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The National Energy Policy Report: Environmental Permitting and Regulatory Issues

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Summary

On May 16, 2001, the National Energy Policy Development (NEPD) Group headed by Vice President Dick Cheney submitted a report, "National Energy Policy," that outlines recommended policy changes that would affect energy supply, demand, and environmental quality. The report provides extensive discussion of the current energy situation, and makes 105 recommendations for actions. Throughout the document, environmental protection needs are frequently mentioned in concert with achieving the report's goals of increasing supplies of energy; encouraging energy conservation and alternative, renewable energy sources; and improving energy efficiency. It also recommends streamlining of environmental permitting and reducing constraints from certain environmental requirements for air quality in order to achieve the goals of the plan.

How these policy changes may affect the environment is indeterminate at this point. The NEPD report has few numeric goals, and, with some exceptions, the fuel types, numbers, and locations of energy facilities are not specifically recommended. Thus, specific environmental impacts connected with them, or mitigated by use of various alternatives, can only be identified in the broadest terms. However, with or without a national energy policy, the nation will inevitably face some environmental tradeoffs in meeting future energy needs. Under virtually any energy policy scenario, there will be discharges to streams, lakes and coastal waters; there will be air emissions, some of which could be transported to distant waterbodies and airsheds; and there will continue to be wastes produced during construction and operations that disturb the land. At issue are what environmental risks these activities present, and what energy and environmental protection strategies are likely to be the most effective in avoiding unacceptable risk.

This CRS report examines a subset of the environmental issues associated with the Administration's policy outline. It focuses specifically on the environmental permitting and regulatory policies presented in the NEPD report that deal with streamlining of regulations; possible impacts on air quality, climate change, and water quality; and pollution issues potentially associated with oil and gas exploration in the Arctic National Wildlife Refuge (ANWR). It does not discuss the broad energy policy or the inevitable, but currently unquantifiable, environmental implications of an unspecified mix of energy activities. Increased use of renewable resources or nuclear energy, for example, may result in fewer polluting emissions, while a different mix with more use of conventional energy resources might result in more emissions.

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Overview

Faced with energy price increases nationwide and the complex energy problems of California and the Pacific Northwest, in January 2001, President Bush established the National Energy Policy Development (NEPD) Group headed by Vice President Dick Cheney and directed it to develop a national energy policy.[1] On May 16, the NEPD Group submitted its report, outlining policy changes that would affect energy supply, demand, and environmental quality. The report provides extensive discussion of the current energy situation and makes 105 recommendations for actions.[2] It calls for increased energy production, increased resource extraction, and greater numbers of powerplants. It recommends oil and gas exploration in the potentially oil- and gas-rich and environmentally sensitive Arctic National Wildlife Refuge (ANWR), as well as on other federal lands. It recommends a variety of incentives for increasing use of alternative, renewable energy resources, and encouraging energy efficiency and conservation. It also recommends streamlining of environmental permitting and reducing constraints from certain environmental requirements for air quality in order to achieve the goals of the plan.

How the policy changes in the plan may affect the environment is indeterminate at this point. The NEPD report has few numeric goals, and, with some exceptions, the fuel types, numbers, and locations of energy facilities are not specifically recommended. Thus, specific environmental impacts connected with them, or mitigated by use of various alternatives, can only be identified in the broadest terms. However, some of the qualitative tradeoffs, while not discussed explicitly in this report, can be identified; for example, they include the facts that:

- Increased reliance on coal will adversely affect air quality as a result of increased pollutant emissions and will add to greenhouse gas emissions, while substitution of natural gas and nuclear power for coal and oil will have less of an impact on air emissions.

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[1] For a discussion of energy policy, including the NEPD report, see CRS Issue Brief IB10080, *Energy Policy: Setting the Stage for the Current Debate.*

[2] *National Energy Policy; Reliable, Affordable, and Environmentally Sound Energy for America's Future,* Report of the National Energy Policy Development Group, May 2001. 163 p. (Hereafter *National Energy Policy,* or the NEPD report)

- Despite its benefits from the air quality perspective, nuclear power has negative environmental impacts that other energy sources do not from the perspectives of waste disposal and potential impact from accidents.

- Development of environmentally sensitive areas such as ANWR for oil and gas will have not only ecological implications from routine operations but also potential risks of increased pollution and oil spills.

- To the extent energy efficiency gains and conservation efforts are accelerated nationally, less energy will be used in the future with less negative effect on the environment.

With or without a national energy policy, if the Gross Domestic Product (GDP) doubles over the next 25 years, as has been predicted, and energy consumption to support that economic growth increases by 32%, as the NEPD report predicts, the nation will inevitably face some environmental tradeoffs in meeting future energy needs. Even if the cleanest, newest and most environmentally benign energy technologies are utilized in all cases, and even if conservation and use of more energy efficient technologies reduce the growth of energy demand, some impacts on air and water quality and land resources appear inevitable. Under virtually any energy policy scenario, there will be discharges to streams, lakes and coastal waters; there will be air pollutant emissions, some of which could be transported to distant waterbodies and airsheds; and there will be wastes produced during construction and operations that disturb the land. At issue are what environmental risks these activities present, and what energy and environmental protection strategies are likely to minimize those risks.

This CRS report examines a subset of the environmental issues associated with the Administration's policy outline. It focuses specifically on the environmental permitting and regulatory policies presented in the NEPD report that deal with streamlining of regulations; possible impacts on air quality, climate change, and water quality; and pollution issues potentially connected with ANWR. It does not discuss the broad energy policy or the inevitable, but currently unquantifiable, environmental implications of an unspecified mix of energy activities.

Environmental Permit Streamlining[3]

Streamlining of environmental permits and reviews has been an issue in past energy policy debates, and the NEPD report raises the issue once again. Specific environmental requirements and complexities of obtaining permits have been cited as contributing to or fundamentally causing some energy project delays.

