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Enhancing Environmental Justice Activities at the U.S. Nuclear Regulatory Commission

December 2021

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Pacific Northwest National Laboratory
Richland, Washington 99354

Summary

The U.S. Nuclear Regulatory Commission (NRC) staff has been directed by the Commission to “systematically review how the agency’s programs, policies, and activities address environmental justice [EJ],” “evaluate recent Executive Orders (EOs) relating to EJ,” and “assess whether it is appropriately considered and addressed in the agency’s programs, policies, and activities such as adjudicatory procedures and environmental reviews, given the agency’s mission.”¹ This report documents EJ impact assessment practices in environmental reviews for NRC regulatory and licensing actions. The report also summarizes recent EOs that emphasize the importance of EJ and community engagement to better account for historically disadvantaged and traditionally underserved communities. The report is intended to inform the Commission about what options the NRC might have as an independent agency as it determines how it may comply with recent EOs and other guidance on EJ matters within the NRC’s purview.

This report first reviews the EJ-related EOs issued at the advent of the Biden administration. Next, it summarizes the NRC’s current posture and practice regarding EJ assessments, based on the 1994 EO 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations), its accompanying presidential memorandum, and related guidance. It concludes by laying out options for complying with recent EOs, noting both cases where the NRC already is substantially in compliance and cases where inherent barriers to full compliance would be quite challenging to overcome. Pacific Northwest National Laboratory is not providing a legal interpretation of the NRC’s regulatory authority in the context of EJ in this document.

¹ <https://www.nrc.gov/docs/ML2111/ML21113A070>.

Acronyms and Abbreviations

ACS	American Community Survey
CEQ	Council on Environmental Quality
DOE	U.S. Department of Energy
EA	environmental assessment
EIS	environmental impact statement
EJ	environmental justice
EO	Executive Order
EPA	U.S. Environmental Protection Agency
GAO	U.S. General Accounting Office
LGBTQ+	lesbian, gay, bisexual, transgender, queer plus
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRC	U.S. Nuclear Regulatory Commission
PNNL	Pacific Northwest National Laboratory
USDA	U.S. Department of Agriculture

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1.0 Background

The U.S. Environmental Protection Agency (EPA) defines Environmental Justice (EJ) as:

The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no population bears a disproportionate share of negative environmental consequences resulting from industrial, municipal, and commercial operations or from the execution of federal, state, and local laws; regulations; and policies. Meaningful involvement means (1) people have an opportunity to participate in decisions about activities that may affect their environment/health; (2) the public's contribution can influence the regulatory agency's decision; (3) community concerns will be considered in the decision-making process; and (4) decision-makers will seek out and facilitate the involvement of those potentially affected (EPA 2021).

EJ is an important issue affecting many governmental policies and actions. The United Church of Christ's Commission for Racial Justice 1987 report on Toxic Waste and Race was one of the first major reports that connected racial disparities and environmental impacts. The report focused on examining "the relationship between the treatment, storage, and disposal of hazardous wastes and the issue of race" (UCCCRJ 1987).

In 1994, the Clinton administration issued Executive Order (EO) 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" (59 FR 7629) and accompanying presidential memorandum. EO 12898 requires federal agencies to include "the achievement of EJ through identifying and addressing disproportionately high and adverse human health or environmental effects related to agency programs, policies, and activities on minority and low-income populations" (59 FR 7629). This is to ensure that disproportionately adverse human health and environmental effects on minority and low-income communities will be publicly disclosed and mitigated to the extent practicable. It also mandates nondiscrimination in federal programs that affect human health and the environment, and it requires agencies to provide public information and ensure public participation to minority and low-income communities. EO 12898, the presidential memorandum, and these reports provide the source of the NRC's current policies, industry guidance, and procedures regarding the consideration of EJ matters.

The NRC currently assesses EJ impacts in National Environmental Policy Act (NEPA) reviews based on guidance developed to address the requirements in EO 12898 (59 FR 7629) and presidential memorandum, consistent with the NRC chairman's commitment and NRC's 2004 EJ policy statement entitled, "Policy Statement on the Treatment of Environmental Justice Matters in NRC Regulatory and Licensing Actions" (69 FR 52040). The 2004 policy statement was preceded by the Commission's initial EJ strategy reported to the EPA in 1995 (NRC 1995) and indicating the goal of the NRC's EJ strategy "is to integrate environmental justice into the conduct of all pertinent activities at the agency primarily in the NRC's fulfillment of its NEPA responsibilities." In 1997, the Council on Environmental Quality (CEQ) issued initial guidance to agencies on EJ implementation (CEQ 1997). The Commission's 2004 EJ policy statement states that NRC EJ guidance was developed using "CEQ guidance as the model." The NRC EJ policy states "The Commission is committed to the general goals set forth in Executive Order 12898 and strives to meet those goals as part of its National Environmental Policy Act (NEPA)

review process.” Important to note, Section 606 of EO 12898 states that “each Federal agency responsibility set forth under this order shall apply equally to Native American programs” (59 FR 7629). The NRC also participates as a member of the Federal Interagency Working Group on Environmental Justice, which periodically reviews EJ approaches across agencies and produced the report, “Promising Practices for EJ Methodologies in NEPA Reviews” (EJIWG 2016). In 1994, the chairman of the Commission committed the NRC to carrying out the measures in the EO and accompanying memorandum and to apply this process to regulatory and licensing activities.

2.0 Introduction

Since coming into office in January 2021, the Biden administration has emphasized the importance of addressing EJ as a fundamental aspect of the federal environmental decision-making process. Three EO^s signed by the Biden administration in January 2021 highlighted the need to enhance EJ and incorporate EJ programs, policies, and activities into federal decision-making.

- EO 13985, “Advancing Racial Equity and Support for Underserved Communities Through the Federal Government” (86 FR 7009),
- EO 13990, “Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis” (86 FR 7037), and
- EO 14008, “Tackling the Climate Crisis at Home and Abroad” (86 FR 7619).

In addition, a presidential memorandum, *Memorandum on Tribal Consultation and Strengthening Nation-to-Nation Relationships*, was signed in January 2021 reinforcing the government’s commitment to meaningfully consult with American Indian tribes in a government-to-government manner (Biden 2021). The EO^s and the memorandum expanded the qualifying characteristics related to equity and the definition of EJ communities beyond minority and low-income populations to include communities that have been historically disadvantaged, overburdened,¹ and underserved. They also call upon federal agencies to improve upon methods and practices used to engage with the expanded set of EJ communities² and provide opportunities for such communities to provide meaningful input to agency decision-making.

Subsequent to the issuance of these EO^s and the presidential memorandum, the U.S. Nuclear Regulatory Commission (NRC) issued a staff requirements memorandum on April 23, 2021 directing agency staff to “systematically review how the agency’s programs, policies, and activities address environmental justice [EJ],” “evaluate recent Executive Orders (EO^s) relating to EJ,” and “assess whether it is appropriately considered and addressed in the agency’s programs, policies, and activities such as adjudicatory procedures and environmental reviews, given the agency’s mission” (NRC 2021a). The staff requirements memorandum further directed NRC staff to provide the results of its review and any policy or other recommendations in a SECY paper (also called “Commission Papers”), to the Commission (NRC 2021a). The NRC established an EJ Review Team within the Office of Executive Director for Operations to conduct the review. According to the NRC’s website entitled, “Environmental Justice and the NRC”, the team was tasked with the following:

- Benchmark practices of other federal, state, and tribal agencies.

¹ Per EPA’s glossary (see <https://www.epa.gov/environmentaljustice/ej-2020-glossary>), the terms overburdened community and underserved community are defined as minority, low-income, tribal, or indigenous populations or geographic locations in the United States that potentially experience disproportionate environmental harms and risks. This disproportionality can be as a result of greater vulnerability to environmental hazards, lack of opportunity for public participation, or other factors. Increased vulnerability may be attributable to an accumulation of negative or lack of positive environmental, health, economic, or social conditions within these populations or places. The term describes situations where multiple factors, including both environmental and socioeconomic stressors, may act cumulatively to affect health and the environment and contribute to persistent environmental health disparities.

² When used in this document, EJ communities refers to overburdened communities, underserved communities, or both, as defined in footnote 1, above.

- Evaluate whether the NRC should incorporate EJ beyond implementation through the NEPA, consistent with the Commission's 1995 EJ Implementation Strategy (NRC 1995).
- Review the adequacy of the NRC's 2004 "Policy Statement on the Treatment of Environmental Justice Matters in NRC Regulatory and Licensing Actions" (69 FR 52040).
- Consider whether establishing formal mechanisms to gather external stakeholder input would benefit any future EJ efforts (NRC 2021b).

