523	$156,946
26	Category 1 Operations - Surface Water Use Conflicts During Operation Due to Water Withdrawal from Non-Flowing Waterbodies	$168	113	$18,984	$151,872	$83,652	$116,677

NRC Issue Number	Table 4-1 Issue Descriptions	Net Savings (Costs) per Application			Total Net Savings (Costs) - Rule		
		Labor Rate	Hours per Application	Total per Application	Undiscounted Total	7% NPV	3% NPV
	NRC Operations						
27	Category 1 Operations - Groundwater Use Conflicts Due to Building Foundation Dewatering	$168	57	$9,576	$76,608	$42,196	$58,855
28	Category 1 Operations - Groundwater Use Conflicts Due to Groundwater Withdrawals for Plant Uses	$168	124	$20,832	$166,656	$91,795	$128,035
29	Category 1 Operations - Surface Water Quality Degradation Due to Physical Effects from Operation of Intake and Discharge Structures	$168	95	$15,960	$127,680	$70,327	$98,091
30	Category 1 Operations - Surface Water Quality Degradation Due to Changes in Salinity Gradients Resulting from Withdrawals	$168	158	$26,544	$212,352	$116,965	$163,141
31	Category 1 Operations - Groundwater Quality Degradation Due to Plant Discharges	$168	97	$16,296	$130,368	$71,808	$100,156
32	Category 1 Operations - Water Quality Degradation Due to Inadvertent Spills and Leaks During Operation	$168	22	$3,696	$29,568	$16,286	$22,716
33	Category 1 Operations - Water Quality Degradation Due to Groundwater Withdrawals	$168	116	$19,488	$155,904	$85,873	$119,775
34	Category 1 Operations - Water Use Conflict from Plant Municipal Water Demand	$168	26	$4,368	$34,944	$19,247	$26,846
35	Category 1 Operations - Degradation of Water Quality from Plant Effluent Discharges to Municipal Systems	$168	26	$4,368	$34,944	$19,247	$26,846
36	Category 1 Construction - Permanent and Temporary Loss, Conversion, Fragmentation, and Degradation of Habitats	$168	133	$22,344	$178,752	$98,458	$137,328
37	Category 1 Construction - Permanent and Temporary Loss and Degradation of Wetlands	$168	133	$22,344	$178,752	$98,458	$137,328
38	Category 1 Construction - Effects of Building Noise on Wildlife	$168	41	$6,888	$55,104	$30,352	$42,334

NRC Issue Number	Table 4-1 Issue Descriptions	Net Savings (Costs) per Application			Total Net Savings (Costs) - Rule		
		Labor Rate	Hours per Application	Total per Application	Undiscounted Total	7% NPV	3% NPV
	NRC Operations						
39	Category 1 Construction - Effects of Vehicular Collisions on Wildlife	$168	36	$6,048	$48,384	$26,650	$37,171
40	Category 1 Construction - Bird Collisions and Injury from Structures and Transmission Lines	$168	40	$6,720	$53,760	$29,611	$41,302
41	Category 1 Construction - Important Species and Habitats – Other Important Species and Habitats	$168	70	$11,760	$94,080	$51,820	$72,278
42	Category 1 Operations - Permanent and Temporary Loss or Disturbance of Habitats	$168	13	$2,184	$17,472	$9,624	$13,423
43	Category 1 Operations - Effects of Operational Noise on Wildlife	$168	8	$1,344	$10,752	$5,922	$8,260
44	Category 1 Operations - Effects of Vehicular Collisions on Wildlife	$168	7	$1,176	$9,408	$5,182	$7,228
45	Category 1 Construction - Exposure of Terrestrial Organisms to Radionuclides	$168	28	$4,704	$37,632	$20,728	$28,911
46	Category 1 Operations - Cooling Tower Operational Impacts on Vegetation	$168	30	$5,040	$40,320	$22,209	$30,976
47	Category 1 Operations - Bird Collisions and Injury from Structures and Transmission Lines	$168	13	$2,184	$17,472	$9,624	$13,423
48	Category 1 Operations - Bird Electrocutions from Transmission Lines	$168	13	$2,184	$17,472	$9,624	$13,423
49	Category 1 Operations - Water Use Conflicts with Terrestrial Resources	$168	50	$8,400	$67,200	$37,014	$51,627
50	Category 1 Operations - Effects of Transmission Line ROW Management on Terrestrial Resources	$168	18	$3,024	$24,192	$13,325	$18,586
51	Category 1 Operations -Effects of Electromagnetic Fields on Flora and Fauna	$168	5	$840	$6,720	$3,701	$5,163
52	Category 1 Operations - Important Species and Habitats – Other Important Species and Habitats	$168	30	$5,040	$40,320	$22,209	$30,976

NRC	Table 4-1 Issue Descriptions	Net Savings (Costs) per Application			Total Net Savings (Costs) - Rule		
		Labor Rate	Hours per Application	Total per Application	Undiscounted Total	7% NPV	3% NPV
Issue Number	**NRC Operations**						
53	Category 1 Construction - Runoff and Sedimentation from Construction Areas	$168	124	$20,832	$166,656	$91,795	$128,035
54	Category 1 Construction - Dredging and Filling Aquatic Habitats to Build Intake and Discharge Structures	$168	123	$20,664	$165,312	$91,055	$127,003
55	Category 1 Construction - Building Transmission Lines, Pipelines, and Access Roads Across Surface Waterbodies	$168	105	$17,640	$141,120	$77,730	$108,417
56	Category 1 Operations - Important Species and Habitats – Other Important Species and Habitats	$168	172	$28,896	$231,168	$127,329	$177,597
57	Category 1 Operations - Stormwater Runoff	$168	28	$4,704	$37,632	$20,728	$28,911
58	Category 1 Operations - Exposure of Aquatic Organisms to Radionuclides	$168	28	$4,704	$37,632	$20,728	$28,911
59	Category 1 Operations - Effects of Refurbishment on Aquatic Biota	$168	28	$4,704	$37,632	$20,728	$28,911
60	Category 1 Operations - Effects of Maintenance Dredging on Aquatic Biota	$168	72	$12,096	$96,768	$53,301	$74,343
61	Category 1 Operations - Impacts of Transmission Line ROW Management on Aquatic Resources	$168	44	$7,392	$59,136	$32,573	$45,432
62	Category 1 Operations - Impingement and Entrainment of Aquatic Organisms	$168	115	$19,320	$154,560	$85,133	$118,742
63	Category 1 Operations - Water Use Conflicts with Aquatic Resources	$168	58	$9,744	$77,952	$42,937	$59,887
64	Category 1 Operations - Important Species and Habitats – Other Important Species and Habitats	$168	142	$23,856	$190,848	$105,121	$146,621
65	Category 1 Construction - Radiological Dose to Construction Workers	$168	97	$16,296	$130,368	$71,808	$100,156

NRC Issue Number	Table 4-1 Issue Descriptions	Net Savings (Costs) per Application			Total Net Savings (Costs) - Rule		
		Labor Rate	Hours per Application	Total per Application	Undiscounted Total	7% NPV	3% NPV
	NRC Operations						
66	Category 1 Operations - Occupational Doses to Workers	$168	62	$10,416	$83,328	$45,898	$64,018
67	Category 1 Operations - Maximally Exposed Individual Annual Doses	$168	53	$8,904	$71,232	$39,235	$54,725
68	Category 1 Operations - Total Population Annual Doses	$168	64	$10,752	$86,016	$47,378	$66,083
69	Category 1 Operations - Nonhuman Biota Doses	$168	36	$6,048	$48,384	$26,650	$37,171
70	Category 1 Construction - Building Impacts of Chemical, Biological, and Physical Nonradiological Hazards	$168	44	$7,392	$59,136	$32,573	$45,432
71	Category 1 Operations - Operation Impacts of Chemical, Biological, and Physical Nonradiological Hazards	$168	23	$3,864	$30,912	$17,027	$23,748
72	Category 1 Construction - Construction-Related Noise	$168	17	$2,856	$22,848	$12,585	$17,553
73	Category 1 Operations - Operation-Related Noise	$168	10	$1,680	$13,440	$7,403	$10,325
74	Category 1 Operations - Low-Level Radioactive Waste	$168	145	$24,360	$194,880	$107,341	$149,718
75	Category 1 Operations - Onsite Spent Nuclear Fuel Management	$168	176	$29,568	$236,544	$130,290	$181,727
76	Category 1 Operations - Mixed Waste	$168	136	$22,848	$182,784	$100,679	$140,426
77	Category 1 Construction - Construction Nonradiological Waste	$168	34	$5,712	$45,696	$25,170	$35,106
78	Category 1 Operations - Operation Nonradiological Waste	$168	17	$2,856	$22,848	$12,585	$17,553
79	Category 1 Operations - Design Basis Accidents Involving Radiological Releases	$168	120	$20,160	$161,280	$88,834	$123,905
80	Category 1 Operations - Accidents Involving Releases of Hazardous Chemicals	$168	77	$12,936	$103,488	$57,002	$79,506

NRC Issue Number	Table 4-1 Issue Descriptions	Net Savings (Costs) per Application			Total Net Savings (Costs) - Rule		
		Labor Rate	Hours per Application	Total per Application	Undiscounted Total	7% NPV	3% NPV
	NRC Operations						
81	Category 1 Operations - Severe Accident Mitigation Design Alternatives	$168	61	$10,248	$81,984	$45,157	$62,985
82	Category 1 Operations - Acts of Terrorism	$168	57	$9,576	$76,608	$42,196	$58,855
83	Category 1 Construction - Community Services and Infrastructure	$168	44	$7,392	$59,136	$32,573	$45,432
84	Category 1 Construction - Transportation Systems and Traffic	$168	89	$14,952	$119,616	$65,885	$91,896
85	Category 1 Construction - Economic Impacts	$168	43	$7,224	$57,792	$31,832	$44,399
86	Category 1 Construction - Tax Revenue Impacts	$168	25	$4,200	$33,600	$18,507	$25,814
87	Category 1 Operations - Community Services and Infrastructure	$168	29	$4,872	$38,976	$21,468	$29,944
88	Category 1 Operations - Transportation Systems and Traffic	$168	15	$2,520	$20,160	$11,104	$15,488
89	Category 1 Operations - Economic Impacts	$168	29	$4,872	$38,976	$21,468	$29,944
90	Category 1 Operations - Tax Revenue Impacts	$168	57	$9,576	$76,608	$42,196	$58,855
91	Category 1 Operations - Uranium Recovery	$168	26	$4,368	$34,944	$19,247	$26,846
92	Category 1 Operations - Uranium Conversion	$168	26	$4,368	$34,944	$19,247	$26,846
93	Category 1 Operations - Enrichment	$168	32	$5,376	$43,008	$23,689	$33,041
94	Category 1 Operations - Fuel Fabrication(a)	$168	37	$6,216	$49,728	$27,391	$38,204
95	Category 1 Operations - Reprocessing	$168	27	$4,536	$36,288	$19,988	$27,879
96	Category 1 Operations - Storage and Disposal of Radiological Wastes	$168	37	$6,216	$49,728	$27,391	$38,204
97	Category 1 Operations - Transportation of Unirradiated ANR Fuel	$168	57	$9,576	$76,608	$42,196	$58,855
98	Category 1 Operations - Transportation of Radioactive Waste from ANRs	$168	57	$9,576	$76,608	$42,196	$58,855

NRC	Table 4-1 Issue Descriptions	Net Savings (Costs) per Application			Total Net Savings (Costs) - Rule		
		Labor Rate	Hours per Application	Total per Application	Undiscounted Total	7% NPV	3% NPV
Issue Number	**NRC Operations**						
99	Category 1 Operations - Transportation of Irradiated Fuel from ANRs	$168	181	$30,408	$243,264	$133,992	$186,890
100	Decommissioning	$168	95	$15,960	$127,680	$70,327	$98,091
	Totals		**6,416**	**$1,077,888**	**$8,623,104**	**$4,749,675**	**$6,624,783**

(a) Fuel fabrication impacts for metal fuel and liquid fueled molten salt are not included in the staff's generic analysis.

4.0 RESULTS

This section presents the analytical results and is organized into four sections. Section 4.1 presents findings related to the benefits and costs of the regulatory analysis. Section 4.2 discusses the backfitting and issue finality analysis, Section 4.3 discusses disaggregation of the analytical results, and Section 4.4 examines uncertainties associated with the analytical assumptions and input data.

4.1 Benefits and Costs

4.1.1 Quantitative Results

For Alternative 2, four attributes have been analyzed quantitatively (Industry Implementation, Industry Operations, NRC Implementation, and NRC Operations). The net benefits and costs calculated for Alternatives 1 and 2 are presented below. Relative to the Alternative 1 (No-Action alternative), Alternative 2 would result in estimated net one-time quantitative benefits:

- Industry benefits of $5.0 million net present value, assuming a 7-percent discount rate, or $6.8 million assuming a 3-percent discount rate.
- Industry costs of ($0.4 million) net present value, assuming a 7-percent discount rate, or ($0.4 million) assuming a 3-percent discount rate. Costs are discussed in Section 3.3.1.
- NRC benefits of $4.8 million net present value, assuming a 7-percent discount rate, or $6.6 million assuming a 3-percent discount rate.
- NRC costs of ($2.1 million) net present value, assuming a 7-percent discount rate, or ($2.2 million) assuming a 3-percent discount rate. Costs are discussed in Section 3.3.3.

Table 4.1 presents the quantitative results for Alternative 2 using a 7-percent discount rate and a 3-percent discount rate, respectively. Several cases were developed to reflect situations where only some Category 1 issues would be identified and used as part of an application. Section 4.3.1 provides a detailed discussion of the “50 percent case” and the “75 percent case,” which are presented as sensitivity cases in Table 4.6 in Section 4.3.3.

Table 4.1 Net Benefits (Costs) of Alternative 2 Implementation and Operations

Case	Undiscounted	7% NPV	3% NPV
Industry	$8,564,784	$5,047,780	$6,777,377
NRC	$8,623,104	$4,749,675	$6,624,783
Total Benefit	**$17,187,888**	**$9,797,455**	**$13,402,159**
Industry Cost	($400,000)	($361,604)	($382,694)
NRC Cost	($2,313,955)	($2,072,666)	($2,204,611)
Total Cost	**($2,713,955)**	**($2,434,269)**	**($2,587,305)**
Net Benefits	**$14,473,933**	**$7,363,186**	**$10,814,854**

4.1.2 Qualitative Results

For Alternative 2, two attributes have been analyzed on a qualitative basis (Improvements in Knowledge; Improvements in Clarity and Efficiency). In addition, one aspect of the Industry Implementation and NRC Implementation attributes pertaining to issues associated with

transmission line rights-of-way (ROWs) also was evaluated on a qualitative basis. Table 4.2 presents a summary of both the qualitative and quantitative benefits and costs for Alternative 2.

Table 4.2 Summary of Results for Alternative 2 (Update and Amend 10 CFR Part 51)

Net Monetary Benefits or Costs			
	Savings per Application		
	Average Hours	Dollars (7% Discount Rate)	Dollars (3% Discount Rate)
Industry	6,548	$4.7 million	$6.4 million
NRC	6,416	$2.7 million	$4.4 million
Total	12,964	$7.4 million	$10.8 million
Non-Monetary Benefits and Costs (Qualitative)			
Benefit: Improvements in Process	The identification of Category 1 issues will improve the efficiency of licensing ANRs by (1) identifying the possible types of environmental impacts of constructing, operating and decommissioning an ANR, (2) assessing impacts that are expected to be generic (the same or similar) for many or most ANRs, and (3) defining the environmental issues that will need to be addressed in project-specific Supplemental EISs (SEISs) addressing specific projects.		
Costs:	Savings are dependent on the number of applicants, the timing of their submissions, and the applicability of the ANR GEIS for their proposed sites. If there are fewer applicants or if the GEIS is not as useful as modeled, then net costs would increase.		

4.2 Backfitting and Issue Finality Analysis

The proposed rule would codify in 10 CFR Part 51 certain environmental issues identified in the ANR GEIS. The proposed rule also revises 10 CFR Part 51 to permit an applicant for an advanced nuclear reactor construction permit or operating license under 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," or an advanced nuclear reactor early site permit or combined license under 10 CFR Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants," to use the ANR GEIS in preparing its environmental report. The proposed rule would require the NRC staff to prepare a site-specific draft SEIS and final SEIS for each application that references the ANR GEIS. The NRC has determined that the backfitting rule in § 50.109 and the issue finality provisions in 10 CFR Part 52 do not apply to this proposed rule because this amendment does not involve any provision that would either constitute backfitting as that term is defined in 10 CFR Chapter I or affect the issue finality of any approval issued under 10 CFR Part 52.

The proposed rule would not constitute backfitting for applicants for construction permits or operating licenses under 10 CFR Part 50 and would not affect the issue finality of applicants for early site permits or combined licenses under 10 CFR Part 52. These applicants are not, with certain exceptions not applicable here, within the scope of the backfitting or issue finality provisions. The backfitting and issue finality regulations include language delineating when the backfitting and issue finality provisions begin; in general, they begin after the issuance of a license, permit, or other approval (e.g., §§ 50.109(a)(1)(iii) and 52.98(a)). Furthermore, neither the backfitting provisions nor the issue finality provisions, with certain exceptions not applicable here, are intended to apply to NRC actions that substantially change the expectations of current and future applicants. Applicants cannot reasonably expect that future requirements will not change.

The exceptions to the general principle are applicable when an applicant references a 10 CFR Part 52 approval (e.g., an early site permit or design certification rule) with specified issue finality provisions or a construction permit under 10 CFR Part 50. However, this proposed rule would have no effect on a construction permit held by an applicant for a 10 CFR Part 50 operating license or an early site permit referenced by an applicant for a 10 CFR Part 52 combined license. Therefore, for purposes of this proposed rule, the exceptions to the general principle do not apply.

4.3 Disaggregation

To comply with guidance provided in Section 4.3.2 ("Criteria for the Treatment of Individual Requirements") of the Regulatory Analysis Guidelines (NRC 2020-TN6806), the NRC conducted a screening review to ensure that the aggregate analysis did not mask the inclusion of individual rule provisions that would not be cost-beneficial when considered individually and are not necessary to meet the goals of the rule revisions.

Consistent with the Regulatory Analysis Guidelines, the NRC evaluated, on a disaggregated basis, each new regulatory provision expected to result in an incremental cost. Appendix A of this regulatory analysis presents savings estimated to result from each issue addressed by the proposed rule. Each change is necessary to comply with Federal environmental regulations and is not considered a voluntary alternative. Operation costs for industry and the NRC are not issue-specific and will apply regardless of the issues considered.

4.4 Uncertainty Analysis

To determine the robustness of the costs and net benefits of the proposed rule, the NRC examined how anticipated savings change due to uncertainties associated with the NRC's analytical assumptions and input data. As mentioned in Section 3.1, the NRC used Monte Carlo simulation to examine the impact of uncertainty on the estimated net benefits of the proposed rule. These Monte Carlo simulations were performed using Visual Basic for Applications within Microsoft Excel.

Monte Carlo simulations involve introducing uncertainty into the analysis by replacing the point estimates of the variables used to estimate costs and benefits with probability distributions. By defining input variables as probability distributions as opposed to point estimates, the effect of uncertainty on the results of the analysis (i.e., the net benefits) can be effectively modeled.

The Monte Carlo simulations were performed by repeatedly running the analysis, up to 10,000 times. For each iteration of the analysis, a value was chosen randomly from the probability distributions that define the input variables. The value of the output variable (the net benefits) was recorded for each iteration, and all of the resulting values for the output variable were used to define a distribution for the results.

4.4.1 Uncertainty Model Inputs

In this analysis, the NRC assigned probability distributions to uncertain variables including the number of Category 1 issues that might be triggered by an ANR application, the relative complexity of any one application, and the mix of applications expected during the analysis period, and the NRC assigned triangular probability distributions to these inputs.

As an example of the variables and distributions used in the Monte Carlo simulations, a variety

of potential scenarios were evaluated based on combinations of resource areas for which the Category 1 issues might apply/not apply based on the type of site and design that is selected. These combinations reflect the input of NRC SMEs about the potential mix of issues that may apply to applications expected during the analysis period of the proposed rule, and included the following potential application cases:

- Case 1: All Category 1 issues applicable
- Case 2: Brownfield site without terrestrial ecology concerns nor transmission lines
- Case 3: Brownfield site without groundwater use, transmission lines, or terrestrial ecology resources
- Case 4: Small brownfield site without water use
- Case 5: Small brownfield site without ecological concerns, transmission lines, or surface water use
- Case 6: Large greenfield site with transmission lines
- Case 7: Greenfield site without groundwater resources
- Case 8: Greenfield site with no water use, aquatic ecology resources, or transmission lines
- Case 9: Greenfield site with no surface water or aquatic ecology resources, with transmission lines.

For each of these cases, the NRC determined which set of Category 1 issues likely would apply and estimated the net savings that would be attributable for each case. The number of applicable Category 1 issues for any review is linked to the SME-determined effort per issue used to derive the per issue savings from conducting generic analysis. Also, NRC modeled the effort of the "least complex" review scenario in addition to the "most typical" review experience. The sensitivity of the results to variations in the scope of the ER are presented in Table 4.3. In the case of lower review complexity, many Category 1 issues may not be of any concern or the affected resource areas may not be present at the anticipated application site. In these cases, no savings would result if the Category 1 issue identified in the ANR GEIS is not present for a given application. Thus, Table 4.3 presents what reduced savings would be available in such cases.

Table 4.3 Relative Expected Effort of Alternative NRC ANR NEPA Review Cases

Metric	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Case 7	Case 8	Case 9
Category 1 issues in play	100	80	73	51	59	100	93	66	78
Most typical review effort									
Fraction of "most typical" effort	100%	89%	78%	48%	60%	100%	89%	58%	71%
Least complex review effort									
Fraction of "most typical" effort	67%	62%	55%	41%	48%	67%	60%	45%	53%

These results suggest that for the most typical review approximately 50%, 75%, or 100% of the Category 1 issues would be used. As a result, these percentages of Category 1 resource utilization were used to understand how cost might reasonably vary based on the utilization of Category 1 issues in the applications that are received. The NRC acknowledges that some anticipated applications may be for relatively small projects, compared to the COL and ESP projects upon which these estimates are based. The least complex review effort may be more

indicative of the expected effort for such applications. However, the NRC assumes that the most typical application will be for larger projects, similar to the Clinch River ESP application, in which an ANR array design was proposed as part of a relatively large facility and site development involving all or most Category 1 issues.

Table 4.4 provides the parameters used in the uncertainty analysis. These parameters were assigned probability distributions and used values selected from that distribution with each iteration of the Monte Carlo simulation. For each variable in Table 4.4, the characteristics of the distribution used in the simulation are provided. Review complexity was derived by collecting data about recent NRC environmental reviews of new reactor applications, including an ESP application for an ANR facility at the Clinch River site in Tennessee, in addition to two large LWR applications. NRC environmental reviews range in complexity based on several factors that vary from site to site and application to application. Experienced environmental SMEs were asked to indicate which reviews reflected the most typical, least complex, and most complex for their specific resource area (ecology, human health, socioeconomics, water resources, etc.). The Category 1 issues analyzed in this proposed rule are each assigned to a specific resource area for impact analysis for each application (COL, ESP licensing actions). For each Category 1 issue, the relevant SME made a determination of which application represented the most typical review experience, the least complex, and the most complex for their resource area. This information was used to allocate NRC cost data for each issue for each classification (least complex, most typical, most complex). Scalars were calculated representing the relative effort for any single Category 1 issue between least complex and most typical and between most complex and most typical. These values are reflected in Table 4.4.

The information presented in Table 4.3 above provides the basis for varying the number of Category 1 issues for any single application. The parameters of this distribution are shown in Table 4.4 and vary from 50 to 100 issues. This variable can be influenced by or be a function of review complexity but has a distinct influence on the potential savings. This is because it is quite possible to have relatively few Category 1 issues at play in a specific application review, but some of the issues may be relatively complex. Thus, this variable also was modeled in the Monte Carlo analysis.

Finally, the mix of reviews undertaken during the analysis period of the proposed rule also is subject to some level of uncertainty. This is reflected in the total number of Category 1 issues that would arise from the eight applications expected in the 2024–2034 period. If each application used the GEIS analysis for all 100 Category 1 issues, then 800 such issues would be triggered in the 2024–2034 period and savings would be maximized. However, as few as 400 issues may be triggered based on the information derived from Table 4.3 above. The Monte Carlo analysis models this uncertainty using the parameters shown in Table 4.4.

Table 4.4 Example Variables and Distributions Used in the Monte Carlo Analysis

Variable	Description	Distribution	Mode	Minimum	Maximum
Review complexity – Industry	Scalar on the "most typical" review experience	Triangular	1	0.57	2.47
Review complexity – NRC	Scalar on the "most typical" review experience	Triangular	1	0.67	1.91
Category 1 Issues	Number of issues per review	Triangular	100	50	100
Mix of reviews – Industry	Sum of all Category 1 issues under review 2024–2034	Triangular	800	400	800
Mix of reviews – NRC	Sum of all Category 1 issues under review 2024–2034	Triangular	750	350	750

4.4.2 Uncertainty Model Results

Figure 4.1 displays the results of the uncertainty analysis for the net benefits (benefits minus costs) of the proposed rule. By allowing uncertain assumptions and inputs to range across a distribution the results are no longer static and instead spread across a range with varying degrees of certainty.

