

**REMARKS BEFORE
THE DOMESTIC POLICY SUBCOMMITTEE
OVERSIGHT AND GOVERNMENT REFORM COMMITTEE
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Introduction

Good afternoon Mr. Chairman and Members of the Subcommittee. It is a pleasure to appear before the Domestic Policy Subcommittee on the important and timely issue of genetically modified organisms and responsibilities of the Animal and Plant Health Inspection Service (APHIS) in the U.S. Department of Agriculture (USDA) under the National Environmental Policy Act (NEPA).

Allow me a brief moment to provide you my background. I am a Senior Partner with the Clark Group, a Washington-based environmental and energy consulting firm. I left public service in 2001 as the Principal Deputy Assistant Secretary of the Army for Installations and Environment. From 1992 until 1999, I served on the Council on Environmental Quality in the Executive Office of the President where we had responsibilities for advising the President on environmental policy as well as oversight of the federal agencies' compliance with NEPA. I have been teaching NEPA implementation at Duke University since 1989 and I am the editor of a book on the history of the passage of NEPA, the current principles and practice, and the future of the statute.

My expertise therefore lies in the responsibilities and obligations of the Executive Branch of government as it relates to decisions affecting the human environment. I am not an expert in genetically modified organisms (GMOs). I have, however, spent most of my career studying difficult and complex issues, ranging from the biological defense research and chemical weapons disposal in the Department of Army, to reviewing and approving NEPA regulations across numerous agencies within the Executive Branch, and to directing projects to better explicate analytical processes such as cumulative effects analysis.

In preparation for this testimony, I have reviewed APHIS and USDA NEPA regulations and procedures, literature on the risks and rewards of genetically modified crops, and court cases relating to GMOs and NEPA.

Issue and Relevance

The Animal and Plant Health Inspection Service (APHIS) is a multi-faceted Agency with a broad mission that includes protecting and promoting U.S. agricultural health, regulating genetically engineered organisms, and administering the Animal Welfare Act and carrying out wildlife damage management activities.¹ These efforts support the overall mission of USDA, which is to protect and promote food, agriculture, natural resources and related issues.²

APHIS regulates certain genetically engineered (GE) organisms that may pose a risk to plant or animal health. APHIS' Biotechnology Regulatory Services regulates the introduction (importation, interstate movement, and release into the environment) of genetically engineered organisms that may pose a risk to plant health.³ It is a huge responsibility to oversee an industry that is rapidly growing and becoming more complex. The decisions that APHIS is making now can have long-term beneficial or negative effects on the natural environment, the human community, and the economy.

NEPA Background and Requirements

When Congress passed the National Environmental Policy Act in 1969, the country was feeling the effects of rapidly growing technology, as today. The rise of the chemical and nuclear industry in the 1950s and 1960s, and some of its unintended consequences, in part led Congress to pass the statute that has become our charter for environmental protection. Its magically soaring language asks us to “encourage productive and enjoyable harmony between man and his environment.”⁴

Yet, it was prescient enough to know that federal agencies respond to requirements, rather than oratory aspirations. The statute requires agencies to take a “hard look” at the impacts of major federal actions, such as changes to legislation or regulation, approvals of projects, and management of the nation’s resources. Such “hard looks” are taken by preparing an environmental assessment or an environmental impact statement which may be prepared, and

¹ USDA-APHIS. 18 Oct 2007. “About APHIS.” Retrieved online from http://www.aphis.usda.gov/about_aphis/.

² USDA-APHIS. 18 Oct 2007. “About APHIS.” Retrieved online from http://www.aphis.usda.gov/about_aphis/.

³ USDA-APHIS. 26 Nov 2007. “Biotechnology.” Retrieved online from <http://www.aphis.usda.gov/biotechnology/index.shtml>.

⁴ National Environmental Policy Act, 42 U.S.C. § 4321 et seq. (1969).

are sometimes required, for broad Federal actions such as the adoption of new agency programs or regulations.⁵ CEQ regulations require agencies to prepare statements on broad actions so that they are relevant to policy and are timed to coincide with meaningful points in agency planning and decision-making.⁶

Sometimes it may seem like they are being asked to peer into a crystal ball, but courts and the public have understood that the hard look doctrine is not a doctrine that requires agencies to be perfect or to understand absolutely the secondary, tertiary or cumulative effects of proposals. But they expect them to try. They want to know that the agencies are not captured by a special interest, but are thinking about the balance that must be struck between economic and environmental well-being. They want to know that all of us are being taken into consideration as agencies make decisions. These decisions include the regulation or deregulation of GMOs.

This thought process can take the form of either a categorical exclusion, an environmental assessment (EA), or an environmental impact statement (EIS). All of these analyses require the agencies to involve and interact with the public on environmental impacts.