The EJ Review Team also requested public comment via a *Federal Register* Notice on July 9, 2021. The notice requested comments from the public regarding how the agency is currently addressing EJ (86 FR 36307). The *Federal Register* Notice included several questions related to the NRC's current practices and recommendations for ways to enhance its EJ practices (NRC 2021b).

As part of the NRC's review, the NRC staff requested that Pacific Northwest National Laboratory (PNNL), based on its "historical experience working with NRC and experience working with other entities on EJ matters," identify for NRC staff consideration whether, and if so what, mechanisms or practices could enhance NRC's existing EJ programs, policies, and activities, given the agency's existing statutory authorities and mission. PNNL's historical support of NRC's EJ activities has consisted of conducting EJ analyses within the context of NEPA. PNNL is not providing a legal interpretation of NRC's regulatory authority in the context of EJ in this document.

3.0 Report Contents and Organization

To support NRC's request, PNNL relied on its historical and institutional knowledge supporting NRC's EJ analyses and NRC's National Historic Preservation Act (NHPA Section 106) consultation with American Indian tribes³ as well as broader experience supporting other federal agencies' tribal and community-engagement activities. PNNL reviewed and evaluated the recent EJ-related EO^s and associated guidelines issued in 2021 by the Biden administration to provide suggestions for how to best incorporate that guidance into future NRC EJ analyses and activities.

This document overviews different perspectives for NRC staff to consider for enhancing NRC's EJ analyses and activities. The three EO^s and memorandum are summarized in Section 4.0, followed by a brief overview of how the NRC currently identifies EJ communities and conducts consultation with American Indian tribes in Section 5.0. Section 6.0 outlines suggestions for enhancing how NRC conducts its EJ assessments within the context of NEPA reviews, including methods for identifying EJ communities and consideration of additional methods for engaging with EJ communities to ensure these groups are able to fully and meaningfully participate in the NRC's NEPA-related decision-making activities. Section 7.0 focuses on mechanisms to enhance the NRC's consultation with American Indian tribes to identify potential EJ-related concerns. Suggestions for enhancing the NRC's organizational approach to conducting EJ assessments and for enhancing its EJ policies and activities are provided in Sections 8.0 and 9.0, respectively. Section 10.0 provides a list of references cited in this report.

Suggestions are based on PNNL's knowledge of evolving best practices, awareness of emerging concepts, and experience working with the NRC and multiple other federal agencies. PNNL recognizes that the NRC has limited authority under the Atomic Energy Act of 1954 as a regulating agency focused on radiological safety.

³ Unless otherwise indicated, "tribes" refers to federally recognized tribes. Federally recognized tribes include any Indian or Alaska Native tribe, band, nation, pueblo, village, or community that the Secretary of the Interior acknowledges to exist as an Indian tribe pursuant to the Federally Recognized Indian Tribe List Act of 1844, 25 U.S.C.479a.

4.0 EO^s and Memorandum Related to EJ

In January 2021, the Biden administration issued three EO^s and memorandum that provided a definition for “underserved community” and re-emphasized the importance of public outreach and engagement as they relate to EJ considerations. These EO^s add requirements that the NRC may consider incorporating into its EJ practices. The summary that follows highlights the mandates for federal agencies described in the EO^s. These summarized directives do not apply to the NRC as an independent agency but are provided as context for the NRC to consider as it explores any potential response to the EO^s. This report does not directly suggest the NRC’s responsibility or commitment to carrying out these directives.

4.1 EO 13985 – Advancing Racial Equity and Support for Underserved Communities Through the Federal Government

EO 13985 was issued on January 20, 2021, the first day of the Biden administration. The EO established the definition of underserved community and identified the list of groups and persons the executive branch deems to be “historically underserved.” EO 13985 specifically identified as underserved populations “

Black, Latino, and Indigenous and Native American persons, Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer (LGBTQ+) persons; persons with disabilities; persons who live in rural areas; and persons otherwise adversely affected by persistent poverty or inequality. (86 FR 7009)

The EO directs federal agencies to expand efforts to engage with underserved communities through increased coordination, communication, and direct engagement. As part of this outreach, it directs agencies to focus on the areas that create barriers to full and equal access to opportunities and benefits and to develop policies that advance equity in historically underserved communities.

The EO established an Interagency Working Group on Equitable Data (Data Working Group). This group works toward creating federal data sets to provide data specifically related to underserved population characteristics that are not currently published. The movement toward new and novel data sets identifying EJ metrics enables federal agencies to expand existing methodologies used to perform impact analysis and better evaluate new and existing policies with regard to impacts on underserved communities.

4.2 EO 13990 – Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis

EO 13990 was also signed on January 20, 2021. It calls for federal agencies to evaluate recent actions taken related to climate change and to prioritize reducing impacts caused by the climate crisis. Additionally, the order states that in the areas where the federal government has failed to meet past commitments to promoting public health and the environment, it must advance EJ (86 FR 7037). The advancement should promote EJ practices across several key areas, including clean air, water, and job creation opportunities. The EO also places an emphasis on energy efficiency and reducing negative impacts on communities of color and low-income communities by modifying agency policies and programs to address any pattern of disproportionate impacts on underserved communities.

4.3 EO 14008 – Tackling the Climate Crisis at Home and Abroad

The Biden administration issued EO 14008 on January 27, 2021. This order further emphasizes the requirement to examine and implement EJ initiatives at the agency level, and it encourages increased engagement with stakeholders including state, local, and tribal governments on the topics of climate change and equity (86 FR 7619). It specifically mentions developing programs and policies to address disproportionately high and adverse impacts on disadvantaged communities. One of the largest developments within this order is the advent of the Justice40 Initiative—a collection of recommendations about how to design federal programs to meet the goal of 40 percent of overall program benefits being realized by disadvantaged communities. (For additional information, see the Office of Management and Budget blog post: <https://www.whitehouse.gov/omb/briefing-room/2021/07/20/the-path-to-achieving-justice40/>.)

4.4 Memorandum on Tribal Consultation and Strengthening Nation-to-Nation Relationships for the Heads of Executive Department and Agencies

This memorandum was signed by President Biden on January 26, 2021 (Biden 2021). It reaffirmed tribal consultation policies articulated in EO 13175, “Consultation and Coordination with Indian Tribal Governments” (65 FR 67249) and the presidential memorandum of November 5, 2009 (Tribal Consultation; Obama 2009) and sought to strengthen the nation-to-nation relationship as recognized under the U.S. Constitution, treaties, statutes, EOs, and court decisions. The memorandum requires the head of each federal agency to consult with tribal nations to develop and submit “a detailed plan of action the agency will take to implement the policies and directives of Executive Order 13175” within 90 days, to designate an agency official to coordinate implementation of the plan, and to conduct annual progress reporting (Biden 2021). This memorandum has relevance for the NRC’s broader consultation with American Indian tribes, as well as the NRC’s NHPA Section 106 consultation activities, which often inform its EJ assessments.

5.0 Overview of How NRC Conducts EJ Analyses

As described in Section 1.0, the NRC currently assesses EJ impacts in NEPA reviews based on guidance developed to address the requirements in EO 12898 (59 FR 7629), consistent with the NRC's 2004 EJ policy statement entitled, "Policy Statement on the Treatment of Environmental Justice Matters in NRC Regulatory and Licensing Actions" (69 FR 52040). The NRC has developed procedural guidance for conducting EJ impact analyses as part of its NEPA review such as NUREG-1555 (NRC 2000, 2007), NUREG 1555, Supplement 1 (NRC 2013), and NUREG-1748 (NRC 2003). All NRC environmental impact statements (EISs) and environmental assessments (EAs) currently require the following elements:

- identification of potentially affected minority and or low-income populations
- identification of potential sources of disproportionate human health and environmental effects, such as exposure to radiation in discharge waters, emissions, salt deposition on EJ communities, and disruption of transportation routes for foot traffic
- identification of potential impact pathways linking the federal action's sources with impacts on these groups (receptors)
- assessment of whether the action would result in disproportionately high and adverse human health or environmental impacts on each identified minority and low-income population
- identification of mitigation measures that could reasonably be performed if a source-receptor-pathway is identified that could put any minority and low-income population at disproportionate risk.

The following sections provide an overview of the general steps the NRC undertakes to conduct an EJ analysis.

5.1 Current Methods for Identifying and Engaging with Racial and Ethnic Minorities or Low-Income Populations

The current methodology used by the NRC as part of its NEPA review to initially identify racial or ethnic minorities and low-income populations links census data with geographic information systems. Depending on the action being considered, the NRC gathers American Community Survey (ACS) 1-year and 5-year survey data or decennial census data for the local vicinity and wider region associated with the project. These data are gathered for minority and income status and are universally reported at the census block group level. The NRC conducts an evaluation to determine which block groups contain meaningfully greater concentrations of minority and low-income people. The NRC makes additional efforts through local stakeholder engagement to identify communities that contain unique characteristics (e.g., migrant worker communities; subsistence agriculture, fishing, and hunting; small ethnic or minority enclaves not found in census data; and others).

