The Role and Use of Programmatic Environmental Impact Statements and Environmental Assessments in Fulfilling NEPA and State Environmental Mandates

by

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Abstract

The Council on Environmental Quality’s (CEQ’s) regulations in the Code of Federal Regulations (CFR), Title 40, Part 1500 (40 CFR 1500) implement Section 102(2) of the National Environmental Policy Act of 1969, as amended (NEPA). In doing so, the CEQ’s regulations tell federal agencies what they must do to comply with the procedures and achieve the goals of NEPA. The CEQ’s regulations at 40 CFR 1502.4(b) and (c) allow federal agencies to prepare environmental impact statements (EISs) on “broad actions” in which federal proposals can be evaluated geographically, generically, or by stage of technological development.

Federal agencies have prepared broad action EISs and programmatic Environmental Assessments (EAs), when appropriate, to help in complying with NEPA. For their part, State agencies also have prepared these types of broad action documents to meet the relevant environmental regulations of the State.

The purpose of this capstone paper is to provide a focused survey of programmatic EISs (or PEISs), generic EISs (or GEISs), and programmatic Environmental Assessments, that have been prepared by Federal and State agencies. This paper will further discuss the role and use of these “broad action” environmental documents in aiding the preparing agency’s decision-making process while meeting that agency’s regulatory mandate.
Introduction

The Council on Environmental Quality (CEQ) has promulgated regulations that implement Section 102(2) of the National Environmental Policy Act of 1969, as amended (NEPA). The CEQ’s regulations, found in the Code of Federal Regulations (CFR), Title 40, Part 1500 (40 CFR 1500), tell federal agencies what they must do to comply with the procedures and achieve the goals of NEPA. These regulations are applicable to and binding on federal agencies for implementing the procedural provisions of NEPA.

The CEQ’s regulations at 40 CFR 1502.4(b) and (c) address the preparation of environmental impact statements (EISs) on “broad actions” in which federal proposals can be evaluated geographically, generically, or by stage of technological development. 40 CFR 1502.4(b) states that

“Environmental impact statements may be prepared, and are sometimes required, for broad federal actions such as the adoption of new agency programs or regulations (§1508.18). Agencies shall prepare statements on broad actions so that they are relevant to policy and are timed to coincide with meaningful points in agency planning and decisionmaking.”

40 CFR 1502.4(c) states:

“When preparing statements on broad actions (including proposals by more than one agency), agencies may find it useful to evaluate the proposal(s) in one of the following ways:

(1) Geographically, including actions occurring in the same general location, such as body of water, region, or metropolitan area.
(2) Generically, including actions which have relevant similarities, such as common timing, impacts, alternatives, methods of implementation, media, or subject matter.
(3) By stage of technological development including federal or federally assisted research, development or demonstration programs for new technologies which, if applied, could significantly affect the quality of the human environment. Statements shall be prepared on such programs and shall be available before the program has reached a stage of investment or
commitment to implementation likely to determine subsequent development or restrict later alternatives.”

The CEQ’s regulations provide additional guidance as to the ways by which federal agencies can relate broad and “narrow actions” and avoid duplication and delay. Among the approaches identified are tiering and incorporation by reference. Tiering is intended to “eliminate repetitive discussions of the same issues and to focus on actual issues ripe for decision at each level of environmental review.” (40 CFR 1502.20, 40 CFR 1508.28) Agencies may also incorporate by reference material from higher level documents (e.g., PEISs, GEISs, programmatic EAs) to lower (i.e., site-specific) documents, by citing and briefly describing the content incorporated (40 CFR 1502.21).

Broad action EISs have become known either as Programmatic EISs (PEISs) or Generic EISs (GEISs). The U.S. Department of State’s NEPA-implementing regulations at 22 CFR 161.9(l) distinguish between these two types of EISs. GEISs review “the environmental effects that are generic or common to a class of … actions,” while PEISs, on the other hand, focus on “the environmental effects of the program.” In addition to these two types of broad action EISs, agencies, as appropriate, also may prepare programmatic Environmental Assessments (EAs) in complying with NEPA when the programmatic environmental effects are found to be not significant.

