A PROPOSAL FOR USING PEER REVIEW IN THE ENVIRONMENTAL PERMITTING PROCESS

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Abstract. The author explains the mounting difficulties of predicting the outcome of environmental permitting decisions as Georgia's growth continues, and environmental capacities are pushed further toward, and beyond, their acceptable limits. At the same time, monitoring information remains incomplete, and conditions required to support vital ecosystem functions are not fully understood. There is a priority need for new methods to help protect the public interest in maintaining environmental quality while making rational permitting decisions affecting natural resources. This paper proposes the use of a peer review process to augment EPD review of critical permit applications, which would improve the reliability of permit decisions while focusing science on the most crucially needed environmental research and monitoring techniques.

PERSPECTIVE ON MOUNTING COMPLEXITY

There is increasing recognition of the difficulty of making sound decisions about activities affecting the natural environment. To an undocumented but undoubtedly significant extent, this growing acknowledgment of complexity is a result of the rising likelihood that new claims on resources may adversely affect those already dependent on one or more ecosystem function – like waste assimilation, healthful air and drinking water, productive fisheries, eco-tourism amenities, flood control, and so forth. Many of these interests include substantial economic value, as well as having implications for public health and the well-being of future generations.

It seems self-evident that as Georgia's urbanization and growth in land-disturbing activities continue, there are increasing probabilities of conflicts over resource use, quality, and protection. As the stress of scrutiny created by such conflicts (and *perceived* conflicts) intensifies, there is understandably greater emphasis placed on the need for reliable, accountable decisions about new and continuing uses of natural resources. With this emphasis comes growing demand for objective, well-informed findings – based on reliable prediction and assessment of systemic, long-term consequences of proposed activities affecting natural resources. As interest builds in such issues among members of the public, news media, and environmental groups, permitting agencies are hard-pressed to meet rising expectations and consensus becomes more elusive. Threats of legal actions by various parties, including neighboring political jurisdictions (states, counties, cities) as well as by private parties and interest groups further compound the difficulty of making such decisions.

Few informed observers will deny that environmental permitting agencies are not only understaffed and under-budgeted, but also often lack the technical expertise needed to properly evaluate the implications of proposed activities affecting public resources. Note that these resources include ecosystems as well as engineered facilities and technical practices that are intended to reduce, redistribute, or offset environmental burdens. Decisions about such resources often include costs borne by multiple parties – like operating and/or capital costs for sewage collection and treatment, drinking water filtration and distribution, monitoring and assessment of permitting conditions, mitigation plans, and so forth. Likewise, they may encompass distributional factors, often under-analyzed, related to market and/or non-market costs affecting other parties.

An inevitable corollary to disputes over natural resources is therefore a parallel principle demanding exploration of how such decisions may result in shifting the costs of one stakeholder onto others. Examined with ever-greater scrutiny, environmental permitting decisions are and will continue to be critically analyzed for economic consequences, health risks, and often hidden political motives. The potential for shifting of risk from this generation to those of the future, and gains by the politically advantaged at the expense of less advantaged groups must also be more thoroughly examined. Note that these effects are often rationalized through 'present-worth' financial analysis and/or

unfounded assurances based on unproven and precarious quick-fix 'mitigation' measures that are seldom evaluated with adequate follow-up studies.

MAKING THE CASE FOR PEER-REVIEW

Under these circumstances, it is becoming increasingly evident that alternative methods must be found for compiling, evaluating, and reporting information on environmental impacts, uncertainty, and risk that is needed in assessment of permit applications. The complexity of environmental assessment as well as the political vulnerability and sensitivity of such decisions suggest the need for: (1) making more diversely qualified and technically-informed expertise available; (2) providing greater clarity, openness, and political neutrality in producing such evaluations; and (3) more integration of the fields of scientific expertise to reduce artificial fragmentation in analyzing proposed actions. Combined, these advancements will help strengthen the accountability and credibility of permitting decisions by providing the public with assurances that all relevant impacts, costs, and distributional factors are being thoroughly, consistently and impartially considered.

One promising alternative for augmenting existing legal authority brought to bear on environmental permitting decisions is the so-called 'peer review process.' The above benefits would be more likely to be achieved using this model than by simply expanding the budget and staffing of existing permitting agencies while leaving procedures unaltered. As envisioned here, a team of environmental scientists from a broad array of fields, ranging from geo-hydrology to estuarine ecology, and including all applicable physical, biological, and chemical scientific specialties would be on call to provide opinion as needed. These experts would be drawn from academic and research institutions where the implications of the latest research are known and leading-edge field assessment techniques are practiced. [Note: Any conflicts of interest due to client relationships or property interests of researchers, their families, or their employers would be the basis for prohibiting participation in the peer review assessment of a specific permit application.]

Although there are several alternative methods for determining the circumstances when such expertise would be solicited, the immediate proposal envisions a threshold test – comparable to a perhaps somewhat more technical version of the criteria that are now used under the Georgia Planning Act to decide when a project's scale and context justify its review as a 'development of regional impact' (or DRI).

If a proposed activity was suspected of introducing sufficient complexity, risk, or sheer scale of impact, the peer review process would be used to augment the environmental permit review conduced by EPD. The threshold criteria should allow for discretion in deciding when to invoke the peer process – such discretion being granted not only to the Director of EPD, but also to the public, to any group of stakeholders, or to any party believing itself to be at risk due to the unknown consequences of the proposed action – short-term or long-term, incremental or cumulative. Given the risks, it is unquestionably better to error on the side of invoking the process too often.