The NRC uses an established process to identify and assess impacts on potentially affected minority and low-income populations. This process includes the following steps:

1. Identify any census block group having a minority or low-income population with 50 percent or more of the total population in the block group or with a proportion 20 or more percentage points greater than the same minority or low-income proportion at the state or county level or other reasonable comparison geographic area. Meeting these threshold values triggers consideration of EJ in greater detail.

2. For certain new projects, conduct in-person reconnaissance of the local area of the project to determine by observation and local stakeholder engagement whether there may also be highly concentrated minority populations that are diluted by a larger demographic or whether resource-dependent activities like subsistence practices may be occurring. For regulatory and licensing actions involving EISs or EAs, this level of local study may only be needed in special circumstances where the proposed action has a clear potential for off-site impacts to minority and low-income communities.
3. Further study the potentially affected minority and low-income populations identified in the previous steps to determine whether impact pathways (e.g., subsistence consumption) link the specific groups to high and adverse human health and environmental effects, making the impacts disproportionate.

Along with providing detailed tables and graphs showing the analysis and affected population numbers, mapping exercises are undertaken to display the results geospatially in relation to the proposed project site. These maps indicate the individual characteristics (i.e., minority or low-income status) as well as the combination of EJ identifiers (i.e., minority and low-income).

Step 2 is critical for fostering EJ stakeholder engagement. The purpose of this observation is to evaluate whether physical EJ impact pathways could exist between the proposed action and any identified EJ community. The site visit may also provide additional details about groups or pathways that were not captured from the census data. Local outreach typically occurs to help determine whether the proposed action could create disproportionately larger adverse impacts on nearby EJ community. Outreach efforts are aimed at engaging, as stakeholders, members of the affected EJ groups to elicit input related to the existing conditions and any changes or impacts that may occur from siting the proposed project. This process is often iterative and initial outreach may lead to the identification of other EJ communities to engage.

Apart from identification through census data analysis, EJ community can be identified by specific cultural conditions or practices. These can include subsistence consumption of local fish and wildlife, backyard garden subsistence, community infrastructure and resources that are accessed primarily by foot traffic, or other conditions and practices. These are typically identified during scoping activities, by the applicant/licensee during preparation for submitting the application, or by the NRC staff's independent research during the review. If these activities occur within close proximity to the site of the proposed action, the NRC staff should observe the conditions, if possible, and confirm whether potentially affected people are not already reported as part of the baseline EJ conditions from the census data. If additional groups are identified based on locally observed conditions, then the baseline reported in the EIS or EA should reflect the observed conditions.

Section 4 of EO 12898 (59 FR 7629) directs agencies to consider the differential patterns of subsistence consumption of fish and wildlife that might be exhibited in proximity to sites of federal actions and how the patterns might result in adverse health or environmental effects. In its Tribal Protocol Manual (NUREG-2173), the NRC provides guidance for how minority or low-income populations can be disproportionately affected by examining impacts on American Indians, Hispanics, migrant workers, and other traditional lifestyle special-pathway receptors (NRC 2018). Special pathways include the levels of radiological and nonradiological contaminants in native vegetation, crops, soils and sediments, groundwater, surface water, fish, and game animals on or near power plant sites that have spent fuel storage pools and independent spent fuel storage installations. The source-receptor pathway analysis is an

important part of the EJ analysis because it identifies how the actions of an NRC applicant or licensee can result in disproportionately high and adverse impacts on minority or low-income populations.

EJ communities may also report EJ-related concerns through NRC public participation mechanisms, which may include public scoping meetings held in the vicinity⁴ of the potentially affected community, and through public comments on the NRC's draft EA or EIS.

5.2 Current Methods for Consultation and Engagement with American Indian Tribes

NEPA requires federal agencies to consider the potential effects of their actions on the cultural environment and involve the public and consult with American Indian tribes on a government-to-government basis regarding their decision-making process. NHPA requires federal agencies to consider the impacts of their undertakings on historic properties in consultation with American Indian tribes, state historic preservation officers, and interested parties (including the public). Section 106 of the NHPA and the implementing regulations at 36 CFR Part 800 are concerned exclusively with impacts on historic properties, but to comply with NEPA, federal agencies must also consider other aspects of the affected environment including "aesthetic, historic, and cultural resources as these terms are commonly understood, including such resources as sacred sites" (CEQ and ACHP 2013).

In addition to the engagement described in Section 5.1, the NRC also conducts government-to-government consultation with American Indian tribes within the context of NEPA and NHPA.⁵ Federally recognized American Indian tribes have a status as domestic dependent sovereign nations that is distinct from EJ communities (as defined in this document).

American Indian tribes, as well as indigenous⁶ communities, have historically experienced disproportionate adverse impacts from federal policies and decisions and may have EJ-related concerns associated with NRC regulatory and licensing actions. EJ-related issues that are of concern to American Indian tribes can sometimes arise within the context of the NRC's government-to-government NHPA Section 106 consultation with tribal historic preservation officers and American Indian tribes that attach religious and cultural significance to historic

⁴ Virtual public meetings have become common practice since the start of the COVID-19 pandemic in early 2020.

⁵ The Commission issued its Tribal Policy Statement (82 FR 2402) in 2017 and staff developed a Tribal Protocol Manual, which was last updated in 2018 (NRC 2018). The Tribal Policy Statement "establishes principles that the NRC should follow to promote effective government-to-government interactions with Federally recognized American Indian and Alaska Native tribes and to encourage and facilitate Tribal involvement in the areas over which the NRC has jurisdiction" (NRC 2018). In the Tribal Policy Statement and Protocol Manual, the NRC "acknowledges the status of American Indian tribes as domestic dependent sovereign nations as being distinct from the status of special interest groups, stakeholders, nongovernmental organizations, or members of the general public" and that they have a unique Trust relationship and responsibility to American Indian tribes.

⁶ Per EPA's glossary (see <https://www.epa.gov/environmentaljustice/ej-2020-glossary>), the terms indigenous peoples and indigenous populations includes state-recognized American Indian tribes; indigenous and tribal community-based organizations; individual members of federally recognized American Indian tribes, including those living on a different reservation or living outside Indian country; individual members of state-recognized American Indian tribes; Native Hawaiians; Native Pacific Islanders; and individual Native Americans.

properties that may be affected by an undertaking.⁷ For example, tribal consultation may reveal consumption and use patterns of subsistence resources that are also of importance for conducting traditional cultural and religious practices (i.e., such as fishing, hunting, gathering plants and medicines, and having access to sacred sites) that necessitate the need to conduct a special-pathway receptor analysis as part of the EJ impact assessment. When this occurs, NRC technical staff coordinate efforts among the review areas to address any comments or issues of concern and consult with American Indian tribes as appropriate.

Individual NRC offices have also developed procedural guidance for conducting NHPA Section 106 consultation with American Indian tribes. This guidance exists in the form of NRC's environmental standard review plans, selected generic EISs, and other guidance documents such as NUREG-1748 (NRC 2003), LIC-203 (NRC 2020), NMSS-ISG-02 (NRC 2019), NUREG-1555 (NRC 2000, 2007), NUREG 1555, Supplement 1 (NRC 2013), NRC's Tribal Policy Statement (84 FR 2402), and NRC's Tribal Protocol Manual (NRC 2018). The NRC's Tribal Liaison Program is located within the Federal, State, and Tribal Liaison Branch of the Office of Nuclear Material Safety and Safeguards, under the Division of Materials Safety, Security, State, and Tribal Programs (NRC 2018).

NRC staff coordinate with the NRC's Tribal Liaison Branch to assist in the identification of American Indian tribes⁸ that may have historical, cultural, or geographical ties to the location of a facility being licensed or a proposed facility being permitted, as appropriate. NRC offices also rely on several databases to assist in the identification of American Indian tribes that have ties to certain areas, such as the U.S. Department of Housing and Urban Development's Tribal Directory Assessment Tool (HUD 2021), the National Park Service's Native American Graves Protection and Repatriation Act consultation database,⁹ and the Bureau of Indian Affairs' Tribal Leaders Directory map (BIA 2021). The NRC also maintains an internal Tribal Phonebook database that contains contact information for tribal leaders and tribal historic preservation officers. Frequently, state and other federal agencies maintain tribal consultation and contact lists. Nonfederally recognized American Indian tribes can be identified on a state-by-state basis if they are state-recognized American Indian tribes. Many states also maintain websites listing regional tribal organizations and other American Indian tribes that are neither state nor federally recognized. The NRC staff also consults with the Office of General Counsel regarding potential American Indian tribal issues including identification of any applicable treaties.