Examination of actual cases, however, often identifies a range of factors that can affect, delay or even derail major projects, including economic costs and uncertainties and a lack of consensus on the need for a project, in addition to environmental rules and permits. Whether environmental rules are the central reason for delays in building energy facilities is often debated. In addition to federal requirements, many of the

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[3] Prepared by Claudia Copeland, Specialist in Resources and Environmental Policy.

relevant permits and regulations are state or local. Comprehensive streamlining would likely involve all levels of government.

Attempts to simplify environmental review procedures in order to speed decisionmaking are rarely simple and often lead to controversies. In response to the energy crisis of the late 1970s, Congress and the Carter Administration considered proposals to create an Energy Mobilization Board, a new agency empowered to put priority energy projects on a "fast track" to completion, and to give the board authority to cut through red tape and delays affecting key energy projects. The major controversy over this proposal, debated throughout 1979 and 1980, was whether the board would have the power to waive or override substantial requirements of federal, state and local law, particularly environmental laws. Ultimately, Congress rejected the conference report on an omnibus energy bill that would have created the board and given it such authority.

The NEPD report does not propose anything on the order of the earlier proposed Energy Mobilization Board with powers to override statutory requirements, but one of its first recommendations concerns permitting of energy-related facilities.[4] The theme of streamlining permits is the centerpiece of Chapter 3 of the report, "Protecting America's Environment."

> The NEPD Group recommends the President issue an Executive Order to rationalize permitting for energy production in an environmentally sound manner by directing federal agencies to expedite permits and other federal actions necessary for energy-related project approvals on a national basis. This order would establish an interagency task force chaired by the Council on Environmental Quality to ensure that federal agencies responsible for permitting energy-related facilities are coordinating their efforts. The task force will ensure that federal agencies set up appropriate mechanisms to coordinate federal, state, tribal, and local permitting activity in particular regions where increased activity is expected.

In response, two days after release of the NEPD report, President Bush issued Executive Order 13212, "Actions to Expedite Energy-Related Projects." The Executive Order states that "it is the policy of this Administration that executive departments and agencies shall take appropriate actions, to the extent consistent with applicable law, to expedite projects that will increase the production, transmission, or conservation of energy." It establishes a multi-agency task force to assist agencies in expediting review of permits to accelerate completion of energy-related projects, increase energy production and conservation, and improve transmission of energy.

Indeed, a number of recommendations throughout the report address three aspects of energy project permitting and regulatory streamlining: first, the need for faster decisions; second, the need for more comprehensive regulations, especially where multiple agencies are involved; and third, the need to provide industry with regulatory certainty. For example, the need for faster decisions is reflected in the recommendation for a task force to expedite permits and other necessary federal actions and for expedited renewal of the Trans-Alaska Pipeline System lease and

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[4] *National Energy Policy*, p. 3-13.

rights-of-way.[5] Elsewhere the report recommends that the Environmental Protection Agency (EPA) and the Department of Energy streamline the permitting process for refineries, where possible, to ensure that regulatory overlap is limited. It also recommends that these agencies adopt comprehensive regulations, covering more than one pollutant and requirement affecting refinery operations and in doing so, consider the rules' cumulative impacts and benefits.[6] Further, several recommendations urge greater regulatory certainty "relating to coal electricity generation through clear policies that are easily applied to business decisions"[7] and for refinery owners.[8]

It is too early to know what actions the task force created by E.O. 13212 will take or precisely how the policy set forth in it will be implemented. Responses could range from organizing more coordinated consultation among agencies within existing administrative and legal regimes; to promoting and facilitating non-traditional methods of meeting regulatory requirements (including market-based approaches to pollution control, such as emissions trading); to seeking statutory changes to waive, modify, or set stringent deadlines on regulatory or permit requirements for energy projects; or even to proposing creation of an Energy Mobilization Board-type agency. It is unknown whether the task force and agencies will propose streamlining for individual energy projects, on an "as needed" basis, or more broadly for all projects of certain types.

The simplest actions (such as improved interagency coordination) may raise few concerns among interested parties and likely could be done administratively, but more extensive proposals, when detailed, are likely to be criticized, at least by some stakeholder groups. More far-reaching actions, if proposed, are likely to require changes to legislation. Environmental advocates often view proposals for streamlining as being intended to reduce environmental protection by waiving requirements of federal laws or overriding reviews conducted by environmental and resource agencies. Further, environmental and other groups have long raised concerns about proposals to speed up permitting processes by reducing public input on permit decisions. Public involvement is generally seen as beneficial to sound decisionmaking, but at times it can be difficult to adequately allow for public input without introducing time-consuming public comment processes. Environmental justice issues have been raised by some who are concerned that streamlining could result in increased siting of facilities in poorer, minority, more vulnerable areas.

EPA requirements and permits often are blamed for project delays and red tape, but in reality, responsibility for evaluating and approving energy-related projects is spread widely across the federal government (in addition to state and local governments), pursuant to a number of statutory authorities. Among the many federal laws and regulations that can come into play when permits are issued for energy facilities, proposals to streamline energy project decisions could involve some of the following.

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[5] Ibid., p. 7-10.

[6] Ibid., p. 7-14.

[7] Ibid., p. 5-15.

[8] Ibid., p. 7-14.

- The National Environmental Policy Act (NEPA) requires preparation of an environmental impact statement (EIS) for major activities that significantly affect the environment; EISs are prepared by a designated lead federal agency. In addition, other federal agencies are responsible for reviewing and commenting on environmental impact statements, based on the commenting agency's expertise, in order to assess their adequacy and to coordinate interagency decisionmaking. NEPA's EIS requirements provide interested parties with much information. While NEPA does not provide direct authority to stop projects, opponents of energy and non-energy projects have on occasion found an opportunity to require agencies to conduct studies or otherwise use EISs so that decisions were delayed.

