

IMPACTS AND MITIGATION STRATEGIES DURING AND AFTER SITE CHARACTERIZATION

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ABSTRACT

There are substantial differences in the types of activities that DOE will be carrying out during, as opposed to after, site characterization. There are also substantial differences in the provisions of the Nuclear Waste Policy Act (the Act) for assessing and mitigating socioeconomic impacts during the two periods. This paper discusses, briefly, the differences between the site characterization phase and the repository construction and operation phase, and indicate how those differences may affect impacts and potential mitigation. It also discusses the role of impact assessment and monitoring programs in implementing effective mitigation strategies and the respective roles of DOE and affected parties in carrying out both parallel as well as cooperative efforts to project, identify, avoid and mitigate negative impacts. It concludes that as the level of DOE's site specific activities increases, so should the extent to which it is engaged in close consultation with affected parties about its activities and their potential impacts.

INTRODUCTION

There are substantial differences in the types of activities that DOE will be carrying out during, as opposed to after, site characterization. There are also substantial differences in the provisions of the Nuclear Waste Policy Act (the Act) for assessing and mitigating socioeconomic impacts during the two periods. Nevertheless, DOE, in close cooperation with affected States, Indian Tribes and local governments, has significant responsibilities, during site characterization and after, for assessing and monitoring potential impacts, and for being prepared to take mitigative action, if such action is needed.

This paper will discuss, briefly, the differences between the site characterization phase and the repository construction and operation phase, and indicate how those differences may affect impacts and potential mitigation. Although many impacts of the repository program may be viewed as beneficial, the focus of this paper will be on identifying and mitigating potential negative impacts. The paper will then examine the differences in the ways the Act provides for mitigating impacts during those two phases. Next it will discuss the role of impact assessment and monitoring programs in implementing effective mitigation

strategies. Finally, it will discuss the respective roles of DOE and affected parties in carrying out both parallel as well as cooperative efforts to project, identify, avoid and mitigate negative impacts.

Mitigation Approaches Differ By Program Phase.

During the site characterization phase, three sites will be affected, but only at one will there be significant continuing activities for a number of years following site selection. In one respect, this might be considered good news, in that even if negative socioeconomic effects occurred at the other two sites, many such effects could be short lived. In another respect, the very shortness of duration of events implies greater challenges for developing strategies to mitigate negative impacts. The uncertainty about which site would be carried forward complicates planning further.

Other important differences distinguish the site characterization phase from the repository construction and operation phase. The number of workers on-site during repository construction will be substantially higher than during site characterization, so that the likelihood of negative, growth-related impacts is much higher during the repository construction phase. In addition, radioactive waste will be on site

during repository operations, so that any socioeconomic impacts that might be attributable to the presence of waste at the site would occur primarily during that phase. During the site characterization phase, not only will there be no waste on any of the sites, on only one of the sites will there be the potential for waste to later be present. This does not, however, avoid the possibility that there may be residents of the State or the vicinity of the site who will assert that negative social or economic effects are likely to occur by the mere presence of DOE at the site during site characterization, whether radioactive materials are present or not.

The Act makes different provisions for dealing with adverse impacts during the site characterization phase and the repository construction and operation phase. The emphasis in the former is on avoiding and minimizing impacts by the way that site characterization activities are conducted. Although DOE does not anticipate any significant adverse impacts as a result of site characterization activities, should adverse impacts occur during that phase DOE would propose to address such impacts, in consultation with affected parties, via direct technical assistance, such as improving or constructing local roads, or providing temporary facilities. In the repository construction and operation phase, DOE will also actively work to avoid and minimize negative impacts, but the Act places greater emphasis in this phase on technical and financial assistance from DOE to the State or affected Indian Tribe to assist in mitigating or compensating for adverse impacts. However, in both phases DOE is committed to assuring to the maximum extent practicable that negative impacts the program might impose are avoided or mitigated.

The major provisions of the Act concerned with dealing with impacts during site characterization are: Section 113(a), which requires that DOE conduct site characterization activities in a manner that "minimizes any significant adverse" impacts; and Section 117(c)(5), which provides that Consultation and Cooperation (C&C) agreements address the manner in which DOE is to assist States and units of general local government in the vicinity of the repository site in "resolving offsite concerns." This could involve the provision of necessary funding to assist such entities in participating in any impact mitigation activities the Department may undertake. However, this funding during site characterization via a written C&C agreement would not include the provision of grant monies for impact mitigation. For example, one impact of site characterization activities may be the deterioration of a portion of the existing State road system that provides access to the site. The Department would not be authorized, under either Section 116(c)(1)(A) or (B), to mitigate this impact by providing grant funds to the State for road improvements. Rather, the Department could propose to mitigate the impact by making the necessary repairs or improvements either directly or via a contract with the State. In either instance, consultation and cooperation with the State would be necessary,

and the Department would be authorized under Section 116(c)(1)(A) to provide grants to the State to participate in the Department's efforts to address the impact in question.

