



Citizens Advisory Board
Idaho National Engineering and Environmental Laboratory

**Idaho National Engineering and Environmental Laboratory
Institutional Plan**

The Idaho National Engineering and Environmental Laboratory (INEEL) Citizens Advisory Board (CAB) has reviewed the INEEL Institutional Plan in response to a request for input on the plan from the U.S. Department of Energy's Idaho Operations Office (DOE-ID). We recognize that our input will not effect the present document or programs for Fiscal Year (FY) 2000-2004. Our input is provided based on the possibility of influencing the subsequent issue of the Institutional Plan, for FY 2001-2005, and the programs it will describe. We also understand that the document was written to address the site mission as dictated to the site contractor and how the contractor will operate to achieve that mission.

We applaud the effort that Bechtel BWXT Idaho (BBWI) put into development of the Institutional Plan, particularly so early in the contractor's tenure at the site and in light of the unpredicted funding cuts announced on the contractor's first day on the job. We were never provided access to a document of this type under the prior contractor, and greatly appreciate its potential contribution to the public's understanding of the site.

The CAB supports much of the general thrust of the Institutional Plan and has particularly strong support for the following areas:

- Plans to establish an enhanced research and development (R&D) capability at the INEEL, as R&D efforts offer the potential to enhance cleanup while potentially reducing costs and supporting long term missions.
- The emphasis on safety, compliance, integrated life cycle planning, and a strong science base for solving real problems.
- Integration of R&D and Operations with the caveat that plans in this area emphasize integration with Pacific Northwest National Laboratories, Argonne National Laboratories (ANL), and the National Renewable Energy Laboratory. None of these laboratories have significant EM problems compared to others with far more severe problems like Hanford, Oak Ridge, Savannah River, Nevada, and Rocky Flats.
- Expansion of scientific capabilities and collaborating with other laboratories, universities, and private industry.
- The focus on EM operations and environmental stewardship, including developing a scientific understanding of subsurface migration of contaminants and its practical application within efforts to protect the Snake River Plain Aquifer.
- Enhancement of the INEEL's capability in biotechnology areas.
- Laboratory Directed Research Development (LDRD) funding to strengthen INEEL science and technology capabilities.

We offer numerous comments and recommendations, organized into several categories, to encourage improvements in future documents.

BROAD COMMENTS ON THE INSTITUTIONAL PLAN

We are concerned that the Idaho Settlement Agreement is not mentioned in the General Manager's Statement or the Executive Summary. This Agreement is vital to the State of Idaho and its citizens; meeting its terms should be an important part of the Institutional Plan. **The INEEL CAB recommends BBWI more prominently address the INEEL's commitment to "Getting the Waste Out of Idaho" by explaining what is being done to meet the terms and commitments in that important agreement in future Institutional Plans.**

Similarly, we note a lack of evidence of the cleanup mission at the INEEL, despite its importance and the reality that the most of the site's funding comes from the environmental management (EM) program. Effective and timely implementation of the cleanup is critical. INEEL has not fully demonstrated the ability to comply with environmental law nor the fortitude to do so in a timely manner. The resulting situation allows an interpretation that the designation as lead laboratory for the EM is hollow or insincere. Resolution of the many cleanup challenges faced at the site will do more to establish the INEEL as a valued resource than most other conceivable future missions. True leadership in the cleanup arena would restore Idaho's trust in DOE, demonstrate the value of the site within the DOE system, and generate an enduring mission. **The INEEL CAB recommends BBWI more prominently address the INEEL's commitment to fulfilling its cleanup mission and rising to the distinction implied by its designation as the lead laboratory for EM in future Institutional Plans.**

We note that the vast majority of documents available to the public about the INEEL are produced by DOE and are subject to public comment. That standard creates expectations that citizens have a role to play in reviewing each document and that their comments should be reflected in future documents. We conclude that the large number of issues presented in the document that are not subject to comment through any other mechanism could lead to frustration. **The INEEL CAB recommends DOE-ID and BBWI give serious consideration to the possibility of soliciting public involvement in the development of future Institutional Plans.**

The purpose of the Institutional Plan was explained in presentations to the CAB. Unfortunately, the document itself does not explain its purpose as well. **The INEEL CAB recommends that BBWI offer a clear explanation (of the document's purpose to help readers understand who wrote the plan and why) in future Institutional Plans.**

The relationship between INEEL management and Argonne National Laboratory -West (ANL-West) is unclear in the Institutional Plan. It is the Board's understanding that the designation as the Lead Laboratories for DOE's Nuclear Energy (NE) program applies to both the INEEL and ANL-West as a team, deriving from the laboratories' complementary skills and technological capabilities. **The INEEL CAB recommends BBWI clarify and emphasize the relationship between the two laboratories and their composite strengths in future Institutional Plans.** Collaborative efforts are critical to the optimum performance of the Lead Laboratories mission.