- The Clean Air Act (CAA) requires that major stationary sources of air pollution (primarily industrial facilities, utilities, and large commercial operations) obtain a permit from their respective state, tribal, or local permitting authority to operate, as well as to undertake new construction or expansion of an existing facility (see discussion of new source review, below).

- The Clean Water Act (CWA) requires that, prior to going into operation, plants must obtain permits which authorize discharge of processed wastewater. Most of these are issued by states. In addition to those standard requirements to control water pollution, the Act also contains a separate permit system operated by the U.S. Army Corps of Engineers under which advance approval must be obtained for any project involving dredging or filling of wetlands.

- The Rivers and Harbors Act of 1899 requires permits from the Corps of Engineers for construction of any dam or dike in a navigable waterway or any structure in or over any navigable waterway, if the structure or work affects the course, location, or condition of the waterbody. The construction of bridges and causeways over a waterbody also requires a permit, which is issued by the U.S. Coast Guard.

- The Fish and Wildlife Coordination Act (FWCA) requires preparation of a mitigation plan for possible project impacts on fish and wildlife.

- The Endangered Species Act (ESA) requires federal agencies to consult with the Fish and Wildlife Service (FWS) or the National Marine Fisheries Service (NMFS) to determine if any listed species that might be affected by a proposed project would be jeopardized by it or if their critical habitat would be adversely modified. FWS or NMFS (depending on the affected species) must give a biological opinion on the risk of jeopardy or of adverse modification. In the rare cases where jeopardy or adverse modification is found, the agency must offer reasonable and prudent alternatives to the proposal; these alternatives usually involve timing, scope, or location of the project. In very rare cases (less than 1%), no alternatives consistent with the survival of the species can be found for the project.

- The Marine Mammal Protection Act (MMPA) prohibits the taking (e.g., to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill) of any marine mammal. For any activities that may incidentally take or harass marine

mammals, a permit must be obtained from the National Marine Fisheries Service or the Fish and Wildlife Service.

- The Archeological Preservation Act and the Historic Preservation Act, administered by the National Park Service, may require preparation of archeological or historic surveys of the proposed project site.

- Projects involving transit or transmission across public lands may require obtaining rights-of-way from relevant federal agencies, including the Bureau of Land Management, Bureau of Reclamation, Bureau of Indian Affairs, National Park Service, and Forest Service.

- The Coastal Zone Management Act (CZMA) requires certification by states that projects to be located in a state's coastal zone are consistent with the state's coastal zone management program. The Clean Water Act requires a similar state certification concerning compliance with state water quality standards (see discussion below).

In some cases, energy projects also could trigger specific permit and regulatory requirements related to hazardous waste transportation and disposal, underground injection of wastes, reclamation of mined land, or nuclear waste transportation and disposal.

Several of these laws – including NEPA, the Clean Air Act, the Clean Water Act, and the Endangered Species Act – explicitly allow citizens to bring legal actions against agency heads for failure to carry out non-discretionary substantive and procedural duties under the laws and against regulated entities for violations of statutory and permit requirements. Citizen groups value the additional enforcement authority available in these laws. As such, citizen suits could be an important tool for those who might object to regulatory streamlining proposals that they view as compromising existing environmental safeguards.

Air Quality[9]

Among all of the environmental issues discussed in the NEPD report, air quality is the most prominent. It is in discussing clean air requirements that the report is most explicit both in describing regulatory constraints on energy projects and advocating specific legislation to achieve two significant policy goals of the plan: reducing and capping air emissions from electric power generators and expediting regulatory and permitting processes for energy facilities including refineries and oil and natural gas pipelines.

The NEPD report makes two recommendations regarding air quality. First, it recommends a review of the air emission regulatory process known as "New Source Review." Second, it proposes to strengthen emission controls on powerplants through new legislation ("multi-pollutant legislation"). The net effect of these steps

[9] Prepared by James E. McCarthy, Specialist in Environmental Policy.

will be difficult to gauge until the plan's general recommendations are embodied in specific regulatory actions and legislative language.

New Source Review. In an apparent effort to ease regulatory burdens on powerplants and refineries and provide additional incentives to expand output at existing facilities, the NEPD report recommends a review of the Clean Air Act's New Source Review (NSR) requirements:

> The NEPD group recommends that the President direct the Administrator of the Environmental Protection Agency ... to review New Source Review regulations, including administrative interpretation and implementation, and report to the President within 90 days on the impact of the regulations on investment in new utility and refinery generation capacity, energy efficiency and environmental protection.[10]

The policy also recommends that the President direct the Attorney General to review existing NSR enforcement actions to ensure "that they are consistent with the Clean Air Act and its regulations."[11]

The most controversial aspect of the current NSR process has been EPA's decision to apply New Source Performance Standards to *existing* stationary sources of air pollution that have been modified. In Section 111, the Clean Air Act clearly states that sources which are subject to NSR include modifications of existing sources as well as plants that are totally new; but industry has generally avoided the NSR process by claiming that changes to existing sources were "routine maintenance" rather than modifications. In the 1990s, EPA began reviewing records of electric utilities, petroleum refineries, and other industries to determine whether changes at their plants were routine or not. As a result of these reviews, since late 1999, EPA and the Department of Justice have filed suit against 10 electric utilities, claiming that the utilities made major modifications to 38 coal-fired electrical generating units in 12 states, extending their lives and increasing their electric generating capacity without undergoing required New Source Reviews and without installing best available pollution controls. As explained by then-EPA Administrator Carol Browner,

> The companies were allowed to perform routine maintenance, but they were not allowed to make significant changes to the plant - such as increased generating capacity, increased burning of coal, or modifications that prolonged the life of the plant - without seeking permits and adding the best available pollution control devices.[12]

Three of the 10 utilities charged with NSR violations (Tampa Electric, Virginia Power, and Cinergy) subsequently settled with EPA, agreeing to spend more than $1 billion each over the next decade on pollution controls or fuel switching in order to

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[10] *National Energy Policy*, p. 7-14.