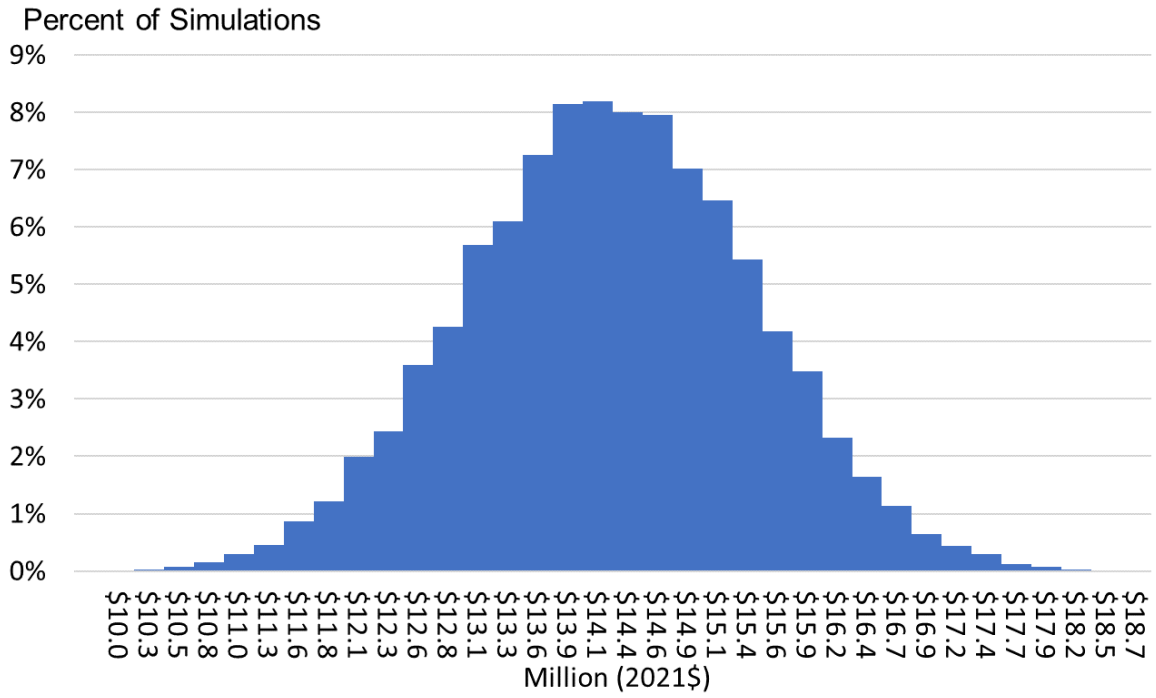
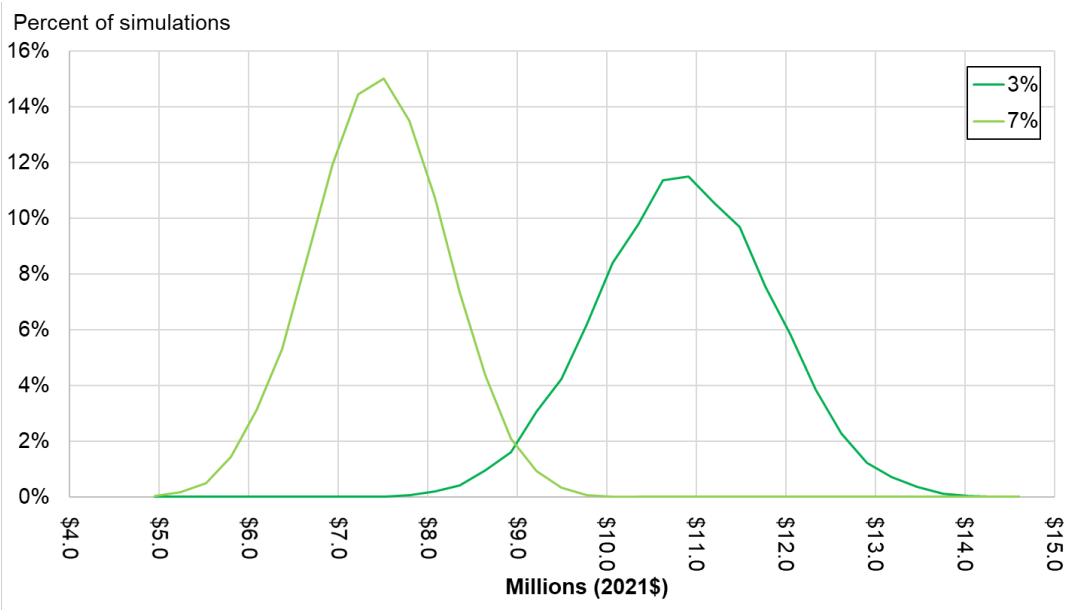


Figure 4.1 Relative Frequency of the Undiscounted Net Benefits of the Proposed Rule (2021 Dollars)

Similarly, the net benefits with 7 percent and 3 percent discounting can be seen in Figure 4.2.



NOTE: As the discount rate increases in the above exhibit, the distributions become narrower. This narrowing is a result of the decreasing value of net benefits in future years as discount rates increase. Larger discount rates result in smaller cost and benefit values in future years in the analysis period, resulting in a smaller range and a narrower distribution.

Figure 4.2 Relative Frequency of the Net Benefits of the Proposed Rule at 7 Percent and 3 Percent Discounting (2021 Dollars)

Examining the range of the resulting distributions of net benefits, it is possible to more confidently discuss the potential costs and benefits of the proposed rule. Table 4.5 displays a 90 percent confidence interval, meaning that the net benefits will fall between the ranges indicated for 90 percent of all the iterations run as part of the Monte Carlo simulations. In all cases, regardless of the discount rate used, the benefits of the proposed rule (in terms of averted costs) will outweigh the implementation costs of the proposed rule that will be incurred by industry applicants and the NRC. This result is demonstrated by the fact that the resulting distributions of net benefits, whether undiscounted or at 3 or 7 percent discount rates, are always greater than zero.

Table 4.5 Confidence Intervals for Alternative 2 Benefits and Costs of the Proposed Rule at 7 Percent and 3 Percent Discounting (in 2021 Dollars)

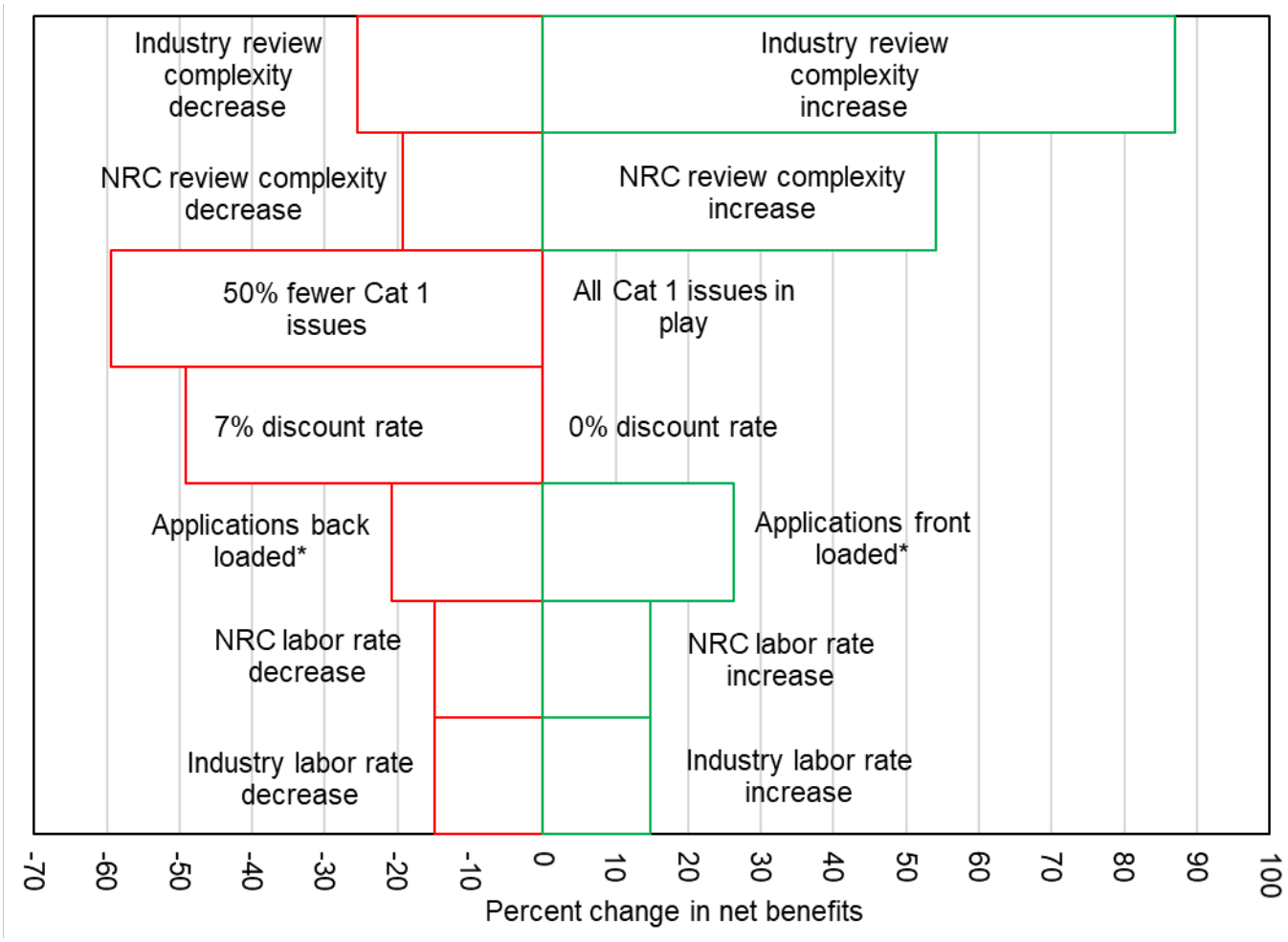
	90-Percent Confidence Intervals			
Metric	**7% NPV**		**3% NPV**	
Total Benefits	$9,463,635	$10,131,275	$12,948,785	$13,855,533
Total Costs	($2,599,129)	($2,269,409)	($2,762,529)	($2,412,081)
Net Benefits	$6,864,506	$7,861,866	$10,186,256	$11,443,452

4.4.3 Sensitivity Analysis

In addition to estimating the probability distributions for the net benefits of the proposed rule, Monte Carlo simulation was used to conduct a sensitivity analysis to determine the variables

that have greatest impact on the resulting net benefits. Variables shown to have a large effect on the resulting net benefits may deserve more attention and scrutiny than variables shown to have a small or minimal effect.

To estimate the effect of each variable on the net benefits, key inputs were adjusted by applying the endpoints of the modeled distributions in each case, in isolation from any other changes, to observe the individual impact of the change on the benefits of the rule. The results are compiled into a "tornado diagram," which presents in vertical order the variables that have the greatest influence on net benefits. Figure 4.3 presents the tornado diagram for the net benefits of the proposed rule. The costs of the rule are not subject to variability other than the effect of financial discounting, because some costs have already been incurred and are not included in the analysis, and the balance of rule-related costs are subject to budget constraints or contracts already in place, which remove much of the uncertainty.



Note: Bars indicated with an asterisk (*) denote that the results are discounted using the 7-percent discount rate.

Figure 4.3 Tornado Diagram for the Net Benefits of the Proposed Rule (2021 Dollars)

The horizontal axis in Figure 4.3 is displayed as the net effect on the net benefits of the rule from an adjustment of the key inputs to the benefits estimation based on the endpoints of each distribution used in the Monte Carlo analysis.

Examining the tornado diagrams provides insight into which of the key variables have the largest impacts on the results of this analysis. From Figure 4.3, the parameters having the greatest influence on the total benefits of the final rule are the variables related to the complexity of the expected applications developed by industry applicants followed by the related effects on complexity encountered during NRC environmental reviews. The spread in simulation results reflects the NRC experience with wide-ranging issues, which can complicate individual applications as reflected in Table 4.4 above. Fifty-percent adjustments (reductions) in the number of Category 1 issues can reduce the net benefits by as much as 60 percent. Imposing a 7-percent discount rate on the net benefits results in an approximately 50-percent decline in net benefits compared to undiscounted estimates. Adjusting the industry labor rate and the NRC labor rate each by +/- 25-percent have equal influence on the benefits expected from the rule and equate to an approximately +/- 15-percent impact on the undiscounted net benefits. All other variables, taken individually, have lesser impacts on the financial net benefits of the rule.

Figure 4.3 also illustrates the effect of front-loading or back-loading the eight planned ANR applications, as opposed to the assumed even distribution of applications modeled as the most likely case. These bars are indicated with an asterisk (*) to denote that the results are discounted using the 7-percent discount rate. The timing of the eight applications only matters in financial terms when compared to other discounted values. Front-loading the applications in the early years of the analysis period increases the discounted net benefits by over 25 percent, while delaying submission of applications until the latter half of the analysis period decreases discounted net benefits by just over 20 percent.

Figure 4.4 and Figure 4.5 provide insight into the most sensitive variables in the analysis, including the NEPA review complexity and the variability in the number of Category 1 issues applicable to any one NEPA review. The parameters for the review complexity distribution reflected in Figure 4.4 were developed from previous NRC NEPA review experience and reflect SME attribution of the proportion of billed effort to each individual Category 1 issue. SME attribution of effort proportions was multiplied by the portion of past NEPA review costs for COL and ESP actions attributed to impact assessments. The range of applications and sites resulted in scalars that have been applied to what the SMEs judged to be the most and least complex NEPA reviews.

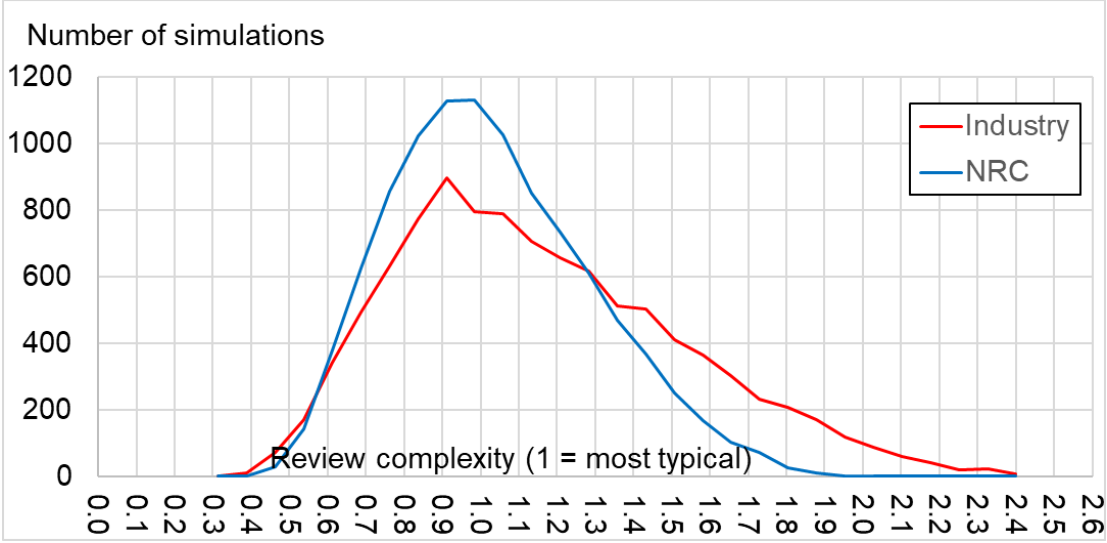


Figure 4.4 Distribution of NEPA Review Complexity used in Monte Carlo Analysis

Figure 4.5 reflects the uncertain nature of future ANR applications. Some applications may be for large projects where all 100 Category 1 issues may be subject to generic analysis, and others may be for smaller projects where only a subset of the Category 1 issue may apply. Thus, the distribution illustrates the total number of Category 1 issues expected to be relevant during the proposed rule's analysis period of 2024–2034.

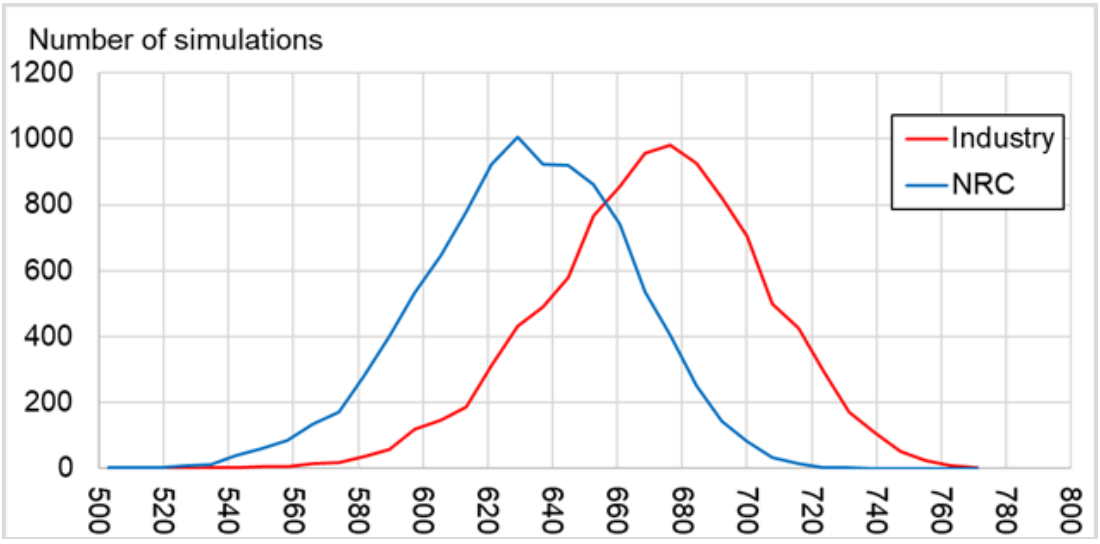


Figure 4.5 Distribution of Total Category 1 Issues Analyzed during the Proposed Rule (2024–2034).

The NRC also considered the case where potential applicants may quickly take advantage of the proposed rule and may be preparing now for it to be implemented. This might enable some applicants to submit an ANR application soon after the final rule becomes effective. If this occurs, the savings benefits would happen sooner and would increase the total net benefits of the rule.

5.0 DECISION RATIONALE

Relative to the No-Action alternative, Alternative 2 results in a net benefit of approximately $7.33 million (total present value), using a 7-percent discount rate, or $10.8 million using a 3-percent discount rate. Additionally, the NRC has concluded that proceeding with Alternative 2 is justified for the following reasons:

1. Alternative 2 incorporates revisions to 10 CFR Part 51, including Table C–1 which reflect the findings described in the ANR GEIS.
2. Alternative 2 incorporates text to improve the effectiveness and efficiency of the environmental review for advanced reactor applications by codifying the GEIS findings in Table C–1. Improving the effectiveness and efficiency of the advanced reactor environmental reviews will reduce the cost to industry of preparing environmental reports for advanced reactor applications and focuses resources on project-specific analyses. The NRC also will recognize similar reductions in cost and be better able to focus its resources on the important project-specific issues during ANR licensing environmental reviews.

6.0 IMPLEMENTATION

This section identifies how and when the proposed action will be implemented and the impact on other requirements.

6.1 Schedule

The NRC assumes that the proposed rule would become effective 30 days after its publication in the *Federal Register* in 2024.

6.2 Impact on Other Requirements

None.

7.0 REFERENCES

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85 FR 24040. April 30, 2020. "Notice To Conduct Scoping and Prepare an Advanced Nuclear Reactor Generic Environmental Impact Statement." *Federal Register*, Nuclear Regulatory Commission. TN6458.

Barrasso, J. and M. Braun. 2019. Letter to NRC, dated June 25, 2019, regarding "Request you Initiate a Process to Develop a Generic Environmental Impact Statement (GEIS) for the Construction and Operation of Advanced Nuclear Reactors." U.S. Senate, Washington, D.C. ADAMS Accession No. ML19176A444. TN6465.

Endangered Species Act of 1973. 16 U.S.C. § 1531 *et seq.* TN1010.

National Environmental Policy Act of 1969 (NEPA), as amended. 42 U.S.C. § 4321 *et seq.* TN661.

National Historic Preservation Act. 54 U.S.C. § 300101 *et seq*. TN4157.

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NRC (U.S. Nuclear Regulatory Commission). 2020. *Policy Issue: Results of Exploratory Process for Developing a Generic Environmental Impact Statement for the Construction and Operation of Advanced Nuclear Reactors*. SECY-20-0020, Washington, D.C. ADAMS Accession No. ML20052D175. TN6493.

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NRIC (National Reactor Innovation Center). 2021. *Advanced Nuclear Reactor Plant Parameter Envelope and Guidance*. NRIC-21-ENG-0001, Washington, D.C. ADAMS Accession No. ML21145A416. TN6940.

Nuclear Energy Innovation and Modernization Act. Public Law 115-439. 132 Stat. 5565. TN6469.

Nuclear Energy Innovation Capabilities Act of 2017. Public Law 115–248. 132 Stat. 3160. TN6468.

APPENDIX A

SUMMARY OF RULE SAVINGS RESULTS – ALTERNATIVE 2

This appendix presents the detailed financial cost savings impacts of the proposed rule for each Category 1 issue, both for industry and the U.S. Nuclear Regulatory Commission (NRC). The substantial majority of impacts attributable to the proposed rule derive from the reduction in industry and NRC environmental review effort required to satisfy National Environmental Policy Act (NEPA) reporting requirements for new ANR licensing actions. This reduction in effort enabled by use of the Generic Environmental Impact Statement (GEIS) to provide generic impact estimates across 100 Category 1 issues leads to substantial savings over current practice and represents a quantifiable national benefit.

The analysis of savings relies upon several assumptions about how the proposed rule will be utilized by industry including the number and timing of applications expected to be submitted to NRC under the rule during the operational period of the proposed rule (2024–2034). The NRC assumes that eight applications will be submitted for ANR projects under the proposed rule. Further, the NRC assumes that no application will be submitted until 18–24 months after the implementation of the final rule. These assumptions are judged to form the most likely evolution of impacts of the proposed rule and the detailed results presented in this appendix reflect that assumption. However, it is plausible that at least one application may be submitted relatively soon after the implementation date of the final rule. The effect of this potential is presented as part of the uncertainty analysis in Section 4.3. The sooner in the operational period of the proposed rule that industry utilizes its provisions and submits an ANR licensing application, the larger the financial effects (net benefits) would be.

The proposed rule creates 100 Category 1 issues for which generic impact analysis can be utilized by industry and NRC staff. Table A-1 provides the annual and total savings estimated to result for each Category 1 issue used by industry. As the size and complexity of the expected ANR applications are not known at the time of this analysis, the NRC staff assumes that the most likely case would be for applications taking full advantage of the proposed rule and invoking a generic analysis for all 100 Category 1 issues. Section 4.3 illustrates potential results if a distribution of applications using various numbers of Category 1 issues might occur.

The results presented in Table A-1 reflect the following input variables (Section 3.3 provides more detailed discussion):

- Labor Rate: The industry labor rate was assumed to be the average between the NRC labor rate of $137/hour and the NRC contractor labor rate of $190/hour, which equates to $163.50/hour.
- Hours per Application: For each Category 1 issue, the NRC staff estimated the hours saved by utilizing the generic impact analysis findings in the ANR GEIS. These impacts are a one-time realization of review effort savings per application realized when the application is accepted by NRC and a formal environmental review commences.
- ANR Applications per Year: As discussed above and in Section 3.3, this represents the NRC's assumed number of ANR applications utilizing the provisions of the proposed rule.

The values reported in Table A-1 expand on the totals presented in Table 3.2.