We found no mention in the Institutional Plan of workforce stability. **The INEEL CAB recommends BBWI include discussion of workforce stability in future Institution Plans.**

Timetables are lacking throughout the document. For example, the section titled "Environmental Quality Strategic Objectives," on page 12 explains how INEEL will improve the science that provides the underpinning for the DOE's Environmental Management Programs. There is a good description of how the Site will go about accomplishing this, but the document provides no timeframe. An example of what is requested can be found under the "schedule" subheading on page 25; the list of objectives and schedules for completion is helpful to the reader. Clear implementation schedules similarly provide a mechanism for measuring performance.

We were frustrated when attempting to evaluate the adequacy of budget allocations for each of the strategic initiatives. There was no apparent consistency between the various sections of the Institutional Plan and the budget numbers. For example, the funding sources summarized on page 67 do not appear to correspond with sections in the text. The INEEL CAB and likely the public, would prefer clear explanations of the allocation of funding between programs and portrayal of the budget using categories that reflect the organization in the text.

INEEL MISSIONS

The CAB has long felt and frequently stated our belief that the only way to assure continued cleanup and adequate long term stewardship at the INEEL is to have a viable long term mission for the INEEL that goes beyond the requirements for cleanup. We therefore applaud the effort Bechtel B&W Idaho (BBWI) has put into the Institutional Plan. The intent to further establish the INEEL as a leader in the DOE complex is commendable.

The INEEL CAB believes that DOE-ID could do a much better job of communicating with the public about the missions at the INEEL. We understand that most of the missions are longstanding and many are required by law. We further recognize that DOE prepares environmental documentation whenever a significant new project is proposed for the site. We nonetheless note that the INEEL does not enjoy broad-based support or understanding among Idaho's citizens and conclude that enhanced communication with the public about the site's missions offers potential for increasing citizen interest in and support for the INEEL. To the extent that Idaho's citizenry affect the national budget process, their support is critical to the adequacy of site funding even for the cleanup program. **The INEEL CAB recommends DOE-ID and BBWI develop a meaningful role for the public in defining the site's missions.** Such efforts would broaden the site's base of support and help assure a long-term presence in Idaho. The CAB stands ready to assist in such an effort in any way it can.

We experienced some frustration trying to understand the distinction between the missions that are internal to the INEEL and those that are national in scope (addressing inter-site issues and concerns). Some of our confusion may relate to inconsistent use of the term "leader." Similarly, it was not apparent when the INEEL has been formally designated as DOE's lead in a specific arena from situations where the INEEL has decided to pursue establishment of itself as the leader in a particular arena. Because the document does not clearly explain the significance of being designated as a lead laboratory, we cannot discern the significance of our confusion. **The INEEL CAB recommends BBWI provide clarification between official designations and organizational aspirations in future Institutional Plans.** It might also help to separate the strategic thrusts into those with a local focus and those with a national focus.

ENERGY RESEARCH

The members of the INEEL CAB are not necessarily in agreement with regard to their opinions of nuclear energy and its acceptability within the U.S. Those of our members who support nuclear energy applaud

the site's historic leadership in nuclear energy research. They note the potential for Generation Four nuclear power plants to contribute to reducing global warming, supply energy for emerging nations, and enhance the expansion of the world economy is an important national and international mission. Those who favor renewable energy appreciate the INEEL's potential to contribute to the realms of solar, wind, geothermal, and other renewable energy sources. They note the potential of renewable energy as safe, sustainable, and non-polluting. After much discussion within the CAB's Planning for the Future Committee, it was possible to reach some shared conclusions.