[11] Ibid.

[12] Remarks of EPA Administrator Carol M. Browner at a clean air enforcement press conference, Washington, D.C., Nov. 3, 1999, as cited by Julie R. Domike and Alec C. Zacaroli in "Reinterpretation of NSR Regulations Could Have Costly Implications for Businesses," *Daily Environment Report*, March 7, 2000, p. B-1.

reduce emissions at their affected units. Between July 25, 2000, and May 11, 2001, the Agency also has reached agreement with six petroleum refiners representing nearly 30% of industry capacity. The refiners agreed to settle potential charges of NSR violations by paying fines and installing equipment to eliminate 143,000 tons of pollution.[13]

Companies that have not settled with EPA and other critics of the Agency's actions claim that EPA is reinventing the rules. As expressed in one legal analysis:

> Since 1974, when regulations implementing the NSR requirements were first promulgated, companies and states have made numerous determinations regarding the applicability of the routine maintenance exclusion to certain industrial activities. Over this period, there has been scarce, if any, guidance or input from EPA on the exclusion. EPA's inaction has led both industry and state regulators to conclude they have been applying the exclusion correctly. Now, decades later, EPA has launched a series of initiatives against different industries that call into question what ultimately could be thousands of compliance decisions made by hundreds of companies, many of which were endorsed by authorized state agencies charged with implementing the Clean Air Act.[14]

In "reinventing the rules," the Agency is providing disincentives for power producers and refineries to expand output, according to critics. These critics include the National Coal Council, an advisory committee to the Secretary of Energy, composed largely of industry executives, that stated in a May 3 report that *existing* coal-fired power plants could make technical improvements to produce an additional 40,000 megawatts of electricity if EPA would loosen current NSR restrictions.[15]

Because the NEPD report does not make specific recommendations, but simply calls for a review of current regulations and enforcement actions, it is difficult to conclude what effect these reviews will have. The vagueness of these recommendations hasn't prevented interest groups and analysts, however, from concluding that the Administration intends to roll back NSR requirements, which these commenters argue could lead to substantial increases in emissions.[16]

Multi-Pollutant Legislation. Simultaneous with its proposal for review of the NSR requirements, the NEPD proposes to strengthen emission controls on

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[13] See "BP Amoco, Koch to Pay $14.5 Million In Fines, Prevent Emissions at Refineries," *Daily Environment Report*, July 26, 2000, p. A-8, "Three Refiners Settle Alleged NSR Violations, Will Install $400 Million in Emission Controls," *Daily Environment Report*, March 23, 2001, p. A-2, and "Petroleum Refiner to Pay $265 Million for Making Upgrades Under Settlement," *Daily Environment Report*, May 14, 2001, p. A-1.

[14] Julie R. Domike and Alec C. Zacaroli, "Reinterpretation of NSR Regulations Could Have Costly Implications for Businesses," *Daily Environment Report*, March 7, 2000, p. B-1.

[15] See "Federal Coal Panel Calls for Loosening Clean Air Act Requirements for Power Plants," *Daily Environment Report*, May 2, 2001, p. A-1.

[16] See, for example, "White House Plan Offers Possible Relief to Power Companies in Pollution Lawsuits," *Daily Environment Report*, May 18, 2001, p. AA-1; and Michael Isikoff, "A Plot to Foil the Greens," *Newsweek*, June 4, 2001, p. 36.

powerplants through new legislation. This proposal is more specific than the NSR recommendations:

> The NEPD group recommends that the President direct the EPA Administrator to work with Congress to propose legislation that would establish a flexible, market-based program to significantly reduce and cap emissions of sulfur dioxide, nitrogen oxides, and mercury from electric power generators.[17]

Since enactment of the Clean Air Act Amendments of 1990, EPA has taken numerous regulatory actions to reduce emissions of these pollutants from coal-fired electric powerplants. The first of these, the regulation of sulfur dioxide and some nitrogen oxide emissions to reduce acid precipitation, which is required under Title IV of the Act, had statutory deadlines in 1995 and 2000. Other regulatory actions, which have yet to be implemented, include the Ozone Transport Rule (or "NOx SIP call") requiring powerplants in 21 eastern states and the District of Columbia to reduce emissions of nitrogen oxides during the summer ozone season beginning May 31, 2004; various state actions to control emissions of NOx, sulfur dioxide, mercury, and in at least one case carbon dioxide; and an EPA decision announced in December 2000 to regulate mercury emissions from electric utilities. The mercury regulations are expected to be proposed in 2003, with an effective date of 2007 or 2008. Proposals to control carbon dioxide emissions from powerplants, to address global climate change, have also been advanced, though not by EPA.

The number and variety of prospective regulations on powerplant emissions has suggested to many in industry, the Congress, and the Administration that the time may be ripe for comprehensive, multi-pollutant legislation to regulate powerplant emissions. The key questions are how stringent the controls will be, and whether carbon dioxide (CO_2) will be among the emissions subject to controls.

Regarding the first of these issues, five bills that have been introduced as of early June would require reduction of NOx emissions to 1.5 or 1.6 million tons (a nearly 80% reduction from 1998 utility emission levels) and reduction of sulfur dioxide emissions to 2.23 - 4.45 million tons (a reduction of roughly 65% - 80% versus 1998). Regarding mercury, two of the bills require EPA to determine the level of reductions, while the other three require about a 90% reduction from current levels of utility emissions. In general, these reductions would take place by 2005 or 2007, depending on the bill. (For additional information, see CRS Report RS20894, *Electricity and Air Quality: Comparison of Proposed Multi-pollutant Legislation*.) The Administration has not taken a position on either the timing or stringency of its proposed reductions.

The Administration opposes controls on CO_2, the other critical issue in multi-pollutant legislation. Its critics, however – and even some of its friends – note that the goal of providing regulatory certainty as a means of encouraging investment in new powerplants may not be met without its inclusion. As one energy industry CEO noted at a Senate hearing:

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[17] *National Energy Policy*, p. 3-3.