Table A-6. Summary of Proposed Rule Savings Benefits to Industry by Category 1 Issue (2021 Constant Dollars)

Issue 1: Category 1 Construction - Onsite Land Use

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	26	0	$0	$0	$0
2025	$163.50	26	0.5	$2,126	$1,622	$1,888
2026	$163.50	26	1	$4,251	$3,031	$3,667
2027	$163.50	26	1	$4,251	$2,833	$3,560
2028	$163.50	26	1	$4,251	$2,647	$3,456
2029	$163.50	26	1	$4,251	$2,474	$3,356
2030	$163.50	26	1	$4,251	$2,312	$3,258
2031	$163.50	26	1	$4,251	$2,161	$3,163
2032	$163.50	26	1	$4,251	$2,020	$3,071
2033	$163.50	26	0.5	$2,126	$944	$1,491
2034	$163.50	26	0	$0	$0	$0
			8	**$34,008**	**$20,043**	**$26,911**

Issue 2: Category 1 Construction - Offsite Land Use

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	184	0	$0	$0	$0
2025	$163.50	184	0.5	$15,042	$11,475	$13,365
2026	$163.50	184	1	$30,084	$21,449	$25,951
2027	$163.50	184	1	$30,084	$20,046	$25,195
2028	$163.50	184	1	$30,084	$18,735	$24,461
2029	$163.50	184	1	$30,084	$17,509	$23,749
2030	$163.50	184	1	$30,084	$16,364	$23,057
2031	$163.50	184	1	$30,084	$15,293	$22,385
2032	$163.50	184	1	$30,084	$14,293	$21,733
2033	$163.50	184	0.5	$15,042	$6,679	$10,550
2034	$163.50	184	0	$0	$0	$0
			8	**$240,672**	**$141,844**	**$190,446**

Issue 3: Category 1 Construction - Impacts on Prime and Unique Farmland

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	25	0	$0	$0	$0
2025	$163.50	25	0.5	$2,044	$1,559	$1,816
2026	$163.50	25	1	$4,088	$2,914	$3,526
2027	$163.50	25	1	$4,088	$2,724	$3,423
2028	$163.50	25	1	$4,088	$2,545	$3,324
2029	$163.50	25	1	$4,088	$2,379	$3,227
2030	$163.50	25	1	$4,088	$2,223	$3,133
2031	$163.50	25	1	$4,088	$2,078	$3,041
2032	$163.50	25	1	$4,088	$1,942	$2,953
2033	$163.50	25	0.5	$2,044	$907	$1,433
2034	$163.50	25	0	$0	$0	$0
			8	**$32,700**	**$19,272**	**$25,876**

Issue 4: Category 1 Construction - Coastal Zone and Compliance with The Coastal Zone Management Act

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	14	0	$0	$0	$0
2025	$163.50	14	0.5	$1,145	$873	$1,017
2026	$163.50	14	1	$2,289	$1,632	$1,975
2027	$163.50	14	1	$2,289	$1,525	$1,917
2028	$163.50	14	1	$2,289	$1,425	$1,861
2029	$163.50	14	1	$2,289	$1,332	$1,807
2030	$163.50	14	1	$2,289	$1,245	$1,754
2031	$163.50	14	1	$2,289	$1,164	$1,703
2032	$163.50	14	1	$2,289	$1,087	$1,654
2033	$163.50	14	0.5	$1,145	$508	$803
2034	$163.50	14	0	$0	$0	$0
			8	**$18,312**	**$10,792**	**$14,490**

Issue 5: Category 1 Operations - Onsite Land Use

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	3	0	$0	$0	$0
2025	$163.50	3	0.5	$245	$187	$218
2026	$163.50	3	1	$491	$350	$423
2027	$163.50	3	1	$491	$327	$411
2028	$163.50	3	1	$491	$305	$399
2029	$163.50	3	1	$491	$285	$387
2030	$163.50	3	1	$491	$267	$376
2031	$163.50	3	1	$491	$249	$365
2032	$163.50	3	1	$491	$233	$354
2033	$163.50	3	0.5	$245	$109	$172
2034	$163.50	3	0	$0	$0	$0
			8	$3,924	**$2,313**	**$3,105**

Issue 6: Category 1 Operations - Offsite Land Use

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	25	0	$0	$0	$0
2025	$163.50	25	0.5	$2,044	$1,559	$1,816
2026	$163.50	25	1	$4,088	$2,914	$3,526
2027	$163.50	25	1	$4,088	$2,724	$3,423
2028	$163.50	25	1	$4,088	$2,545	$3,324
2029	$163.50	25	1	$4,088	$2,379	$3,227
2030	$163.50	25	1	$4,088	$2,223	$3,133
2031	$163.50	25	1	$4,088	$2,078	$3,041
2032	$163.50	25	1	$4,088	$1,942	$2,953
2033	$163.50	25	0.5	$2,044	$907	$1,433
2034	$163.50	25	0	$0	$0	$0
			8	**$32,700**	**$19,272**	**$25,876**

Issue 7: Category 1 Construction - Visual Impacts in Site and Vicinity

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	11	0	$0	$0	$0
2025	$163.50	11	0.5	$899	$686	$799
2026	$163.50	11	1	$1,799	$1,282	$1,551
2027	$163.50	11	1	$1,799	$1,198	$1,506
2028	$163.50	11	1	$1,799	$1,120	$1,462
2029	$163.50	11	1	$1,799	$1,047	$1,420
2030	$163.50	11	1	$1,799	$978	$1,378
2031	$163.50	11	1	$1,799	$914	$1,338
2032	$163.50	11	1	$1,799	$854	$1,299
2033	$163.50	11	0.5	$899	$399	$631
2034	$163.50	11	0	$0	$0	$0
			8	**$14,388**	**$8,480**	**$11,385**

Issue 8: Category 1 Construction - Visual Impacts from Transmission Lines

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	11	0	$0	$0	$0
2025	$163.50	11	0.5	$899	$686	$799
2026	$163.50	11	1	$1,799	$1,282	$1,551
2027	$163.50	11	1	$1,799	$1,198	$1,506
2028	$163.50	11	1	$1,799	$1,120	$1,462
2029	$163.50	11	1	$1,799	$1,047	$1,420
2030	$163.50	11	1	$1,799	$978	$1,378
2031	$163.50	11	1	$1,799	$914	$1,338
2032	$163.50	11	1	$1,799	$854	$1,299
2033	$163.50	11	0.5	$899	$399	$631
2034	$163.50	11	0	$0	$0	$0
			8	**$14,388**	**$8,480**	**$11,385**

Issue 9: Category 1 Operations - Visual Impacts During Operations

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	23	0	$0	$0	$0
2025	$163.50	23	0.5	$1,880	$1,434	$1,671
2026	$163.50	23	1	$3,761	$2,681	$3,244
2027	$163.50	23	1	$3,761	$2,506	$3,149
2028	$163.50	23	1	$3,761	$2,342	$3,058
2029	$163.50	23	1	$3,761	$2,189	$2,969
2030	$163.50	23	1	$3,761	$2,045	$2,882
2031	$163.50	23	1	$3,761	$1,912	$2,798
2032	$163.50	23	1	$3,761	$1,787	$2,717
2033	$163.50	23	0.5	$1,880	$835	$1,319
2034	$163.50	23	0	$0	$0	$0
			8	**$30,084**	**$17,730**	**$23,806**

Issue 10: Category 1 Construction - Emissions of Criteria Pollutants and Dust During Construction

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	33	0	$0	$0	$0
2025	$163.50	33	0.5	$2,698	$2,058	$2,397
2026	$163.50	33	1	$5,396	$3,847	$4,654
2027	$163.50	33	1	$5,396	$3,595	$4,519
2028	$163.50	33	1	$5,396	$3,360	$4,387
2029	$163.50	33	1	$5,396	$3,140	$4,259
2030	$163.50	33	1	$5,396	$2,935	$4,135
2031	$163.50	33	1	$5,396	$2,743	$4,015
2032	$163.50	33	1	$5,396	$2,563	$3,898
2033	$163.50	33	0.5	$2,698	$1,198	$1,892
2034	$163.50	33	0	$0	$0	$0
			8	**$43,164**	**$25,439**	**$34,156**

Issue 11: Category 1 Construction - Greenhouse Gas Emissions During Construction

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	76	0	$0	$0	$0
2025	$163.50	76	0.5	$6,213	$4,740	$5,520
2026	$163.50	76	1	$12,426	$8,860	$10,719
2027	$163.50	76	1	$12,426	$8,280	$10,407
2028	$163.50	76	1	$12,426	$7,738	$10,103
2029	$163.50	76	1	$12,426	$7,232	$9,809
2030	$163.50	76	1	$12,426	$6,759	$9,523
2031	$163.50	76	1	$12,426	$6,317	$9,246
2032	$163.50	76	1	$12,426	$5,904	$8,977
2033	$163.50	76	0.5	$6,213	$2,759	$4,358
2034	$163.50	76	0	$0	$0	$0
			8	**$99,408**	**$58,588**	**$78,662**

Issue 12: Category 1 Operations - Emissions of Criteria and Hazardous Air Pollutants During Operation

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	50	0	$0	$0	$0
2025	$163.50	50	0.5	$4,088	$3,118	$3,632
2026	$163.50	50	1	$8,175	$5,829	$7,052
2027	$163.50	50	1	$8,175	$5,447	$6,846
2028	$163.50	50	1	$8,175	$5,091	$6,647
2029	$163.50	50	1	$8,175	$4,758	$6,453
2030	$163.50	50	1	$8,175	$4,447	$6,265
2031	$163.50	50	1	$8,175	$4,156	$6,083
2032	$163.50	50	1	$8,175	$3,884	$5,906
2033	$163.50	50	0.5	$4,088	$1,815	$2,867
2034	$163.50	50	0	$0	$0	$0
			8	**$65,400**	**$38,544**	**$51,752**

Issue 13: Category 1 Operations - Greenhouse Gas Emissions During Operation

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	48	0	$0	$0	$0
2025	$163.50	48	0.5	$3,924	$2,994	$3,486
2026	$163.50	48	1	$7,848	$5,596	$6,770
2027	$163.50	48	1	$7,848	$5,229	$6,573
2028	$163.50	48	1	$7,848	$4,887	$6,381
2029	$163.50	48	1	$7,848	$4,568	$6,195
2030	$163.50	48	1	$7,848	$4,269	$6,015
2031	$163.50	48	1	$7,848	$3,990	$5,840
2032	$163.50	48	1	$7,848	$3,729	$5,670
2033	$163.50	48	0.5	$3,924	$1,742	$2,752
2034	$163.50	48	0	$0	$0	$0
			8	**$62,784**	**$37,003**	**$49,681**

Issue 14: Category 1 Operations - Cooling System Emissions

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	11	0	$0	$0	$0
2025	$163.50	11	0.5	$899	$686	$799
2026	$163.50	11	1	$1,799	$1,282	$1,551
2027	$163.50	11	1	$1,799	$1,198	$1,506
2028	$163.50	11	1	$1,799	$1,120	$1,462
2029	$163.50	11	1	$1,799	$1,047	$1,420
2030	$163.50	11	1	$1,799	$978	$1,378
2031	$163.50	11	1	$1,799	$914	$1,338
2032	$163.50	11	1	$1,799	$854	$1,299
2033	$163.50	11	0.5	$899	$399	$631
2034	$163.50	11	0	$0	$0	$0
			8	**$14,388**	**$8,480**	**$11,385**

Issue 15: Category 1 Operations - Emissions of Ozone and Nitrogen Oxides During Transmission Line Operation

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	6	0	$0	$0	$0
2025	$163.50	6	0.5	$491	$374	$436
2026	$163.50	6	1	$981	$699	$846
2027	$163.50	6	1	$981	$654	$822
2028	$163.50	6	1	$981	$611	$798
2029	$163.50	6	1	$981	$571	$774
2030	$163.50	6	1	$981	$534	$752
2031	$163.50	6	1	$981	$499	$730
2032	$163.50	6	1	$981	$466	$709
2033	$163.50	6	0.5	$491	$218	$344
2034	$163.50	6	0	$0	$0	$0
			8	**$7,848**	**$4,625**	**$6,210**

Issue 16: Category 1 Construction - Surface Water Use Conflicts During Construction

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	17	0	$0	$0	$0
2025	$163.50	17	0.5	$1,390	$1,060	$1,235
2026	$163.50	17	1	$2,780	$1,982	$2,398
2027	$163.50	17	1	$2,780	$1,852	$2,328
2028	$163.50	17	1	$2,780	$1,731	$2,260
2029	$163.50	17	1	$2,780	$1,618	$2,194
2030	$163.50	17	1	$2,780	$1,512	$2,130
2031	$163.50	17	1	$2,780	$1,413	$2,068
2032	$163.50	17	1	$2,780	$1,321	$2,008
2033	$163.50	17	0.5	$1,390	$617	$975
2034	$163.50	17	0	$0	$0	$0
			8	**$22,236**	**$13,105**	**$17,596**

Issue 17: Category 1 Construction - Groundwater Use Conflicts Due to Excavation Dewatering

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	117	0	$0	$0	$0
2025	$163.50	117	0.5	$9,565	$7,297	$8,498
2026	$163.50	117	1	$19,130	$13,639	$16,501
2027	$163.50	117	1	$19,130	$12,747	$16,021
2028	$163.50	117	1	$19,130	$11,913	$15,554
2029	$163.50	117	1	$19,130	$11,134	$15,101
2030	$163.50	117	1	$19,130	$10,405	$14,661
2031	$163.50	117	1	$19,130	$9,724	$14,234
2032	$163.50	117	1	$19,130	$9,088	$13,820
2033	$163.50	117	0.5	$9,565	$4,247	$6,709
2034	$163.50	117	0	$0	$0	$0
			8	**$153,036**	**$90,194**	**$121,099**

Issue 18: Category 1 Construction - Groundwater Use Conflicts Due to Construction-Related Groundwater Withdrawals

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	97	0	$0	$0	$0
2025	$163.50	97	0.5	$7,930	$6,050	$7,045
2026	$163.50	97	1	$15,860	$11,308	$13,681
2027	$163.50	97	1	$15,860	$10,568	$13,282
2028	$163.50	97	1	$15,860	$9,876	$12,895
2029	$163.50	97	1	$15,860	$9,230	$12,520
2030	$163.50	97	1	$15,860	$8,627	$12,155
2031	$163.50	97	1	$15,860	$8,062	$11,801
2032	$163.50	97	1	$15,860	$7,535	$11,457
2033	$163.50	97	0.5	$7,930	$3,521	$5,562
2034	$163.50	97	0	$0	$0	$0
			8	**$126,876**	**$74,776**	**$100,398**

Issue 19: Category 1 Construction - Water Quality Degradation Due to Construction-Related Discharges

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	17	0	$0	$0	$0
2025	$163.50	17	0.5	$1,390	$1,060	$1,235
2026	$163.50	17	1	$2,780	$1,982	$2,398
2027	$163.50	17	1	$2,780	$1,852	$2,328
2028	$163.50	17	1	$2,780	$1,731	$2,260
2029	$163.50	17	1	$2,780	$1,618	$2,194
2030	$163.50	17	1	$2,780	$1,512	$2,130
2031	$163.50	17	1	$2,780	$1,413	$2,068
2032	$163.50	17	1	$2,780	$1,321	$2,008
2033	$163.50	17	0.5	$1,390	$617	$975
2034	$163.50	17	0	$0	$0	$0
			8	**$22,236**	**$13,105**	**$17,596**

Issue 20: Category 1 Construction - Water Quality Degradation Due to Inadvertent Spills During Construction

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	17	0	$0	$0	$0
2025	$163.50	17	0.5	$1,390	$1,060	$1,235
2026	$163.50	17	1	$2,780	$1,982	$2,398
2027	$163.50	17	1	$2,780	$1,852	$2,328
2028	$163.50	17	1	$2,780	$1,731	$2,260
2029	$163.50	17	1	$2,780	$1,618	$2,194
2030	$163.50	17	1	$2,780	$1,512	$2,130
2031	$163.50	17	1	$2,780	$1,413	$2,068
2032	$163.50	17	1	$2,780	$1,321	$2,008
2033	$163.50	17	0.5	$1,390	$617	$975
2034	$163.50	17	0	$0	$0	$0
			8	**$22,236**	**$13,105**	**$17,596**

Issue 21: Category 1 Construction - Water Quality Degradation Due to Groundwater Withdrawal

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	39	0	$0	$0	$0
2025	$163.50	39	0.5	$3,188	$2,432	$2,833
2026	$163.50	39	1	$6,377	$4,546	$5,500
2027	$163.50	39	1	$6,377	$4,249	$5,340
2028	$163.50	39	1	$6,377	$3,971	$5,185
2029	$163.50	39	1	$6,377	$3,711	$5,034
2030	$163.50	39	1	$6,377	$3,468	$4,887
2031	$163.50	39	1	$6,377	$3,241	$4,745
2032	$163.50	39	1	$6,377	$3,029	$4,607
2033	$163.50	39	0.5	$3,188	$1,416	$2,236
2034	$163.50	39	0	$0	$0	$0
			8	**$51,012**	**$30,065**	**$40,366**

Issue 22: Category 1 Construction - Water Quality Degradation Due to Offshore or In-Water Construction Activities

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	67	0	$0	$0	$0
2025	$163.50	67	0.5	$5,477	$4,179	$4,866
2026	$163.50	67	1	$10,955	$7,810	$9,449
2027	$163.50	67	1	$10,955	$7,299	$9,174
2028	$163.50	67	1	$10,955	$6,822	$8,907
2029	$163.50	67	1	$10,955	$6,376	$8,648
2030	$163.50	67	1	$10,955	$5,959	$8,396
2031	$163.50	67	1	$10,955	$5,569	$8,151
2032	$163.50	67	1	$10,955	$5,204	$7,914
2033	$163.50	67	0.5	$5,477	$2,432	$3,842
2034	$163.50	67	0	$0	$0	$0
			8	**$87,636**	**$51,650**	**$69,347**

Issue 23: Category 1 Construction - Water Use Conflict Due to Plant Municipal Water Demand

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	67	0	$0	$0	$0
2025	$163.50	67	0.5	$5,477	$4,179	$4,866
2026	$163.50	67	1	$10,955	$7,810	$9,449
2027	$163.50	67	1	$10,955	$7,299	$9,174
2028	$163.50	67	1	$10,955	$6,822	$8,907
2029	$163.50	67	1	$10,955	$6,376	$8,648
2030	$163.50	67	1	$10,955	$5,959	$8,396
2031	$163.50	67	1	$10,955	$5,569	$8,151
2032	$163.50	67	1	$10,955	$5,204	$7,914
2033	$163.50	67	0.5	$5,477	$2,432	$3,842
2034	$163.50	67	0	$0	$0	$0
			8	**$87,636**	**$51,650**	**$69,347**

Issue 24: Category 1 Construction - Degradation of Water Quality from Plant Effluent Discharges to Municipal Systems

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	150	0	$0	$0	$0
2025	$163.50	150	0.5	$12,263	$9,355	$10,895
2026	$163.50	150	1	$24,525	$17,486	$21,155
2027	$163.50	150	1	$24,525	$16,342	$20,539
2028	$163.50	150	1	$24,525	$15,273	$19,941
2029	$163.50	150	1	$24,525	$14,274	$19,360
2030	$163.50	150	1	$24,525	$13,340	$18,796
2031	$163.50	150	1	$24,525	$12,467	$18,249
2032	$163.50	150	1	$24,525	$11,652	$17,717
2033	$163.50	150	0.5	$12,263	$5,445	$8,601
2034	$163.50	150	0	$0	$0	$0
			8	**$196,200**	**$115,633**	**$155,255**

Issue 25: Category 1 Operations - Surface Water Use Conflicts During Operation Due to Water Withdrawal from Flowing Waterbodies

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	109	0	$0	$0	$0
2025	$163.50	109	0.5	$8,911	$6,798	$7,917
2026	$163.50	109	1	$17,822	$12,706	$15,373
2027	$163.50	109	1	$17,822	$11,875	$14,925
2028	$163.50	109	1	$17,822	$11,098	$14,491
2029	$163.50	109	1	$17,822	$10,372	$14,068
2030	$163.50	109	1	$17,822	$9,694	$13,659
2031	$163.50	109	1	$17,822	$9,060	$13,261
2032	$163.50	109	1	$17,822	$8,467	$12,875
2033	$163.50	109	0.5	$8,911	$3,956	$6,250
2034	$163.50	109	0	$0	$0	$0
			8	**$142,572**	**$84,027**	**$112,818**

Issue 26: Category 1 Operations - Surface Water Use Conflicts During Operation Due to Water Withdrawal from Non-Flowing Waterbodies

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	39	0	$0	$0	$0
2025	$163.50	39	0.5	$3,188	$2,432	$2,833
2026	$163.50	39	1	$6,377	$4,546	$5,500
2027	$163.50	39	1	$6,377	$4,249	$5,340
2028	$163.50	39	1	$6,377	$3,971	$5,185
2029	$163.50	39	1	$6,377	$3,711	$5,034
2030	$163.50	39	1	$6,377	$3,468	$4,887
2031	$163.50	39	1	$6,377	$3,241	$4,745
2032	$163.50	39	1	$6,377	$3,029	$4,607
2033	$163.50	39	0.5	$3,188	$1,416	$2,236
2034	$163.50	39	0	$0	$0	$0
			8	**$51,012**	**$30,065**	**$40,366**

Issue 27: Category 1 Operations - Groundwater Use Conflicts Due to Building Foundation Dewatering

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	29	0	$0	$0	$0
2025	$163.50	29	0.5	$2,371	$1,809	$2,106
2026	$163.50	29	1	$4,742	$3,381	$4,090
2027	$163.50	29	1	$4,742	$3,159	$3,971
2028	$163.50	29	1	$4,742	$2,953	$3,855
2029	$163.50	29	1	$4,742	$2,760	$3,743
2030	$163.50	29	1	$4,742	$2,579	$3,634
2031	$163.50	29	1	$4,742	$2,410	$3,528
2032	$163.50	29	1	$4,742	$2,253	$3,425
2033	$163.50	29	0.5	$2,371	$1,053	$1,663
2034	$163.50	29	0	$0	$0	$0
			8	**$37,932**	**$22,356**	**$30,016**

Issue 28: Category 1 Operations - Groundwater Use Conflicts Due to Groundwater Withdrawals for Plant Uses

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	57	0	$0	$0	$0
2025	$163.50	57	0.5	$4,660	$3,555	$4,140
2026	$163.50	57	1	$9,320	$6,645	$8,039
2027	$163.50	57	1	$9,320	$6,210	$7,805
2028	$163.50	57	1	$9,320	$5,804	$7,578
2029	$163.50	57	1	$9,320	$5,424	$7,357
2030	$163.50	57	1	$9,320	$5,069	$7,143
2031	$163.50	57	1	$9,320	$4,738	$6,935
2032	$163.50	57	1	$9,320	$4,428	$6,733
2033	$163.50	57	0.5	$4,660	$2,069	$3,268
2034	$163.50	57	0	$0	$0	$0
			8	**$74,556**	**$43,941**	**$58,997**

Issue 29: Category 1 Operations - Surface Water Quality Degradation Due to Physical Effects from Operation of Intake and Discharge Structures

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	117	0	$0	$0	$0
2025	$163.50	117	0.5	$9,565	$7,297	$8,498
2026	$163.50	117	1	$19,130	$13,639	$16,501
2027	$163.50	117	1	$19,130	$12,747	$16,021
2028	$163.50	117	1	$19,130	$11,913	$15,554
2029	$163.50	117	1	$19,130	$11,134	$15,101
2030	$163.50	117	1	$19,130	$10,405	$14,661
2031	$163.50	117	1	$19,130	$9,724	$14,234
2032	$163.50	117	1	$19,130	$9,088	$13,820
2033	$163.50	117	0.5	$9,565	$4,247	$6,709
2034	$163.50	117	0	$0	$0	$0
			8	**$153,036**	**$90,194**	**$121,099**

Issue 30: Category 1 Operations - Surface Water Quality Degradation Due to Changes in Salinity Gradients Resulting from Withdrawals

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	194	0	$0	$0	$0
2025	$163.50	194	0.5	$15,860	$12,099	$14,091
2026	$163.50	194	1	$31,719	$22,615	$27,361
2027	$163.50	194	1	$31,719	$21,136	$26,564
2028	$163.50	194	1	$31,719	$19,753	$25,790
2029	$163.50	194	1	$31,719	$18,461	$25,039
2030	$163.50	194	1	$31,719	$17,253	$24,310
2031	$163.50	194	1	$31,719	$16,124	$23,602
2032	$163.50	194	1	$31,719	$15,069	$22,914
2033	$163.50	194	0.5	$15,860	$7,042	$11,124
2034	$163.50	194	0	$0	$0	$0
			8	**$253,752**	**$149,552**	**$200,796**

Issue 31: Category 1 Operations - Groundwater Quality Degradation Due to Plant Discharges

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	57	0	$0	$0	$0
2025	$163.50	57	0.5	$4,660	$3,555	$4,140
2026	$163.50	57	1	$9,320	$6,645	$8,039
2027	$163.50	57	1	$9,320	$6,210	$7,805
2028	$163.50	57	1	$9,320	$5,804	$7,578
2029	$163.50	57	1	$9,320	$5,424	$7,357
2030	$163.50	57	1	$9,320	$5,069	$7,143
2031	$163.50	57	1	$9,320	$4,738	$6,935
2032	$163.50	57	1	$9,320	$4,428	$6,733
2033	$163.50	57	0.5	$4,660	$2,069	$3,268
2034	$163.50	57	0	$0	$0	$0
			8	**$74,556**	**$43,941**	**$58,997**

Issue 32: Category 1 Operations - Water Quality Degradation Due to Inadvertent Spills and Leaks During Operation

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	16	0	$0	$0	$0
2025	$163.50	16	0.5	$1,308	$998	$1,162
2026	$163.50	16	1	$2,616	$1,865	$2,257
2027	$163.50	16	1	$2,616	$1,743	$2,191
2028	$163.50	16	1	$2,616	$1,629	$2,127
2029	$163.50	16	1	$2,616	$1,523	$2,065
2030	$163.50	16	1	$2,616	$1,423	$2,005
2031	$163.50	16	1	$2,616	$1,330	$1,947
2032	$163.50	16	1	$2,616	$1,243	$1,890
2033	$163.50	16	0.5	$1,308	$581	$917
2034	$163.50	16	0	$0	$0	$0
			8	**$20,928**	**$12,334**	**$16,560**

Issue 33: Category 1 Operations - Water Quality Degradation Due to Groundwater Withdrawals

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	43	0	$0	$0	$0
2025	$163.50	43	0.5	$3,515	$2,682	$3,123
2026	$163.50	43	1	$7,031	$5,013	$6,065
2027	$163.50	43	1	$7,031	$4,685	$5,888
2028	$163.50	43	1	$7,031	$4,378	$5,716
2029	$163.50	43	1	$7,031	$4,092	$5,550
2030	$163.50	43	1	$7,031	$3,824	$5,388
2031	$163.50	43	1	$7,031	$3,574	$5,231
2032	$163.50	43	1	$7,031	$3,340	$5,079
2033	$163.50	43	0.5	$3,515	$1,561	$2,466
2034	$163.50	43	0	$0	$0	$0
			8	**$56,244**	**$33,148**	**$44,506**

Issue 34: Category 1 Operations - Water Use Conflict from Plant Municipal Water Demand

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	16	0	$0	$0	$0
2025	$163.50	16	0.5	$1,308	$998	$1,162
2026	$163.50	16	1	$2,616	$1,865	$2,257
2027	$163.50	16	1	$2,616	$1,743	$2,191
2028	$163.50	16	1	$2,616	$1,629	$2,127
2029	$163.50	16	1	$2,616	$1,523	$2,065
2030	$163.50	16	1	$2,616	$1,423	$2,005
2031	$163.50	16	1	$2,616	$1,330	$1,947
2032	$163.50	16	1	$2,616	$1,243	$1,890
2033	$163.50	16	0.5	$1,308	$581	$917
2034	$163.50	16	0	$0	$0	$0
			8	**$20,928**	**$12,334**	**$16,560**

Issue 35: Category 1 Operations - Degradation of Water Quality from Plant Effluent Discharges to Municipal Systems

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	16	0	$0	$0	$0
2025	$163.50	16	0.5	$1,308	$998	$1,162
2026	$163.50	16	1	$2,616	$1,865	$2,257
2027	$163.50	16	1	$2,616	$1,743	$2,191
2028	$163.50	16	1	$2,616	$1,629	$2,127
2029	$163.50	16	1	$2,616	$1,523	$2,065
2030	$163.50	16	1	$2,616	$1,423	$2,005
2031	$163.50	16	1	$2,616	$1,330	$1,947
2032	$163.50	16	1	$2,616	$1,243	$1,890
2033	$163.50	16	0.5	$1,308	$581	$917
2034	$163.50	16	0	$0	$0	$0
			8	**$20,928**	**$12,334**	**$16,560**

Issue 36: Category 1 Construction - Permanent and Temporary Loss, Conversion, Fragmentation, and Degradation of Habitats

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	168	0	$0	$0	$0
2025	$163.50	168	0.5	$13,734	$10,478	$12,202
2026	$163.50	168	1	$27,468	$19,584	$23,694
2027	$163.50	168	1	$27,468	$18,303	$23,004
2028	$163.50	168	1	$27,468	$17,106	$22,334
2029	$163.50	168	1	$27,468	$15,987	$21,683
2030	$163.50	168	1	$27,468	$14,941	$21,052
2031	$163.50	168	1	$27,468	$13,963	$20,439
2032	$163.50	168	1	$27,468	$13,050	$19,843
2033	$163.50	168	0.5	$13,734	$6,098	$9,633
2034	$163.50	168	0	$0	$0	$0
			8	**$219,744**	**$129,509**	**$173,885**