We recognize that multiple programs provide funding for R&D efforts at the INEEL and that funding cannot be moved between programs. We also recognize that other DOE facilities serve important energy research functions within the overall national energy research program. We nonetheless conclude that a diversified energy R&D program at the INEEL offers the greatest potential benefit to the site and that the current Institutional Plan is overly focused on nuclear energy research to the exclusion of other energy research. **The INEEL CAB recommends DOE-ID and BBWI place increased emphasis on enhancing and diversifying the INEEL's energy research mission to the extent possible.**

We are in agreement that nuclear energy research at the INEEL should continue and we applaud the Institutional Plan's emphasis on the NE Lead Laboratories' efforts, specifically those aimed at assisting in the development of safer, more economical, waste-minimized, and proliferation-resistant nuclear power plants. We recognize the historic leadership the INEEL and ANL-West provided in the development of nuclear energy and support efforts to retain the site's extensive capabilities in that arena. However, resolution of lingering concerns about nuclear safety and safe management and disposal of nuclear wastes will be key to the future of nuclear energy as a power source. We conclude that the most appropriate missions for nuclear energy research at the INEEL would focus on resolving these several concerns. **The INEEL CAB recommends DOE-ID and BBWI focus nuclear energy research efforts on resolution of all problems that remain obstacles to broader public support for nuclear energy, namely reactor safety, proliferation, waste minimization, and waste disposal.**

The strategic objectives for nuclear energy research are satisfactory as far as they go, but they do not address public concerns. **The INEEL CAB recommends DOE embrace a goal of developing a public education program to enhance the public's understanding of nuclear power.** We recognize such an endeavor must be national in scope to be effective. An honest and straightforward public education program is critical to increase the public's understanding of nuclear power. Neither DOE-ID nor the INEEL can hope to have an impact on public opinion regarding nuclear power until such time as the public can fully understand the issues surrounding nuclear energy.

INEEL PROGRAMS

One prominent strategic objective in the Institutional Plan is to improve the scientific underpinnings for DOE's Environmental Management Program. Only one major program is featured: study of the transport and fate of underground contaminants. This effort may be a potential "niche" for the INEEL within the national laboratory system, and should be pursued on that basis. However, practically all of the INEEL EM programs deal with important areas of scientific pursuit that are far more critical to the site's ability to fulfill its obligations under the EM program. These include waste retrieval and processing, immobilization, packaging, storage, and transportation. Similarly, the summary of major initiatives for environmental quality only addresses long-term stewardship, vadose zone mapping, and subsurface science. The INEEL CAB is concerned that many current scientific pursuits need further development and that existing capabilities could be lost if the Institutional Plan does not specifically call them out as important science initiatives. **The INEEL CAB recommends BBWI expand the discussion of science initiatives to include all scientific areas that are required to provide adequate scientific support to**

the major EM activities of the site, including those related to "getting the waste out." Ignoring these important areas of existing scientific capability puts them at unacceptable risk.

The "Scientific Simulation Initiative" (SSI) is appealing, and it would be intriguing to see it fleshed out. It reminded one CAB member of the extensive time, effort, and funding required developing RELAP 5 (including the expensive, complex, and extensive test operations that supported that effort. We conclude that the SSI would be a monumental and expensive undertaking. The INEEL CAB questions the need for and funding availability for development of a super code to simulate environmental management, nuclear technology, national security, and integrating human factors. Efforts like this allow a conclusion that INEEL is not making cleanup and preparation of wastes for shipment out of Idaho as high of a priority as we think they should be. **Particularly during times of tight budgets, the INEEL CAB recommends INEEL pursue such programs only after careful consideration regarding their justification, funding requirements, and funding availability.**

The INEEL CAB understands that enhanced utilization of the Advance Test (ATR) as a user facility for DOE and commercial customers depends on adequate maintenance and infrastructure support. We further understand that present funding problems jeopardize the maintenance program at ATR. During a recent visit to the New Waste Calcining Facility, members of the CAB were advised of similar maintenance problems at that facility. **Based on our belief that nuclear facility operational excellence and safety depend on the adequacy of preventive and corrective maintenance programs, the INEEL CAB recommends DOE-ID allocate sufficient funds to support sound maintenance programs for all operating site facilities, especially nuclear facilities.**

The Laboratory-Directed Research and Development (LDRD) program is described in the "Situation Analysis" as being focused on supporting the INEEL's role as the NE lead laboratory, development of fossil energy, and contributions to national security. Discussion of the Science and Technology (S&T) program emphasizes INEEL's role as the EM Lead Laboratory and support for renewable energy R&D as contributing to the development of the science base for the INEEL. **The INEEL CAB recommends BBWI clarify the roles, responsibilities, and relationship between the LDRD and S&T programs in future Institution Plans.**

THE ROLE OF THE PUBLIC

The CAB notes that the Office of Public Affairs admits that the public is confused about the mission and role of the INEEL. We do not believe a strong working relationship with the various entities listed in the first paragraph in the "Situation Analysis" discussion (on page 36) will rectify that confusion, however, even if that strong relationship exists. **The INEEL CAB recommends that DOE-ID develop a comprehensive public participation strategy and clearly define an appropriate role for BBWI in implementing that strategy.** We do not believe such an effort can be successful simply by working through the entities listed; it must be aimed directly at the citizenry.