In this capstone paper, I survey a select number of PEISs, GEISs, and programmatic EAs prepared by both Federal and State agencies. The goals of the survey are to (1) examine the agency’s expressed reasons for preparing the document; (2) discuss the manner in which the PEIS, GEIS, or programmatic EA met the agency’s regulatory mandate; and (3) evaluate the agency’s use of the document in its decision-making process on “narrow” agency actions. The PEISs, GEISs, and programmatic EA selected for this survey were prepared by or for the following agencies:

- U.S. Nuclear Regulatory Commission (NRC)
- U.S. Department of Energy (DOE)
- U.S. Bureau of Land Management (BLM)
- U.S. National Aeronautics and Space Administration (NASA)
- U.S. Food and Drug Administration (USDA)
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- U.S. Food and Drug Administration, Forest Service (USFS)
- New York State Department of Environmental Conservation
- Minnesota Environmental Quality Board

Discussion

**NRC GEIS for In-Situ Leach Uranium Milling Facilities**

The NRC is a federal agency created under the Energy Reorganization Act of 1974. This act split the Atomic Energy Commission into two separate agencies, the NRC and Energy Research and Development Agency (later called the DOE), with distinct regulatory missions. The NRC’s mission is to license and regulate the Nation's civilian use of radioactive materials to protect public health and safety, promote the common defense and security, and protect the environment. In fulfilling part of NRC’s mission to protect the environment during the use of radioactive materials, the agency has prepared GEISs for broad actions such as (1) the relicensing of nuclear power plants, (2) the handling and storage of spent nuclear reactor fuel, (3) the decommissioning of nuclear facilities, and (4) in support of rulemaking on radiological criteria for license termination.

In 2009, the NRC also completed preparation of a GEIS for in-situ uranium recovery (ISR) facilities (NRC, 2009). Under NRC’s NEPA-implementing regulations in 10 CFR Part 51, the issuance of an NRC license to possess and use source material for uranium milling requires the preparation of an EIS (see 10 CFR 51.20(b)(8)). The NRC determined that a GEIS would help in fulfilling this requirement by providing a starting point for NRC’s NEPA analyses for site-specific license applications for new ISR facilities, as well as for applications to amend or renew existing ISR licenses (NRC, 2009). The GEIS assessed the potential environmental impacts associated with the construction, operation, aquifer restoration, and decommissioning of an ISR facility in four specified regions in the western United States where such future facilities were likely to be located.

Since the issuance of the GEIS in 2009, the NRC has completed five supplemental EISs (SEISs), each in support of an NRC licensing decision related to a site-specific ISR facility to be located in one of the four regions identified in the GEIS. In each SEIS, the NRC staff evaluated site-specific data and information to determine whether the applicant’s proposed activities and

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1 Source Material means: (1) Uranium or thorium, or any combination thereof, in any physical or chemical form or (2) ores which contain by weight one-twentieth of one percent (0.05%) or more of: (i) Uranium, (ii) thorium or (iii) any combination thereof.
the site’s characteristics were consistent with those evaluated in the GEIS. NRC staff then
determined relevant sections, findings, and environmental impact conclusions in the GEIS that
could be incorporated by reference into the SEIS and areas that required additional analysis.

**DOE PEIS for Alternative Strategies for the Long-Term Management and Use of Depleted Uranium Hexafluoride**

As discussed previously, the DOE was created in 1974 as part of the split of the Atomic
Energy Commission. The DOE’s current mission is to ensure America’s security and prosperity
by addressing its energy, environmental and nuclear challenges through transformative science

In 1999, the DOE published the “Final Programmatic Environmental Impact Statement
for Alternative Strategies for the Long-Term Management and Use of Depleted Uranium
Hexafluoride” (DOE, 1999a). Recognizing the need for a strategy to manage stockpiles of
depleted uranium hexafluoride (UF₆) at three DOE sites, the DOE prepared the PEIS to assess
the potential environmental impacts of alternative strategies for achieving the safe long-term
storage, use, or disposal of the depleted UF₆ inventory at these sites. The DOE recognized that
additional NEPA analyses were likely once the long-term strategy had been selected, with these
additional analyses evaluating issues such as where to locate facilities, which specific
technologies or processes to use, and what site-specific impacts might result from construction
and operations. In the Record of Decision issued for the PEIS (DOE, 1999b), DOE decided to
(1) promptly convert the depleted UF₆ inventory to a more stable uranium oxide form; (2) use the
resultant depleted uranium oxide as much as possible, storing the remaining for potential uses or
disposal; and (3) convert the depleted UF₆ to depleted uranium metal only if uses for the metal
were available. DOE, however, did not select specific sites for the conversion facilities.