Issue 37: Category 1 Construction - Permanent and Temporary Loss and Degradation of Wetlands

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	168	0	$0	$0	$0
2025	$163.50	168	0.5	$13,734	$10,478	$12,202
2026	$163.50	168	1	$27,468	$19,584	$23,694
2027	$163.50	168	1	$27,468	$18,303	$23,004
2028	$163.50	168	1	$27,468	$17,106	$22,334
2029	$163.50	168	1	$27,468	$15,987	$21,683
2030	$163.50	168	1	$27,468	$14,941	$21,052
2031	$163.50	168	1	$27,468	$13,963	$20,439
2032	$163.50	168	1	$27,468	$13,050	$19,843
2033	$163.50	168	0.5	$13,734	$6,098	$9,633
2034	$163.50	168	0	$0	$0	$0
			8	**$219,744**	**$129,509**	**$173,885**

Issue 38: Category 1 Construction - Effects of Building Noise on Wildlife

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	60	0	$0	$0	$0
2025	$163.50	60	0.5	$4,905	$3,742	$4,358
2026	$163.50	60	1	$9,810	$6,994	$8,462
2027	$163.50	60	1	$9,810	$6,537	$8,216
2028	$163.50	60	1	$9,810	$6,109	$7,976
2029	$163.50	60	1	$9,810	$5,710	$7,744
2030	$163.50	60	1	$9,810	$5,336	$7,519
2031	$163.50	60	1	$9,810	$4,987	$7,300
2032	$163.50	60	1	$9,810	$4,661	$7,087
2033	$163.50	60	0.5	$4,905	$2,178	$3,440
2034	$163.50	60	0	$0	$0	$0
			8	**$78,480**	**$46,253**	**$62,102**

Issue 39: Category 1 Construction - Effects of Vehicular Collisions on Wildlife

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	50	0	$0	$0	$0
2025	$163.50	50	0.5	$4,088	$3,118	$3,632
2026	$163.50	50	1	$8,175	$5,829	$7,052
2027	$163.50	50	1	$8,175	$5,447	$6,846
2028	$163.50	50	1	$8,175	$5,091	$6,647
2029	$163.50	50	1	$8,175	$4,758	$6,453
2030	$163.50	50	1	$8,175	$4,447	$6,265
2031	$163.50	50	1	$8,175	$4,156	$6,083
2032	$163.50	50	1	$8,175	$3,884	$5,906
2033	$163.50	50	0.5	$4,088	$1,815	$2,867
2034	$163.50	50	0	$0	$0	$0
			8	**$65,400**	**$38,544**	**$51,752**

Issue 40: Category 1 Construction - Bird Collisions and Injury from Structures and Transmission Lines

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	60	0	$0	$0	$0
2025	$163.50	60	0.5	$4,905	$3,742	$4,358
2026	$163.50	60	1	$9,810	$6,994	$8,462
2027	$163.50	60	1	$9,810	$6,537	$8,216
2028	$163.50	60	1	$9,810	$6,109	$7,976
2029	$163.50	60	1	$9,810	$5,710	$7,744
2030	$163.50	60	1	$9,810	$5,336	$7,519
2031	$163.50	60	1	$9,810	$4,987	$7,300
2032	$163.50	60	1	$9,810	$4,661	$7,087
2033	$163.50	60	0.5	$4,905	$2,178	$3,440
2034	$163.50	60	0	$0	$0	$0
			8	**$78,480**	**$46,253**	**$62,102**

Issue 41: Category 1 Construction - Important Species and Habitats – Other Important Species and Habitats

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	84	0	$0	$0	$0
2025	$163.50	84	0.5	$6,867	$5,239	$6,101
2026	$163.50	84	1	$13,734	$9,792	$11,847
2027	$163.50	84	1	$13,734	$9,152	$11,502
2028	$163.50	84	1	$13,734	$8,553	$11,167
2029	$163.50	84	1	$13,734	$7,993	$10,842
2030	$163.50	84	1	$13,734	$7,470	$10,526
2031	$163.50	84	1	$13,734	$6,982	$10,219
2032	$163.50	84	1	$13,734	$6,525	$9,922
2033	$163.50	84	0.5	$6,867	$3,049	$4,816
2034	$163.50	84	0	$0	$0	$0
			8	**$109,872**	**$64,755**	**$86,943**

Issue 42: Category 1 Operations - Permanent and Temporary Loss or Disturbance of Habitats

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	19	0	$0	$0	$0
2025	$163.50	19	0.5	$1,553	$1,185	$1,380
2026	$163.50	19	1	$3,107	$2,215	$2,680
2027	$163.50	19	1	$3,107	$2,070	$2,602
2028	$163.50	19	1	$3,107	$1,935	$2,526
2029	$163.50	19	1	$3,107	$1,808	$2,452
2030	$163.50	19	1	$3,107	$1,690	$2,381
2031	$163.50	19	1	$3,107	$1,579	$2,312
2032	$163.50	19	1	$3,107	$1,476	$2,244
2033	$163.50	19	0.5	$1,553	$690	$1,089
2034	$163.50	19	0	$0	$0	$0
			8	**$24,852**	**$14,647**	**$19,666**

Issue 43: Category 1 Operations - Effects of Operational Noise on Wildlife

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	11	0	$0	$0	$0
2025	$163.50	11	0.5	$899	$686	$799
2026	$163.50	11	1	$1,799	$1,282	$1,551
2027	$163.50	11	1	$1,799	$1,198	$1,506
2028	$163.50	11	1	$1,799	$1,120	$1,462
2029	$163.50	11	1	$1,799	$1,047	$1,420
2030	$163.50	11	1	$1,799	$978	$1,378
2031	$163.50	11	1	$1,799	$914	$1,338
2032	$163.50	11	1	$1,799	$854	$1,299
2033	$163.50	11	0.5	$899	$399	$631
2034	$163.50	11	0	$0	$0	$0
			8	**$14,388**	**$8,480**	**$11,385**

Issue 44: Category 1 Operations - Effects of Vehicular Collisions on Wildlife

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	9	0	$0	$0	$0
2025	$163.50	9	0.5	$736	$561	$654
2026	$163.50	9	1	$1,472	$1,049	$1,269
2027	$163.50	9	1	$1,472	$981	$1,232
2028	$163.50	9	1	$1,472	$916	$1,196
2029	$163.50	9	1	$1,472	$856	$1,162
2030	$163.50	9	1	$1,472	$800	$1,128
2031	$163.50	9	1	$1,472	$748	$1,095
2032	$163.50	9	1	$1,472	$699	$1,063
2033	$163.50	9	0.5	$736	$327	$516
2034	$163.50	9	0	$0	$0	$0
			8	**$11,772**	**$6,938**	**$9,315**

Issue 45: Category 1 Construction - Exposure of Terrestrial Organisms to Radionuclides

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	38	0	$0	$0	$0
2025	$163.50	38	0.5	$3,107	$2,370	$2,760
2026	$163.50	38	1	$6,213	$4,430	$5,359
2027	$163.50	38	1	$6,213	$4,140	$5,203
2028	$163.50	38	1	$6,213	$3,869	$5,052
2029	$163.50	38	1	$6,213	$3,616	$4,905
2030	$163.50	38	1	$6,213	$3,379	$4,762
2031	$163.50	38	1	$6,213	$3,158	$4,623
2032	$163.50	38	1	$6,213	$2,952	$4,488
2033	$163.50	38	0.5	$3,107	$1,379	$2,179
2034	$163.50	38	0	$0	$0	$0
			8	**$49,704**	**$29,294**	**$39,331**

Issue 46: Category 1 Operations - Cooling Tower Operational Impacts on Vegetation

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	37	0	$0	$0	$0
2025	$163.50	37	0.5	$3,025	$2,308	$2,687
2026	$163.50	37	1	$6,050	$4,313	$5,218
2027	$163.50	37	1	$6,050	$4,031	$5,066
2028	$163.50	37	1	$6,050	$3,767	$4,919
2029	$163.50	37	1	$6,050	$3,521	$4,776
2030	$163.50	37	1	$6,050	$3,291	$4,636
2031	$163.50	37	1	$6,050	$3,075	$4,501
2032	$163.50	37	1	$6,050	$2,874	$4,370
2033	$163.50	37	0.5	$3,025	$1,343	$2,121
2034	$163.50	37	0	$0	$0	$0
			8	**$48,396**	**$28,523**	**$38,296**

Issue 47: Category 1 Operations - Bird Collisions and Injury from Structures and Transmission Lines

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	19	0	$0	$0	$0
2025	$163.50	19	0.5	$1,553	$1,185	$1,380
2026	$163.50	19	1	$3,107	$2,215	$2,680
2027	$163.50	19	1	$3,107	$2,070	$2,602
2028	$163.50	19	1	$3,107	$1,935	$2,526
2029	$163.50	19	1	$3,107	$1,808	$2,452
2030	$163.50	19	1	$3,107	$1,690	$2,381
2031	$163.50	19	1	$3,107	$1,579	$2,312
2032	$163.50	19	1	$3,107	$1,476	$2,244
2033	$163.50	19	0.5	$1,553	$690	$1,089
2034	$163.50	19	0	$0	$0	$0
			8	**$24,852**	**$14,647**	**$19,666**

Issue 48: Category 1 Operations - Bird Electrocutions from Transmission Lines

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	19	0	$0	$0	$0
2025	$163.50	19	0.5	$1,553	$1,185	$1,380
2026	$163.50	19	1	$3,107	$2,215	$2,680
2027	$163.50	19	1	$3,107	$2,070	$2,602
2028	$163.50	19	1	$3,107	$1,935	$2,526
2029	$163.50	19	1	$3,107	$1,808	$2,452
2030	$163.50	19	1	$3,107	$1,690	$2,381
2031	$163.50	19	1	$3,107	$1,579	$2,312
2032	$163.50	19	1	$3,107	$1,476	$2,244
2033	$163.50	19	0.5	$1,553	$690	$1,089
2034	$163.50	19	0	$0	$0	$0
			8	**$24,852**	**$14,647**	**$19,666**

Issue 49: Category 1 Operations - Water Use Conflicts with Terrestrial Resources

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	83	0	$0	$0	$0
2025	$163.50	83	0.5	$6,785	$5,176	$6,029
2026	$163.50	83	1	$13,571	$9,676	$11,706
2027	$163.50	83	1	$13,571	$9,043	$11,365
2028	$163.50	83	1	$13,571	$8,451	$11,034
2029	$163.50	83	1	$13,571	$7,898	$10,713
2030	$163.50	83	1	$13,571	$7,381	$10,401
2031	$163.50	83	1	$13,571	$6,899	$10,098
2032	$163.50	83	1	$13,571	$6,447	$9,804
2033	$163.50	83	0.5	$6,785	$3,013	$4,759
2034	$163.50	83	0	$0	$0	$0
			8	**$108,564**	**$63,984**	**$85,907**

Issue 50: Category 1 Operations - Effects of Transmission Line ROW Management on Terrestrial Resources

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	23	0	$0	$0	$0
2025	$163.50	23	0.5	$1,880	$1,434	$1,671
2026	$163.50	23	1	$3,761	$2,681	$3,244
2027	$163.50	23	1	$3,761	$2,506	$3,149
2028	$163.50	23	1	$3,761	$2,342	$3,058
2029	$163.50	23	1	$3,761	$2,189	$2,969
2030	$163.50	23	1	$3,761	$2,045	$2,882
2031	$163.50	23	1	$3,761	$1,912	$2,798
2032	$163.50	23	1	$3,761	$1,787	$2,717
2033	$163.50	23	0.5	$1,880	$835	$1,319
2034	$163.50	23	0	$0	$0	$0
			8	**$30,084**	**$17,730**	**$23,806**

Issue 51: Category 1 Operations -Effects of Electromagnetic Fields on Flora and Fauna

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	4	0	$0	$0	$0
2025	$163.50	4	0.5	$327	$249	$291
2026	$163.50	4	1	$654	$466	$564
2027	$163.50	4	1	$654	$436	$548
2028	$163.50	4	1	$654	$407	$532
2029	$163.50	4	1	$654	$381	$516
2030	$163.50	4	1	$654	$356	$501
2031	$163.50	4	1	$654	$332	$487
2032	$163.50	4	1	$654	$311	$472
2033	$163.50	4	0.5	$327	$145	$229
2034	$163.50	4	0	$0	$0	$0
			8	**$5,232**	**$3,084**	**$4,140**

Issue 52: Category 1 Operations - Important Species and Habitats – Other Important Species and Habitats

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	37	0	$0	$0	$0
2025	$163.50	37	0.5	$3,025	$2,308	$2,687
2026	$163.50	37	1	$6,050	$4,313	$5,218
2027	$163.50	37	1	$6,050	$4,031	$5,066
2028	$163.50	37	1	$6,050	$3,767	$4,919
2029	$163.50	37	1	$6,050	$3,521	$4,776
2030	$163.50	37	1	$6,050	$3,291	$4,636
2031	$163.50	37	1	$6,050	$3,075	$4,501
2032	$163.50	37	1	$6,050	$2,874	$4,370
2033	$163.50	37	0.5	$3,025	$1,343	$2,121
2034	$163.50	37	0	$0	$0	$0
			8	**$48,396**	**$28,523**	**$38,296**

Issue 53: Category 1 Construction - Runoff and Sedimentation from Construction Areas

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	128	0	$0	$0	$0
2025	$163.50	128	0.5	$10,464	$7,983	$9,297
2026	$163.50	128	1	$20,928	$14,921	$18,053
2027	$163.50	128	1	$20,928	$13,945	$17,527
2028	$163.50	128	1	$20,928	$13,033	$17,016
2029	$163.50	128	1	$20,928	$12,180	$16,521
2030	$163.50	128	1	$20,928	$11,383	$16,040
2031	$163.50	128	1	$20,928	$10,639	$15,572
2032	$163.50	128	1	$20,928	$9,943	$15,119
2033	$163.50	128	0.5	$10,464	$4,646	$7,339
2034	$163.50	128	0	$0	$0	$0
			8	**$167,424**	**$98,674**	**$132,484**

Issue 54: Category 1 Construction - Dredging and Filling Aquatic Habitats to Build Intake and Discharge Structures

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	128	0	$0	$0	$0
2025	$163.50	128	0.5	$10,464	$7,983	$9,297
2026	$163.50	128	1	$20,928	$14,921	$18,053
2027	$163.50	128	1	$20,928	$13,945	$17,527
2028	$163.50	128	1	$20,928	$13,033	$17,016
2029	$163.50	128	1	$20,928	$12,180	$16,521
2030	$163.50	128	1	$20,928	$11,383	$16,040
2031	$163.50	128	1	$20,928	$10,639	$15,572
2032	$163.50	128	1	$20,928	$9,943	$15,119
2033	$163.50	128	0.5	$10,464	$4,646	$7,339
2034	$163.50	128	0	$0	$0	$0
			8	**$167,424**	**$98,674**	**$132,484**

Issue 55: Category 1 Construction - Building Transmission Lines, Pipelines, and Access Roads Across Surface Waterbodies

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	128	0	$0	$0	$0
2025	$163.50	128	0.5	$10,464	$7,983	$9,297
2026	$163.50	128	1	$20,928	$14,921	$18,053
2027	$163.50	128	1	$20,928	$13,945	$17,527
2028	$163.50	128	1	$20,928	$13,033	$17,016
2029	$163.50	128	1	$20,928	$12,180	$16,521
2030	$163.50	128	1	$20,928	$11,383	$16,040
2031	$163.50	128	1	$20,928	$10,639	$15,572
2032	$163.50	128	1	$20,928	$9,943	$15,119
2033	$163.50	128	0.5	$10,464	$4,646	$7,339
2034	$163.50	128	0	$0	$0	$0
			8	**$167,424**	**$98,674**	**$132,484**

Issue 56: Category 1 Operations - Important Species and Habitats – Other Important Species and Habitats

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	128	0	$0	$0	$0
2025	$163.50	128	0.5	$10,464	$7,983	$9,297
2026	$163.50	128	1	$20,928	$14,921	$18,053
2027	$163.50	128	1	$20,928	$13,945	$17,527
2028	$163.50	128	1	$20,928	$13,033	$17,016
2029	$163.50	128	1	$20,928	$12,180	$16,521
2030	$163.50	128	1	$20,928	$11,383	$16,040
2031	$163.50	128	1	$20,928	$10,639	$15,572
2032	$163.50	128	1	$20,928	$9,943	$15,119
2033	$163.50	128	0.5	$10,464	$4,646	$7,339
2034	$163.50	128	0	$0	$0	$0
			8	**$167,424**	**$98,674**	**$132,484**

Issue 57: Category 1 Operations - Stormwater Runoff

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	20	0	$0	$0	$0
2025	$163.50	20	0.5	$1,635	$1,247	$1,453
2026	$163.50	20	1	$3,270	$2,331	$2,821
2027	$163.50	20	1	$3,270	$2,179	$2,739
2028	$163.50	20	1	$3,270	$2,036	$2,659
2029	$163.50	20	1	$3,270	$1,903	$2,581
2030	$163.50	20	1	$3,270	$1,779	$2,506
2031	$163.50	20	1	$3,270	$1,662	$2,433
2032	$163.50	20	1	$3,270	$1,554	$2,362
2033	$163.50	20	0.5	$1,635	$726	$1,147
2034	$163.50	20	0	$0	$0	$0
			8	**$26,160**	**$15,418**	**$20,701**

Issue 58: Category 1 Operations - Exposure of Aquatic Organisms to Radionuclides

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	38	0	$0	$0	$0
2025	$163.50	38	0.5	$3,107	$2,370	$2,760
2026	$163.50	38	1	$6,213	$4,430	$5,359
2027	$163.50	38	1	$6,213	$4,140	$5,203
2028	$163.50	38	1	$6,213	$3,869	$5,052
2029	$163.50	38	1	$6,213	$3,616	$4,905
2030	$163.50	38	1	$6,213	$3,379	$4,762
2031	$163.50	38	1	$6,213	$3,158	$4,623
2032	$163.50	38	1	$6,213	$2,952	$4,488
2033	$163.50	38	0.5	$3,107	$1,379	$2,179
2034	$163.50	38	0	$0	$0	$0
			8	**$49,704**	**$29,294**	**$39,331**

Issue 59: Category 1 Operations - Effects of Refurbishment on Aquatic Biota

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	20	0	$0	$0	$0
2025	$163.50	20	0.5	$1,635	$1,247	$1,453
2026	$163.50	20	1	$3,270	$2,331	$2,821
2027	$163.50	20	1	$3,270	$2,179	$2,739
2028	$163.50	20	1	$3,270	$2,036	$2,659
2029	$163.50	20	1	$3,270	$1,903	$2,581
2030	$163.50	20	1	$3,270	$1,779	$2,506
2031	$163.50	20	1	$3,270	$1,662	$2,433
2032	$163.50	20	1	$3,270	$1,554	$2,362
2033	$163.50	20	0.5	$1,635	$726	$1,147
2034	$163.50	20	0	$0	$0	$0
			8	**$26,160**	**$15,418**	**$20,701**

Issue 60: Category 1 Operations - Effects of Maintenance Dredging on Aquatic Biota

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	97	0	$0	$0	$0
2025	$163.50	97	0.5	$7,930	$6,050	$7,045
2026	$163.50	97	1	$15,860	$11,308	$13,681
2027	$163.50	97	1	$15,860	$10,568	$13,282
2028	$163.50	97	1	$15,860	$9,876	$12,895
2029	$163.50	97	1	$15,860	$9,230	$12,520
2030	$163.50	97	1	$15,860	$8,627	$12,155
2031	$163.50	97	1	$15,860	$8,062	$11,801
2032	$163.50	97	1	$15,860	$7,535	$11,457
2033	$163.50	97	0.5	$7,930	$3,521	$5,562
2034	$163.50	97	0	$0	$0	$0
			8	**$126,876**	**$74,776**	**$100,398**

Issue 61: Category 1 Operations - Impacts of Transmission Line ROW Management on Aquatic Resources

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	48	0	$0	$0	$0
2025	$163.50	48	0.5	$3,924	$2,994	$3,486
2026	$163.50	48	1	$7,848	$5,596	$6,770
2027	$163.50	48	1	$7,848	$5,229	$6,573
2028	$163.50	48	1	$7,848	$4,887	$6,381
2029	$163.50	48	1	$7,848	$4,568	$6,195
2030	$163.50	48	1	$7,848	$4,269	$6,015
2031	$163.50	48	1	$7,848	$3,990	$5,840
2032	$163.50	48	1	$7,848	$3,729	$5,670
2033	$163.50	48	0.5	$3,924	$1,742	$2,752
2034	$163.50	48	0	$0	$0	$0
			8	**$62,784**	**$37,003**	**$49,681**

Issue 62: Category 1 Operations - Impingement and Entrainment of Aquatic Organisms

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	145	0	$0	$0	$0
2025	$163.50	145	0.5	$11,854	$9,043	$10,532
2026	$163.50	145	1	$23,708	$16,903	$20,450
2027	$163.50	145	1	$23,708	$15,797	$19,855
2028	$163.50	145	1	$23,708	$14,764	$19,276
2029	$163.50	145	1	$23,708	$13,798	$18,715
2030	$163.50	145	1	$23,708	$12,895	$18,170
2031	$163.50	145	1	$23,708	$12,052	$17,641
2032	$163.50	145	1	$23,708	$11,263	$17,127
2033	$163.50	145	0.5	$11,854	$5,263	$8,314
2034	$163.50	145	0	$0	$0	$0
			8	**$189,660**	**$111,779**	**$150,079**

Issue 63: Category 1 Operations - Water Use Conflicts with Aquatic Resources

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	48	0	$0	$0	$0
2025	$163.50	48	0.5	$3,924	$2,994	$3,486
2026	$163.50	48	1	$7,848	$5,596	$6,770
2027	$163.50	48	1	$7,848	$5,229	$6,573
2028	$163.50	48	1	$7,848	$4,887	$6,381
2029	$163.50	48	1	$7,848	$4,568	$6,195
2030	$163.50	48	1	$7,848	$4,269	$6,015
2031	$163.50	48	1	$7,848	$3,990	$5,840
2032	$163.50	48	1	$7,848	$3,729	$5,670
2033	$163.50	48	0.5	$3,924	$1,742	$2,752
2034	$163.50	48	0	$0	$0	$0
			8	**$62,784**	**$37,003**	**$49,681**

Issue 64: Category 1 Operations - Important Species and Habitats – Other Important Species and Habitats

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	145	0	$0	$0	$0
2025	$163.50	145	0.5	$11,854	$9,043	$10,532
2026	$163.50	145	1	$23,708	$16,903	$20,450
2027	$163.50	145	1	$23,708	$15,797	$19,855
2028	$163.50	145	1	$23,708	$14,764	$19,276
2029	$163.50	145	1	$23,708	$13,798	$18,715
2030	$163.50	145	1	$23,708	$12,895	$18,170
2031	$163.50	145	1	$23,708	$12,052	$17,641
2032	$163.50	145	1	$23,708	$11,263	$17,127
2033	$163.50	145	0.5	$11,854	$5,263	$8,314
2034	$163.50	145	0	$0	$0	$0
			8	**$189,660**	**$111,779**	**$150,079**

Issue 65: Category 1 Construction - Radiological Dose to Construction Workers

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	117	0	$0	$0	$0
2025	$163.50	117	0.5	$9,565	$7,297	$8,498
2026	$163.50	117	1	$19,130	$13,639	$16,501
2027	$163.50	117	1	$19,130	$12,747	$16,021
2028	$163.50	117	1	$19,130	$11,913	$15,554
2029	$163.50	117	1	$19,130	$11,134	$15,101
2030	$163.50	117	1	$19,130	$10,405	$14,661
2031	$163.50	117	1	$19,130	$9,724	$14,234
2032	$163.50	117	1	$19,130	$9,088	$13,820
2033	$163.50	117	0.5	$9,565	$4,247	$6,709
2034	$163.50	117	0	$0	$0	$0
			8	**$153,036**	**$90,194**	**$121,099**

Issue 66: Category 1 Operations - Occupational Doses to Workers

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	38	0	$0	$0	$0
2025	$163.50	38	0.5	$3,107	$2,370	$2,760
2026	$163.50	38	1	$6,213	$4,430	$5,359
2027	$163.50	38	1	$6,213	$4,140	$5,203
2028	$163.50	38	1	$6,213	$3,869	$5,052
2029	$163.50	38	1	$6,213	$3,616	$4,905
2030	$163.50	38	1	$6,213	$3,379	$4,762
2031	$163.50	38	1	$6,213	$3,158	$4,623
2032	$163.50	38	1	$6,213	$2,952	$4,488
2033	$163.50	38	0.5	$3,107	$1,379	$2,179
2034	$163.50	38	0	$0	$0	$0
			8	**$49,704**	**$29,294**	**$39,331**

Issue 67: Category 1 Operations - Maximally Exposed Individual Annual Doses

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	38	0	$0	$0	$0
2025	$163.50	38	0.5	$3,107	$2,370	$2,760
2026	$163.50	38	1	$6,213	$4,430	$5,359
2027	$163.50	38	1	$6,213	$4,140	$5,203
2028	$163.50	38	1	$6,213	$3,869	$5,052
2029	$163.50	38	1	$6,213	$3,616	$4,905
2030	$163.50	38	1	$6,213	$3,379	$4,762
2031	$163.50	38	1	$6,213	$3,158	$4,623
2032	$163.50	38	1	$6,213	$2,952	$4,488
2033	$163.50	38	0.5	$3,107	$1,379	$2,179
2034	$163.50	38	0	$0	$0	$0
			8	**$49,704**	**$29,294**	**$39,331**

Issue 68: Category 1 Operations - Total Population Annual Doses

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	42	0	$0	$0	$0
2025	$163.50	42	0.5	$3,434	$2,619	$3,051
2026	$163.50	42	1	$6,867	$4,896	$5,924
2027	$163.50	42	1	$6,867	$4,576	$5,751
2028	$163.50	42	1	$6,867	$4,276	$5,583
2029	$163.50	42	1	$6,867	$3,997	$5,421
2030	$163.50	42	1	$6,867	$3,735	$5,263
2031	$163.50	42	1	$6,867	$3,491	$5,110
2032	$163.50	42	1	$6,867	$3,262	$4,961
2033	$163.50	42	0.5	$3,434	$1,525	$2,408
2034	$163.50	42	0	$0	$0	$0
			8	**$54,936**	**$32,377**	**$43,471**