> ... the prospect of future CO_2 emissions controls is a major source of uncertainty for the power generation sector. If CO_2 requirements are imposed that compel massive expenditures by companies to switch coal-fired power plants to natural gas or to purchase expensive allowances, the sizable investments we will make to install pollution control equipment over the next 10 years could be wasted.[18]

Whatever the merits of CO_2 regulation, some form of multi-pollutant legislation is expected to be a relatively high priority as Congress reacts to the recommendations of the NEPD report. (For additional information, see CRS Issue Brief 10065, *Clean Air Act Issues in the 107th Congress.*)

Climate Change[19]

Chapter 3 of the NEPD report, titled "Protecting America's Environment," acknowledges the connection between energy and greenhouse gases, particularly carbon dioxide emitted in the combustion of fossil fuels, that contribute to atmospheric change and possible global warming. The report states, "Energy-related activities are the primary sources of U.S. man-made greenhouse gas emissions, representing about 85 percent of the U.S. man-made total carbon-equivalent emissions in 1998."[20] It also notes the slowing of the rate of growth in U.S. greenhouse gas emissions, and the reduced carbon-intensity of the U.S. economy (the amount of carbon dioxide emitted per each unit of GDP), which it states declined by 15% during the 1990s.

The NEPD group makes only one specific recommendation with respect to climate change: federal agencies are directed to continue climate change research, to continue identifying appropriate market-based mechanisms and incentives for greenhouse gas reductions, to continue developing new control technologies; and to cooperate in these areas with allies.[21] As such, there are no new initiatives in the plan for addressing the climate change issue, either domestically or internationally. Instead, the group focuses on existing programs and voluntary actions to address the issue.[22] Stating that the President is committed to addressing the issue, the NEPD report notes that risks to the global environment can be diminished through energy efficiency, educational programs, and technology transfer.[23]

With respect to the energy plan *per se*, the potential for controls on carbon dioxide are seen primarily as a barrier to construction and operation of coal-fired electric generating facilities (see Air Quality discussion above). As stated in the plan:

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[18] Statement of James E. Rogers, Vice Chairman, President, and CEO, Cinergy Corp., in *Clean Air Act: Incentive-Based Utility Emissions Reductions*, Hearing, Senate Committee on Environment and Public Works, Subcommittee on Clean Air, Wetlands, Private Property and Nuclear Safety, May 17, 2000, p. 87.

[19] Prepared by Larry Parker, Specialist in Energy Policy.

[20] *National Energy Policy*, p. 3-10.

[21] Ibid., p. 8-16.

[22] Ibid., p. 3-11.

[23] Ibid., p. 8-15.

> Uncertainty about future environmental controls is of particular concern for companies that operate existing coal power plants. Regulations under development include a variety of measures requiring reductions in emissions....In addition,...uncertainty over global and domestic efforts to reduce carbon dioxide emissions also play a role. This regulatory uncertainty discourages power producers from building coal power plants and is one reason the United States is relying so heavily on natural gas power generation to meet growing electricity demand.[24]

The NEPD report is silent on ways to reduce or mitigate the regulatory uncertainty with respect to carbon dioxide control that it views as a major constraint. Stating "there is increasing awareness of global competition for fossil fuels and their potential threats to the global environment,"[25] the plan does not indicate how that awareness might be addressed with respect to supplying the future energy needs of the Nation. It does note that electricity generated by nuclear power avoids carbon dioxide emissions, and natural gas has half the emissions of coal; but discussion of other sectors' (e.g., transportation) effects on carbon dioxide emissions are not addressed. The NEPD report does point out that a Cabinet-level review of climate change policy is underway which could clarify the situation.

Water Quality[26]

Energy extraction and production can degrade water quality through discharges, but the NEPD report observes that federal and state regulators, working with businesses and communities, can minimize adverse impacts through decisions on siting, technology, and mitigation of environmental damage. It also notes that programs to reduce air pollution, such as reducing air emissions of NOx and SO_2, can help clean up waterbodies by reducing deposition of harmful pollutants.[27]

The report's recommendations have fewer implications for water quality than for other environmental issues. Some implications are unclear for now and could depend on outcomes of efforts to streamline environmental permits (discussed above). Impacts on water quality protection could occur, for example, if the recommendations lead to modifying discharge permit requirements applicable to powerplants or to waiving water quality-related requirements for energy production facilities, powerplants, resource extraction projects, etc. The report does not directly propose such actions, but they could be addressed through implementation of E.O. 13212, Actions to Expedite Energy-Related Projects.

A number of Clean Water Act (CWA) regulatory and permit requirements apply to energy facilities and, as discussed in Environmental Permit Streamlining, above, clearing the hurdle of such federal requirements can be complex and time-consuming. At the same time, constraints may not be exclusively due to federal requirements, since state and local governments have important roles, as well. These implications for

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[24] Ibid., pp. 5-13 - 5-14.

[25] Ibid., p. 8-15.

[26] Prepared by Claudia Copeland, Specialist in Resources and Environmental Policy.

[27] *National Energy Policy*, pp. 3-7 - 3-8.

permitting and project approval become more clear in an example that arises from the NEPD report's recommendation for administrative and legislative reform of the licensing process for hydropower dams.

Hydropower dams provide a low-cost, no-emission source of electricity. But the report acknowledges that, unless properly designed and operated, hydropower dams can injure or kill fish, such as salmon, by blocking their passage to upstream spawning pools. Operation of dams can impede downstream migration of young fish and can adversely affect stream temperature needed to sustain fish and wildlife.