*Federal agencies shall to the fullest extent possible ... encourage and facilitate public involvement in decisions which affect the quality of the human environment.*⁷

After consultations with the public, agencies are required to make a reasoned choice among alternatives. Again, they are not asked to make a perfect decision, but they are asked to follow a logic trail using a defensible methodology to present a document that is clear and concise, supported by evidence, and understandable to the public.

*Federal agencies shall to the fullest extent possible ... use the NEPA process to identify and assess the reasonable alternatives to proposed actions that will avoid or minimize adverse effects of these actions upon the quality of the human environment.*⁸

For complex decisions like disposing of chemical weapons or permitting a GMO, NEPA provides a structure and a discipline to think rationally and make a decision that takes multiple objectives into account. It is a tool for decision-

⁵ Council on Environmental Quality. Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act of 1969. 40 CFR § 1508.18 (2003).

⁶ Council on Environmental Quality. Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act of 1969. 40 CFR § 1502.4 (2003).

⁷ Council on Environmental Quality. Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act of 1969. 40 CFR § 1500.2 (2003).

⁸ Council on Environmental Quality. Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act of 1969. 40 CFR § 1500.2 (2003).

makers that, if the law did not exist, would create something similar to help them through tough decisions.

*Ultimately, of course, it is not better documents but better decisions that count. NEPA's purpose is not to generate paperwork--even excellent paperwork--but to foster excellent action. The NEPA process is intended to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment.*⁹

Some would argue that NEPA is a process, the creation of a document, and there are those who are employed in the practice who sometimes carve it into such small pieces that the framers of the statute would hardly recognize it.

One of the mistaken practices by the federal agencies lies in the belief that NEPA does not apply to economic impacts. The purpose of the Act is:

*To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation.*¹⁰

The Congress recognized the profound impact of man's activity on the interrelations of all components of the natural environment. In particular, Congress acknowledged the profound influences of population growth, high-density urbanization, industrial expansion, resource exploitation, new and expanding technological advances, and further, the critical importance of restoring and maintaining environmental quality to the overall welfare and development of man.

In the Act, there clearly is an intention to understand the relationship between the environment and our economic welfare. In addition, there is a requirement in CEQ regulations to balance the economic and environmental factors in decision-making. CEQ regulations mandate that:

"Human environment" shall be interpreted comprehensively to include the natural and physical environment and the relationship of people with that environment. This means that economic or social effects are not intended by themselves to require preparation of an environmental impact statement. When an environmental impact statement is prepared and economic or social and natural or physical environmental effects are

⁹ Council on Environmental Quality. Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act of 1969. 40 CFR § 1500.1 (2003).

¹⁰ National Environmental Policy Act, 42 U.S.C. § 4321 et seq. (1969).

*interrelated, then the environmental impact statement will discuss all of these effects on the human environment.*¹¹ [emphasis added]

For GMO crops, socioeconomic effects could be interrelated with environmental effects. For example, the genetic drift of GE traits to non-GE crops, an environmental effect, could also have socioeconomic effects, such as impacts on the marketability of products in organic markets or with trade partners. A recent court case affirmed that, “modification of a plant’s genetic make-up through genetic engineering is an effect on the human environment.”¹² Another example of relevance is the development of genetic resistance to GE traits from insects or pests or invasive plants (an environmental effect). This could also impact socioeconomics, such as the economic effects of increased or altered insecticide/pesticide application or potential damage to crops from resistant pests.

Nowhere is the linkage between the environment and economic well-being stronger than in the case of GMO, and there is no better example of the need to examine the impacts of decisions than GMO. I believe it is safe to say that APHIS finds it difficult to ensure that plants are free of any kind of contamination, genetic or otherwise. There is a very strong case here for the linkage between the biophysical environment and the social and economic well-being of the farming community at large.

This is precisely the kind of analysis that Congress intended with the statute and it is precisely the kind of linkage that CEQ saw when the regulations were drafted in 1979. Whether or not these impacts are significant remains a question for the analysts who must measure significance through an understanding of context intensity. CEQ regulations define these terms thusly:

(a) Context. This means that the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action. For instance, in the case of a site-specific action, significance would usually depend upon the effects in the locale rather than in the world as a whole. Both short- and long-term effects are relevant.

(b) Intensity. This refers to the severity of impact. Responsible officials must bear in mind that more than one agency may make decisions about partial aspects of a major action. The following should be considered in evaluating intensity:

¹¹ Council on Environmental Quality. Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act of 1969. 40 CFR § 1508.14 (2003).

¹² *Geertson Seed Farms et al. v. Mike Johanns*, Civil Action C 06-01075 (N.D. Cal., February 13, 2007).