⁷ In the NHPA Section 106 implementing regulations promulgated at 36 CFR Part 800, an undertaking "means a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of a Federal agency; those carried out with Federal financial assistance; and those requiring a Federal permit, license or approval" (36 CFR 800.16y). It is one of several federal regulations that require the NRC to consult with American Indian tribes.

⁸ NHPA Section 106 implementing regulations promulgated at 36 CFR Part 800 define tribal consulting parties as federally recognized American Indian tribes, which include Alaska Native and Native Hawaiian organizations. Nonfederally recognized American Indian tribes include State-recognized American Indian tribes and other nonfederally recognized American Indian tribal groups. A federal agency may invite them to consult as an "additional consulting party" if they have a "demonstrated interest." Consulting with American Indian tribes that are not federally recognized, but have connections to important resources, is considered a best practice (ACHP 2018).

⁹ This database has not been available since 2018 but has been used in the past to identify American Indian tribes that may have historical, cultural, or geographic ties to specific counties.

In accordance with 36 CFR 800.8(c), the NRC uses the NEPA process to comply with Section 106 of the NHPA in lieu of the procedures set forth in 36 CFR 800.3 through 800.6.¹⁰ The NRC initiates government-to-government NHPA Section 106 consultation and invites American Indian tribes to participate in the scoping process by letter pursuant to 10 CFR 51.28(a). The letter also includes a request for information about the effects on historic properties covered by the NHPA Section 106 review and impacts on cultural resources covered by the NEPA review. In addition to sending a letter, the NRC also conducts follow-up consultation in a variety of ways, which can include via telephone and email communication, or through face-to-face meetings at locations identified by the tribes (if requested). The NRC also formally submits the draft EIS to American Indian tribes for their review and comment, which is incorporated into the final EIS. If concerns are raised during the draft stage of the NEPA review, the NRC conducts follow-up communication and consultation via phone calls, emails, or face-to-face or virtual meetings to resolve concerns and ensure concerns are addressed and documented in the final EIS¹¹.

¹⁰ The NRC also sends similar letters to other consulting parties in the NHPA Section 106 review process, including the Advisory Council on Historic Preservation, the relevant State Historic Preservation Office, and interested members of the public who have a demonstrated interest in impacts on historic properties.

¹¹ NRC also conducts NHPA Section 106 consultation with American Indian tribes when completing EA's in a similar manner that it does when completing an EIS.

6.0 Potential Mechanisms to Enhance the NRC's EJ Analysis

This section identifies options for the NRC to consider regarding potential compliance with the recent EJ-related EO^s and memorandum. The options presented reflect currently known data limitations or other barriers, which would likely complicate any potential efforts to comply with the letter of the recent EO^s and the memorandum. In some cases, the NRC already is able to comply or may be in full compliance, based on formal guidance and current environmental review procedures, as documented in recent EISs or EAs.

A key emphasis of the Biden administration's EO^s and memorandum includes the active engagement of disadvantaged or underserved communities in the federal actions that affect them. The NRC has options for which engagement methods to consider. Section 6.2 presents some best practices for engaging with EJ communities and Section 7.0 provides suggestions for enhancing NRC's consultation and engagement with American Indian tribes.

The following sections describe methods for identifying EJ communities in order to consider options for including new categories of disadvantaged and underserved populations identified in EO 13985 (86 FR 7009). These sections do not suggest the NRC's responsibility or commitment to carry out these approaches; rather, they offer initial suggestions of methods that could be responsive to the EO^s and memorandum.

6.1 Expanded Methods for Identifying EJ Populations and Data Availability Based on Updated EJ Definitions

With the release of the EO^s cited in Section 4.0, new categories of disadvantaged or underserved populations have been identified for potential inclusion in EJ assessments by federal agencies. As the NRC considers options for compliance with these directives, the staff have characterized initial approaches to accommodating the recommendations in the EO^s—especially EO 13985 (86 FR 7009). Some approaches have substantial barriers, such as data limitations or sociopolitical challenges that would need to be overcome to enable compliance.

NRC's current methodology addresses two key metrics: (1) minority status and (2) income status. The conceptual diagram in Figure 1 represents existing practice by the NRC for environmental reviews. The area connecting these factors indicates the part of the population that contains two identifiers or metrics of being underserved, based on the established census data analysis approach currently employed.

The option to expand the key EJ metrics for data gathering and analysis creates opportunities not only to identify additional affected groups within a project study area, but also highlights the potential for disproportional impacts among subsets of identified groups. Figure 2 is a conceptual graphic of what a project study area may look like when one additional category, limited English proficiency, is included.

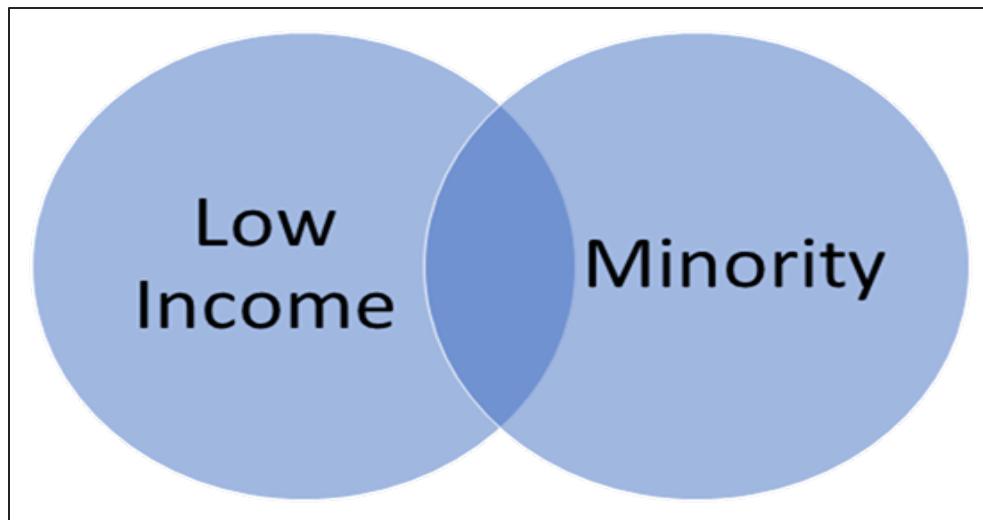


Figure 1. Existing EJ Analysis Metrics

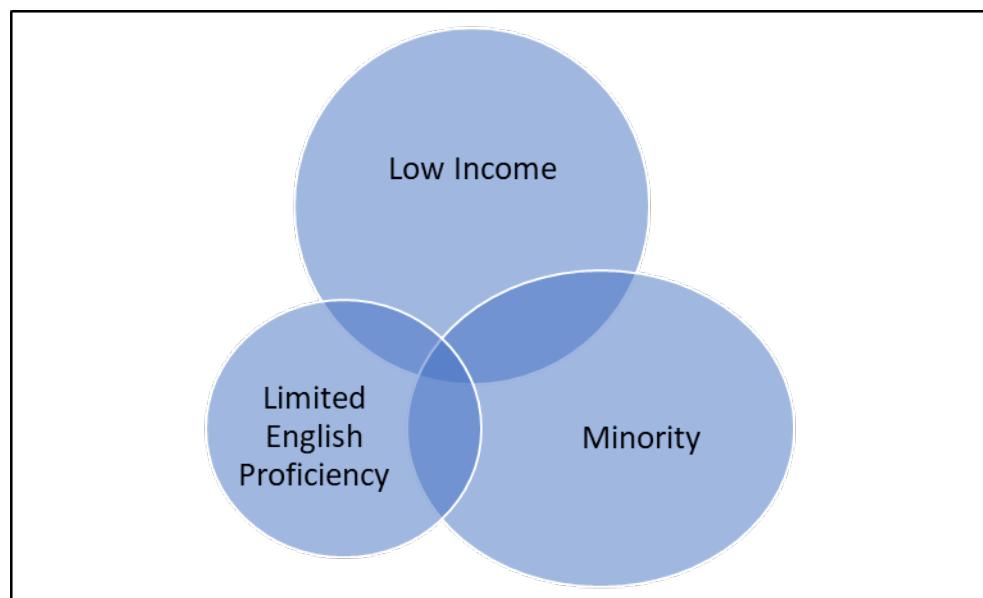


Figure 2. EJ Analysis Metrics with Limited English Proficiency

With the expanded analysis containing only one additional EJ identifier, Figure 2 indicates that there are seven combinations of “at-risk” groups of concern for the assessment of health and environmental effects. Each additional added risk identifier greatly increases the potentially affected at-risk groups for which engagement activities and impact analyses may be needed. Thus, Step 1 (presented in Section 5.1) becomes increasingly complicated with each additional at-risk population of concern. As each section that follows discusses options for quantifying the various EJ communities identified in EO 13985 (86 FR 7009), these considerations should be noted.