The obvious objection that this new process would add unacceptable time to the length of the review process is rebutted with this statement of fact: many environmental permits that are significantly complex already consume a year or more in being evaluated. Although the author is unaware of any studies revealing the historic range or average length of time for environmental permit reviews in Georgia, nor any findings about the reasons for certain applications having lengthier review periods, it is noteworthy that under existing practices, EPD has no 'date-certain' closure on this process. There are permits that are still in the active file at EPD years after the application was submitted, and which can be (and have been) resurrected into approval status – after lying dormant for extremely long periods – without a new permit application ever being filed. Depending on the circumstances, this practice may have adverse consequences for either permit applicants or those who are adversely affected by a proposed activity, or who believe themselves to be. It therefore seems reasonable that a peer review of three-to-six months could be readily incorporated into the existing time-line for permits of potentially major significance.

The formal standing of a peer review finding is also a debatable question, but the process need not be granted authority overriding that of the EPD director. As long as the peer review finding is made part of the public record and is available well in advance of the final permitting decision (e.g., at least 60 days prior), it is reasonable to conclude that the information it contains will be effectively used by the public to guide decisions to appropriate, equitable outcomes – whether through administrative or legal procedures. Those who wish to challenge regulatory decisions that appear to contradict the peer review report could, of course, exercise the legal option of filing an action against the permit – with

well-reasoned arguments strengthened by considerable technical analysis and opinions provided through the peer process. Over time, this would most likely lead to permitting decisions that generally comply with peer review findings.

OTHER BENEFITS OF PEER REVIEW

The advantages of peer review go well beyond the distinct benefit of bringing a wide range of scientific expertise to bear on deciding whether to issue a permit. For example, peer review information could be used to structure a trial period for conditional field-testing of the proposed activity under strict monitoring and careful assessment, as suggested by the same peer review team used in preparing the report. This could, in effect, provide needed safeguards to prevent potential risks from becoming dangerous by using an 'early warning system' while also generating much-needed information about uncertain environmental conditions and complex interactive systemic factors.

By placing greater emphasis on detailed monitoring and assessment, peer review used in permitting could also lead to improvements in data collection procedures, analytical techniques, and critically needed information about the accuracy of existing assumptions used in setting thresholds and limits, such as total maximum daily loads. It is also reasonable to assume that targeted monitoring under more rigorous procedures designed by peer experts would result in better understanding of methods for tracking, controlling, and analyzing the effects of elusive but persistent contaminants in specific ecosystems.

Likewise, as research scientists, the peers would have greater expertise in setting forth a reliable protocol for sampling, analysis, and reporting permit conditions. Presumably peer expertise could also be on hand to provide at least limited technical support to EPD staff and permit-holders charged with sampling and reporting relevant parameters.

Moreover, perhaps one of the greatest benefits of the peer review process would be in guiding environmental research, boosted by the invaluable practical insights provided by experience gained in review and evaluation of recent permit applications. Research proposals developed by various peer review teams would undoubtedly lead to greatly enriched and rapidly accelerated understanding about the capacity, resilience, restoration, and sustainability characteristics of environmental systems.

CONCLUSION AND POLICY VISION

As successive review findings determine the limits of existing information, research most urgently needed to reduce critical uncertainties would be identified and given funding priority. This approach therefore promises to not only result in more reliable and politically neutral permitting decisions, but also to breathe realism and multi-disciplinary interconnection into public policy through the practical application of science that it makes more readily available. Conversely, scientific research institutions may benefit from experience gained in organizing and implementing team approaches on projects that require multi-disciplinary methods.

An ideal, perhaps counterintuitive outcome would be systemic integration of now typically fragmented administrative programs to reflect the synthesis of environmental science emerging from peer review. Instead of having separate, disconnected groups working on issues related to ground water, surface water, water withdrawal, wastewater discharge, fisheries, and wildlife habitat, for example, permitting teams could be assigned to the review of all permits affecting interconnected water systems and habitats by watersheds and their aquifers.

It is not too difficult to imagine a future when environmental research, monitoring and assessment programs, and permitting functions are thoroughly integrated into a seamless network. This would provide enormous advantages in the accuracy of assessments, the practicality of research, and enhancement of accountability resulting from the best possible (real-time) use of information in support of public policy and environmental safeguards. Once the benefits of unified resource management are widely envisioned, achieving at least some of them through policy devoted to an enlightened definition of public interest would seem to be inevitable. Such unification will occur eventually, one way or another, as we continue to suffer the outcome of marginally effective conventional methods. The dominance of administrative fragmentation and the pre-occupation with short-term, incremental trade-offs must yield to more enlightened, integrated approaches. The question is, how much unnecessary and counterproductive disparity about our institutions, society, economy, and natural resources will occur in the meantime?

A peer review process used in environmental permitting is likely to help catalyze and accelerate this urgently needed conversion to integrated methods for natural resource allocation, research, and stewardship.

By consciously choosing to devise regulatory procedures to accomplish multiple goals, policymakers can reduce the public and private costs of continued administrative compartmentalization, including gridlock caused by politically heated disputes about environmental protection. The sooner this choice is made, the more effectively we can begin resolving these complex and otherwise irreconcilable issues.

REFERENCES

Appell, David. 2000. The New Uncertainty Principle. Scientific American, January 2001

Brosnan, Deborah M. 2000. Can Peer Review Help Resolve Natural Resource Conflicts? *Issues in Science and Technology*, Spring 2000.

Montague, Peter. 1997. Dealing with Uncertainty. The Forever Wild Tree Conservancy, 1997.

The Massachusetts Precautionary Principle Project, 2000. Clean Water Fund, Lowell Center for Sustainable Production, Massachusetts Breast Cancer Coalition, Science and Environmental Health Network.