Issue 69: Category 1 Operations - Nonhuman Biota Doses

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	42	0	$0	$0	$0
2025	$163.50	42	0.5	$3,434	$2,619	$3,051
2026	$163.50	42	1	$6,867	$4,896	$5,924
2027	$163.50	42	1	$6,867	$4,576	$5,751
2028	$163.50	42	1	$6,867	$4,276	$5,583
2029	$163.50	42	1	$6,867	$3,997	$5,421
2030	$163.50	42	1	$6,867	$3,735	$5,263
2031	$163.50	42	1	$6,867	$3,491	$5,110
2032	$163.50	42	1	$6,867	$3,262	$4,961
2033	$163.50	42	0.5	$3,434	$1,525	$2,408
2034	$163.50	42	0	$0	$0	$0
			8	**$54,936**	**$32,377**	**$43,471**

Issue 70: Category 1 Construction - Building Impacts of Chemical, Biological, and Physical Nonradiological Hazards

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	52	0	$0	$0	$0
2025	$163.50	52	0.5	$4,251	$3,243	$3,777
2026	$163.50	52	1	$8,502	$6,062	$7,334
2027	$163.50	52	1	$8,502	$5,665	$7,120
2028	$163.50	52	1	$8,502	$5,295	$6,913
2029	$163.50	52	1	$8,502	$4,948	$6,712
2030	$163.50	52	1	$8,502	$4,625	$6,516
2031	$163.50	52	1	$8,502	$4,322	$6,326
2032	$163.50	52	1	$8,502	$4,039	$6,142
2033	$163.50	52	0.5	$4,251	$1,887	$2,982
2034	$163.50	52	0	$0	$0	$0
			8	**$68,016**	**$40,086**	**$53,822**

Issue 71: Category 1 Operations - Operation Impacts of Chemical, Biological, and Physical Nonradiological Hazards

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	35	0	$0	$0	$0
2025	$163.50	35	0.5	$2,861	$2,183	$2,542
2026	$163.50	35	1	$5,723	$4,080	$4,936
2027	$163.50	35	1	$5,723	$3,813	$4,793
2028	$163.50	35	1	$5,723	$3,564	$4,653
2029	$163.50	35	1	$5,723	$3,331	$4,517
2030	$163.50	35	1	$5,723	$3,113	$4,386
2031	$163.50	35	1	$5,723	$2,909	$4,258
2032	$163.50	35	1	$5,723	$2,719	$4,134
2033	$163.50	35	0.5	$2,861	$1,270	$2,007
2034	$163.50	35	0	$0	$0	$0
			8	**$45,780**	**$26,981**	**$36,226**

Issue 72: Category 1 Construction - Construction-Related Noise

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	23	0	$0	$0	$0
2025	$163.50	23	0.5	$1,880	$1,434	$1,671
2026	$163.50	23	1	$3,761	$2,681	$3,244
2027	$163.50	23	1	$3,761	$2,506	$3,149
2028	$163.50	23	1	$3,761	$2,342	$3,058
2029	$163.50	23	1	$3,761	$2,189	$2,969
2030	$163.50	23	1	$3,761	$2,045	$2,882
2031	$163.50	23	1	$3,761	$1,912	$2,798
2032	$163.50	23	1	$3,761	$1,787	$2,717
2033	$163.50	23	0.5	$1,880	$835	$1,319
2034	$163.50	23	0	$0	$0	$0
			8	**$30,084**	**$17,730**	**$23,806**

Issue 73: Category 1 Operations - Operation-Related Noise

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	14	0	$0	$0	$0
2025	$163.50	14	0.5	$1,145	$873	$1,017
2026	$163.50	14	1	$2,289	$1,632	$1,975
2027	$163.50	14	1	$2,289	$1,525	$1,917
2028	$163.50	14	1	$2,289	$1,425	$1,861
2029	$163.50	14	1	$2,289	$1,332	$1,807
2030	$163.50	14	1	$2,289	$1,245	$1,754
2031	$163.50	14	1	$2,289	$1,164	$1,703
2032	$163.50	14	1	$2,289	$1,087	$1,654
2033	$163.50	14	0.5	$1,145	$508	$803
2034	$163.50	14	0	$0	$0	$0
			8	**$18,312**	**$10,792**	**$14,490**

Issue 74: Category 1 Operations - Low-Level Radioactive Waste

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	232	0	$0	$0	$0
2025	$163.50	232	0.5	$18,966	$14,469	$16,851
2026	$163.50	232	1	$37,932	$27,045	$32,720
2027	$163.50	232	1	$37,932	$25,276	$31,767
2028	$163.50	232	1	$37,932	$23,622	$30,842
2029	$163.50	232	1	$37,932	$22,077	$29,944
2030	$163.50	232	1	$37,932	$20,632	$29,072
2031	$163.50	232	1	$37,932	$19,283	$28,225
2032	$163.50	232	1	$37,932	$18,021	$27,403
2033	$163.50	232	0.5	$18,966	$8,421	$13,302
2034	$163.50	232	0	$0	$0	$0
			8	**$303,456**	**$178,846**	**$240,127**

Issue 75: Category 1 Operations - Onsite Spent Nuclear Fuel Management

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	232	0	$0	$0	$0
2025	$163.50	232	0.5	$18,966	$14,469	$16,851
2026	$163.50	232	1	$37,932	$27,045	$32,720
2027	$163.50	232	1	$37,932	$25,276	$31,767
2028	$163.50	232	1	$37,932	$23,622	$30,842
2029	$163.50	232	1	$37,932	$22,077	$29,944
2030	$163.50	232	1	$37,932	$20,632	$29,072
2031	$163.50	232	1	$37,932	$19,283	$28,225
2032	$163.50	232	1	$37,932	$18,021	$27,403
2033	$163.50	232	0.5	$18,966	$8,421	$13,302
2034	$163.50	232	0	$0	$0	$0
			8	**$303,456**	**$178,846**	**$240,127**

Issue 76: Category 1 Operations - Mixed Waste

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	232	0	$0	$0	$0
2025	$163.50	232	0.5	$18,966	$14,469	$16,851
2026	$163.50	232	1	$37,932	$27,045	$32,720
2027	$163.50	232	1	$37,932	$25,276	$31,767
2028	$163.50	232	1	$37,932	$23,622	$30,842
2029	$163.50	232	1	$37,932	$22,077	$29,944
2030	$163.50	232	1	$37,932	$20,632	$29,072
2031	$163.50	232	1	$37,932	$19,283	$28,225
2032	$163.50	232	1	$37,932	$18,021	$27,403
2033	$163.50	232	0.5	$18,966	$8,421	$13,302
2034	$163.50	232	0	$0	$0	$0
			8	**$303,456**	**$178,846**	**$240,127**

Issue 77: Category 1 Construction - Construction Nonradiological Waste

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	38	0	$0	$0	$0
2025	$163.50	38	0.5	$3,107	$2,370	$2,760
2026	$163.50	38	1	$6,213	$4,430	$5,359
2027	$163.50	38	1	$6,213	$4,140	$5,203
2028	$163.50	38	1	$6,213	$3,869	$5,052
2029	$163.50	38	1	$6,213	$3,616	$4,905
2030	$163.50	38	1	$6,213	$3,379	$4,762
2031	$163.50	38	1	$6,213	$3,158	$4,623
2032	$163.50	38	1	$6,213	$2,952	$4,488
2033	$163.50	38	0.5	$3,107	$1,379	$2,179
2034	$163.50	38	0	$0	$0	$0
			8	**$49,704**	**$29,294**	**$39,331**

Issue 78: Category 1 Operations - Operation Nonradiological Waste

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	25	0	$0	$0	$0
2025	$163.50	25	0.5	$2,044	$1,559	$1,816
2026	$163.50	25	1	$4,088	$2,914	$3,526
2027	$163.50	25	1	$4,088	$2,724	$3,423
2028	$163.50	25	1	$4,088	$2,545	$3,324
2029	$163.50	25	1	$4,088	$2,379	$3,227
2030	$163.50	25	1	$4,088	$2,223	$3,133
2031	$163.50	25	1	$4,088	$2,078	$3,041
2032	$163.50	25	1	$4,088	$1,942	$2,953
2033	$163.50	25	0.5	$2,044	$907	$1,433
2034	$163.50	25	0	$0	$0	$0
			8	**$32,700**	**$19,272**	**$25,876**

Issue 79: Category 1 Operations - Design Basis Accidents Involving Radiological Releases

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	172	0	$0	$0	$0
2025	$163.50	172	0.5	$14,061	$10,727	$12,493
2026	$163.50	172	1	$28,122	$20,051	$24,258
2027	$163.50	172	1	$28,122	$18,739	$23,552
2028	$163.50	172	1	$28,122	$17,513	$22,866
2029	$163.50	172	1	$28,122	$16,367	$22,200
2030	$163.50	172	1	$28,122	$15,297	$21,553
2031	$163.50	172	1	$28,122	$14,296	$20,925
2032	$163.50	172	1	$28,122	$13,361	$20,316
2033	$163.50	172	0.5	$14,061	$6,243	$9,862
2034	$163.50	172	0	$0	$0	$0
			8	**$224,976**	**$132,593**	**$178,025**

Issue 80: Category 1 Operations - Accidents Involving Releases of Hazardous Chemicals

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	103	0	$0	$0	$0
2025	$163.50	103	0.5	$8,420	$6,424	$7,481
2026	$163.50	103	1	$16,841	$12,007	$14,527
2027	$163.50	103	1	$16,841	$11,222	$14,104
2028	$163.50	103	1	$16,841	$10,487	$13,693
2029	$163.50	103	1	$16,841	$9,801	$13,294
2030	$163.50	103	1	$16,841	$9,160	$12,907
2031	$163.50	103	1	$16,841	$8,561	$12,531
2032	$163.50	103	1	$16,841	$8,001	$12,166
2033	$163.50	103	0.5	$8,420	$3,739	$5,906
2034	$163.50	103	0	$0	$0	$0
			8	**$134,724**	**$79,402**	**$106,608**

Issue 81: Category 1 Operations - Severe Accident Mitigation Design Alternatives

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	69	0	$0	$0	$0
2025	$163.50	69	0.5	$5,641	$4,303	$5,012
2026	$163.50	69	1	$11,282	$8,044	$9,732
2027	$163.50	69	1	$11,282	$7,517	$9,448
2028	$163.50	69	1	$11,282	$7,026	$9,173
2029	$163.50	69	1	$11,282	$6,566	$8,906
2030	$163.50	69	1	$11,282	$6,136	$8,646
2031	$163.50	69	1	$11,282	$5,735	$8,394
2032	$163.50	69	1	$11,282	$5,360	$8,150
2033	$163.50	69	0.5	$5,641	$2,505	$3,956
2034	$163.50	69	0	$0	$0	$0
			8	**$90,252**	**$53,191**	**$71,417**

Issue 82: Category 1 Operations - Acts of Terrorism

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	69	0	$0	$0	$0
2025	$163.50	69	0.5	$5,641	$4,303	$5,012
2026	$163.50	69	1	$11,282	$8,044	$9,732
2027	$163.50	69	1	$11,282	$7,517	$9,448
2028	$163.50	69	1	$11,282	$7,026	$9,173
2029	$163.50	69	1	$11,282	$6,566	$8,906
2030	$163.50	69	1	$11,282	$6,136	$8,646
2031	$163.50	69	1	$11,282	$5,735	$8,394
2032	$163.50	69	1	$11,282	$5,360	$8,150
2033	$163.50	69	0.5	$5,641	$2,505	$3,956
2034	$163.50	69	0	$0	$0	$0
			8	**$90,252**	**$53,191**	**$71,417**

Issue 83: Category 1 Construction - Community Services and Infrastructure

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	74	0	$0	$0	$0
2025	$163.50	74	0.5	$6,050	$4,615	$5,375
2026	$163.50	74	1	$12,099	$8,626	$10,437
2027	$163.50	74	1	$12,099	$8,062	$10,133
2028	$163.50	74	1	$12,099	$7,535	$9,838
2029	$163.50	74	1	$12,099	$7,042	$9,551
2030	$163.50	74	1	$12,099	$6,581	$9,273
2031	$163.50	74	1	$12,099	$6,151	$9,003
2032	$163.50	74	1	$12,099	$5,748	$8,741
2033	$163.50	74	0.5	$6,050	$2,686	$4,243
2034	$163.50	74	0	$0	$0	$0
			8	**$96,792**	**$57,046**	**$76,592**

Issue 84: Category 1 Construction - Transportation Systems and Traffic

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	147	0	$0	$0	$0
2025	$163.50	147	0.5	$12,017	$9,168	$10,677
2026	$163.50	147	1	$24,035	$17,136	$20,732
2027	$163.50	147	1	$24,035	$16,015	$20,129
2028	$163.50	147	1	$24,035	$14,967	$19,542
2029	$163.50	147	1	$24,035	$13,988	$18,973
2030	$163.50	147	1	$24,035	$13,073	$18,420
2031	$163.50	147	1	$24,035	$12,218	$17,884
2032	$163.50	147	1	$24,035	$11,419	$17,363
2033	$163.50	147	0.5	$12,017	$5,336	$8,429
2034	$163.50	147	0	$0	$0	$0
			8	**$192,276**	**$113,321**	**$152,149**

Issue 85: Category 1 Construction - Economic Impacts

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	74	0	$0	$0	$0
2025	$163.50	74	0.5	$6,050	$4,615	$5,375
2026	$163.50	74	1	$12,099	$8,626	$10,437
2027	$163.50	74	1	$12,099	$8,062	$10,133
2028	$163.50	74	1	$12,099	$7,535	$9,838
2029	$163.50	74	1	$12,099	$7,042	$9,551
2030	$163.50	74	1	$12,099	$6,581	$9,273
2031	$163.50	74	1	$12,099	$6,151	$9,003
2032	$163.50	74	1	$12,099	$5,748	$8,741
2033	$163.50	74	0.5	$6,050	$2,686	$4,243
2034	$163.50	74	0	$0	$0	$0
			8	**$96,792**	**$57,046**	**$76,592**

Issue 86: Category 1 Construction - Tax Revenue Impacts

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	42	0	$0	$0	$0
2025	$163.50	42	0.5	$3,434	$2,619	$3,051
2026	$163.50	42	1	$6,867	$4,896	$5,924
2027	$163.50	42	1	$6,867	$4,576	$5,751
2028	$163.50	42	1	$6,867	$4,276	$5,583
2029	$163.50	42	1	$6,867	$3,997	$5,421
2030	$163.50	42	1	$6,867	$3,735	$5,263
2031	$163.50	42	1	$6,867	$3,491	$5,110
2032	$163.50	42	1	$6,867	$3,262	$4,961
2033	$163.50	42	0.5	$3,434	$1,525	$2,408
2034	$163.50	42	0	$0	$0	$0
			8	**$54,936**	**$32,377**	**$43,471**

Issue 87: Category 1 Operations - Community Services and Infrastructure

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	50	0	$0	$0	$0
2025	$163.50	50	0.5	$4,088	$3,118	$3,632
2026	$163.50	50	1	$8,175	$5,829	$7,052
2027	$163.50	50	1	$8,175	$5,447	$6,846
2028	$163.50	50	1	$8,175	$5,091	$6,647
2029	$163.50	50	1	$8,175	$4,758	$6,453
2030	$163.50	50	1	$8,175	$4,447	$6,265
2031	$163.50	50	1	$8,175	$4,156	$6,083
2032	$163.50	50	1	$8,175	$3,884	$5,906
2033	$163.50	50	0.5	$4,088	$1,815	$2,867
2034	$163.50	50	0	$0	$0	$0
			8	**$65,400**	**$38,544**	**$51,752**

Issue 88: Category 1 Operations - Transportation Systems and Traffic

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	25	0	$0	$0	$0
2025	$163.50	25	0.5	$2,044	$1,559	$1,816
2026	$163.50	25	1	$4,088	$2,914	$3,526
2027	$163.50	25	1	$4,088	$2,724	$3,423
2028	$163.50	25	1	$4,088	$2,545	$3,324
2029	$163.50	25	1	$4,088	$2,379	$3,227
2030	$163.50	25	1	$4,088	$2,223	$3,133
2031	$163.50	25	1	$4,088	$2,078	$3,041
2032	$163.50	25	1	$4,088	$1,942	$2,953
2033	$163.50	25	0.5	$2,044	$907	$1,433
2034	$163.50	25	0	$0	$0	$0
			8	**$32,700**	**$19,272**	**$25,876**

Issue 89: Category 1 Operations - Economic Impacts

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	50	0	$0	$0	$0
2025	$163.50	50	0.5	$4,088	$3,118	$3,632
2026	$163.50	50	1	$8,175	$5,829	$7,052
2027	$163.50	50	1	$8,175	$5,447	$6,846
2028	$163.50	50	1	$8,175	$5,091	$6,647
2029	$163.50	50	1	$8,175	$4,758	$6,453
2030	$163.50	50	1	$8,175	$4,447	$6,265
2031	$163.50	50	1	$8,175	$4,156	$6,083
2032	$163.50	50	1	$8,175	$3,884	$5,906
2033	$163.50	50	0.5	$4,088	$1,815	$2,867
2034	$163.50	50	0	$0	$0	$0
			8	**$65,400**	**$38,544**	**$51,752**

Issue 90: Category 1 Operations - Tax Revenue Impacts

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	98	0	$0	$0	$0
2025	$163.50	98	0.5	$8,012	$6,112	$7,118
2026	$163.50	98	1	$16,023	$11,424	$13,822
2027	$163.50	98	1	$16,023	$10,677	$13,419
2028	$163.50	98	1	$16,023	$9,978	$13,028
2029	$163.50	98	1	$16,023	$9,326	$12,649
2030	$163.50	98	1	$16,023	$8,715	$12,280
2031	$163.50	98	1	$16,023	$8,145	$11,923
2032	$163.50	98	1	$16,023	$7,612	$11,575
2033	$163.50	98	0.5	$8,012	$3,557	$5,619
2034	$163.50	98	0	$0	$0	$0
			8	**$128,184**	**$75,547**	**$101,433**

Issue 91: Category 1 Operations - Uranium Recovery

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	39	0	$0	$0	$0
2025	$163.50	39	0.5	$3,188	$2,432	$2,833
2026	$163.50	39	1	$6,377	$4,546	$5,500
2027	$163.50	39	1	$6,377	$4,249	$5,340
2028	$163.50	39	1	$6,377	$3,971	$5,185
2029	$163.50	39	1	$6,377	$3,711	$5,034
2030	$163.50	39	1	$6,377	$3,468	$4,887
2031	$163.50	39	1	$6,377	$3,241	$4,745
2032	$163.50	39	1	$6,377	$3,029	$4,607
2033	$163.50	39	0.5	$3,188	$1,416	$2,236
2034	$163.50	39	0	$0	$0	$0
			8	**$51,012**	**$30,065**	**$40,366**

Issue 92: Category 1 Operations - Uranium Conversion

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	39	0	$0	$0	$0
2025	$163.50	39	0.5	$3,188	$2,432	$2,833
2026	$163.50	39	1	$6,377	$4,546	$5,500
2027	$163.50	39	1	$6,377	$4,249	$5,340
2028	$163.50	39	1	$6,377	$3,971	$5,185
2029	$163.50	39	1	$6,377	$3,711	$5,034
2030	$163.50	39	1	$6,377	$3,468	$4,887
2031	$163.50	39	1	$6,377	$3,241	$4,745
2032	$163.50	39	1	$6,377	$3,029	$4,607
2033	$163.50	39	0.5	$3,188	$1,416	$2,236
2034	$163.50	39	0	$0	$0	$0
			8	**$51,012**	**$30,065**	**$40,366**

Issue 93: Category 1 Operations - Enrichment

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	39	0	$0	$0	$0
2025	$163.50	39	0.5	$3,188	$2,432	$2,833
2026	$163.50	39	1	$6,377	$4,546	$5,500
2027	$163.50	39	1	$6,377	$4,249	$5,340
2028	$163.50	39	1	$6,377	$3,971	$5,185
2029	$163.50	39	1	$6,377	$3,711	$5,034
2030	$163.50	39	1	$6,377	$3,468	$4,887
2031	$163.50	39	1	$6,377	$3,241	$4,745
2032	$163.50	39	1	$6,377	$3,029	$4,607
2033	$163.50	39	0.5	$3,188	$1,416	$2,236
2034	$163.50	39	0	$0	$0	$0
			8	**$51,012**	**$30,065**	**$40,366**

Issue 94: Category 1 Operations - Fuel Fabrication

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	39	0	$0	$0	$0
2025	$163.50	39	0.5	$3,188	$2,432	$2,833
2026	$163.50	39	1	$6,377	$4,546	$5,500
2027	$163.50	39	1	$6,377	$4,249	$5,340
2028	$163.50	39	1	$6,377	$3,971	$5,185
2029	$163.50	39	1	$6,377	$3,711	$5,034
2030	$163.50	39	1	$6,377	$3,468	$4,887
2031	$163.50	39	1	$6,377	$3,241	$4,745
2032	$163.50	39	1	$6,377	$3,029	$4,607
2033	$163.50	39	0.5	$3,188	$1,416	$2,236
2034	$163.50	39	0	$0	$0	$0
			8	**$51,012**	**$30,065**	**$40,366**

Issue 95: Category 1 Operations - Reprocessing

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	39	0	$0	$0	$0
2025	$163.50	39	0.5	$3,188	$2,432	$2,833
2026	$163.50	39	1	$6,377	$4,546	$5,500
2027	$163.50	39	1	$6,377	$4,249	$5,340
2028	$163.50	39	1	$6,377	$3,971	$5,185
2029	$163.50	39	1	$6,377	$3,711	$5,034
2030	$163.50	39	1	$6,377	$3,468	$4,887
2031	$163.50	39	1	$6,377	$3,241	$4,745
2032	$163.50	39	1	$6,377	$3,029	$4,607
2033	$163.50	39	0.5	$3,188	$1,416	$2,236
2034	$163.50	39	0	$0	$0	$0
			8	**$51,012**	**$30,065**	**$40,366**

Issue 96: Category 1 Operations - Storage and Disposal of Radiological Wastes

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	39	0	$0	$0	$0
2025	$163.50	39	0.5	$3,188	$2,432	$2,833
2026	$163.50	39	1	$6,377	$4,546	$5,500
2027	$163.50	39	1	$6,377	$4,249	$5,340
2028	$163.50	39	1	$6,377	$3,971	$5,185
2029	$163.50	39	1	$6,377	$3,711	$5,034
2030	$163.50	39	1	$6,377	$3,468	$4,887
2031	$163.50	39	1	$6,377	$3,241	$4,745
2032	$163.50	39	1	$6,377	$3,029	$4,607
2033	$163.50	39	0.5	$3,188	$1,416	$2,236
2034	$163.50	39	0	$0	$0	$0
			8	**$51,012**	**$30,065**	**$40,366**

Issue 97: Category 1 Operations - Transportation of Unirradiated ANR Fuel

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	78	0	$0	$0	$0
2025	$163.50	78	0.5	$6,377	$4,865	$5,665
2026	$163.50	78	1	$12,753	$9,093	$11,001
2027	$163.50	78	1	$12,753	$8,498	$10,680
2028	$163.50	78	1	$12,753	$7,942	$10,369
2029	$163.50	78	1	$12,753	$7,422	$10,067
2030	$163.50	78	1	$12,753	$6,937	$9,774
2031	$163.50	78	1	$12,753	$6,483	$9,489
2032	$163.50	78	1	$12,753	$6,059	$9,213
2033	$163.50	78	0.5	$6,377	$2,831	$4,472
2034	$163.50	78	0	$0	$0	$0
			8	**$102,024**	**$60,129**	**$80,732**

Issue 98: Category 1 Operations - Transportation of Radioactive Waste from ANRs

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	78	0	$0	$0	$0
2025	$163.50	78	0.5	$6,377	$4,865	$5,665
2026	$163.50	78	1	$12,753	$9,093	$11,001
2027	$163.50	78	1	$12,753	$8,498	$10,680
2028	$163.50	78	1	$12,753	$7,942	$10,369
2029	$163.50	78	1	$12,753	$7,422	$10,067
2030	$163.50	78	1	$12,753	$6,937	$9,774
2031	$163.50	78	1	$12,753	$6,483	$9,489
2032	$163.50	78	1	$12,753	$6,059	$9,213
2033	$163.50	78	0.5	$6,377	$2,831	$4,472
2034	$163.50	78	0	$0	$0	$0
			8	**$102,024**	**$60,129**	**$80,732**

Issue 99: Category 1 Operations - Transportation of Irradiated Fuel from ANRs

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	155	0	$0	$0	$0
2025	$163.50	155	0.5	$12,671	$9,667	$11,258
2026	$163.50	155	1	$25,343	$18,069	$21,861
2027	$163.50	155	1	$25,343	$16,887	$21,224
2028	$163.50	155	1	$25,343	$15,782	$20,606
2029	$163.50	155	1	$25,343	$14,750	$20,006
2030	$163.50	155	1	$25,343	$13,785	$19,423
2031	$163.50	155	1	$25,343	$12,883	$18,857
2032	$163.50	155	1	$25,343	$12,040	$18,308
2033	$163.50	155	0.5	$12,671	$5,626	$8,887
2034	$163.50	155	0	$0	$0	$0
			8	**$202,740**	**$119,488**	**$160,430**

Issue 100: Decommissioning

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$163.50	81	0	$0	$0	$0
2025	$163.50	81	0.5	$6,622	$5,052	$5,883
2026	$163.50	81	1	$13,244	$9,442	$11,424
2027	$163.50	81	1	$13,244	$8,825	$11,091
2028	$163.50	81	1	$13,244	$8,247	$10,768
2029	$163.50	81	1	$13,244	$7,708	$10,455
2030	$163.50	81	1	$13,244	$7,204	$10,150
2031	$163.50	81	1	$13,244	$6,732	$9,854
2032	$163.50	81	1	$13,244	$6,292	$9,567
2033	$163.50	81	0.5	$6,622	$2,940	$4,644
2034	$163.50	81	0	$0	$0	$0
			8	**$105,948**	**$62,442**	**$83,837**

Table A-2 presents savings realized by NRC for each Category 1 issue covered by the proposed rule. NRC operations under the proposed rule would be somewhat lagged compared to industry to account for the period industry would need to generate and submit each application. Therefore, the NRC assumes that half of the needed environmental review would occur during the same year that industry submits an application, and the other half of the review could be completed in the year following application submittal by industry. The effect of this assumption is that while during the proposed rule analysis period (2024–2034) industry is assumed to submit eight ANR applications, during that same period NRC would

be assumed to complete eight application reviews.