6.1.1 Black, Latino, Indigenous and Native American Persons, Asian Americans and Pacific Islanders, and Other Persons of Color

The existing process for socioeconomic and EJ analysis contains requirements to identify and examine the minority groups included in this category. Typically, the data sets used to identify these groups come from the ACS 5-year surveys, which provide census block group level of detail. Existing ACS data at the census block group level contain a breakdown of minority group by type, which can be further used to compare potentially disproportionate impacts on specific minority groupings individually, in addition to considering racial/ethnic minorities in aggregate.

Terminology and trends are constantly shifting, particularly as they relate to self-identification, such as the shift to Black, Indigenous, and People of Color. The 2020 decennial census led to a number of reports identifying shifts in the demographic makeup within the country. An August 12, 2021, press release from the Census Bureau discussed the observation that “the White alone population decreased by 8.6% since 2010” (USCB 2021a). Changes in demographic trends in the future may alter how racial and ethnic groups are classified and therefore analyzed. Existing NRC practices account for the level of detail discussed here. If sources like the ACS change classification methods, the NRC may need to modify their classifications as well.

6.1.2 Religious Minorities

Globally, over the last decade, a number of humanitarian crises have pushed people from their homes of origin to new locations. During the period from 2010 through 2020, approximately 600,000 refugees arrived in the United States from countries such as Myanmar, Iraq, Bhutan, and the Democratic Republic of Congo (Monin et al. 2021). As these populations are relocating, they may be geographically located in a community where they are a religious or cultural minority.

At this time, national data collection efforts such as the census are prohibited by Public Law 94-521 from asking a question about religious affiliation on a mandatory basis. Because of this prohibition, narrowing specific religious communities to a smaller scale such as census block group is difficult at best. Studies and mapping tools have been generated by the Public Religion Research Institute, which has developed an Index of Religious Diversity that includes maps indicating religious diversity, broken out by denomination and faith (PRRI 2021). This index can be used to show the diversity index score on a county-by-county basis.

Given the lack of granular data, attempting to specify impacts on religious minorities is difficult. It is unlikely that the NRC could conduct the same level of analysis as is currently done for ethnic or racial groupings. However, the NRC currently does engage with key religious leaders in EJ communities where these leaders represent local EJ communities, as part of the Commission’s environmental impact analyses.

6.1.3 LGBTQ+ Persons

Gender identity and sexual orientation have grown as individual identifiers because of increased social awareness and legislative changes. Currently, these metrics are not part of decennial surveys for the census. Given the sensitive nature of this topic, parsing identifying data to the county or block group is difficult. However, there are nongovernmental entities that collect data sets in this area. The Williams Institute School of Law at UCLA has developed a map representation showing the estimated percentage of the adult population belonging to the

LGBTQ+ community by state (UCLA Williams Institute 2019). These data are based on surveys conducted by Gallup Polling from 2012 through 2017.

There are opportunities to collect these data in the future, particularly with the Household Pulse Survey. According to an August 2021 report from the Census Bureau, a new questionnaire that is running from July 21, 2021, through October 11, 2021, includes questions specific to sexual orientation and gender identity as part of Phase 3.2 of Census Bureau Survey Questions (USCB 2021b).

The lack of data at a smaller geographic scale (i.e., census tract or block group) makes it difficult to conduct a detailed impact analysis.

6.1.4 Persons with Disabilities

Several readily available data sets contain data by county related to citizen disability and disability status. The Social Security Administration produces annual data for Old Age, Survivors, and Disability Insurance beneficiaries by state and county (SSA 2020). These data are broken down by retirement, survivors, persons with disabilities, and people aged 65 or older that are in current-payment status.

In addition to these data tables, the ACS 1-year estimates released annually contain data tables by county for persons with disabilities and include a breakdown of the disability type, for example, hearing difficulty, vision difficulty, and cognitive difficulty. (USCB 2020). These data can identify whether counties in the project study area have high populations of disabled individuals. It is likely that there would be other EJ grouping connections associated with this grouping, for example, low-income if on fixed long-term disability payments. These data lack the level of granular detail required to conduct an analysis at the census block group scale.

6.1.5 Persons Living in Rural Areas

The ongoing trend of shrinking population in rural areas over recent decades stems from migration to areas of greater economic prosperity by young adults and the resulting family formation happening in urban and suburban areas. The population remaining in rural areas ages in place and replenishment is greatly reduced. The lack of economic opportunity apart from agricultural industries does not attract long-term new residents to rural areas. The general definition of rural population is the population that does not live in an urban area. Based on Census Bureau and Bureau of Labor Statistics data aggregation, this would include those areas not categorized as being metropolitan or micropolitan. Despite the broad area that can be covered under this rural definition, the U.S. Department of Agriculture (USDA) provides data sets for several metrics for rural populations.

The USDA's Economic Research Service hosts a data set known as the Atlas of Rural and Small-Town America (USDA 2021). This data set combines a wide variety of data category classifications and can be viewed as an interactive map. The data set categories include identification of farming-dependent counties, manufacturing-dependent counties, and novel data sets indicating the percentage of veterans in the population. USDA Economic Research Service also publishes a list of County Typology Codes that captures a range of economic and social characteristics based on industry dependence, poverty, income, population loss, and other key factors (USDA 2019).

Current NRC practices evaluate economic impacts on communities in the project study area, which include populations in rural areas. These additional data sets could provide supplemental data when unique or novel circumstances require a detailed examination.

6.1.6 Persons Disadvantaged by Energy Costs

The increasing cost of utilities and the related issue of energy affordability is a growing area of concern, particularly in regions where there are vulnerable populations living on fixed incomes. However, energy cost burden affects a population greater than simply the low-income population, depending on many factors associated with household finances. Aging infrastructure, transmission costs, national disasters, and changing environmental conditions create vulnerabilities in local energy markets that can adversely affect residential populations. Energy equity is the concept of addressing burden disparities on vulnerable populations by adopting new energy policies and programs targeting the “four dimensions of energy equity – procedural, distributional, structural, and transgenerational.” The Grid Modernization Laboratory Consortium, a collaborative effort between the U.S. Department of Energy (DOE) and national laboratories, developed an interactive geospatial map tool highlighting the percentage of household income spent on electricity by county (DOE 2020).

There is a growing trend in energy equity to evaluate topics such as the ability to pay. DOE’s Office of Energy Efficiency and Renewable Energy in conjunction with the National Renewable Energy Laboratory has developed the Low-Income Energy Affordability Data Tool (DOE 2021). This tool has several filters (e.g., building types, heating fuel types, and building age) as part of its census tract-level mapping capabilities.

These data sets can be used to inform or supplement existing NRC economic evaluations as they relate to power generation costs and rates paid by the general population in a project study area. However, equity questions typically are beyond the scope of the NRC’s regulatory authority.

6.1.7 EJ Impacts Having a Nexus to Climate Impacts

Section 219 of EO 14008 (86 FR 7619) calls for “undertaking robust actions to mitigate climate change while preparing for the impacts of climate change across rural, urban, and Tribal areas” in the context of EJ impacts. In this context, the NRC might consider “how to increase the Federal Government’s efforts to address current and historic environmental injustice, including recommendations for updating Executive Order 12898” in the climate context. Such action could include adopting recommendations expected from the White House Environmental Justice Interagency Council and the CEQ.

6.1.8 Persons Adversely Affected by Persistent Poverty or Inequality

In EO 13985 (86 FR 7009), the category of persons adversely affected by persistent poverty or inequality serves to encompass a wide range of potential groupings and factors. The ACS 5-year surveys that are already used for income and minority factors also can be used to capture additional categories, such as (1) linguistically isolated, (2) senior populations (age 65 and older), and (3) low-educational attainment. In addition to these categories, other novel data sets that are region-, county-, or city-specific may provide additional factors for consideration and evaluation during an EJ analysis. The NRC EJ assessment typically would identify such populations as part of its on-site reconnaissance and engagement efforts.

6.2 Improved and Expanded Engagement Methods with EJ Communities within the Context of NEPA

As discussed above, the NRC currently evaluates EJ by analyzing potentially disproportionate impacts of its licensing activities on minority and low-income populations during the conduct of NRC's NEPA analysis completed for various licensing activities. With the expanded definition of EJ communities described in the EO_s (in Section 5.0), it is important that the NRC revisit its current mechanisms for engaging and communicating with EJ communities within the scope of its regulatory authority and its fee structure. The methods described below focus on the unique challenges and barriers that many EJ communities face when participating in federal decision-making processes, as well as the historical environmental and human health injustices and disparities that EJ communities have experienced. Best practices and methods described in this section are focused on ensuring that EJ communities have the opportunity to provide early and meaningful input regarding concerns, needs, and values, and that this input is incorporated into the licensing and research decision-making process. Specific communication methods described in this section are also focused on ensuring EJ communities have equal and fair access to the NRC's environmental review process.