According to the Federal Energy Regulatory Commission (FERC), over the next 15 years, licenses for about 240 non-federal dams (representing about 2% of total U.S. electric generating capacity) will expire and must be re-issued if the facilities are to continue operating. The NEPD report asserts that the most significant challenge confronting hydropower is regulatory uncertainty regarding the federal licensing process, which can be lengthy in part because decisionmaking authority is spread across a number of federal and state agencies having different public policy goals.

While not expressly discussed in the report, the recommendation that the licensing process be reformed has implications for the Clean Water Act, which was in part the subject of a recent FERC report.[28] Section 401 of that Act requires an applicant for a federal license or permit that proposes to conduct any activity, including dams, that may result in a discharge to navigable waters to provide the federal agency with a certification from the state in which the discharge originates that the discharge will comply with the Act, including state water quality standards requirements. (For additional information, see CRS Report 97-488, *Clean Water Act Section 401: Background and Issues*.) The FERC report concludes that the most common cause of delayed hydropower licensing proceedings is untimely receipt of state Section 401 certification under the Clean Water Act.

Section 401 provides states with two distinct powers: one, the power indirectly to deny federal permits or licenses by withholding certification; and two, the power to impose conditions upon federal permits by placing limitations on certification. Generally, Section 401 certification has been applied to hydroelectric projects seeking a license from FERC and for dredge-and-fill activities in wetlands and other waters that require permits from the Army Corps of Engineers under Section 404 of the CWA and Sections 9 and 10 of the Rivers and Harbors Act. It also is applied to permit requirements for industrial and municipal point source dischargers under Section 402 of the Act. In addition, it has the potential to be applied to a range of other activities that could affect water quality, a point that has increasingly become an issue.

In recent years, some states have come to view Section 401 as an important tool in their overall programs to protect the chemical as well as the physical and biological integrity of their waters. Some have begun using Section 401 to address a wide range of impacts to the quality of their waters, including impacts to aquatic habitat such as wetlands where issues of non-chemical impacts arise. Through Section 401, some

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[28] Report to Congress prepared by the Staff of the Federal Energy Regulatory Commission. "Hydroelectric Licensing Policies, Procedures, and Regulations, Comprehensive Review and Recommendations." May 2001. 145 p.

states have addressed such project impacts as inadequate river flow, inundation of aquatic habitat, dissolved oxygen levels, and impacts on fish and other wildlife.

This expanded use of Section 401 has, in turn, led to tensions between state and federal agencies over the scope of the states' Section 401 authority, particularly the extent to which states can legally address water flow requirements in water quality standards. Two recent Supreme Court cases have held that states have broad authority to condition 401 certification on compliance with all applicable water quality-related laws. As a result, states acting pursuant to the CWA can regulate not only water quality (such as the physical and chemical composition of the water), but also water quantity (the amount of water released by a project) and state-designated water uses (such as protection of fish and recreation), while FERC lacks authority to determine whether such conditions are beyond the scope of Section 401.

FERC's view is that state water quality certifications impose requirements on projects, without any obligation to take into account the benefits of hydropower or other competing interests. Most troublesome, according to FERC, are the conditions controlling minimum instream flows imposed especially to protect fish, as these flows have a direct impact on a project's power generation and economic viability.[29] In order to reduce the time and cost of licensing, FERC recommends that Congress amend the CWA or the Federal Power Act to clarify that water quality certification is limited to physical and chemical water quality parameters related to a hydropower facility.

While the FERC report focuses on CWA state certification issues in particular, the NEPD's broad recommendation for reform of hydropower licensing could affect implementation of other environmental laws. A number of statutes affect the licensing process (including the Endangered Species Act, Coastal Zone Management Act, National Historic Preservation Act, Federal Land Policy and Management Act, and the Wild and Scenic Rivers Act). These laws allow other federal agencies to affect licensing actions, through consultation, project conditioning, or limits on siting or operation. FERC recommends that it be authorized to reject or modify such conditions if they are inconsistent with the Commission's public interest determinations. Opponents of such recommendations believe that federal resource agencies must retain a mandate to protect resources and environmental quality by being allowed to attach operating conditions to dam licenses. Several legislative proposals in the 107th Congress (H.R. 1832, S. 71, and S. 388) would impose time deadlines and decisionmaking standards on the Department of the Interior for imposing conditions under various laws on projects located on federal reservations and on the Departments of Interior and Commerce for project conditions related to fishways. These bills reflect concerns also discussed in the FERC report.

FERC's conclusions and recommendations have been challenged. For example, in a recent report, the General Accounting Office stated that FERC lacks sufficient data to make reasonable conclusions about the causes behind costs and delays in the relicensing process.[30] Environmentalists criticize efforts to streamline the licensing

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[29] Ibid. p. 16.

[30] U.S. General Accounting Office. "Licensing Hydropower Projects: Better Time and Cost (continued...)

process, asserting that the hydroelectric industry seeks to limit environmental regulations and reduce necessary environmental protections. Past proposals to restrict states' authority to implement CWA Section 401 certification have been controversial both with environmental groups and with state officials. State representatives argue that restricting the scope of their certification authority would deprive states of the ability to protect and maintain beneficial uses of water and would undermine states' investments in pollution control efforts. In their view, states are best situated to determine whether a federally permitted activity will protect the environmental values and uses of a waterbody that are established by states. The NEPD recommendation for reform of hydropower licensing suggests that these issues will be a topic of discussion in connection with energy policy debate.

The Arctic National Wildlife Refuge (ANWR)[31]

Proposals to develop the potential oil and gas resources of the coastal plain of the Arctic National Wildlife Refuge(ANWR) have been considered for over 25 years. During that time, the discussion of impacts has centered especially on effects on wilderness values and wildlife. (For a discussion of ANWR development issues as a whole, see CRS Issue Brief 10073, *Arctic National Wildlife Refuge: The Next Chapter*.) However, opponents of energy development in the Refuge also point to potential effects on air and water quality and to potential hazardous waste contamination.[32] Supporters of development counter with the technological advances of the last 20 years that reduce the threat of such impacts. The NEPD Group

> ...recommends that the President direct the Secretary of the Interior to work with Congress to authorize exploration and, if resources are discovered, development of the 1002 Area of ANWR. Congress should require the use of the best available technology and should require that activities will result in no significant adverse impact to the surrounding environment.[33]

Though background material is abundant in the plan, no further detail relating to the meaning of "best available technology" or "no significant adverse impact" are given. Specific legislative proposals have not been included in the plan.