In 2004, the DOE published two site-specific EISs for the construction and operation of
separate depleted UF₆ conversion facilities at the Paducah, Kentucky, and Portsmouth, Ohio,
sites (DOE, 2004a, 2004b). These EISs considered the construction, operation, maintenance, and
decontamination and decommissioning of a proposed depleted UF₆ conversion facility at three
locations within each site; transportation of depleted uranium conversion products and waste
materials to a disposal facility; transportation and sale of the hydrogen fluoride (HF) produced as
a conversion co-product; and neutralization of HF to calcium fluoride and its sale or disposal in
the event that the HF product is not sold. Both depleted UF₆ conversion facilities have been constructed and are currently converting the nation’s 800,000 metric ton inventory of depleted UF₆ to more benign forms for sale, ultimate disposal or long-term storage.

**BLM PEIS for Geothermal Leasing in the Western United States**

In August 2005, the U.S. Congress enacted the Energy Policy Act of 2005, *Public Law 109-58*, which recognized the increasing demand for renewable energy and the need to facilitate leasing decisions for geothermal resources on public lands. Section 225 of that Act, titled "Coordination of Geothermal Leasing and Permitting on Federal Lands," required that the Secretary of the Interior and Secretary of Agriculture establish a program for reducing by 90 percent the backlog of geothermal lease applications that were pending as of January 1, 2005. The Act also mandated that action be taken by August 8, 2010.

Partially in response, the BLM in cooperation with the USFS, prepared the “*Final Programmatic Environmental Impact Statement (PEIS) for Geothermal Leasing in the Western United States,*” with the expressed purposes of (1) to make geothermal leasing decisions on 19 pending lease applications submitted prior to January 1, 2005; and (2) to facilitate geothermal leasing decisions on other existing and future lease applications and nominations on the federal mineral estate in 12 western States, including Alaska (BLM, 2008a). The BLM and USFS proposed to allocate hundreds of millions of acres of public lands and National Forest System lands as open to geothermal leasing. In doing so, the BLM and USFS developed a comprehensive list of stipulations, best management practices (BMPs), and procedures to serve as consistent guidance for future geothermal leasing and development on public and National Forest System lands. The PEIS programmatically evaluated direct and indirect impacts based on the foreseeable on-the-ground actions, including exploration, drilling, and utilization. Beyond some general and programmatic discussion of the possible effects, the PEIS did not include evaluations for site-specific issues associated with on-the-ground actions of geothermal exploration, drilling, utilization, or reclamation and abandonment (BLM, 2008a).

Based on the PEIS analysis, the BLM amended 114 land use plans in order to allocate roughly 111 million acres of BLM-administered lands as open to geothermal leasing and to adopt a reasonably foreseeable development scenario, stipulations, BMPs, and leasing procedures for geothermal resources in 11 western States and Alaska (BLM, 2008b).
Additionally, the PEIS provided information that the USFS could use to facilitate subsequent consent decisions for any leasing on National Forest System lands.

In public workshops for the PEIS, BLM stated its intent that, upon receiving future geothermal lease nominations or applications, the affected BLM offices would be able to determine conformance with the appropriate Land Use Plan and also a NEPA adequacy evaluation. BLM’s goal was to determine that its lease sale decisions could be made without further plan amendments or NEPA analysis, unless new information or special circumstances required additional environmental evaluation (BLM, 2009).