Engaging with EJ communities will entail distinct methods of engagement. However, best practices for broader stakeholder engagement can inform the NRC's efforts to expand its methods for engagement as part of its NEPA-related EJ analysis. Engaging with stakeholders—defined as any individual or groups of individuals affected by or who can affect a project (Freeman 1984)—can increase the chances of successful project implementation. Engagement should also be understood to be an iterative process, highly dependent on the unique context in which a project is situated and on the distinct needs of the communities the project may affect. Therefore, any engagement methods should be tailored to the needs, history, and context of the communities that the project will affect and should provide opportunities for stakeholders, including EJ communities, to have early, frequent, and ongoing communication, meaningful input to the decision-making process. Best practices for more inclusive engagement and outreach efforts are outlined in the following sections. These practices would also apply to expanded engagement and consultation efforts conducted with American Indian tribes. In addition to those described in the following sections, further considerations that might be unique to American Indian tribes are discussed in Section 7.0.

6.2.1 Conduct Research to Identify and Understand Historical Injustices Experienced by EJ Communities

EJ communities often have historically experienced previous grievances or injustices with federal agencies, governing bodies, or community groups where the political, social, or economic power dynamic may have been imbalanced. As part of the EJ analysis, it can be informative to better understand the specific historical injustices experienced by EJ communities within a specific location. Researching this history can provide insight into EJ community historical concerns. Understanding and recognition of these concerns can help restore a sense of trust between the community and federal agencies and serve to better inform the NRC's EJ analysis. Ideally, these research efforts would occur early in, or prior to, the NEPA process (e.g., during the initial NEPA scoping process or as part of the first and complementary step of conducting community engagement and initiating the EJ analysis). This information can be found in public comments provided on past federal projects, and through interviewing regional federal, state, and local leaders; community representatives; and EJ community members. The

NRC should consider including this step in the NEPA analysis and update standard review plans and regulatory guides accordingly.

6.2.2 Tailor Outreach to Meet Unique EJ Community Needs

Given that outreach needs vary depending on the context, needs, and values of each EJ community, outreach and methods for conducting engagement should be adapted based on the project and unique community context. This may require that the NRC devote additional time and resources to the project schedule and NEPA process. On-the-ground research will likely need to be conducted to identify potentially affected communities and to tailor outreach methods. Such efforts may include working with local community organizations to identify relevant communities and pertinent outreach strategies. This may include assessing whether members of a community have access to broadband internet, telephone, radio, newspaper, or vehicles to attend public meetings, creating outreach documents in multiple languages (if needed), and developing creative outreach strategies based on these findings. It may also include interactions with EJ communities to identify specific outreach mechanisms that work for them. As part of the development of the NRC's EJ community outreach strategy, NRC could consider aligning knowledgeable NRC staff that have familiarity and experience working with specific EJ communities identified in the EJ assessment to better meet, understand, and communicate the needs of the EJ communities.

6.2.3 Initiate EJ Community Outreach Early in the Process

As part of the pre-application process, license applicants and the NRC should consider identifying unique EJ communities early and initiating communication with both EJ-specific communities, and the larger community regarding the upcoming proposed activity and application process. This is important for license applicants, existing licensees, and the NRC to begin to build relationships, establish transparency and trust, and foster an understanding with EJ community needs and concerns. It is also important for the license applicant or licensee to include community-specific trusted members and representatives of EJ communities in its engagement process. The NRC could consider participating in these pre-planning efforts and update standard review plans and regulatory guides accordingly. The NRC could also consider holding pre-application forums to explain the NRC's safety review and environmental NEPA process; the role of other federal or state agencies; and associated NHPA Section 106 review. In addition, mechanisms for specific EJ community engagement should be established that correspond to EJ communities' needs.

6.2.4 Partner with Community Organizations

As discussed above, partnering with local community organizations that may represent EJ communities or be knowledgeable about EJ communities can assist in better identifying EJ community members who may be affected by a project. Doing so can also allow for the development of more tailored outreach strategies to reach these communities, because local organizations will have a better awareness and understanding of community composition than any external organization or federal agency. Therefore, the NRC could consider making it a practice to notify and partner with local community organizations (e.g., EJ-specific organizations, church groups, nongovernmental organizations, and local community development organizations) prior to any public scoping or public comment effort. This will help the NRC to better identify communities that may be overlooked and to better design outreach strategies to meet those communities' needs.

6.2.5 Establish Relationships Between EJ Communities and License Applicants/Licensees and NRC Staff

The value of in-person, face-to-face discussions and establishing relationships cannot be overemphasized. Any successful outreach and engagement effort relies upon open and timely two-way communication providing opportunities for continual, ongoing dialog and routine updates. Communication can be accomplished through a variety of mechanisms. For example, face-to-face meetings assist in building relationships and reduce misunderstandings. The NRC may consider providing dedicated staff ready to meet with communities once the NRC receives a letter of intent, during pre-application, and throughout the course of the environmental review. Additionally, the NRC could consider other creative mechanisms, such as community liaisons, to facilitate communications. Consider designating an applicant/licensee and NRC staff community liaison for each regulatory and licensing action under review depending upon need (i.e., if significant EJ impacts or concerns have been identified). For NRC-licensed sites, consider teaming with NRC staff at the regional offices to assist with outreach and provide continued support. These staff may need additional orientation and training with regard to EJ and may be another great resource to provide insights into local and regional EJ concerns and communities.

6.2.6 Adapt Meetings Logistics to Accommodate Unique EJ Community Needs

Public comment meetings across federal agencies typically occur in the evenings to accommodate those who work traditional 9:00 a.m. to 5:00 p.m. hours. However, this format does not reflect shifts in the workplace environment, nor does it accommodate those who may work in different working environments and those who may work outside of the traditional 9:00 a.m. to 5:00 p.m. hours. The NRC could consider reaching larger audiences by conducting public meetings during the day and in the evening, both in person and virtually. Additional provisions that could be considered to allow for greater access to attend public meetings include providing on-site childcare for individuals who do not have access to childcare to attend evening meetings, providing buses for those in more rural locations to attend public meetings, providing food, hosting meetings in multiple locations within a community to reach a wider audience, or providing a small stipend for individuals to attend (see Section 6.2.7). Public meetings (and associated documents) could also include information using plain language and should be developed to reflect languages used in various EJ communities. Additional provisions could include providing American Sign Language interpreters during public meetings.

6.2.7 Provide Financial Support

Though no current authority or mechanism exists, the NRC may consider providing funding, if possible, or developing programs and avenues for communities to apply for funding to participate in the NEPA process. Time and effort are required to participate in the NRC's NEPA process and EJ communities are particularly at risk of not having the necessary time or resources to adequately participate. Participation among EJ communities may be especially limited regarding the ability to participate in public scoping or public comment meetings, ability to participate or provide comments during the licensing process, and ability to conduct relevant studies, such as cultural resources studies, to help inform the NRC's NEPA analysis. Other agencies enable this kind of support and could be studied for the appropriate model.

6.2.8 Elicit Input from EJ Communities

The NRC could consider employing rigorous, iterative, participatory engagement strategies to elicit input from EJ communities regarding concerns, values, needs, and input about who should be involved. Such methods might entail field surveys and semi-structured interviews with community, academic, tribal, church, and other nongovernmental leaders, neighborhood associations, and community economic development offices and businesses. Additional methods for eliciting concerns from EJ communities include holding workshops, working groups, or both.

6.2.9 Consider Additional Community-Engagement Strategies

Specific engagement strategies may also include the following for EJ communities:

- **Religious minorities** – Direct outreach to local churches, pastors, or religious figures in the community could allow for increased engagement and involvement of religious minorities in NRC’s NEPA process. Such outreach can be initially conducted by identifying and linking groups to minority group status information if they are specifically identified groups that are likely to belong to a minority religious affiliation (e.g., foreign refugee populations/centers that may also have ties to nontraditional religious centers in the community).
- **LGBTQ+** – While this grouping is harder to identify directly unless a proposed NRC action is occurring in a community or area where there is a greater concentration of representative persons, opportunities for outreach exist. Although it can be assumed that this population is dispersed across the entire United States, some areas have historically higher concentrations (e.g., California, Washington, and New York) (UCLA Williams Institute 2019). This is more likely to be of concern when dealing with social policies that directly affect these communities as opposed to actions targeting other demographic qualities, like income status. Yet, if the study area does include a well-known area with a proportionally higher percentage of persons in the LGBTQ+ community, there may be direct outreach opportunities.
- **Disabilities** – While previously discussed in Section 6.1.4, additional considerations beyond Americans with Disabilities Act compliance could be considered, such as alternative outreach mechanisms (e.g., newspaper, flyers, postcards, and radio ads) that can help reach parts of this community in ways that consider common disabilities (e.g., blindness and deafness). In addition, the NRC should consider hosting public meetings in locations that are easily accessible for people with mobility issues.
- **Populations that are aging, linguistically isolated, or have lower educational attainment rates** – Many of the concepts discussed above apply to these populations as well, such as use of newspaper and radio ads. Additionally, for those areas with populations where English is not a first language, developing and providing printed materials and flyers in native languages should be prioritized. For areas with lower educational attainment rates, the NRC could consider assessing and adapting how information is presented and the terminology used. Thorough document editing and refinement processes that favor plain language could be of assistance.