The results presented in Table A-2 reflect the following input variables (Section 3.3.4 provides more detailed discussion):

- Labor Rate: The NRC labor rate was assumed to be the weighted average between the NRC labor rate of $137/hour and the NRC contractor labor rate of $190/hour, weighted by the relative effort between NRC staff and NRC contractor staff per ANR application review. This weighed average equates to $168/hour.
- Hours per Application: For each Category 1 issue, the NRC estimated the hours saved by utilizing the generic impact analysis findings in the ANR GEIS. These impacts are a one-time realization of review effort savings per application realized when the application review is completed by NRC staff and NRC contractor staff and the licensing decision is rendered by the Commission.
- ANR Applications per Year: As discussed above and in Section 3.3.4, this represents the NRC's assumed number of ANR applications utilizing the provisions of the proposed rule.

The values reported in Table A-2 roll up to the totals presented in Table 3-3.

Table A-1 Summary of Proposed Rule Savings Benefits to the NRC by Category 1 Issue (2021 Constant Dollars)

Issue 1: Category 1 Construction - Onsite Land Use

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	82	0	$0	$0	$0
2025	$168	82	0	$0	$0	$0
2026	$168	82	0.5	$6,888	$4,911	$5,942
2027	$168	82	1	$13,776	$9,180	$11,537
2028	$168	82	1	$13,776	$8,579	$11,201
2029	$168	82	1	$13,776	$8,018	$10,875
2030	$168	82	1	$13,776	$7,493	$10,558
2031	$168	82	1	$13,776	$7,003	$10,251
2032	$168	82	1	$13,776	$6,545	$9,952
2033	$168	82	1	$13,776	$6,117	$9,662
2034	$168	82	0.5	$6,888	$2,858	$4,690
			8	**$110,208**	**$60,703**	**$84,668**

Issue 2: Category 1 Construction - Offsite Land Use

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	135	0	$0	$0	$0
2025	$168	135	0	$0	$0	$0
2026	$168	135	0.5	$11,340	$8,085	$9,782
2027	$168	135	1	$22,680	$15,113	$18,994
2028	$168	135	1	$22,680	$14,124	$18,441
2029	$168	135	1	$22,680	$13,200	$17,904
2030	$168	135	1	$22,680	$12,336	$17,382
2031	$168	135	1	$22,680	$11,529	$16,876
2032	$168	135	1	$22,680	$10,775	$16,385
2033	$168	135	1	$22,680	$10,070	$15,907
2034	$168	135	0.5	$11,340	$4,706	$7,722
			8	**$181,440**	**$99,939**	**$139,393**

Issue 3: Category 1 Construction - Impacts on Prime and Unique Farmland

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	23	0	$0	$0	$0
2025	$168	23	0	$0	$0	$0
2026	$168	23	0.5	$1,932	$1,377	$1,667
2027	$168	23	1	$3,864	$2,575	$3,236
2028	$168	23	1	$3,864	$2,406	$3,142
2029	$168	23	1	$3,864	$2,249	$3,050
2030	$168	23	1	$3,864	$2,102	$2,961
2031	$168	23	1	$3,864	$1,964	$2,875
2032	$168	23	1	$3,864	$1,836	$2,791
2033	$168	23	1	$3,864	$1,716	$2,710
2034	$168	23	0.5	$1,932	$802	$1,316
			8	**$30,912**	**$17,027**	**$23,748**

Issue 4: Category 1 Construction - Coastal Zone and Compliance with The Coastal Zone Management Act

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	9	0	$0	$0	$0
2025	$168	9	0	$0	$0	$0
2026	$168	9	0.5	$756	$539	$652
2027	$168	9	1	$1,512	$1,008	$1,266
2028	$168	9	1	$1,512	$942	$1,229
2029	$168	9	1	$1,512	$880	$1,194
2030	$168	9	1	$1,512	$822	$1,159
2031	$168	9	1	$1,512	$769	$1,125
2032	$168	9	1	$1,512	$718	$1,092
2033	$168	9	1	$1,512	$671	$1,060
2034	$168	9	0.5	$756	$314	$515
			8	**$12,096**	**$6,663**	**$9,293**

Issue 5: Category 1 Operations - Onsite Land Use

Year	Labor Rate	Hours per Application	NRC Reviews per Year	Undiscounted	7% NPV	3% NPV
2024	$168	24	0	$0	$0	$0
2025	$168	24	0	$0	$0	$0
2026	$168	24	0.5	$2,016	$1,437	$1,739
2027	$168	24	1	$4,032	$2,687	$3,377
2028	$168	24	1	$4,032	$2,511	$3,278
2029	$168	24	1	$4,032	$2,347	$3,183
2030	$168	24	1	$4,032	$2,193	$3,090
2031	$168	24	1	$4,032	$2,050	$3,000
2032	$168	24	1	$4,032	$1,916	$2,913
2033	$168	24	1	$4,032	$1,790	$2,828
2034	$168	24	0.5	$2,016	$837	$1,373
			8	$32,256	**$17,767**	**$24,781**

Issue 6: Category 1 Operations - Offsite Land Use

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	28	0	$0	$0	$0
2025	$168	28	0	$0	$0	$0
2026	$168	28	0.5	$2,352	$1,677	$2,029
2027	$168	28	1	$4,704	$3,134	$3,940
2028	$168	28	1	$4,704	$2,929	$3,825
2029	$168	28	1	$4,704	$2,738	$3,713
2030	$168	28	1	$4,704	$2,559	$3,605
2031	$168	28	1	$4,704	$2,391	$3,500
2032	$168	28	1	$4,704	$2,235	$3,398
2033	$168	28	1	$4,704	$2,089	$3,299
2034	$168	28	0.5	$2,352	$976	$1,602
			8	**$37,632**	**$20,728**	**$28,911**

Issue 7: Category 1 Construction - Visual Impacts in Site and Vicinity

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	27	0	$0	$0	$0
2025	$168	27	0	$0	$0	$0
2026	$168	27	0.5	$2,268	$1,617	$1,956
2027	$168	27	1	$4,536	$3,023	$3,799
2028	$168	27	1	$4,536	$2,825	$3,688
2029	$168	27	1	$4,536	$2,640	$3,581
2030	$168	27	1	$4,536	$2,467	$3,476
2031	$168	27	1	$4,536	$2,306	$3,375
2032	$168	27	1	$4,536	$2,155	$3,277
2033	$168	27	1	$4,536	$2,014	$3,181
2034	$168	27	0.5	$2,268	$941	$1,544
			8	**$36,288**	**$19,988**	**$27,879**

Issue 8: Category 1 Construction - Visual Impacts from Transmission Lines

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	9	0	$0	$0	$0
2025	$168	9	0	$0	$0	$0
2026	$168	9	0.5	$756	$539	$652
2027	$168	9	1	$1,512	$1,008	$1,266
2028	$168	9	1	$1,512	$942	$1,229
2029	$168	9	1	$1,512	$880	$1,194
2030	$168	9	1	$1,512	$822	$1,159
2031	$168	9	1	$1,512	$769	$1,125
2032	$168	9	1	$1,512	$718	$1,092
2033	$168	9	1	$1,512	$671	$1,060
2034	$168	9	0.5	$756	$314	$515
			8	**$12,096**	**$6,663**	**$9,293**

Issue 9: Category 1 Operations - Visual Impacts During Operations

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	20	0	$0	$0	$0
2025	$168	20	0	$0	$0	$0
2026	$168	20	0.5	$1,680	$1,198	$1,449
2027	$168	20	1	$3,360	$2,239	$2,814
2028	$168	20	1	$3,360	$2,092	$2,732
2029	$168	20	1	$3,360	$1,956	$2,652
2030	$168	20	1	$3,360	$1,828	$2,575
2031	$168	20	1	$3,360	$1,708	$2,500
2032	$168	20	1	$3,360	$1,596	$2,427
2033	$168	20	1	$3,360	$1,492	$2,357
2034	$168	20	0.5	$1,680	$697	$1,144
			8	**$26,880**	**$14,806**	**$20,651**

Issue 10: Category 1 Construction - Emissions of Criteria Pollutants and Dust During Construction

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	154	0	$0	$0	$0
2025	$168	154	0	$0	$0	$0
2026	$168	154	0.5	$12,936	$9,223	$11,159
2027	$168	154	1	$25,872	$17,240	$21,667
2028	$168	154	1	$25,872	$16,112	$21,036
2029	$168	154	1	$25,872	$15,058	$20,424
2030	$168	154	1	$25,872	$14,073	$19,829
2031	$168	154	1	$25,872	$13,152	$19,251
2032	$168	154	1	$25,872	$12,292	$18,690
2033	$168	154	1	$25,872	$11,487	$18,146
2034	$168	154	0.5	$12,936	$5,368	$8,809
			8	**$206,976**	**$114,004**	**$159,011**

Issue 11: Category 1 Construction - Greenhouse Gas Emissions During Construction

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	134	0	$0	$0	$0
2025	$168	134	0	$0	$0	$0
2026	$168	134	0.5	$11,256	$8,025	$9,710
2027	$168	134	1	$22,512	$15,001	$18,853
2028	$168	134	1	$22,512	$14,019	$18,304
2029	$168	134	1	$22,512	$13,102	$17,771
2030	$168	134	1	$22,512	$12,245	$17,254
2031	$168	134	1	$22,512	$11,444	$16,751
2032	$168	134	1	$22,512	$10,695	$16,263
2033	$168	134	1	$22,512	$9,996	$15,789
2034	$168	134	0.5	$11,256	$4,671	$7,665
			8	**$180,096**	**$99,198**	**$138,360**

Issue 12: Category 1 Operations - Emissions of Criteria and Hazardous Air Pollutants During Operation

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	163	0	$0	$0	$0
2025	$168	163	0	$0	$0	$0
2026	$168	163	0.5	$13,692	$9,762	$11,811
2027	$168	163	1	$27,384	$18,247	$22,934
2028	$168	163	1	$27,384	$17,053	$22,266
2029	$168	163	1	$27,384	$15,938	$21,617
2030	$168	163	1	$27,384	$14,895	$20,988
2031	$168	163	1	$27,384	$13,921	$20,376
2032	$168	163	1	$27,384	$13,010	$19,783
2033	$168	163	1	$27,384	$12,159	$19,207
2034	$168	163	0.5	$13,692	$5,682	$9,324
			8	**$219,072**	**$120,667**	**$168,304**

Issue 13: Category 1 Operations - Greenhouse Gas Emissions During Operation

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	88	0	$0	$0	$0
2025	$168	88	0	$0	$0	$0
2026	$168	88	0.5	$7,392	$5,270	$6,376
2027	$168	88	1	$14,784	$9,851	$12,381
2028	$168	88	1	$14,784	$9,207	$12,021
2029	$168	88	1	$14,784	$8,604	$11,671
2030	$168	88	1	$14,784	$8,042	$11,331
2031	$168	88	1	$14,784	$7,515	$11,001
2032	$168	88	1	$14,784	$7,024	$10,680
2033	$168	88	1	$14,784	$6,564	$10,369
2034	$168	88	0.5	$7,392	$3,067	$5,034
			8	**$118,272**	**$65,145**	**$90,864**

Issue 14: Category 1 Operations - Cooling System Emissions

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	18	0	$0	$0	$0
2025	$168	18	0	$0	$0	$0
2026	$168	18	0.5	$1,512	$1,078	$1,304
2027	$168	18	1	$3,024	$2,015	$2,533
2028	$168	18	1	$3,024	$1,883	$2,459
2029	$168	18	1	$3,024	$1,760	$2,387
2030	$168	18	1	$3,024	$1,645	$2,318
2031	$168	18	1	$3,024	$1,537	$2,250
2032	$168	18	1	$3,024	$1,437	$2,185
2033	$168	18	1	$3,024	$1,343	$2,121
2034	$168	18	0.5	$1,512	$627	$1,030
			8	**$24,192**	**$13,325**	**$18,586**

Issue 15: Category 1 Operations - Emissions of Ozone and Nitrogen Oxides During Transmission Line Operation

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	15	0	$0	$0	$0
2025	$168	15	0	$0	$0	$0
2026	$168	15	0.5	$1,260	$898	$1,087
2027	$168	15	1	$2,520	$1,679	$2,110
2028	$168	15	1	$2,520	$1,569	$2,049
2029	$168	15	1	$2,520	$1,467	$1,989
2030	$168	15	1	$2,520	$1,371	$1,931
2031	$168	15	1	$2,520	$1,281	$1,875
2032	$168	15	1	$2,520	$1,197	$1,821
2033	$168	15	1	$2,520	$1,119	$1,767
2034	$168	15	0.5	$1,260	$523	$858
			8	**$20,160**	**$11,104**	**$15,488**

Issue 16: Category 1 Construction - Surface Water Use Conflicts During Construction

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	60	0	$0	$0	$0
2025	$168	60	0	$0	$0	$0
2026	$168	60	0.5	$5,040	$3,593	$4,348
2027	$168	60	1	$10,080	$6,717	$8,442
2028	$168	60	1	$10,080	$6,277	$8,196
2029	$168	60	1	$10,080	$5,867	$7,957
2030	$168	60	1	$10,080	$5,483	$7,725
2031	$168	60	1	$10,080	$5,124	$7,500
2032	$168	60	1	$10,080	$4,789	$7,282
2033	$168	60	1	$10,080	$4,476	$7,070
2034	$168	60	0.5	$5,040	$2,091	$3,432
			8	**$80,640**	**$44,417**	**$61,952**

Issue 17: Category 1 Construction - Groundwater Use Conflicts Due to Excavation Dewatering

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	123	0	$0	$0	$0
2025	$168	123	0	$0	$0	$0
2026	$168	123	0.5	$10,332	$7,367	$8,912
2027	$168	123	1	$20,664	$13,769	$17,306
2028	$168	123	1	$20,664	$12,869	$16,802
2029	$168	123	1	$20,664	$12,027	$16,312
2030	$168	123	1	$20,664	$11,240	$15,837
2031	$168	123	1	$20,664	$10,505	$15,376
2032	$168	123	1	$20,664	$9,817	$14,928
2033	$168	123	1	$20,664	$9,175	$14,493
2034	$168	123	0.5	$10,332	$4,287	$7,036
			8	**$165,312**	**$91,055**	**$127,003**

Issue 18: Category 1 Construction - Groundwater Use Conflicts Due to Construction-Related Groundwater Withdrawals

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	115	0	$0	$0	$0
2025	$168	115	0	$0	$0	$0
2026	$168	115	0.5	$9,660	$6,887	$8,333
2027	$168	115	1	$19,320	$12,874	$16,180
2028	$168	115	1	$19,320	$12,032	$15,709
2029	$168	115	1	$19,320	$11,244	$15,251
2030	$168	115	1	$19,320	$10,509	$14,807
2031	$168	115	1	$19,320	$9,821	$14,376
2032	$168	115	1	$19,320	$9,179	$13,957
2033	$168	115	1	$19,320	$8,578	$13,551
2034	$168	115	0.5	$9,660	$4,009	$6,578
			8	**$154,560**	**$85,133**	**$118,742**

Issue 19: Category 1 Construction - Water Quality Degradation Due to Construction-Related Discharges

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	62	0	$0	$0	$0
2025	$168	62	0	$0	$0	$0
2026	$168	62	0.5	$5,208	$3,713	$4,492
2027	$168	62	1	$10,416	$6,941	$8,723
2028	$168	62	1	$10,416	$6,487	$8,469
2029	$168	62	1	$10,416	$6,062	$8,222
2030	$168	62	1	$10,416	$5,666	$7,983
2031	$168	62	1	$10,416	$5,295	$7,750
2032	$168	62	1	$10,416	$4,949	$7,525
2033	$168	62	1	$10,416	$4,625	$7,306
2034	$168	62	0.5	$5,208	$2,161	$3,546
			8	**$83,328**	**$45,898**	**$64,018**

Issue 20: Category 1 Construction - Water Quality Degradation Due to Inadvertent Spills During Construction

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	24	0	$0	$0	$0
2025	$168	24	0	$0	$0	$0
2026	$168	24	0.5	$2,016	$1,437	$1,739
2027	$168	24	1	$4,032	$2,687	$3,377
2028	$168	24	1	$4,032	$2,511	$3,278
2029	$168	24	1	$4,032	$2,347	$3,183
2030	$168	24	1	$4,032	$2,193	$3,090
2031	$168	24	1	$4,032	$2,050	$3,000
2032	$168	24	1	$4,032	$1,916	$2,913
2033	$168	24	1	$4,032	$1,790	$2,828
2034	$168	24	0.5	$2,016	$837	$1,373
			8	**$32,256**	**$17,767**	**$24,781**

Issue 21: Category 1 Construction - Water Quality Degradation Due to Groundwater Withdrawal

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	73	0	$0	$0	$0
2025	$168	73	0	$0	$0	$0
2026	$168	73	0.5	$6,132	$4,372	$5,290
2027	$168	73	1	$12,264	$8,172	$10,271
2028	$168	73	1	$12,264	$7,637	$9,972
2029	$168	73	1	$12,264	$7,138	$9,681
2030	$168	73	1	$12,264	$6,671	$9,399
2031	$168	73	1	$12,264	$6,234	$9,126
2032	$168	73	1	$12,264	$5,827	$8,860
2033	$168	73	1	$12,264	$5,445	$8,602
2034	$168	73	0.5	$6,132	$2,545	$4,176
			8	**$98,112**	**$54,041**	**$75,375**

Issue 22: Category 1 Construction - Water Quality Degradation Due to Offshore or In-Water Construction Activities

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	56	0	$0	$0	$0
2025	$168	56	0	$0	$0	$0
2026	$168	56	0.5	$4,704	$3,354	$4,058
2027	$168	56	1	$9,408	$6,269	$7,879
2028	$168	56	1	$9,408	$5,859	$7,650
2029	$168	56	1	$9,408	$5,476	$7,427
2030	$168	56	1	$9,408	$5,117	$7,210
2031	$168	56	1	$9,408	$4,783	$7,000
2032	$168	56	1	$9,408	$4,470	$6,797
2033	$168	56	1	$9,408	$4,177	$6,599
2034	$168	56	0.5	$4,704	$1,952	$3,203
			8	**$75,264**	**$41,456**	**$57,822**

Issue 23: Category 1 Construction - Water Use Conflict Due to Plant Municipal Water Demand

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	49	0	$0	$0	$0
2025	$168	49	0	$0	$0	$0
2026	$168	49	0.5	$4,116	$2,935	$3,550
2027	$168	49	1	$8,232	$5,485	$6,894
2028	$168	49	1	$8,232	$5,126	$6,693
2029	$168	49	1	$8,232	$4,791	$6,498
2030	$168	49	1	$8,232	$4,478	$6,309
2031	$168	49	1	$8,232	$4,185	$6,125
2032	$168	49	1	$8,232	$3,911	$5,947
2033	$168	49	1	$8,232	$3,655	$5,774
2034	$168	49	0.5	$4,116	$1,708	$2,803
			8	**$65,856**	**$36,274**	**$50,595**

Issue 24: Category 1 Construction - Degradation of Water Quality from Plant Effluent Discharges to Municipal Systems

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	97	0	$0	$0	$0
2025	$168	97	0	$0	$0	$0
2026	$168	97	0.5	$8,148	$5,809	$7,029
2027	$168	97	1	$16,296	$10,859	$13,648
2028	$168	97	1	$16,296	$10,148	$13,250
2029	$168	97	1	$16,296	$9,484	$12,864
2030	$168	97	1	$16,296	$8,864	$12,490
2031	$168	97	1	$16,296	$8,284	$12,126
2032	$168	97	1	$16,296	$7,742	$11,773
2033	$168	97	1	$16,296	$7,236	$11,430
2034	$168	97	0.5	$8,148	$3,381	$5,548
			8	**$130,368**	**$71,808**	**$100,156**

Issue 25: Category 1 Operations - Surface Water Use Conflicts During Operation Due to Water Withdrawal from Flowing Waterbodies

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	152	0	$0	$0	$0
2025	$168	152	0	$0	$0	$0
2026	$168	152	0.5	$12,768	$9,103	$11,014
2027	$168	152	1	$25,536	$17,016	$21,386
2028	$168	152	1	$25,536	$15,903	$20,763
2029	$168	152	1	$25,536	$14,862	$20,158
2030	$168	152	1	$25,536	$13,890	$19,571
2031	$168	152	1	$25,536	$12,981	$19,001
2032	$168	152	1	$25,536	$12,132	$18,448
2033	$168	152	1	$25,536	$11,338	$17,910
2034	$168	152	0.5	$12,768	$5,298	$8,694
			8	**$204,288**	**$112,523**	**$156,946**

Issue 26: Category 1 Operations - Surface Water Use Conflicts During Operation Due to Water Withdrawal from Non-Flowing Waterbodies

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	113	0	$0	$0	$0
2025	$168	113	0	$0	$0	$0
2026	$168	113	0.5	$9,492	$6,768	$8,188
2027	$168	113	1	$18,984	$12,650	$15,899
2028	$168	113	1	$18,984	$11,822	$15,436
2029	$168	113	1	$18,984	$11,049	$14,986
2030	$168	113	1	$18,984	$10,326	$14,550
2031	$168	113	1	$18,984	$9,651	$14,126
2032	$168	113	1	$18,984	$9,019	$13,714
2033	$168	113	1	$18,984	$8,429	$13,315
2034	$168	113	0.5	$9,492	$3,939	$6,464
			8	**$151,872**	**$83,652**	**$116,677**

Issue 27: Category 1 Operations - Groundwater Use Conflicts Due to Building Foundation Dewatering

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	57	0	$0	$0	$0
2025	$168	57	0	$0	$0	$0
2026	$168	57	0.5	$4,788	$3,414	$4,130
2027	$168	57	1	$9,576	$6,381	$8,020
2028	$168	57	1	$9,576	$5,963	$7,786
2029	$168	57	1	$9,576	$5,573	$7,559
2030	$168	57	1	$9,576	$5,209	$7,339
2031	$168	57	1	$9,576	$4,868	$7,125
2032	$168	57	1	$9,576	$4,549	$6,918
2033	$168	57	1	$9,576	$4,252	$6,716
2034	$168	57	0.5	$4,788	$1,987	$3,260
			8	**$76,608**	**$42,196**	**$58,855**

Issue 28: Category 1 Operations - Groundwater Use Conflicts Due to Groundwater Withdrawals for Plant Uses

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	124	0	$0	$0	$0
2025	$168	124	0	$0	$0	$0
2026	$168	124	0.5	$10,416	$7,426	$8,985
2027	$168	124	1	$20,832	$13,881	$17,446
2028	$168	124	1	$20,832	$12,973	$16,938
2029	$168	124	1	$20,832	$12,124	$16,445
2030	$168	124	1	$20,832	$11,331	$15,966
2031	$168	124	1	$20,832	$10,590	$15,501
2032	$168	124	1	$20,832	$9,897	$15,049
2033	$168	124	1	$20,832	$9,250	$14,611
2034	$168	124	0.5	$10,416	$4,322	$7,093
			8	**$166,656**	**$91,795**	**$128,035**

Issue 29: Category 1 Operations - Surface Water Quality Degradation Due to Physical Effects from Operation of Intake and Discharge Structures

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	95	0	$0	$0	$0
2025	$168	95	0	$0	$0	$0
2026	$168	95	0.5	$7,980	$5,690	$6,884
2027	$168	95	1	$15,960	$10,635	$13,366
2028	$168	95	1	$15,960	$9,939	$12,977
2029	$168	95	1	$15,960	$9,289	$12,599
2030	$168	95	1	$15,960	$8,681	$12,232
2031	$168	95	1	$15,960	$8,113	$11,876
2032	$168	95	1	$15,960	$7,582	$11,530
2033	$168	95	1	$15,960	$7,086	$11,194
2034	$168	95	0.5	$7,980	$3,311	$5,434
			8	**$127,680**	**$70,327**	**$98,091**

Issue 30: Category 1 Operations - Surface Water Quality Degradation Due to Changes in Salinity Gradients Resulting from Withdrawals

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	158	0	$0	$0	$0
2025	$168	158	0	$0	$0	$0
2026	$168	158	0.5	$13,272	$9,463	$11,449
2027	$168	158	1	$26,544	$17,687	$22,230
2028	$168	158	1	$26,544	$16,530	$21,583
2029	$168	158	1	$26,544	$15,449	$20,954
2030	$168	158	1	$26,544	$14,438	$20,344
2031	$168	158	1	$26,544	$13,494	$19,751
2032	$168	158	1	$26,544	$12,611	$19,176
2033	$168	158	1	$26,544	$11,786	$18,617
2034	$168	158	0.5	$13,272	$5,507	$9,038
			8	**$212,352**	**$116,965**	**$163,141**

Issue 31: Category 1 Operations - Groundwater Quality Degradation Due to Plant Discharges

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	97	0	$0	$0	$0
2025	$168	97	0	$0	$0	$0
2026	$168	97	0.5	$8,148	$5,809	$7,029
2027	$168	97	1	$16,296	$10,859	$13,648
2028	$168	97	1	$16,296	$10,148	$13,250
2029	$168	97	1	$16,296	$9,484	$12,864
2030	$168	97	1	$16,296	$8,864	$12,490
2031	$168	97	1	$16,296	$8,284	$12,126
2032	$168	97	1	$16,296	$7,742	$11,773
2033	$168	97	1	$16,296	$7,236	$11,430
2034	$168	97	0.5	$8,148	$3,381	$5,548
			8	**$130,368**	**$71,808**	**$100,156**

Issue 32: Category 1 Operations - Water Quality Degradation Due to Inadvertent Spills and Leaks During Operation