An example of the “site-specific” use of the BLM PEIS was with the USFS’s *Final Environmental Impact Statement for Geothermal Leasing on the Humboldt-Toiyabe National Forest* (USFS, 2012). In this case, the USFS determined that additional site-specific environmental analysis was needed to supplement the BLM PEIS in order for the USFS to make a decision about providing concurrence/consent to the BLM to lease lands in the Humboldt-Toiyabe National Forest for the purpose of developing geothermal resources (USFS, 2012). Therefore, the USFS prepared an EIS tiered to and incorporating by reference appropriate elements of the BLM PEIS (e.g., resource impact analysis, stipulations, leasing procedures, and BMPs), but with an analysis refined to include other, more site-specific protective provisions. Subsequent site-specific ground-disturbing geothermal exploration or development projects would require further environmental analysis, such as an environmental assessment or an EIS that could tier to the 2012 site-specific EIS and the 2008 PEIS (USFS, 2012).

**NASA Programmatic “Environmental Assessment for Launch of NASA Routine Payloads on Expendable Launch Vehicles”**

NASA was established under the National Aeronautics and Space Act of 1958 for the purposes, in part, to “plan, direct, and conduct aeronautical and space activities; [and] arrange for participation by the scientific community in planning scientific measurements and observations to be made through use of aeronautical and space vehicles, and conduct or arrange for the conduct of such measurements and observations.” Among NASA’s stated objectives under the Act is “(t)he preservation of the role of the United States as a leader in aeronautical and space science and technology and in the application thereof to the conduct of peaceful activities within and outside the atmosphere.”
NASA recognized the need for a programmatic assessment given its objectives of U.S. space and Earth exploration and the use of a continuing series of scientific spacecraft to be designed, built, and launched into Earth orbit or towards other bodies in our solar system. In November 2011, NASA published the “Final Environmental Assessment for Launch of NASA Routine Payloads on Expendable Launch Vehicles” (NASA, 2011a). In programatically analyzing the associated environmental impacts, the design and operational characteristics of the routine payloads were rigorously bounded (NASA, 2011a). Additionally, these spacecraft would use the materials, launch vehicles, facilities, and operations normally and customarily employed at the designated launch sites. The 2011 EA incorporated by reference the existing NEPA documentation for the launch vehicles and payload processing facilities to be used.

Updating a 2002 document that focused on launches from Cape Canaveral Air Force Station in Florida and Vandenberg Air Force Base in California, the 2011 EA added additional launch vehicle families and the additional launch sites of (1) the Ronald Reagan Ballistic Missile Defense Test Site at the U.S. Army Kwajalein Atoll in the Republic of the Marshall Islands; (2) NASA’s Wallops Flight Facility in Virginia; and (3) the Kodiak Launch Complex in Alaska.

In its Finding of No Significant Impact or FONSI (NASA, 2011b), NASA noted that (1) routine payloads would not increase the launch rates nor use launch systems beyond the scope of approved programs at the launch sites; and (2) no significant new circumstances or information related to environmental concerns associated with the launch vehicles had been identified that would affect earlier NASA environmental findings. NASA also stated that as a specific new spacecraft mission was defined, the mission first will be reviewed to determine whether it falls within or outside the scope of the programmatic EA, and if so, an additional environmental review would be conducted and documented, as appropriate (NASA, 2011b).

**USDA PEIS on Fruit Fly Cooperative Control Program**

The USDA is authorized under Title IV – Plant Protection Act, *Public Law 106-224, 114 Stat. 438-455*, to take measures to prevent the dissemination of a plant pest that is new or is not known to be widely prevalent or distributed within or throughout the United States. Recognizing the destructive potential of fruit flies and the serious threat they represent to U.S. agriculture, the USDA, Animal and Plant Health Inspection Service (APHIS) had, in concert with State agricultural agencies, responded often in expensive, complex and even controversial emergency
actions to exclude, detect, and eradicate the fruit fly pests. In 2001, APHIS, in cooperation with other federal and state agencies, prepared the “Fruit Fly Cooperative Control Program — Final Environmental Impact Statement” (USDA, 2001).