6.2.10 Provide a Feedback Loop

It is important for the NRC to be transparent and upfront with EJ communities about how their input and concerns will be considered in the permitting and licensing review. It is important for the NRC to close the communication loop and clearly indicate how input and concerns were incorporated or considered, as well as the rationale for NRC’s decision. Further, if applicable,

the NRC should consider also explaining why input was not incorporated. The NRC should consider making it common practice to consistently follow up with all EJ communities that have expressed concerns and identified needs. Preferably, follow-up communication would occur via established in-person meeting forums and should address how the expressed concerns are being handled. The NRC should be prepared to provide transparent and inclusive information sharing that is frequent, regular, and two-way, especially if significant concerns have been raised. In addition to communicating via notification, the NRC should consider routinely following up initial communications by telephone, email, or through the establishment of routine face-to-face meetings, working groups, or workshops with community members. The NRC should consider making efforts to incorporate concerns identified by communities in its decision-making in a way that demonstrates that the NRC has attempted to address these concerns to the extent practicable. Finally, the NRC could consider requiring the applicant or the licensee to establish mechanisms for ongoing communication and interactions with EJ communities throughout the life of the license.

7.0 Mechanisms to Enhance the NRC's Methods for Consulting with American Indian Tribes to Identify Potential EJ-Related Concerns

Federally recognized American Indian tribes have a status as domestic dependent sovereign nations that distinguishes them as well as lays the foundation for how NRC engages with them. American Indian tribes, as well as indigenous communities, have historically experienced disproportionate adverse impacts from federal policies and decisions, they may have EJ-related concerns associated with NRC's regulatory and licensing actions. This section outlines a variety of suggestions for enhancing the NRC's current methods of consulting with American Indian tribes pursuant to NHPA Section 106 and NEPA (described in Section 5.2). While most of the methods currently used by NRC follow best practices for tribal consultation, opportunities exist for the NRC to expand and enhance its consultation and engagement practices such that tribes have additional opportunities to participate and provide more equitable and meaningful input in the federal decision-making process. The following suggestions are based on best practices identified in the literature regarding federal consultation activities (see GAO 2019; Luhman and Klein 2020; Rowe et al. 2018; Rowe and Finley 2021; ACHP 2012, 2015, 2017a, 2017b, 2019a, 2019b; NATHPO 2005).

7.1 Establish and Maintain Respect for Tribal Sovereignty

Respect for tribal sovereignty and recognition of the need for government-to-government consultation should be paramount. NRC should consider encouraging NRC staff to participate in tribal-hosted training sessions or attend training courses to learn the foundational principles of federal Indian law, tribal consultation, federal trust responsibility, and the history of American Indian policy.

7.2 Consult with American Indian Tribes Early

The NRC should consider establishing contact and consult with American Indian tribes, if possible, as early as during the pre-application stage. This communication would include presentations and information regarding the upcoming proposed action, NRC's safety and environmental review process, and the NHPA Section 106 consultation review. These meetings should preferably be held in person at a location convenient for the tribe on a government-to-government level.

While the applicant or licensee does not have a government-to-government relationship with tribes, it is important that the applicant or licensee establish a relationship with tribal staff. Such a relationship will ensure that the applicant or licensee is aware of tribal staff concerns about a proposed facility so that the applicant or licensee can develop any necessary outreach efforts. This is important for the NRC as the federal agency responsible for conducting the government-to-government consultation, and equally important for the applicant or licensee; both parties must build relationships, establish trust, and understand tribal nation needs and concerns.

The NRC could consider inviting tribal representatives to participate in a site visit at the licensed facility or proposed site and update standard review plans and regulatory guides accordingly. The NRC has invited tribal representatives to participate in site visits in the past on selected environmental projects and this approach could be applied consistently across environmental projects and become part of the environmental review process. Communication and

consultation protocols should also be established by the NRC for tribal nations. These can be formalized in memoranda of understanding or agreement in principle documents.

The NRC has entered into such agreements on selected environmental projects and this approach could be applied consistently across applicable environmental projects. Such documents are regularly used by some federal agencies and allow for expectations for communication and consultation throughout the project to be formally outlined and agreed upon.

7.3 Conduct Regular and Frequent Government-to-Government Consultation

Face-to-face meetings should be a regular NRC practice, offered in licensing and regulatory activities whenever possible. Several factors may influence the ability to hold face-to-face meetings including the proposed project, the interests of the tribes, and the desire for virtual meetings by parties involved. Formal government-to-government consultation should be instigated by the NRC, rather than waiting for a tribal request. When holding meetings, the platform and location should be determined in cooperation with the tribes. If face-to-face meetings are requested, their locations should be convenient for tribes and separate from the traditional NEPA public meeting. These meetings would facilitate information sharing and discussions that allow the NRC staff to hear and understand tribal concerns and establish connection and trust with tribal governments and staff. More than one meeting may be necessary to resolve ongoing issues and concerns. Depending upon the nature of the concerns and the potential for licensing and permitting actions to affect important resources, the NRC could consider holding multiple consultation meetings throughout the licensing or permitting environmental and safety review process.

7.4 Tailor Consultation and Outreach Activities to Meet Varying Tribal Nation Needs and to Respect Tribal Sovereignty and Government Structure

The NRC staff should consider establishing working relationships with American Indian tribes both at the leadership and staff levels, which can help facilitate communication while respecting tribal sovereignty and government and departmental organization. Relationship-building can also be enhanced by using a tribal liaison and dedicated agency staff that have experience working with American Indian tribes. In addition to being individual sovereign nations, each tribal nation has unique values, contexts, and needs. Consultation and engagement efforts should be adapted based on the project and tribal nation. To accomplish this, additional time and resources may need to be devoted to the project schedule and NEPA process. Such efforts could include working with tribal leadership and staff to identify tribal nation communities that may be especially vulnerable and developing communication mechanisms adapted to those communities. Such mechanisms could include assessing a community's access to broadband internet, telephone, radio, newspaper, and transportation—to attend public meetings—and developing creative outreach strategies based on assessment findings.

7.5 Conduct Research to Identify and Understand Historical Injustices Experienced by American Indian Tribes

American Indian tribes and indigenous populations have a history of unfair treatment by the federal government and therefore have experienced previous grievances or injustices as a

result. As part of the EJ analysis, it is crucial to better understand the unique historical injustices experienced by a tribal nation within a specific location. Researching this history can provide insights into a tribal nation's historical concerns. Understanding and recognizing these historical concerns can help restore a sense of trust between tribal nations and federal agencies. Ideally, such research would occur early in the NEPA process.

Historical EJ concerns could be identified during pre-application interactions but would most likely be identified during the scoping phase of the environmental review. In addition to informing consultation with American Indian tribes, such information would inform the EJ and historic and cultural resources analyses. The NRC could consider including this step in the NEPA analysis and update standard review plans and regulatory guides accordingly.

7.6 Establish Tribal Working Groups

The NRC could consider establishing specific working groups for tribal staff to participate in, where and if funding is available. For example, working groups could be established as part of specific licensing actions—in this case, the working group roles would begin at the pre-application stage and end if the license is issued. Working groups could also be established for other NRC policies and activities. The working groups would honor tribal relations at the government and staff levels and provide for two-way communication protocols and opportunities for continual, ongoing dialog and routine updates. To the extent feasible, the NRC could consider assigning an NRC staff member with experience working with American Indian tribes to facilitate tribal engagement and participation throughout the course of a license review.

7.7 Institute a Consultation Loop

It is important for the NRC to be transparent and upfront with American Indian tribes on how their input and concerns will be considered in the permitting and licensing review. It is important for NRC to close the consultation loop and clearly indicate how input and concerns were incorporated and/or considered, the rationale for the NRC's decisions, and, if applicable, why input was not able to be incorporated. While the NRC has undertaken efforts to improve its guidance documents regarding how agency decisions are informed by concerns raised by American Indian tribes during consultation,¹² the NRC could consider undertaking additional actions to assure it meaningfully considers all concerns raised by American Indian tribes. In undertaking these additional actions, the NRC should be prepared to provide transparent and inclusive information sharing that is frequent, regular, and two-way. In addition to communicating via letter notification, the NRC should consider routinely following up initial communications either by telephone, email, or through the establishment of routine face-to-face meetings or working groups with appropriate tribal government and staff. NRC staff should consider making efforts to incorporate concerns identified by American Indian tribes in its decision-making in a way that demonstrates that NRC has attempted to address these concerns to the extent practicable. Such information sharing could be formalized in NRC's Tribal Protocol Manual (for example) or in formal agreement documents (see Section 7.1.2). Communicating

¹²In response to a recommendation made by the GAO, which was published in a 2019 report entitled, "Tribal Consultation: Additional Federal Actions Needed for Infrastructure Projects." (GAO 2019), the NRC issued interim staff guidance in December 2020, requiring staff to inform American Indian tribes via written communication "who provide input on agency regulatory action as soon as practical after the agency's final decision. The new guidance would also be included in the next update of the agency's tribal consultation policy, Management Directive 5.1, "Consultation and Coordination with Governments and Indian Tribes."

how information is used is a key trust-building method that could be applied across all EJ communities and stakeholders.