Federal regulatory and permitting authority for pollution matters on ANWR comes from a number of statutes, including the Clean Air Act; the Clean Water Act;

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[30](...continued)
Data Needed to Reach Informed Decisions about Process Reforms." GAO-01-499. May 2001. 35 p.

[31] Prepared by M. Lynne Corn, Specialist in Natural Resources.

[32] Some groups also emphasize spills from the pipeline carrying oil to the south, or raise the specter of tanker spills at the southern terminus of the pipeline. Such off-site effects are not considered here.

[33] *National Energy Policy*, p. 5-10. The plan proposes to use the initial competitive bids if The Refuge is opened for funding research on alternative and renewable energy (p. 6-7). It also proposes that royalties that would be paid on any oil that might be found should be used for land conservation programs, and for maintenance and improvements on federal lands (p. 3-8).

the Coastal Zone Management Act; the Comprehensive Environmental Response, Compensation, and Liability Act; the Endangered Species Act; the Fish and Wildlife Coordination Act; the Migratory Bird Treaty Act; the Marine Mammal Protection Act; the National Environmental Policy Act; the Resource Conservation and Recovery Act; the National Wildlife Refuge System Improvement Act; the Safe Drinking Water Act; the Toxic Substances Control Act; and others. In some cases, pollution control permits required by certain of these laws expressly call for best available control technology – for example, the new source review permits under the Clean Air Act and discharge permits under the Clean Water Act. Other permits may implicitly presume what might be called best available (control) technology.

Federal agencies involved in enforcing these laws include the Environmental Protection Agency, the Army Corps of Engineers, the Fish and Wildlife Service, the National Marine Fisheries Service, the Coast Guard, and others. State regulation of pollution is carried out primarily through the Alaska Department of Environmental Conservation (ADEC), acting through various state laws, as well as through delegated federal authorities. Overall, the permitting processes would involve a patchwork of agencies and levels of government and diverse criteria for issuance. Permitting and regulatory issues that could arise in an effort to open ANWR include those discussed under Environmental Permit Streamlining, above. In addition, some of the following are likely to be particularly important:

- NEPA requires an Environmental Impact Statement (EIS) for major federal actions significantly affecting the human environment. In 1987 the Department of the Interior released a Final Legislative Environmental Impact Statement (FLEIS) as part of the Administration's proposal to open ANWR. Is that FLEIS sufficient for compliance with NEPA, or should a new EIS be prepared? Knowledge of the biological and physical environment in the arctic has increased markedly and technology has made major advances since 1987, making it likely that a new EIS could differ significantly in assessing likely impacts of exploration and development. Preparation of a new EIS could be expected to take one or more years, and probably delay exploration and development. Congress could require a new EIS, deem the 1987 report adequate for compliance (thereby foreclosing potential challenges on those grounds),[34] or remain silent on the issue.

- Are water resources adequate to support exploration and development, and to what extent should such matters be handled under existing state or federal authorities, or in legislation or new regulations? Modern exploration techniques

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[34]For example, in the 107th Congress, in S. 388, a comprehensive energy bill introduced on Feb. 26, 2001, provides for opening ANWR. Section 505 states "The 'Final Legislative Environmental Impact Statement'... is hereby found by the Congress to be adequate to satisfy the legal and procedural requirements of the National Environmental Policy Act of 1969 with respect to actions authorized to be taken by the Secretary to develop and promulgate the regulations for the establishment of the leasing program authorized by this title ...." Congress has also used this approach in past energy projects: in authorizing the Department of the Interior to grant right-of-way for construction of the Trans-Alaska Pipeline System (P.L. 93-153), Congress barred further judicial review of the adequacy of its EIS, which had been challenged.

rely heavily on ice roads and ice drill pads. The Refuge has substantially less water than Prudhoe Bay and other state-owned oil fields to the west; average annual precipitation is less than 10 inches. It might then be necessary to augment existing supplies. One common augmentation technique, the dredging of gravel holding ponds near rivers, would require §404 permits under the Clean Water Act; state permits might also be necessary. Some fear that effects on streams and riparian habitats may be substantial, either from the water use itself, or from methods to increase the water supply.

- To what extent can spills of crude, drilling fluids, human waste, or produced water (water extracted in the course of operations and then re-injected for disposal) be reduced or eliminated? Normal industry practice in the arctic is "zero discharge" of such substances or of any other wastes at a drill site, and disposal usually occurs via re-injection deep underground. However, spills occur nonetheless. Re-injection of oil industry wastes are not subject to the Resource Conservation and Recovery Act; rather, the Safe Drinking Water Act (SDWA) regulates the underground injection of wastes. For injection wells related to oil and gas operations, the SDWA authorizes EPA to delegate primary regulatory authority to states that have relevant programs, provided the programs protect drinking water sources and meet certain other requirements. Alaska administers a regulatory program for oil and gas production wells and requires permits for these wells.

- Several kinds of air pollution control permits would be required to explore and develop ANWR, including state air emissions permits (issued by ADEC), and new source review permits for Prevention of Significant Deterioration of air quality (also issued by ADEC). Perhaps the biggest permitting challenge in air emissions could involve prevention of significant deterioration[35] of its air quality from emissions of nitrogen oxides, which would be emitted by natural gas flares and by natural gas-fired generators to power development if oil were found. Such requirements could be a major regulatory hurdle for plans to develop the area unless Congress enacted waivers of these provisions.