- *The degree to which the effects on the quality of the human environment are likely to be highly controversial.*

- *The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.*¹³

Also interrelated is the requirement to address cumulative effects:

*"Cumulative impact" is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.*¹⁴

Addressing cumulative effects has been a difficult task in the simplest of projects; the regulation of GMO is not the simplest of actions, but an area where understanding the potential cumulative effects is critically important. In the case of GMO crops, this may include direct impacts, such as the long-term location of GMO crops and the resulting impact on human or ecosystem health. It could also include indirect changes to management practices, such as the combined impacts as a result of combined changes to tillage practices or pesticide application. Additionally, these are interrelated with socioeconomic effects. In the final analysis, these impacts may on the whole be positive and beneficial. But neither NEPA nor CEQ regulations distinguish between beneficial and negative impacts; if they are potentially significant, they have to be analyzed.¹⁵ On the whole, NEPA requires a "hard look" at the impacts.

Programmatic Analyses and Tiering

A programmatic approach to environmental impact analysis is often a good way to reduce paperwork and streamline the NEPA process. Programmatic analyses are appropriate in order to implement broad decisions for agency programs, policies or plans. It seems particularly useful in broad decisions such as genetically modified crops. However, I remind you of my earlier statement that significance is measured by both context and intensity. So a programmatic approach would be helpful, but as these decisions are applied in a local environment, an analyst must look at the biological, physical and socioeconomic context in which that decision would be applied. In one ecosystem, the decision may be beneficial, however in a particular socioeconomic environment it may a

¹³ Council on Environmental Quality. Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act of 1969. 40 CFR § 1508.27 (2003).

¹⁴ Council on Environmental Quality. Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act of 1969. 40 CFR § 1508.7 (2003).

¹⁵ Council on Environmental Quality. Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act of 1969. 40 CFR § 1508.27 (2003).

negative impact to implement exactly the same decision. This is why an important piece of the programmatic approach must include tiered analyses to look at the local environmental context.

Tiered analyses can be very efficient by referencing the broad programmatic statement, thus eliminating any repetitive discussions. In fact, CEQ encourages this kind of efficiency and streamlining in its regulations. Analysts are encouraged to focus on the actual issues ripe for decision at each level of environmental review.¹⁶ Tiering in such cases is appropriate when it helps the agency focus on the issues and exclude any issues already decided or not yet ripe for decision. In the case of GMOs, a programmatic approach seems appropriate; however, there must be a process by which the agency considers the lesser scope projects by tiering from the overall programmatic document. For example, these smaller analyses can be site-specific, crop specific, or ecosystem specific and can incorporate by reference the programmatic analysis, thus making each analysis shorter and more efficient.

I want to reiterate that while taking a programmatic approach is an efficient and effective way to analyze broad decisions, it cannot provide substitute for the lesser scope decisions that must be considered using more specific context and intensity to determine environmental significance.

NEPA is a Requirement and an Opportunity

Mr. Chairman, I commend APHIS for renewing and revitalizing their NEPA regulations. It is needed and past due. I have reviewed the APHIS NEPA matrix for the regulated release of a genetically modified plant and I must say, this continues to be an old way of looking at NEPA: checking a box to get a document done. There is not any consideration of context or intensity of the potential impact as related to environmental and socio-economic factors. How is the timing of the proposed GMO release considered in the matrix? How does the matrix account for any synergistic or indirect impacts? Matrix methodologies are good tools to gather data and inform the decision; however, they must be adaptive and flexible to respond to changing requirements of proposals.

APHIS needs to move past these old ways. They are at the cutting edge of our new world, our new economy and they need to embrace new ways of making these crucial decisions that affect all of us. There has been much work done in this field in the last 5-7 years, much of it led by CEQ and NEPA practitioners throughout the Federal government. There are several things that seem directly applicable to APHIS:

- Incorporate an ecosystem approach to decision-making beginning at the policy level. This requires a more holistic look at what and who are in the

¹⁶ CEQ Regulations §1508.28

- ecosystem and how the current biota responding to natural and man-made changes. Regulations are the real opportunity for agencies to set policies regarding NEPA process and they need to be expansive in their thinking about these new regulations. Incorporate a monitoring and adaptive management approach to NEPA. APHIS can therefore spend more time on monitoring, less on predicting, and include more incorporation of collaborative processes in their policies and procedures.
- Incorporate a collaborative way of decision-making. Organic farmers, farmers using genetically modified crops and consumers all have an interest in the ecosystem in which they live and work. CEQ has just issued a new handbook on developing collaborative processes and APHIS should examine how better to engage the entire human community in ecosystems¹⁷.

Conclusion

Mr. Chairman, thank you for the opportunity to provide my thoughts on this important matter. APHIS has an important and unique role to play in the future of our food supply and protection of plants. I am sure that their expertise, the willingness of the industry and your oversight will produce valuable results for Americans.

I will be happy to answer any questions you may have.

¹⁷ Collaboration in NEPA: A Handbook for NEPA Practitioners. October 2007.