7.8 Expand Data Gathering in the NEPA Process

Including tribal members in, and compensating them for, efforts to conduct field studies, identify cultural resources, evaluate significance, and develop mitigation strategies could strengthen the NRC's NEPA analysis and better allow for inclusion of tribal-specific data, depending upon funding availability. Such a model could be extended to other EJ communities as well, depending on the unique community context and needs.

7.9 Provide Financial Support

NRC could consider providing compensation for tribal participation in meetings, interviews, workshops, and cultural resource and other environmental resource studies, depending upon funding availability. The NRC can use lessons learned from other agencies that enable compensated stakeholder participation.

8.0 Internal Organizational Enhancements

This section provides a list of suggestions for the NRC to consider regarding ways to enhance its internal organizational approaches for conducting EJ assessments. The NRC has control over internal issues affecting its ability to address EJ within its mission. These are distinct from suggestions provided in Section 9.0, which focus on external approaches for working with stakeholders and options that may require new, enabling legislation or new funding sources. Internal suggestions include:

- Develop consistent EJ assessment guidance across environmental branches.
- Update EJ assessment guidance to include enhanced mitigation options that meaningfully address EJ impacts and EJ community concerns.
- Create community review panels to offer opinions on potential EJ-related concerns associated with licensing aspects when considering new applications and renewals.
- Improve efficiencies for the NRC and reduce burdens on EJ communities by coordinating the timing of outreach that are being completed by various NRC environmental branches occurring in the same region.
- Coordinate with other federal, state, and local agencies that have authority to address EJ concerns that arise during an EJ assessment that may fall outside of the NRC's regulatory authority or are beyond the scope of licensing or permitting actions.
- Update the NRC's NEPA information on the NRC website (<https://www.nrc.gov/about-nrc/regulatory/licensing/nepa.html#sec1>) to include an EJ subject area.
- Create a database that includes EJ community contacts and information regarding the identification and resolution of EJ concerns.
- Provide NRC staff conducting EAs and engagement activities with EJ communities (i.e., staff responsible for public meetings and technical staff engaging as part of a NEPA EJ assessment) applicable sensitivity and awareness training.

9.0 Additional Enhancements for NRC's Consideration

Opportunities exist for the NRC to expand its efforts to engage with EJ communities outside of the NEPA process. Engagement with EJ communities outside of a specific project review will provide the NRC with an opportunity to implement and expand EJ activities and awareness throughout its current and future programs and policies. Additional enhancements for the NRC to consider for expanding efforts beyond the realm of the NEPA review process are described in the following sections. Some opportunities would likely require new authorities and associated funding commitments, which may impose barriers to full consideration.

9.1 Establish and Fund NRC-Supported Tribal Working Groups

Federal agencies may consider sponsoring and funding working groups as a mechanism to engage tribal governments in various issues relevant to the NRC, depending upon funding availability. Doing so could help inform the NRC's EJ efforts under NEPA, as well as other policies and programs. For example, DOE supports multiple tribal working groups. These working groups explore a range of topics, serve as a mechanism to provide DOE with tribal input about programs and activities, serve as a forum for regular communications, provide education opportunities, and provide an opportunity for active involvement of tribal nations in DOE activities. This model could be considered for additional EJ communities as well.

9.2 Participating and Working with Other Federal Agencies' Tribal Working Groups

The NRC could consider formally participating and working with other federal agencies' tribal working groups on a frequent basis (e.g., those supported by DOE) as a mechanism for engaging with American Indian tribes regarding NRC licensing and regulatory activities. Participation in these working groups would allow the NRC to build on existing relationships and decrease the burden on American Indian tribes to participate, since working group participation would allow participating American Indian tribes to interact with multiple federal agencies at the same time.

9.3 Require Applicant/Licensee Engagement with Local Communities

The NRC could consider requiring that applicants and licensees formalize their outreach and engagement activities with local communities including American Indian tribes who may be affected by NRC-licensed sites or proposed projects. Communities and American Indian tribes who may be affected by NRC licensing and regulatory activities encounter a spectrum of engagement among NRC-licensed sites and proposed projects, with engagement activities and communication ranging from nonexistent to well developed. Developing a more standardized mechanism for license applicants and licensees to engage with communities, including American Indian tribes, could allow for early identification of issues, frequent and ongoing communication and information sharing, and relationship-building. Such engagement could be formalized in forums (e.g., in community-engagement panels or community advisory boards) or through formal agreement documents.

9.4 Raise Awareness of Emerging EJ Topics

EJ is evolving and the conversation around this topic currently is not being applied consistently across organizations and agencies. The concepts presented in this section are emerging topics being explored by some resource management agencies responsible for siting and building energy-related infrastructure or administering research or infrastructure programs (i.e., various offices within the DOE). While NRC may not have administrative authority in these areas, they are presented here for NRC's consideration and awareness as a regulator of licensees for nuclear material use.

9.4.1 Additional Justice Concepts

The energy justice literature identifies four tenets of justice that provide a relevant framework for how the NRC could incorporate EJ-related concerns and EJ community needs into its environmental decision-making and other programs and activities (Baker et al. 2019, Baker 2020, and Heffron and McCauley 2017). The four concepts of the energy justice framework include the following:

- procedural justice, which is focused on the inclusion of affected communities in the decision-making process in a fair and equitable manner
- distributive justice, which is focused on the fair distribution of benefits and burdens
- recognition justice, which entails recognition and reconciliation of current and historical inequalities
- restorative justice, which focuses on the correction of past injustices.

While many of the suggestions presented in previous sections of this document incorporate aspects of these concepts, this section is provided to raise NRC staff awareness about the overall justice framework. The NRC could also consider developing an integrated approach that links these four concepts to metrics to better develop specific, measurable, achievable, relevant, and time-bound goals as it relates to ongoing and future decision-making activities.

9.4.2 Address and Repair Past EJ Concerns

The concept of potentially addressing past concerns arises in part, from the concept of restorative justice described in Section 9.4.1. Where possible, the NRC could consider exploring ways to identify and repair past EJ concerns to address grievances and injustices related to cumulative impacts of NRC licensing and regulatory activities on EJ communities. For example, the NRC could begin to identify ways to clean up areas that are closed (i.e., NRC-licensed uranium recovery and mining sites) or begin discussions with DOE and other federal agencies on combining efforts and resources to support addressing past environmental impacts and preventing future EJ impacts.

9.4.3 Awareness of Labels and Terminology Used in Environmental Justice-Related EOs

As EJ is evolving, the discussion around EJ and the terminology used is also continually changing. The NRC could consider monitoring the ongoing conversation regarding the use of the term EJ as well as other terminology and labels used in the EJ-related EOs. For example, the use of the term EJ as a commonly used adjective to describe a population or group (i.e., EJ

community or population) ascribes a meaning to that group or groups of people that can result in marginalizing or misrepresenting those groups who have not had the opportunity to self-identify or express their needs relating to the natural and built environment. Although the language used in the EO^s provides somewhat clear identification of which groups are considered historically disadvantaged or underserved, using EJ as an adjective to describe or label groups of people can be interpreted to undermine the ability of groups to self-determine what they consider to be fair and equitable environmental outcomes. Rather EJ can be seen as an action—something to be accomplished—such that environmental equity can be improved.

Though not within the NRC’s control, the labels used in the EO^s to identify or label various populations do not necessarily represent the way in which many groups self-identify. Self-identification is vital, given the diversity of personal and ethnic experiences, and how the nature of these experiences contributes to overlapping and unique identities. Use of these labels can result in unequal participation of certain groups in the environmental decision-making process. NRC should consider the use of the term EJ to label groups of people. It may also be worthwhile to consider terminology in its policies and group labels. In addition, the NRC could explore other methods for identifying and working with communities that may be affected by NRC permitting, licensing, and regulatory activities to encourage self-determination and expression as related to accomplishing EJ in a manner that improves environmental equity. The NRC could consider these perspectives in its design and implementation of community-engagement activities.

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