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	22	0	$0	$0	$0
2025	$168	22	0	$0	$0	$0
2026	$168	22	0.5	$1,848	$1,318	$1,594
2027	$168	22	1	$3,696	$2,463	$3,095
2028	$168	22	1	$3,696	$2,302	$3,005
2029	$168	22	1	$3,696	$2,151	$2,918
2030	$168	22	1	$3,696	$2,010	$2,833
2031	$168	22	1	$3,696	$1,879	$2,750
2032	$168	22	1	$3,696	$1,756	$2,670
2033	$168	22	1	$3,696	$1,641	$2,592
2034	$168	22	0.5	$1,848	$767	$1,258
			8	**$29,568**	**$16,286**	**$22,716**

Issue 33: Category 1 Operations - Water Quality Degradation Due to Groundwater Withdrawals

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	116	0	$0	$0	$0
2025	$168	116	0	$0	$0	$0
2026	$168	116	0.5	$9,744	$6,947	$8,405
2027	$168	116	1	$19,488	$12,986	$16,321
2028	$168	116	1	$19,488	$12,136	$15,846
2029	$168	116	1	$19,488	$11,342	$15,384
2030	$168	116	1	$19,488	$10,600	$14,936
2031	$168	116	1	$19,488	$9,907	$14,501
2032	$168	116	1	$19,488	$9,259	$14,079
2033	$168	116	1	$19,488	$8,653	$13,668
2034	$168	116	0.5	$9,744	$4,043	$6,635
			8	**$155,904**	**$85,873**	**$119,775**

Issue 34: Category 1 Operations - Water Use Conflict from Plant Municipal Water Demand

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	26	0	$0	$0	$0
2025	$168	26	0	$0	$0	$0
2026	$168	26	0.5	$2,184	$1,557	$1,884
2027	$168	26	1	$4,368	$2,911	$3,658
2028	$168	26	1	$4,368	$2,720	$3,552
2029	$168	26	1	$4,368	$2,542	$3,448
2030	$168	26	1	$4,368	$2,376	$3,348
2031	$168	26	1	$4,368	$2,220	$3,250
2032	$168	26	1	$4,368	$2,075	$3,156
2033	$168	26	1	$4,368	$1,939	$3,064
2034	$168	26	0.5	$2,184	$906	$1,487
			8	**$34,944**	**$19,247**	**$26,846**

Issue 35: Category 1 Operations - Degradation of Water Quality from Plant Effluent Discharges to Municipal Systems

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	26	0	$0	$0	$0
2025	$168	26	0	$0	$0	$0
2026	$168	26	0.5	$2,184	$1,557	$1,884
2027	$168	26	1	$4,368	$2,911	$3,658
2028	$168	26	1	$4,368	$2,720	$3,552
2029	$168	26	1	$4,368	$2,542	$3,448
2030	$168	26	1	$4,368	$2,376	$3,348
2031	$168	26	1	$4,368	$2,220	$3,250
2032	$168	26	1	$4,368	$2,075	$3,156
2033	$168	26	1	$4,368	$1,939	$3,064
2034	$168	26	0.5	$2,184	$906	$1,487
			8	**$34,944**	**$19,247**	**$26,846**

Issue 36: Category 1 Construction - Permanent and Temporary Loss, Conversion, Fragmentation, and Degradation of Habitats

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	133	0	$0	$0	$0
2025	$168	133	0	$0	$0	$0
2026	$168	133	0.5	$11,172	$7,965	$9,637
2027	$168	133	1	$22,344	$14,889	$18,713
2028	$168	133	1	$22,344	$13,915	$18,168
2029	$168	133	1	$22,344	$13,004	$17,639
2030	$168	133	1	$22,344	$12,154	$17,125
2031	$168	133	1	$22,344	$11,359	$16,626
2032	$168	133	1	$22,344	$10,615	$16,142
2033	$168	133	1	$22,344	$9,921	$15,672
2034	$168	133	0.5	$11,172	$4,636	$7,608
			8	**$178,752**	**$98,458**	**$137,328**

Issue 37: Category 1 Construction - Permanent and Temporary Loss and Degradation of Wetlands

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	133	0	$0	$0	$0
2025	$168	133	0	$0	$0	$0
2026	$168	133	0.5	$11,172	$7,965	$9,637
2027	$168	133	1	$22,344	$14,889	$18,713
2028	$168	133	1	$22,344	$13,915	$18,168
2029	$168	133	1	$22,344	$13,004	$17,639
2030	$168	133	1	$22,344	$12,154	$17,125
2031	$168	133	1	$22,344	$11,359	$16,626
2032	$168	133	1	$22,344	$10,615	$16,142
2033	$168	133	1	$22,344	$9,921	$15,672
2034	$168	133	0.5	$11,172	$4,636	$7,608
			8	**$178,752**	**$98,458**	**$137,328**

Issue 38: Category 1 Construction - Effects of Building Noise on Wildlife

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	41	0	$0	$0	$0
2025	$168	41	0	$0	$0	$0
2026	$168	41	0.5	$3,444	$2,456	$2,971
2027	$168	41	1	$6,888	$4,590	$5,769
2028	$168	41	1	$6,888	$4,290	$5,601
2029	$168	41	1	$6,888	$4,009	$5,437
2030	$168	41	1	$6,888	$3,747	$5,279
2031	$168	41	1	$6,888	$3,502	$5,125
2032	$168	41	1	$6,888	$3,272	$4,976
2033	$168	41	1	$6,888	$3,058	$4,831
2034	$168	41	0.5	$3,444	$1,429	$2,345
			8	**$55,104**	**$30,352**	**$42,334**

Issue 39: Category 1 Construction - Effects of Vehicular Collisions on Wildlife

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	36	0	$0	$0	$0
2025	$168	36	0	$0	$0	$0
2026	$168	36	0.5	$3,024	$2,156	$2,609
2027	$168	36	1	$6,048	$4,030	$5,065
2028	$168	36	1	$6,048	$3,766	$4,918
2029	$168	36	1	$6,048	$3,520	$4,774
2030	$168	36	1	$6,048	$3,290	$4,635
2031	$168	36	1	$6,048	$3,074	$4,500
2032	$168	36	1	$6,048	$2,873	$4,369
2033	$168	36	1	$6,048	$2,685	$4,242
2034	$168	36	0.5	$3,024	$1,255	$2,059
			8	**$48,384**	**$26,650**	**$37,171**

Issue 40: Category 1 Construction - Bird Collisions and Injury from Structures and Transmission Lines

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	40	0	$0	$0	$0
2025	$168	40	0	$0	$0	$0
2026	$168	40	0.5	$3,360	$2,396	$2,898
2027	$168	40	1	$6,720	$4,478	$5,628
2028	$168	40	1	$6,720	$4,185	$5,464
2029	$168	40	1	$6,720	$3,911	$5,305
2030	$168	40	1	$6,720	$3,655	$5,150
2031	$168	40	1	$6,720	$3,416	$5,000
2032	$168	40	1	$6,720	$3,193	$4,855
2033	$168	40	1	$6,720	$2,984	$4,713
2034	$168	40	0.5	$3,360	$1,394	$2,288
			8	**$53,760**	**$29,611**	**$41,302**

Issue 41: Category 1 Construction - Important Species and Habitats – Other Important Species and Habitats

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	70	0			
2025	$168	70	0	$0	$0	$0
2026	$168	70	0.5	$5,880	$4,192	$5,072
2027	$168	70	1	$11,760	$7,836	$9,849
2028	$168	70	1	$11,760	$7,324	$9,562
2029	$168	70	1	$11,760	$6,844	$9,283
2030	$168	70	1	$11,760	$6,397	$9,013
2031	$168	70	1	$11,760	$5,978	$8,751
2032	$168	70	1	$11,760	$5,587	$8,496
2033	$168	70	1	$11,760	$5,222	$8,248
2034	$168	70	0.5	$5,880	$2,440	$4,004
			8	**$94,080**	**$51,820**	**$72,278**

Issue 42: Category 1 Operations - Permanent and Temporary Loss or Disturbance of Habitats

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	13	0			
2025	$168	13	0	$0	$0	$0
2026	$168	13	0.5	$1,092	$779	$942
2027	$168	13	1	$2,184	$1,455	$1,829
2028	$168	13	1	$2,184	$1,360	$1,776
2029	$168	13	1	$2,184	$1,271	$1,724
2030	$168	13	1	$2,184	$1,188	$1,674
2031	$168	13	1	$2,184	$1,110	$1,625
2032	$168	13	1	$2,184	$1,038	$1,578
2033	$168	13	1	$2,184	$970	$1,532
2034	$168	13	0.5	$1,092	$453	$744
			8	**$17,472**	**$9,624**	**$13,423**

Issue 43: Category 1 Operations - Effects of Operational Noise on Wildlife

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	8	0			
2025	$168	8	0	$0	$0	$0
2026	$168	8	0.5	$672	$479	$580
2027	$168	8	1	$1,344	$896	$1,126
2028	$168	8	1	$1,344	$837	$1,093
2029	$168	8	1	$1,344	$782	$1,061
2030	$168	8	1	$1,344	$731	$1,030
2031	$168	8	1	$1,344	$683	$1,000
2032	$168	8	1	$1,344	$639	$971
2033	$168	8	1	$1,344	$597	$943
2034	$168	8	0.5	$672	$279	$458
			8	**$10,752**	**$5,922**	**$8,260**

Issue 44: Category 1 Operations - Effects of Vehicular Collisions on Wildlife

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	7	0			
2025	$168	7	0	$0	$0	$0
2026	$168	7	0.5	$588	$419	$507
2027	$168	7	1	$1,176	$784	$985
2028	$168	7	1	$1,176	$732	$956
2029	$168	7	1	$1,176	$684	$928
2030	$168	7	1	$1,176	$640	$901
2031	$168	7	1	$1,176	$598	$875
2032	$168	7	1	$1,176	$559	$850
2033	$168	7	1	$1,176	$522	$825
2034	$168	7	0.5	$588	$244	$400
			8	**$9,408**	**$5,182**	**$7,228**

Issue 45: Category 1 Construction - Exposure of Terrestrial Organisms to Radionuclides

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	28	0			
2025	$168	28	0	$0	$0	$0
2026	$168	28	0.5	$2,352	$1,677	$2,029
2027	$168	28	1	$4,704	$3,134	$3,940
2028	$168	28	1	$4,704	$2,929	$3,825
2029	$168	28	1	$4,704	$2,738	$3,713
2030	$168	28	1	$4,704	$2,559	$3,605
2031	$168	28	1	$4,704	$2,391	$3,500
2032	$168	28	1	$4,704	$2,235	$3,398
2033	$168	28	1	$4,704	$2,089	$3,299
2034	$168	28	0.5	$2,352	$976	$1,602
			8	**$37,632**	**$20,728**	**$28,911**

Issue 46: Category 1 Operations - Cooling Tower Operational Impacts on Vegetation

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	30	0			
2025	$168	30	0	$0	$0	$0
2026	$168	30	0.5	$2,520	$1,797	$2,174
2027	$168	30	1	$5,040	$3,358	$4,221
2028	$168	30	1	$5,040	$3,139	$4,098
2029	$168	30	1	$5,040	$2,933	$3,979
2030	$168	30	1	$5,040	$2,741	$3,863
2031	$168	30	1	$5,040	$2,562	$3,750
2032	$168	30	1	$5,040	$2,394	$3,641
2033	$168	30	1	$5,040	$2,238	$3,535
2034	$168	30	0.5	$2,520	$1,046	$1,716
			8	**$40,320**	**$22,209**	**$30,976**

Issue 47: Category 1 Operations - Bird Collisions and Injury from Structures and Transmission Lines

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	13	0			
2025	$168	13	0	$0	$0	$0
2026	$168	13	0.5	$1,092	$779	$942
2027	$168	13	1	$2,184	$1,455	$1,829
2028	$168	13	1	$2,184	$1,360	$1,776
2029	$168	13	1	$2,184	$1,271	$1,724
2030	$168	13	1	$2,184	$1,188	$1,674
2031	$168	13	1	$2,184	$1,110	$1,625
2032	$168	13	1	$2,184	$1,038	$1,578
2033	$168	13	1	$2,184	$970	$1,532
2034	$168	13	0.5	$1,092	$453	$744
			8	**$17,472**	**$9,624**	**$13,423**

Issue 48: Category 1 Operations - Bird Electrocutions from Transmission Lines

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	13	0			
2025	$168	13	0	$0	$0	$0
2026	$168	13	0.5	$1,092	$779	$942
2027	$168	13	1	$2,184	$1,455	$1,829
2028	$168	13	1	$2,184	$1,360	$1,776
2029	$168	13	1	$2,184	$1,271	$1,724
2030	$168	13	1	$2,184	$1,188	$1,674
2031	$168	13	1	$2,184	$1,110	$1,625
2032	$168	13	1	$2,184	$1,038	$1,578
2033	$168	13	1	$2,184	$970	$1,532
2034	$168	13	0.5	$1,092	$453	$744
			8	**$17,472**	**$9,624**	**$13,423**

Issue 49: Category 1 Operations - Water Use Conflicts with Terrestrial Resources

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	50	0			
2025	$168	50	0	$0	$0	$0
2026	$168	50	0.5	$4,200	$2,995	$3,623
2027	$168	50	1	$8,400	$5,597	$7,035
2028	$168	50	1	$8,400	$5,231	$6,830
2029	$168	50	1	$8,400	$4,889	$6,631
2030	$168	50	1	$8,400	$4,569	$6,438
2031	$168	50	1	$8,400	$4,270	$6,250
2032	$168	50	1	$8,400	$3,991	$6,068
2033	$168	50	1	$8,400	$3,730	$5,892
2034	$168	50	0.5	$4,200	$1,743	$2,860
			8	**$67,200**	**$37,014**	**$51,627**

Issue 50: Category 1 Operations - Effects of Transmission Line ROW Management on Terrestrial Resources

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	18	0			
2025	$168	18	0	$0	$0	$0
2026	$168	18	0.5	$1,512	$1,078	$1,304
2027	$168	18	1	$3,024	$2,015	$2,533
2028	$168	18	1	$3,024	$1,883	$2,459
2029	$168	18	1	$3,024	$1,760	$2,387
2030	$168	18	1	$3,024	$1,645	$2,318
2031	$168	18	1	$3,024	$1,537	$2,250
2032	$168	18	1	$3,024	$1,437	$2,185
2033	$168	18	1	$3,024	$1,343	$2,121
2034	$168	18	0.5	$1,512	$627	$1,030
			8	**$24,192**	**$13,325**	**$18,586**

Issue 51: Category 1 Operations -Effects of Electromagnetic Fields on Flora and Fauna

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	5	0			
2025	$168	5	0	$0	$0	$0
2026	$168	5	0.5	$420	$299	$362
2027	$168	5	1	$840	$560	$703
2028	$168	5	1	$840	$523	$683
2029	$168	5	1	$840	$489	$663
2030	$168	5	1	$840	$457	$644
2031	$168	5	1	$840	$427	$625
2032	$168	5	1	$840	$399	$607
2033	$168	5	1	$840	$373	$589
2034	$168	5	0.5	$420	$174	$286
			8	**$6,720**	**$3,701**	**$5,163**

Issue 52: Category 1 Operations - Important Species and Habitats – Other Important Species and Habitats

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	30	0			
2025	$168	30	0	$0	$0	$0
2026	$168	30	0.5	$2,520	$1,797	$2,174
2027	$168	30	1	$5,040	$3,358	$4,221
2028	$168	30	1	$5,040	$3,139	$4,098
2029	$168	30	1	$5,040	$2,933	$3,979
2030	$168	30	1	$5,040	$2,741	$3,863
2031	$168	30	1	$5,040	$2,562	$3,750
2032	$168	30	1	$5,040	$2,394	$3,641
2033	$168	30	1	$5,040	$2,238	$3,535
2034	$168	30	0.5	$2,520	$1,046	$1,716
			8	**$40,320**	**$22,209**	**$30,976**

Issue 53: Category 1 Construction - Runoff and Sedimentation from Construction Areas

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	124	0			
2025	$168	124	0	$0	$0	$0
2026	$168	124	0.5	$10,416	$7,426	$8,985
2027	$168	124	1	$20,832	$13,881	$17,446
2028	$168	124	1	$20,832	$12,973	$16,938
2029	$168	124	1	$20,832	$12,124	$16,445
2030	$168	124	1	$20,832	$11,331	$15,966
2031	$168	124	1	$20,832	$10,590	$15,501
2032	$168	124	1	$20,832	$9,897	$15,049
2033	$168	124	1	$20,832	$9,250	$14,611
2034	$168	124	0.5	$10,416	$4,322	$7,093
			8	**$166,656**	**$91,795**	**$128,035**

Issue 54: Category 1 Construction - Dredging and Filling Aquatic Habitats to Build Intake and Discharge Structures

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	123	0			
2025	$168	123	0	$0	$0	$0
2026	$168	123	0.5	$10,332	$7,367	$8,912
2027	$168	123	1	$20,664	$13,769	$17,306
2028	$168	123	1	$20,664	$12,869	$16,802
2029	$168	123	1	$20,664	$12,027	$16,312
2030	$168	123	1	$20,664	$11,240	$15,837
2031	$168	123	1	$20,664	$10,505	$15,376
2032	$168	123	1	$20,664	$9,817	$14,928
2033	$168	123	1	$20,664	$9,175	$14,493
2034	$168	123	0.5	$10,332	$4,287	$7,036
			8	**$165,312**	**$91,055**	**$127,003**

Issue 55: Category 1 Construction - Building Transmission Lines, Pipelines, and Access Roads Across Surface Waterbodies

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	105	0			
2025	$168	105	0	$0	$0	$0
2026	$168	105	0.5	$8,820	$6,289	$7,608
2027	$168	105	1	$17,640	$11,754	$14,773
2028	$168	105	1	$17,640	$10,985	$14,343
2029	$168	105	1	$17,640	$10,267	$13,925
2030	$168	105	1	$17,640	$9,595	$13,520
2031	$168	105	1	$17,640	$8,967	$13,126
2032	$168	105	1	$17,640	$8,381	$12,744
2033	$168	105	1	$17,640	$7,832	$12,372
2034	$168	105	0.5	$8,820	$3,660	$6,006
			8	**$141,120**	**$77,730**	**$108,417**

Issue 56: Category 1 Operations - Important Species and Habitats – Other Important Species and Habitats

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	172	0			
2025	$168	172	0	$0	$0	$0
2026	$168	172	0.5	$14,448	$10,301	$12,463
2027	$168	172	1	$28,896	$19,255	$24,200
2028	$168	172	1	$28,896	$17,995	$23,495
2029	$168	172	1	$28,896	$16,818	$22,811
2030	$168	172	1	$28,896	$15,718	$22,146
2031	$168	172	1	$28,896	$14,689	$21,501
2032	$168	172	1	$28,896	$13,728	$20,875
2033	$168	172	1	$28,896	$12,830	$20,267
2034	$168	172	0.5	$14,448	$5,995	$9,838
			8	**$231,168**	**$127,329**	**$177,597**

Issue 57: Category 1 Operations - Stormwater Runoff

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	28	0			
2025	$168	28	0	$0	$0	$0
2026	$168	28	0.5	$2,352	$1,677	$2,029
2027	$168	28	1	$4,704	$3,134	$3,940
2028	$168	28	1	$4,704	$2,929	$3,825
2029	$168	28	1	$4,704	$2,738	$3,713
2030	$168	28	1	$4,704	$2,559	$3,605
2031	$168	28	1	$4,704	$2,391	$3,500
2032	$168	28	1	$4,704	$2,235	$3,398
2033	$168	28	1	$4,704	$2,089	$3,299
2034	$168	28	0.5	$2,352	$976	$1,602
			8	**$37,632**	**$20,728**	**$28,911**

Issue 58: Category 1 Operations - Exposure of Aquatic Organisms to Radionuclides

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	28	0			
2025	$168	28	0	$0	$0	$0
2026	$168	28	0.5	$2,352	$1,677	$2,029
2027	$168	28	1	$4,704	$3,134	$3,940
2028	$168	28	1	$4,704	$2,929	$3,825
2029	$168	28	1	$4,704	$2,738	$3,713
2030	$168	28	1	$4,704	$2,559	$3,605
2031	$168	28	1	$4,704	$2,391	$3,500
2032	$168	28	1	$4,704	$2,235	$3,398
2033	$168	28	1	$4,704	$2,089	$3,299
2034	$168	28	0.5	$2,352	$976	$1,602
			8	**$37,632**	**$20,728**	**$28,911**

Issue 59: Category 1 Operations - Effects of Refurbishment on Aquatic Biota

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	28	0			
2025	$168	28	0	$0	$0	$0
2026	$168	28	0.5	$2,352	$1,677	$2,029
2027	$168	28	1	$4,704	$3,134	$3,940
2028	$168	28	1	$4,704	$2,929	$3,825
2029	$168	28	1	$4,704	$2,738	$3,713
2030	$168	28	1	$4,704	$2,559	$3,605
2031	$168	28	1	$4,704	$2,391	$3,500
2032	$168	28	1	$4,704	$2,235	$3,398
2033	$168	28	1	$4,704	$2,089	$3,299
2034	$168	28	0.5	$2,352	$976	$1,602
			8	**$37,632**	**$20,728**	**$28,911**

Issue 60: Category 1 Operations - Effects of Maintenance Dredging on Aquatic Biota

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	72	0	$0	$0	$0
2025	$168	72	0	$0	$0	$0
2026	$168	72	0.5	$6,048	$4,312	$5,217
2027	$168	72	1	$12,096	$8,060	$10,130
2028	$168	72	1	$12,096	$7,533	$9,835
2029	$168	72	1	$12,096	$7,040	$9,549
2030	$168	72	1	$12,096	$6,579	$9,271
2031	$168	72	1	$12,096	$6,149	$9,001
2032	$168	72	1	$12,096	$5,747	$8,738
2033	$168	72	1	$12,096	$5,371	$8,484
2034	$168	72	0.5	$6,048	$2,510	$4,118
			8	**$96,768**	**$53,301**	**$74,343**

Issue 61: Category 1 Operations - Impacts of Transmission Line ROW Management on Aquatic Resources

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	44	0	$0	$0	$0
2025	$168	44	0	$0	$0	$0
2026	$168	44	0.5	$3,696	$2,635	$3,188
2027	$168	44	1	$7,392	$4,926	$6,191
2028	$168	44	1	$7,392	$4,603	$6,010
2029	$168	44	1	$7,392	$4,302	$5,835
2030	$168	44	1	$7,392	$4,021	$5,665
2031	$168	44	1	$7,392	$3,758	$5,500
2032	$168	44	1	$7,392	$3,512	$5,340
2033	$168	44	1	$7,392	$3,282	$5,185
2034	$168	44	0.5	$3,696	$1,534	$2,517
			8	**$59,136**	**$32,573**	**$45,432**

Issue 62: Category 1 Operations - Impingement and Entrainment of Aquatic Organisms

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	115	0	$0	$0	$0
2025	$168	115	0	$0	$0	$0
2026	$168	115	0.5	$9,660	$6,887	$8,333
2027	$168	115	1	$19,320	$12,874	$16,180
2028	$168	115	1	$19,320	$12,032	$15,709
2029	$168	115	1	$19,320	$11,244	$15,251
2030	$168	115	1	$19,320	$10,509	$14,807
2031	$168	115	1	$19,320	$9,821	$14,376
2032	$168	115	1	$19,320	$9,179	$13,957
2033	$168	115	1	$19,320	$8,578	$13,551
2034	$168	115	0.5	$9,660	$4,009	$6,578
			8	**$154,560**	**$85,133**	**$118,742**

Issue 63: Category 1 Operations - Water Use Conflicts with Aquatic Resources

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	58	0	$0	$0	$0
2025	$168	58	0	$0	$0	$0
2026	$168	58	0.5	$4,872	$3,474	$4,203
2027	$168	58	1	$9,744	$6,493	$8,160
2028	$168	58	1	$9,744	$6,068	$7,923
2029	$168	58	1	$9,744	$5,671	$7,692
2030	$168	58	1	$9,744	$5,300	$7,468
2031	$168	58	1	$9,744	$4,953	$7,250
2032	$168	58	1	$9,744	$4,629	$7,039
2033	$168	58	1	$9,744	$4,326	$6,834
2034	$168	58	0.5	$4,872	$2,022	$3,318
			8	**$77,952**	**$42,937**	**$59,887**

Issue 64: Category 1 Operations - Important Species and Habitats – Other Important Species and Habitats

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	142	0	$0	$0	$0
2025	$168	142	0	$0	$0	$0
2026	$168	142	0.5	$11,928	$8,504	$10,289
2027	$168	142	1	$23,856	$15,896	$19,979
2028	$168	142	1	$23,856	$14,856	$19,397
2029	$168	142	1	$23,856	$13,884	$18,832
2030	$168	142	1	$23,856	$12,976	$18,284
2031	$168	142	1	$23,856	$12,127	$17,751
2032	$168	142	1	$23,856	$11,334	$17,234
2033	$168	142	1	$23,856	$10,592	$16,732
2034	$168	142	0.5	$11,928	$4,950	$8,122
			8	**$190,848**	**$105,121**	**$146,621**

Issue 65: Category 1 Construction - Radiological Dose to Construction Workers

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	97	0	$0	$0	$0
2025	$168	97	0	$0	$0	$0
2026	$168	97	0.5	$8,148	$5,809	$7,029
2027	$168	97	1	$16,296	$10,859	$13,648
2028	$168	97	1	$16,296	$10,148	$13,250
2029	$168	97	1	$16,296	$9,484	$12,864
2030	$168	97	1	$16,296	$8,864	$12,490
2031	$168	97	1	$16,296	$8,284	$12,126
2032	$168	97	1	$16,296	$7,742	$11,773
2033	$168	97	1	$16,296	$7,236	$11,430
2034	$168	97	0.5	$8,148	$3,381	$5,548
			8	**$130,368**	**$71,808**	**$100,156**

Issue 66: Category 1 Operations - Occupational Doses to Workers

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	62	0	$0	$0	$0
2025	$168	62	0	$0	$0	$0
2026	$168	62	0.5	$5,208	$3,713	$4,492
2027	$168	62	1	$10,416	$6,941	$8,723
2028	$168	62	1	$10,416	$6,487	$8,469
2029	$168	62	1	$10,416	$6,062	$8,222
2030	$168	62	1	$10,416	$5,666	$7,983
2031	$168	62	1	$10,416	$5,295	$7,750
2032	$168	62	1	$10,416	$4,949	$7,525
2033	$168	62	1	$10,416	$4,625	$7,306
2034	$168	62	0.5	$5,208	$2,161	$3,546
			8	**$83,328**	**$45,898**	**$64,018**