- Whether oil is found or not, what provisions will be made for reclamation and rehabilitation of the land following exploration or development? Under the National Wildlife Refuge System Improvement Act (P.L. 105-57), new activities are permitted on refuges to the extent that they are compatible with the purposes for which the refuge was designated. Bills supporting oil development have included a provision defining oil development as a compatible use for the purposes of this law. FWS might condition development permits on mitigation, reclamation or rehabilitation of affected lands. If no commercial quantities of oil were found, cleanup needs might be fairly minimal. If oil is found, and production and development occur, industrial activity would last decades, and rehabilitation would be difficult and expensive. In either case, rehabilitation is likely to be lengthy, because the slow growth rate of vegetation

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[35] For more information, see CRS Report RL30853, *Clean Air Act: A Summary of the Act and Its Major Requirements.*

in the arctic means that the most minimal disturbance can take decades to recover.

Over all, a number of federal environmental laws could apply to oil or gas development projects in ANWR. Those requirements, and additional ones, might also be imposed as conditions of leasing permits. As noted in Environmental Permit Streamlining, above, several current laws contain provisions that allow citizens to file lawsuits challenging a project or activity for failure to comply with requirements of laws or permits. Thus, while policy debate concerning the Refuge has focused on effects on wilderness values and wildlife, it is conceivable that opponents could use the environmental protection provisions discussed here as a mechanism for challenging energy development in the area, unless Congress enacted waivers of these authorities. Whether the existing pollution control requirements would meet the "best available technology" and the "no significant adverse impact" recommendation of the NEPD group would likely be debated by Congress, if it were to decide to open the Refuge, but it is unclear whether or how Congress might modify their stringency or "streamline" the processes by which they are implemented.[36]

Bills have been introduced in the House and the Senate to open the Refuge to development. Other bills would designate the area at issue as wilderness, thereby providing additional obstacles to development. The high degree of controversy over opening the Refuge for exploration and development hinders prospects for development legislation.

Legislative Context

The majority of the NEPD report's 105 recommendations involve administrative actions, while 21 involve recommendations to the Congress for legislative action. Most of the latter are broad and general – like the report as a whole – and the report has not yet been followed by specific legislative proposals. Debate over energy legislation has been underway in the Congress for some time, prior to the release of the NEPD report, and both Republican and Democratic Members of the Senate have introduced comprehensive proposals that differ significantly in their policy approaches. Neither deals with streamlining issues or regulatory changes in broad terms, but as noted above, the comprehensive Republican proposal includes provisions related to ANWR and to licensing of hydropower projects.

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[36]For example, S. 388 would require federal agencies "to take such actions as are necessary to establish and implement a competitive oil and gas leasing program that will result in an *environmentally sound program* for the exploration, development, and production of the oil and gas resources [in ANWR] and to administer the provisions of this title through regulations, lease terms, conditions, restrictions, prohibitions, stipulations and other provisions that ensure the oil and gas exploration, development, and production activities [in ANWR] will result in *no significant adverse effect* on fish and wildlife, their habitat, subsistence resources, and the environment, and shall require the application of the *best commercially available technology* for oil and gas exploration, development, and production ..." (§305(a) [emphasis added]). S. 388 does not waive any existing statutory pollution control requirements. Another congressional approach to specifying environmental protection responsibilities (for the Trans-Alaska Pipeline System) can be found at 30 U.S.C.A. §185(h)(2).

The Republican proposal (S. 388, S. 389), introduced February 26, sets as its goal reducing U.S. dependence on oil imports to less than 50% by 2011 and emphasizes boosting production of conventional fuels. It proposes to lease ANWR with a portion of bid bonuses earmarked toward funding research into renewable energy research and development and a portion of royalties dedicated to land conservation. The use of coal would be encouraged, with credits available for emissions reductions and efficiency improvements. The legislation would require an improvement of 3 mpg in the fuel efficiency of the federal motor vehicle fleet. Other provisions would provide support for renewable fuels, alternative technologies, residential energy efficiencies, and new nuclear reactor designs.

The Senate Democratic legislation (S. 596, S. 597), introduced March 22, proposes to integrate energy and environmental policy to identify energy policy options consistent with stabilizing greenhouse gas emissions. The Democratic proposal does not embrace opening up ANWR, but it would establish incentives that would hasten development of pipeline capacity to transport Alaskan natural gas. The Democratic legislation also does not include an increase in automobile fuel economy standards, but does propose to cap automobile and light truck fuel consumption in 2008 at no more than 5% above consumption in 2000. (For more information see CRS Issue Brief IB10080, *Energy Policy, Setting the Stage for the Current Debate*.)

In addition to these comprehensive proposals, bills dealing with a number of individual energy policy and related environmental policy issues have been introduced in the Senate and House. Some have been previously mentioned in this report: bills addressing multi-pollutant air emissions and opening the Arctic National Wildlife Refuge to development, for example. Among other individual topics already addressed in legislation are developing clean coal technology, domestic oil and gas production, alternative energy sources, electricity deregulation, motor vehicle fuels and fuel economy standards, and expanding use of nuclear energy. It is unclear for now whether Congress will choose to consider the range of energy policy issues individually or comprehensively; the NEPD report does not appear to express a preference.

Conclusion

Energy problems and related issues do not lend themselves to fast or easy fixes. Moreover, the focus of the debate in Congress is likely to be affected by recent leadership changes in the Senate. Changes in committee leadership there are likely to result in new or changed priorities. Many observers suggest, for example, that the Administration's proposals for oil and gas exploration in ANWR seem less likely to be supported. Also, Administration support for multi-pollutant air quality legislation enhances the visibility of that topic, but the issue of including carbon dioxide emissions in such a bill, as some propose, is likely to be contentious. With many participants and perspectives involved (including multiple congressional committees), a lengthy and vigorous debate is expected over policies that will balance investment in energy production, conservation, energy efficiency, environmental protection, and research and development in alternative fuels and technologies.