In the section that discusses the "Long-Term Environmental Stewardship Initiative," a schedule is presented for Phase 1. **The INEEL CAB requests documentation related to the "needs identification process" scheduled for completion by January 31, 2000, and copies of the "Project Management Plan" scheduled for completion on March 13, 2000.** If these two documents are not yet available, please advise us as to anticipated date(s) that they will be available to the CAB and the public.

From the perspective of members of the public, the Plan is relatively inscrutable in some parts due to the use of many technical terms. The authors of the Plan clearly do not recognize the knowledge gap that

exists between those directly associated with the INEEL and the public. Some specific examples of this problem include:

1. Descriptions under the “Biotechnology” and “Chemistry and Geosciences” sections (on page 7),
2. The last sentence in the opening paragraph of the “Chemistry and Geosciences” section,
3. The last paragraph of the situation analysis in the “Science and Technology” section (on page 20),
4. Use of the terms “Chemical Weapons Convention” and “communication of technology role” in the discussion of counter terrorism and law enforcement (on page 6).

The INEEL-CAB recommends that BBWI consider the level of technological understanding and knowledge of the public in future Institutional Plans and more carefully construct the document to meet the needs of the public.

SPECIFIC SUGGESTIONS FOR IMPROVING THE INSTITUTIONAL PLAN

The “seamless enterprise with the integration of R&D and operation” is too esoteric. That message should not be the primary message directed at the public and the CAB. What we do want is honest, straightforward, and forthright factual information regarding the status of various INEEL programs, especially concerning regulatory compliance. We seek assurances regarding the continuing viability of the site and timely completion of the cleanup. We are concerned about the stability of the work force; risks to site workers, the public, and the environment; and the implications of budget shortfalls.

The INEEL CAB recommends the BBWI consider the following suggestions to better meet the public’s desires in future Institutional Plans.

1. The Table of Acronyms is a good idea for the benefit of the uninitiated public; however, all acronyms were not included. This should be corrected in subsequent issues.
2. The introduction to the “Laboratory Scientific and Technical Vision and Strategic Plan” section should include environmental R&D (in addition to energy R&D) in the third bullet.
3. The collaborative process described to support the “Complex-wide Vadose Zone Roadmap” process does not define a role for the public.
4. The “National CO₂ Sequestration and Methane Hydrates Program” appears to be potentially of interest to the public. The description of the programs is inadequate, however.
5. The public should be included as essential participants in all activities described under the Generation 4 Nuclear Reactor Initiative’s “Strategic Objectives and Strategic Outcomes.”
6. In response to the section in the Institutional Plan that addresses the Applied Environmental Science, Engineering, and Technology Demonstration (page 9), members of the CAB question why the generalized discussion of human capabilities and innovative solutions fails to mention programs directed at agribusiness and aquifer cleanup, which have demonstrated support among the general public.
7. The document’s reference to the Boron Neutron Capture Treatment program should indicate its use in treating certain specific types of brain tumors not amenable to other treatment.
8. The purpose of the discussion regarding chemical separations in the “Chemistry and Geosciences” section does not relate clearly to discussion of a “harsh environment.”

9. In the section on "Processing and Managing Radioactive and Hazardous Materials," there is a statement that INEEL "is" a major processor of spent fuels, which is no longer true. The INEEL-CAB recommends that a better and more accurate explanation of these programs in terms that can be understood by the average citizen.
10. In the General Manager's Statement on page iii, the first sentence says "From the outset of being awarded the INEEL contract . . ." It would be nice to add the date the contract was awarded.
11. The figure illustrating INEEL's core competencies on page 8 is incomprehensible. What distinguishes the "key capabilities" from the "differentiating core competencies"? By what mechanism are the key capabilities "integrated" as indicated by the title of the figure?
12. We would prefer the Institutional Plan be produced on a calendar year, based on known FY funding levels. This would allow finalization of the document after knowing how much funding will be available and allow more timely release of the document. This would enhance its contribution as a blueprint for how available funding will be spent, establish current year funding priorities, and provide justification for any reallocations within the workforce.