Issue 67: Category 1 Operations - Maximally Exposed Individual Annual Doses

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	53	0	$0	$0	$0
2025	$168	53	0	$0	$0	$0
2026	$168	53	0.5	$4,452	$3,174	$3,840
2027	$168	53	1	$8,904	$5,933	$7,457
2028	$168	53	1	$8,904	$5,545	$7,240
2029	$168	53	1	$8,904	$5,182	$7,029
2030	$168	53	1	$8,904	$4,843	$6,824
2031	$168	53	1	$8,904	$4,526	$6,625
2032	$168	53	1	$8,904	$4,230	$6,432
2033	$168	53	1	$8,904	$3,953	$6,245
2034	$168	53	0.5	$4,452	$1,847	$3,032
			8	**$71,232**	**$39,235**	**$54,725**

Issue 68: Category 1 Operations - Total Population Annual Doses

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	64	0	$0	$0	$0
2025	$168	64	0	$0	$0	$0
2026	$168	64	0.5	$5,376	$3,833	$4,637
2027	$168	64	1	$10,752	$7,165	$9,005
2028	$168	64	1	$10,752	$6,696	$8,742
2029	$168	64	1	$10,752	$6,258	$8,488
2030	$168	64	1	$10,752	$5,848	$8,241
2031	$168	64	1	$10,752	$5,466	$8,000
2032	$168	64	1	$10,752	$5,108	$7,767
2033	$168	64	1	$10,752	$4,774	$7,541
2034	$168	64	0.5	$5,376	$2,231	$3,661
			8	**$86,016**	**$47,378**	**$66,083**

Issue 69: Category 1 Operations - Nonhuman Biota Doses

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	36	0	$0	$0	$0
2025	$168	36	0	$0	$0	$0
2026	$168	36	0.5	$3,024	$2,156	$2,609
2027	$168	36	1	$6,048	$4,030	$5,065
2028	$168	36	1	$6,048	$3,766	$4,918
2029	$168	36	1	$6,048	$3,520	$4,774
2030	$168	36	1	$6,048	$3,290	$4,635
2031	$168	36	1	$6,048	$3,074	$4,500
2032	$168	36	1	$6,048	$2,873	$4,369
2033	$168	36	1	$6,048	$2,685	$4,242
2034	$168	36	0.5	$3,024	$1,255	$2,059
			8	**$48,384**	**$26,650**	**$37,171**

Issue 70: Category 1 Construction - Building Impacts of Chemical, Biological, and Physical Nonradiological Hazards

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	44	0	$0	$0	$0
2025	$168	44	0	$0	$0	$0
2026	$168	44	0.5	$3,696	$2,635	$3,188
2027	$168	44	1	$7,392	$4,926	$6,191
2028	$168	44	1	$7,392	$4,603	$6,010
2029	$168	44	1	$7,392	$4,302	$5,835
2030	$168	44	1	$7,392	$4,021	$5,665
2031	$168	44	1	$7,392	$3,758	$5,500
2032	$168	44	1	$7,392	$3,512	$5,340
2033	$168	44	1	$7,392	$3,282	$5,185
2034	$168	44	0.5	$3,696	$1,534	$2,517
			8	**$59,136**	**$32,573**	**$45,432**

Issue 71: Category 1 Operations - Operation Impacts of Chemical, Biological, and Physical Nonradiological Hazards

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	23	0	$0	$0	$0
2025	$168	23	0	$0	$0	$0
2026	$168	23	0.5	$1,932	$1,377	$1,667
2027	$168	23	1	$3,864	$2,575	$3,236
2028	$168	23	1	$3,864	$2,406	$3,142
2029	$168	23	1	$3,864	$2,249	$3,050
2030	$168	23	1	$3,864	$2,102	$2,961
2031	$168	23	1	$3,864	$1,964	$2,875
2032	$168	23	1	$3,864	$1,836	$2,791
2033	$168	23	1	$3,864	$1,716	$2,710
2034	$168	23	0.5	$1,932	$802	$1,316
			8	**$30,912**	**$17,027**	**$23,748**

Issue 72: Category 1 Construction - Construction-Related Noise

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	17	0	$0	$0	$0
2025	$168	17	0	$0	$0	$0
2026	$168	17	0.5	$1,428	$1,018	$1,232
2027	$168	17	1	$2,856	$1,903	$2,392
2028	$168	17	1	$2,856	$1,779	$2,322
2029	$168	17	1	$2,856	$1,662	$2,255
2030	$168	17	1	$2,856	$1,553	$2,189
2031	$168	17	1	$2,856	$1,452	$2,125
2032	$168	17	1	$2,856	$1,357	$2,063
2033	$168	17	1	$2,856	$1,268	$2,003
2034	$168	17	0.5	$1,428	$593	$972
			8	**$22,848**	**$12,585**	**$17,553**

Issue 73: Category 1 Operations - Operation-Related Noise

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	10	0	$0	$0	$0
2025	$168	10	0	$0	$0	$0
2026	$168	10	0.5	$840	$599	$725
2027	$168	10	1	$1,680	$1,119	$1,407
2028	$168	10	1	$1,680	$1,046	$1,366
2029	$168	10	1	$1,680	$978	$1,326
2030	$168	10	1	$1,680	$914	$1,288
2031	$168	10	1	$1,680	$854	$1,250
2032	$168	10	1	$1,680	$798	$1,214
2033	$168	10	1	$1,680	$746	$1,178
2034	$168	10	0.5	$840	$349	$572
			8	**$13,440**	**$7,403**	**$10,325**

Issue 74: Category 1 Operations - Low-Level Radioactive Waste

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	145	0	$0	$0	$0
2025	$168	145	0	$0	$0	$0
2026	$168	145	0.5	$12,180	$8,684	$10,507
2027	$168	145	1	$24,360	$16,232	$20,401
2028	$168	145	1	$24,360	$15,170	$19,807
2029	$168	145	1	$24,360	$14,178	$19,230
2030	$168	145	1	$24,360	$13,250	$18,670
2031	$168	145	1	$24,360	$12,383	$18,126
2032	$168	145	1	$24,360	$11,573	$17,598
2033	$168	145	1	$24,360	$10,816	$17,086
2034	$168	145	0.5	$12,180	$5,054	$8,294
			8	**$194,880**	**$107,341**	**$149,718**

Issue 75: Category 1 Operations - Onsite Spent Nuclear Fuel Management

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	176	0	$0	$0	$0
2025	$168	176	0	$0	$0	$0
2026	$168	176	0.5	$14,784	$10,541	$12,753
2027	$168	176	1	$29,568	$19,702	$24,763
2028	$168	176	1	$29,568	$18,413	$24,041
2029	$168	176	1	$29,568	$17,209	$23,341
2030	$168	176	1	$29,568	$16,083	$22,661
2031	$168	176	1	$29,568	$15,031	$22,001
2032	$168	176	1	$29,568	$14,048	$21,361
2033	$168	176	1	$29,568	$13,129	$20,738
2034	$168	176	0.5	$14,784	$6,135	$10,067
			8	**$236,544**	**$130,290**	**$181,727**

Issue 76: Category 1 Operations - Mixed Waste

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	136	0	$0	$0	$0
2025	$168	136	0	$0	$0	$0
2026	$168	136	0.5	$11,424	$8,145	$9,854
2027	$168	136	1	$22,848	$15,225	$19,135
2028	$168	136	1	$22,848	$14,229	$18,578
2029	$168	136	1	$22,848	$13,298	$18,036
2030	$168	136	1	$22,848	$12,428	$17,511
2031	$168	136	1	$22,848	$11,615	$17,001
2032	$168	136	1	$22,848	$10,855	$16,506
2033	$168	136	1	$22,848	$10,145	$16,025
2034	$168	136	0.5	$11,424	$4,741	$7,779
			8	**$182,784**	**$100,679**	**$140,426**

Issue 77: Category 1 Construction - Construction Nonradiological Waste

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	34	0	$0	$0	$0
2025	$168	34	0	$0	$0	$0
2026	$168	34	0.5	$2,856	$2,036	$2,464
2027	$168	34	1	$5,712	$3,806	$4,784
2028	$168	34	1	$5,712	$3,557	$4,644
2029	$168	34	1	$5,712	$3,324	$4,509
2030	$168	34	1	$5,712	$3,107	$4,378
2031	$168	34	1	$5,712	$2,904	$4,250
2032	$168	34	1	$5,712	$2,714	$4,126
2033	$168	34	1	$5,712	$2,536	$4,006
2034	$168	34	0.5	$2,856	$1,185	$1,945
			8	**$45,696**	**$25,170**	**$35,106**

Issue 78: Category 1 Operations - Operation Nonradiological Waste

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	17	0	$0	$0	$0
2025	$168	17	0	$0	$0	$0
2026	$168	17	0.5	$1,428	$1,018	$1,232
2027	$168	17	1	$2,856	$1,903	$2,392
2028	$168	17	1	$2,856	$1,779	$2,322
2029	$168	17	1	$2,856	$1,662	$2,255
2030	$168	17	1	$2,856	$1,553	$2,189
2031	$168	17	1	$2,856	$1,452	$2,125
2032	$168	17	1	$2,856	$1,357	$2,063
2033	$168	17	1	$2,856	$1,268	$2,003
2034	$168	17	0.5	$1,428	$593	$972
			8	**$22,848**	**$12,585**	**$17,553**

Issue 79: Category 1 Operations - Design Basis Accidents Involving Radiological Releases

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	120	0	$0	$0	$0
2025	$168	120	0	$0	$0	$0
2026	$168	120	0.5	$10,080	$7,187	$8,695
2027	$168	120	1	$20,160	$13,433	$16,884
2028	$168	120	1	$20,160	$12,555	$16,392
2029	$168	120	1	$20,160	$11,733	$15,914
2030	$168	120	1	$20,160	$10,966	$15,451
2031	$168	120	1	$20,160	$10,248	$15,001
2032	$168	120	1	$20,160	$9,578	$14,564
2033	$168	120	1	$20,160	$8,951	$14,140
2034	$168	120	0.5	$10,080	$4,183	$6,864
			8	**$161,280**	**$88,834**	**$123,905**

Issue 80: Category 1 Operations - Accidents Involving Releases of Hazardous Chemicals

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	77	0	$0	$0	$0
2025	$168	77	0	$0	$0	$0
2026	$168	77	0.5	$6,468	$4,612	$5,579
2027	$168	77	1	$12,936	$8,620	$10,834
2028	$168	77	1	$12,936	$8,056	$10,518
2029	$168	77	1	$12,936	$7,529	$10,212
2030	$168	77	1	$12,936	$7,036	$9,914
2031	$168	77	1	$12,936	$6,576	$9,626
2032	$168	77	1	$12,936	$6,146	$9,345
2033	$168	77	1	$12,936	$5,744	$9,073
2034	$168	77	0.5	$6,468	$2,684	$4,404
			8	**$103,488**	**$57,002**	**$79,506**

Issue 81: Category 1 Operations - Severe Accident Mitigation Design Alternatives

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	61	0	$0	$0	$0
2025	$168	61	0	$0	$0	$0
2026	$168	61	0.5	$5,124	$3,653	$4,420
2027	$168	61	1	$10,248	$6,829	$8,583
2028	$168	61	1	$10,248	$6,382	$8,333
2029	$168	61	1	$10,248	$5,964	$8,090
2030	$168	61	1	$10,248	$5,574	$7,854
2031	$168	61	1	$10,248	$5,210	$7,625
2032	$168	61	1	$10,248	$4,869	$7,403
2033	$168	61	1	$10,248	$4,550	$7,188
2034	$168	61	0.5	$5,124	$2,126	$3,489
			8	**$81,984**	**$45,157**	**$62,985**

Issue 82: Category 1 Operations - Acts of Terrorism

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	57	0	$0	$0	$0
2025	$168	57	0	$0	$0	$0
2026	$168	57	0.5	$4,788	$3,414	$4,130
2027	$168	57	1	$9,576	$6,381	$8,020
2028	$168	57	1	$9,576	$5,963	$7,786
2029	$168	57	1	$9,576	$5,573	$7,559
2030	$168	57	1	$9,576	$5,209	$7,339
2031	$168	57	1	$9,576	$4,868	$7,125
2032	$168	57	1	$9,576	$4,549	$6,918
2033	$168	57	1	$9,576	$4,252	$6,716
2034	$168	57	0.5	$4,788	$1,987	$3,260
			8	**$76,608**	**$42,196**	**$58,855**

Issue 83: Category 1 Construction - Community Services and Infrastructure

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	44	0	$0	$0	$0
2025	$168	44	0	$0	$0	$0
2026	$168	44	0.5	$3,696	$2,635	$3,188
2027	$168	44	1	$7,392	$4,926	$6,191
2028	$168	44	1	$7,392	$4,603	$6,010
2029	$168	44	1	$7,392	$4,302	$5,835
2030	$168	44	1	$7,392	$4,021	$5,665
2031	$168	44	1	$7,392	$3,758	$5,500
2032	$168	44	1	$7,392	$3,512	$5,340
2033	$168	44	1	$7,392	$3,282	$5,185
2034	$168	44	0.5	$3,696	$1,534	$2,517
			8	**$59,136**	**$32,573**	**$45,432**

Issue 84: Category 1 Construction - Transportation Systems and Traffic

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	89	0	$0	$0	$0
2025	$168	89	0	$0	$0	$0
2026	$168	89	0.5	$7,476	$5,330	$6,449
2027	$168	89	1	$14,952	$9,963	$12,522
2028	$168	89	1	$14,952	$9,311	$12,157
2029	$168	89	1	$14,952	$8,702	$11,803
2030	$168	89	1	$14,952	$8,133	$11,459
2031	$168	89	1	$14,952	$7,601	$11,126
2032	$168	89	1	$14,952	$7,104	$10,802
2033	$168	89	1	$14,952	$6,639	$10,487
2034	$168	89	0.5	$7,476	$3,102	$5,091
			8	**$119,616**	**$65,885**	**$91,896**

Issue 85: Category 1 Construction - Economic Impacts

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	43	0	$0	$0	$0
2025	$168	43	0	$0	$0	$0
2026	$168	43	0.5	$3,612	$2,575	$3,116
2027	$168	43	1	$7,224	$4,814	$6,050
2028	$168	43	1	$7,224	$4,499	$5,874
2029	$168	43	1	$7,224	$4,204	$5,703
2030	$168	43	1	$7,224	$3,929	$5,537
2031	$168	43	1	$7,224	$3,672	$5,375
2032	$168	43	1	$7,224	$3,432	$5,219
2033	$168	43	1	$7,224	$3,208	$5,067
2034	$168	43	0.5	$3,612	$1,499	$2,460
			8	**$57,792**	**$31,832**	**$44,399**

Issue 86: Category 1 Construction - Tax Revenue Impacts

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	25	0	$0	$0	$0
2025	$168	25	0	$0	$0	$0
2026	$168	25	0.5	$2,100	$1,497	$1,811
2027	$168	25	1	$4,200	$2,799	$3,517
2028	$168	25	1	$4,200	$2,616	$3,415
2029	$168	25	1	$4,200	$2,444	$3,316
2030	$168	25	1	$4,200	$2,285	$3,219
2031	$168	25	1	$4,200	$2,135	$3,125
2032	$168	25	1	$4,200	$1,995	$3,034
2033	$168	25	1	$4,200	$1,865	$2,946
2034	$168	25	0.5	$2,100	$871	$1,430
			8	**$33,600**	**$18,507**	**$25,814**

Issue 87: Category 1 Operations - Community Services and Infrastructure

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	29	0	$0	$0	$0
2025	$168	29	0	$0	$0	$0
2026	$168	29	0.5	$2,436	$1,737	$2,101
2027	$168	29	1	$4,872	$3,246	$4,080
2028	$168	29	1	$4,872	$3,034	$3,961
2029	$168	29	1	$4,872	$2,836	$3,846
2030	$168	29	1	$4,872	$2,650	$3,734
2031	$168	29	1	$4,872	$2,477	$3,625
2032	$168	29	1	$4,872	$2,315	$3,520
2033	$168	29	1	$4,872	$2,163	$3,417
2034	$168	29	0.5	$2,436	$1,011	$1,659
			8	**$38,976**	**$21,468**	**$29,944**

Issue 88: Category 1 Operations - Transportation Systems and Traffic

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	15	0	$0	$0	$0
2025	$168	15	0	$0	$0	$0
2026	$168	15	0.5	$1,260	$898	$1,087
2027	$168	15	1	$2,520	$1,679	$2,110
2028	$168	15	1	$2,520	$1,569	$2,049
2029	$168	15	1	$2,520	$1,467	$1,989
2030	$168	15	1	$2,520	$1,371	$1,931
2031	$168	15	1	$2,520	$1,281	$1,875
2032	$168	15	1	$2,520	$1,197	$1,821
2033	$168	15	1	$2,520	$1,119	$1,767
2034	$168	15	0.5	$1,260	$523	$858
			8	**$20,160**	**$11,104**	**$15,488**

Issue 89: Category 1 Operations - Economic Impacts

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	29	0	$0	$0	$0
2025	$168	29	0	$0	$0	$0
2026	$168	29	0.5	$2,436	$1,737	$2,101
2027	$168	29	1	$4,872	$3,246	$4,080
2028	$168	29	1	$4,872	$3,034	$3,961
2029	$168	29	1	$4,872	$2,836	$3,846
2030	$168	29	1	$4,872	$2,650	$3,734
2031	$168	29	1	$4,872	$2,477	$3,625
2032	$168	29	1	$4,872	$2,315	$3,520
2033	$168	29	1	$4,872	$2,163	$3,417
2034	$168	29	0.5	$2,436	$1,011	$1,659
			8	**$38,976**	**$21,468**	**$29,944**

Issue 90: Category 1 Operations - Tax Revenue Impacts

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	57	0	$0	$0	$0
2025	$168	57	0	$0	$0	$0
2026	$168	57	0.5	$4,788	$3,414	$4,130
2027	$168	57	1	$9,576	$6,381	$8,020
2028	$168	57	1	$9,576	$5,963	$7,786
2029	$168	57	1	$9,576	$5,573	$7,559
2030	$168	57	1	$9,576	$5,209	$7,339
2031	$168	57	1	$9,576	$4,868	$7,125
2032	$168	57	1	$9,576	$4,549	$6,918
2033	$168	57	1	$9,576	$4,252	$6,716
2034	$168	57	0.5	$4,788	$1,987	$3,260
			8	**$76,608**	**$42,196**	**$58,855**

Issue 91: Category 1 Operations - Uranium Recovery

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	26	0	$0	$0	$0
2025	$168	26	0	$0	$0	$0
2026	$168	26	0.5	$2,184	$1,557	$1,884
2027	$168	26	1	$4,368	$2,911	$3,658
2028	$168	26	1	$4,368	$2,720	$3,552
2029	$168	26	1	$4,368	$2,542	$3,448
2030	$168	26	1	$4,368	$2,376	$3,348
2031	$168	26	1	$4,368	$2,220	$3,250
2032	$168	26	1	$4,368	$2,075	$3,156
2033	$168	26	1	$4,368	$1,939	$3,064
2034	$168	26	0.5	$2,184	$906	$1,487
			8	**$34,944**	**$19,247**	**$26,846**

Issue 92: Category 1 Operations - Uranium Conversion

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	26	0	$0	$0	$0
2025	$168	26	0	$0	$0	$0
2026	$168	26	0.5	$2,184	$1,557	$1,884
2027	$168	26	1	$4,368	$2,911	$3,658
2028	$168	26	1	$4,368	$2,720	$3,552
2029	$168	26	1	$4,368	$2,542	$3,448
2030	$168	26	1	$4,368	$2,376	$3,348
2031	$168	26	1	$4,368	$2,220	$3,250
2032	$168	26	1	$4,368	$2,075	$3,156
2033	$168	26	1	$4,368	$1,939	$3,064
2034	$168	26	0.5	$2,184	$906	$1,487
			8	**$34,944**	**$19,247**	**$26,846**

Issue 93: Category 1 Operations - Enrichment

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	32	0	$0	$0	$0
2025	$168	32	0	$0	$0	$0
2026	$168	32	0.5	$2,688	$1,917	$2,319
2027	$168	32	1	$5,376	$3,582	$4,502
2028	$168	32	1	$5,376	$3,348	$4,371
2029	$168	32	1	$5,376	$3,129	$4,244
2030	$168	32	1	$5,376	$2,924	$4,120
2031	$168	32	1	$5,376	$2,733	$4,000
2032	$168	32	1	$5,376	$2,554	$3,884
2033	$168	32	1	$5,376	$2,387	$3,771
2034	$168	32	0.5	$2,688	$1,115	$1,830
			8	**$43,008**	**$23,689**	**$33,041**

Issue 94: Category 1 Operations - Fuel Fabrication

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	37	0	$0	$0	$0
2025	$168	37	0	$0	$0	$0
2026	$168	37	0.5	$3,108	$2,216	$2,681
2027	$168	37	1	$6,216	$4,142	$5,206
2028	$168	37	1	$6,216	$3,871	$5,054
2029	$168	37	1	$6,216	$3,618	$4,907
2030	$168	37	1	$6,216	$3,381	$4,764
2031	$168	37	1	$6,216	$3,160	$4,625
2032	$168	37	1	$6,216	$2,953	$4,491
2033	$168	37	1	$6,216	$2,760	$4,360
2034	$168	37	0.5	$3,108	$1,290	$2,116
			8	**$49,728**	**$27,391**	**$38,204**

Issue 95: Category 1 Operations - Reprocessing

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	27	0	$0	$0	$0
2025	$168	27	0	$0	$0	$0
2026	$168	27	0.5	$2,268	$1,617	$1,956
2027	$168	27	1	$4,536	$3,023	$3,799
2028	$168	27	1	$4,536	$2,825	$3,688
2029	$168	27	1	$4,536	$2,640	$3,581
2030	$168	27	1	$4,536	$2,467	$3,476
2031	$168	27	1	$4,536	$2,306	$3,375
2032	$168	27	1	$4,536	$2,155	$3,277
2033	$168	27	1	$4,536	$2,014	$3,181
2034	$168	27	0.5	$2,268	$941	$1,544
			8	**$36,288**	**$19,988**	**$27,879**

Issue 96: Category 1 Operations - Storage and Disposal of Radiological Wastes

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	37	0	$0	$0	$0
2025	$168	37	0	$0	$0	$0
2026	$168	37	0.5	$3,108	$2,216	$2,681
2027	$168	37	1	$6,216	$4,142	$5,206
2028	$168	37	1	$6,216	$3,871	$5,054
2029	$168	37	1	$6,216	$3,618	$4,907
2030	$168	37	1	$6,216	$3,381	$4,764
2031	$168	37	1	$6,216	$3,160	$4,625
2032	$168	37	1	$6,216	$2,953	$4,491
2033	$168	37	1	$6,216	$2,760	$4,360
2034	$168	37	0.5	$3,108	$1,290	$2,116
			8	**$49,728**	**$27,391**	**$38,204**

Issue 97: Category 1 Operations - Transportation of Unirradiated ANR Fuel

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	57	0	$0	$0	$0
2025	$168	57	0	$0	$0	$0
2026	$168	57	0.5	$4,788	$3,414	$4,130
2027	$168	57	1	$9,576	$6,381	$8,020
2028	$168	57	1	$9,576	$5,963	$7,786
2029	$168	57	1	$9,576	$5,573	$7,559
2030	$168	57	1	$9,576	$5,209	$7,339
2031	$168	57	1	$9,576	$4,868	$7,125
2032	$168	57	1	$9,576	$4,549	$6,918
2033	$168	57	1	$9,576	$4,252	$6,716
2034	$168	57	0.5	$4,788	$1,987	$3,260
			8	**$76,608**	**$42,196**	**$58,855**

Issue 98: Category 1 Operations - Transportation of Radioactive Waste from ANRs

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	57	0	$0	$0	$0
2025	$168	57	0	$0	$0	$0
2026	$168	57	0.5	$4,788	$3,414	$4,130
2027	$168	57	1	$9,576	$6,381	$8,020
2028	$168	57	1	$9,576	$5,963	$7,786
2029	$168	57	1	$9,576	$5,573	$7,559
2030	$168	57	1	$9,576	$5,209	$7,339
2031	$168	57	1	$9,576	$4,868	$7,125
2032	$168	57	1	$9,576	$4,549	$6,918
2033	$168	57	1	$9,576	$4,252	$6,716
2034	$168	57	0.5	$4,788	$1,987	$3,260
			8	**$76,608**	**$42,196**	**$58,855**

Issue 99: Category 1 Operations - Transportation of Irradiated Fuel from ANRs

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	181	0	$0	$0	$0
2025	$168	181	0	$0	$0	$0
2026	$168	181	0.5	$15,204	$10,840	$13,115
2027	$168	181	1	$30,408	$20,262	$25,466
2028	$168	181	1	$30,408	$18,937	$24,724
2029	$168	181	1	$30,408	$17,698	$24,004
2030	$168	181	1	$30,408	$16,540	$23,305
2031	$168	181	1	$30,408	$15,458	$22,626
2032	$168	181	1	$30,408	$14,447	$21,967
2033	$168	181	1	$30,408	$13,502	$21,328
2034	$168	181	0.5	$15,204	$6,309	$10,353
			8	**$243,264**	**$133,992**	**$186,890**

Issue 100: Decommissioning

Year	Labor Rate	Hours per Application	ANR Applications per Year	Undiscounted	7% NPV	3% NPV
2024	$168	95	0	$0	$0	$0
2025	$168	95	0	$0	$0	$0
2026	$168	95	0.5	$7,980	$5,690	$6,884
2027	$168	95	1	$15,960	$10,635	$13,366
2028	$168	95	1	$15,960	$9,939	$12,977
2029	$168	95	1	$15,960	$9,289	$12,599
2030	$168	95	1	$15,960	$8,681	$12,232
2031	$168	95	1	$15,960	$8,113	$11,876
2032	$168	95	1	$15,960	$7,582	$11,530
2033	$168	95	1	$15,960	$7,086	$11,194
2034	$168	95	0.5	$7,980	$3,311	$5,434
			8	**$127,680**	**$70,327**	**$98,091**