The 2001 EIS was a broad, programmatic analysis of the alternatives for fruit fly programs that collectively make up the Fruit Fly Cooperative Control Program (USDA, 2001). The document focused on then available program control methods and the associated environmental impacts by providing an overview of the programs and incorporating by reference previous fruit fly species-specific control programs. The EIS also identified the specific procedures which APHIS would follow prior to implementing a program, to ensure that site-specific characteristics of the program area are considered (USDA, 2001). The site-specific environmental reviews would then summarize and incorporate by reference the programmatic analyses in the EIS. The EIS also identified the site-specific aspects of the program areas to be considered (e.g., land use patterns, human population density) and presented the specific procedures for the site-specific evaluations.

Two recent site-specific applications of the EIS occurred in 2012, to address respectively, infestations of Mexican fruit flies in Cameron County, Texas and of Mediterranean fruit flies in Rancho Cucamonga, San Bernardino County, California. For both of these infestations, APHIS prepared Environmental Assessments (EAs) to analyze the environmental consequences of alternatives considered to eradicate the subject fruit fly populations, and to consider the site-specific environmental issues relevant to the implemented eradication program (USDA, 2012a, 2012b). In each EA, APHIS incorporated by reference the alternatives analysis from the 2001 EIS, along with other fruit fly-specific chemical risk assessments and insecticide risk assessments, to support its analysis. Both EAs were issued in the same month as the respective identification of the fruit fly infestation and supported a timely response to the destructive potential of these fruit fly populations.

**USFS’s PEIS on National Forest System Land Management Planning**

The Secretary of Agriculture is vested with broad authority to make rules: “to regulate occupancy and use and to preserve [the forests] from destruction” (16 U.S.C. 551). The Multiple-Use Sustained Yield Act of 1960 authorizes and directs that the national forests be managed under principles of multiple use and to produce sustained yield of products and services and for
other purposes. The National Forest Management Act of 1976 directs the Secretary to promulgate regulations for the development and revision of land management plans and prescribes a number of provisions that the regulations shall include, but not be limited to (16 U.S.C 1600(g)).

In 2012, the USFS published the “Final Programmatic Environmental Impact Statement – National Forest System Land Management Planning” (USFS, 2012a). This PEIS was prepared in support of a new USFS regulation (i.e., planning rule) to guide the development, revision, and amendment of land management plans for units of the National Forest System. The purpose of and the need for the new planning rule was to provide the direction for national forests and grasslands to develop, revise, and amend land management plans to enable land managers to consistently and efficiently respond to social, economic, and ecological conditions. The preferred alternative in the PEIS would require preparation of an EIS and a Record of Decision for new plans and plan revisions. This alternative would provide guidance for plans to require monitoring that evaluates changes on the unit and across the broader landscape. Monitoring would be used to assess progress toward achieving desired conditions in plans, and for evaluating whether there is a need for re-assessment and plan revision or amendment.

The USFS planning rule supported by the PEIS analysis was published in the Federal Register on April 9, 2012, and it became effective on May 9, 2012 (USFS, 2012b). Since then, the USFS has released proposed planning directives for public review and comment. These directives are the key set of agency guidance documents that direct implementation of the 2012 planning rule (http://www.fs.usda.gov/planningrule).

**NYSDEC GEIS on the Oil, Gas, and Solution Mining Regulatory Program**

In New York, the State Environmental Quality Review Act has as its basic purpose “to incorporate the consideration of environmental factors into the existing planning, review and decision-making processes of state, regional and local government agencies at the earliest possible time.” The State regulations implementing this Act allow the preparation of a GEIS for separate actions having similar types of impacts.

In 2011, the New York State Department of Environmental Conservation (NYSDEC) published the “Revised Supplemental Draft GEIS on the Oil, Gas and Solution Mining Regulatory Program – Well Permit Issuance for Horizontal Drilling and High-Volume
Hydraulic Fracturing to Develop the Marcellus Shale and Other Low-Permeability Gas Reservoirs” (NYSDEC, 2011). NYSDEC identified high-volume hydraulic fracturing as “an approach to extracting natural gas in New York that raises new, potentially significant, adverse impacts” that were not studied previously in a 1992 GEIS on the State’s oil, gas and solution mining regulatory program. The revised draft SGEIS discusses in detail high-volume hydraulic fracturing and describes the potential significant environmental impacts from this activity as well as measures that would fully or partially mitigate the identified impacts (NYSDEC, 2011). Specific mitigation measures would be adopted as part of the NYSDEC Final GEIS in the event high-volume hydraulic fracturing is authorized in New York.