During repository construction and operation, DOE must, in addition to any efforts to avoid or minimize adverse impacts, provide technical and financial assistance to the affected State (under Section 116(c)(2)) or Indian Tribe (under Section 118(b)(3)). DOE's decision about the appropriate level of such assistance is to be informed, in part, by a report, funded by DOE, on anticipated impacts submitted by the affected State and Tribal governments. DOE has determined that "affected Indian Tribes," as defined by the Act, are eligible to receive financial assistance to develop a report requesting impact assistance, and if the site is finally selected as a site for construction of a repository, then affected Indian Tribes would be eligible for financial and technical impact assistance as well.

Effective Mitigation Requires Monitoring And Planning.

Avoiding, minimizing and mitigating impacts must be based on an effective monitoring program. Monitoring, to be most useful, must have three points of focus: the impacts that occur; the activities that lead to those impacts; and the planning that proceeds those activities. Focusing on activities and plans broadens the opportunities for mitigative action and allows, in many cases, preventive action rather than simply reaction: in a medical analogy, preventive health care as opposed to band-aids, aspirins, or surgery.

The monitoring of plans makes it possible to identify alternative or additional activities to avoid or minimize negative impacts or to capitalize on positive effects. Such activities might range from changing work schedules to providing worker transportation. This is especially important for the site characterization phase, where the emphasis of the Act is on minimization of impacts. The monitoring of activities also provides an "early warning" system, especially as a check on whether the nature, scale, and timing of activities that actually occur is consistent with the plans on which earlier impact assessments and mitigative strategies were developed. The monitoring of actual impacts makes possible mid-course corrections, such as initiating new strategies to minimize impacts, or increasing or redirecting financial resources.

Impact Assessment, Monitoring, And Mitigation.

Both DOE and the affected State and any affected Indian Tribel(s) will be engaged in efforts to assess impacts, to monitor activities and impacts, and to plan to minimize or mitigate adverse impacts. During the next several years, DOE will conduct several socioeconomic studies to meet the requirements of the Nuclear Waste Policy Act, DOE's final Siting Guidelines (10

CFR 960), NRC's 10 CFR 60, and the National Environmental Policy Act (NEPA). Although DOE will conduct several studies to meet these requirements, the States and Indian Tribes, under sections 116 and 118 of NWPA, can, and we expect they will, initiate their own studies. There will be numerous instances in which the efforts of DOE and of affected parties will be cooperative -- characterized by extensive sharing of information, discussion, and joint planning.

DOE is currently developing plans to monitor its activities and their potential significant adverse impacts during site characterization. These Socioeconomic Monitoring and Mitigation Plans (SMMPs) are being discussed in working draft form with affected parties. Such monitoring will also be necessary at the site where a repository is to be constructed. Sections 116, 117, and 118 of the Act indicate that not only are affected States and Indian Tribes expected to monitor DOE's activities during site characterization and during repository construction and operation, but that they are expected to be financially supported in such efforts by DOE. In addition to providing such support to affected parties, DOE is to assist their efforts by making timely information about its activities available.

Prior to monitoring activities and potential impacts of repository construction and operation, both DOE and the affected parties will, during the site characterization phase of the program, conduct assessments to project the likely impacts of the development of a repository at a site. As noted above, much of

DOE's projection of impacts will be conducted to meet the requirements of the Act, of NEPA, of 10 CFR 960 and 10 CFR 60, and most of the results will be documented in the Environmental Impact Statement (EIS) for repository siting. The assessments in which the affected parties will indicate the types and level of impacts they anticipate will be presented to DOE, and then, by DOE, to the President in the form of an impact report.

Close consultation throughout the period when each party is conducting its assessment will increase the extent to which DOE's assessment, and that presented in the affected parties' impact report, share common ground with respect to both the nature and the magnitude of impacts. Toward this end, effective use could be made of working groups composed of representatives of DOE, State government, local governments, and perhaps other local groups. Such working groups would facilitate reaching common understandings about many of the issues involved, and narrowing the range of disagreement about others.

As the level of DOE's site specific activities increases, so should the extent to which it is engaged in close consultation with affected parties about its activities and their potential impacts. Congress intended that the manner in which this consultation was to take place be laid out in formal Consultation & Cooperation agreements, but until such agreements are in place, it will still be necessary to achieve a level of consultation and cooperation that permits effective information sharing and planning, and to establish procedures by which DOE will assist appropriate levels of government in resolving concerns about site characterization activities.