NYSDEC’s public internet site for the Revised Supplemental Draft GEIS stated that NYSDEC had received more than 60,000 public comments on the document (http://www.dec.ny.gov/energy/47554.html). Following resolution of those comments and issuance of the Final SGEIS, the NYSDEC would then process and, as appropriate, issue well permits for gas well development using high-volume hydraulic fracturing in accordance with both the 1992 GEIS and the Final SGEIS.

MEQB GEIS on Timber Harvesting and Forest Management

The Minnesota Environmental Quality Board (MEQB) was established by the Minnesota Legislature in 1973 to serve as an interdepartmental forum for addressing and resolving environmental problems and issues. Under Minnesota Rules 4410.3800: Subpart 5, criteria are provided for the preparation of a GEIS, among which is the potential for significant environmental effects as a result of the cumulative impacts of such projects.

In 1994, in response to a growing concern about the impact of increased timber harvesting on Minnesota’s environment, MEQB contracted for the preparation of the “Final Generic Environmental Impact Statement Study on Timber Harvesting and Forest Management in Minnesota” (MEQB, 1994). The GEIS examined the impacts of timber harvesting and forest management on Minnesota’s environment and on relevant sectors of the state and regional economies with an emphasis on the examination of cumulative impacts of timber harvesting and forest management activities occurring on all timberlands in Minnesota. The GEIS assessed three levels of statewide timber harvesting activity as the basis for incremental analyses of the potential impacts of timber harvesting and forest management.
Since its publication, topical areas identified in the GEIS have been used to develop timber harvest and forest management guidelines that were integrated with the existing best management practice publications (Minnesota Department of Natural Resources, 2010). These guidelines, issued in 1996, were revised and republished in 2005 and later modified in 2007 to include biomass harvesting guidelines for forestlands, brushlands and open lands.

Conclusion

The CEQ’s regulations at 40 CFR 1502.4(b) and (c) allow federal agencies to prepare EISs on “broad actions” in which federal proposals can be evaluated geographically, generically, or by stage of technological development. This capstone paper surveyed 7 broad action EISs (i.e., PEISs and GEISs) and a programmatic EA, for the purpose of evaluating the role and usefulness of these types of documents in meeting an agency’s compliance with NEPA or State environmental mandates, consistent with the agency’s regulatory authorities.

As shown in this paper, federal and state regulatory agencies have used programmatic EISs or EAs to (1) establish criteria for subsequent site- or technologically-specific environmental analyses (e.g., NRC’s licensing of uranium recovery facilities, NASA’s approval of routine payload launches, USDA’s authorizing of fruit fly eradication programs, and NYSDEC’s permitting of high-volume hydraulic fracturing); (2) support agency rulemaking and guideline development efforts (e.g., USFS’s planning rule for National Forest System land management, MEQB’s timber harvesting guidelines); and (3) support agency program decisions (e.g., DOE’s long-term management of DUF₆ stockpiles, BLM’s permitting of geothermal leasing in the western U.S.).

When these programmatic EISs and EAs have been used in an agency’s decision process for site- or technologically-specific actions, the agency has made use of tiering and incorporation by reference to link the programmatic and “narrow action” documents and to support environmental impact conclusions in the site- or technologically-specific document. Tiering and incorporation by reference, as discussed previously, are recommended approaches in the CEQ’s regulations. Using these approaches also allowed the regulatory agency to account for site characteristics and the technology specific to the permitting or licensing decision, such that additional environmental analysis could be performed if warranted.
Finally, in preparing these programmatic EISs and EAs, agencies have consistently done so within the legal authority and mandates that govern the respective agency’s actions. Agencies have demonstrated that, when used consistent with the CEQ’s NEPA regulations, programmatic EISs and EAs can aid the agency decision-making process.
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References


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