Citizen Stewardship: Public Participation in Developing a Vision for the Future Use of a Department of Energy Nuclear Weapons Facility

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In March 2000, the Department of Energy (DOE) requested the Fernald Citizens Advisory Board (FCAB), a Site-Specific Advisory Board (SSAB) appointed by DOE, to take the lead role in evaluating and recommending the possible public access and use of the Fernald Environmental Restoration Project (FEMP). The Fernald uranium feed-materials production facility, located 18 miles Northwest of Cincinnati, OH, was closed in 1989. Restoration and remediation of the site is expected to be completed in the next six to eight years. In this paper we describe and discuss the successful efforts to involve local residents and other stakeholders in decisions about the future use of the Fernald site when clean up is completed.

Planners and social activists in the United States have long stressed the importance of participation by citizens in public affairs[1]. For many years, the citizen's role in public decision making was viewed simply as involvement in the elective process through participation in political parties, or in some parts of the country through town meetings. After World War II, however, and especially since the 1960s, citizens' participation in planning and decision making has become routine in many mainstream public agencies. Today almost all such agencies encourage citizens to participate in planning and policy making in some form, ranging from simple surveys to advisory boards (Thomas, 1995).

The rise of public participation over the last 40 years has several explanations, including institutional developments such as the decline of political party strength at the local level, increased bureaucratic decision making, a shift in public values related to the administrative decision-making process, and "widespread publicity about governmental problems" in the mass media (Darke, 2000; Thomas, 1995; Langton, 1978). According to Desario and Langton, the expanding role of government as a provider of public services also has led to greater public decision making at all levels of government. Bureaucrats now routinely consult citizens as often as they consult technical experts, especially in matters of health, education, transportation, and environmental planning. In many cases, agencies are legally required to seek the views of the public on matters of public policy (Darke, 2000; Desario and Langton, 1987).

Citizen participation, much like the planning profession, is a broad field. This subject has been discussed widely, and numerous definitions have been offered. One of the earliest definitions used by planners comes from the classic article by Sherry

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[1] The terms *citizen participation*, *public participation*, and *citizen involvement* are used here interchangeably with the same definition: active and meaningful participation by citizens in the public process of planning and decision making.

Arnstein (1969), who defines citizen participation as citizen power. “It is the redistribution of power that enables the have-not citizens, presently excluded from the political and economic processes, to be deliberately included in the future.” (Arnstein, 1969) She makes the point that citizen participation without redistribution of power is a meaningless exercise for the powerless. If the power holders are the only ones who make the decisions, then the status quo is maintained and true citizen participation has not occurred. Although Arnstein’s definition may imply certain political and philosophical viewpoints, it has merit for planners. The model helps to illustrate the different levels of citizen participation, their gradations, and some of the serious problems present at lower levels. Later writers have modified Arnstein’s ladders or proposed their own model for meaningful citizen involvement in public decision-making (Darke, 2000).

Public participation has many names: citizen involvement, community involvement, and participatory decision making, among others. Traditionally the concept was identified with citizens' political activities including voting, campaigning, and lobbying by special interest groups such as unions and environmental groups. In the 1960s and 1970s it was broadened to include involvement in administrative processes. Encouraged in part by the emergence of grassroots organizations and by the community development planning model, which focuses on helping people to help themselves improve their conditions, public participation is now defined in terms of “influence” or “being part of the process.” Public participation also implies that some power or authority will support the participants' preferences and demands. Thus citizen participation entails being involved before decisions are made rather than merely being allowed to comment after the fact or making choices from a predetermined list of options. Most proponents of public participation, both within agencies and among community members and stakeholders, recognize the advantages of allowing citizens to participate in the planning decision-making process. Among these benefits are improvements in the quality of decisions and plans, building public support for and increasing the likely success of a project, and satisfying legal responsibilities and obligations (Anderson and Yaffee; 1998).

As planning and other public agencies have moved away from a “decide-announce-defend” approach and toward more open planning and policy development, various methods for involving citizens have emerged, including public meetings and workshops, referendums, surveys, the review and comment process, advisory groups, and public outreach through media and other information channels. A wide array of techniques for soliciting informed comments has been developed, such as Delbecqu’s nominal group technique, the Delphi technique, charettes, and presentation of alternative plans (Darke, 2000: Thomas, 1995; Kweit and Kweit, 1987; Langton, 1978; Rosenbaum, 1976). Appointments of citizen advisory panels, such as the Department of Energy’s site-specific advisory boards to advise the agency on decisions about site closures, have become popular in the 1990s (Telfer, 2000; Depoe, 1998; Duffield and Depoe, 1997; Battis and Wagner, 1996).

THE DOE NUCLEAR WEAPONS COMPLEX

For more than 60 years the United States has engaged in nuclear weapons research, development, and production. Twenty-one major operating sites and 31 small-scale research and production sites are listed as part of DOE's nuclear weapons complex. In addition, numerous uranium mine sites throughout the country, mostly in western states, have provided raw materials for production. This network of facilities

was (and in some cases still is) used to process uranium ore, manufacture nuclear weapons, test weapons, and undertake research and development for new weapons systems (Council, 1995a).

The Fernald Feed Materials Production Center was established in 1951 and for 38 years produced uranium metals for use in nuclear weapons. Production and disposal activities, wind, and runoff during its operation resulted in widespread contamination from uranium and other hazardous and radioactive chemicals both on and off the 1,050 acre site. Of significant concern is uranium contamination of soils on site and above background levels up to five miles from the facility. The entire site is situated above a sole source drinking water aquifer and off-site drinking water wells in the area were contaminated. The area is rural and surrounding properties consist primarily of agricultural and residential development. (Fernald Environmental Management Project, 1993)

CONTROVERSY, LAWSUITS, AND CITIZEN PARTICIPATION

During the 1980's, Fernald established a large national reputation, including being featured on the cover of *Time* magazine, and little of it was good news. In the early 1980s, it was discovered that the Fernald facility had been contaminating local drinking water for many years. The Department of Energy was sued by local residents and paid out significant damages for this contamination. As trust of the Department and its contractors continued to decline, strong grassroots citizen activity was formed and began to demand more of a role in the clean up process. In 1991, DOE signed a revised Consent Agreement with the U.S. Environmental Protection Agency which recognized that a number of important and far-reaching decisions about the clean up of the facility were to be made over a several year period. DOE managers at Fernald realized that many of these decisions would have a profound impact on the long-term interests of local stakeholders and that stakeholder involvement was therefore essential to developing sound decisions.

It was against this backdrop that DOE established a citizens advisory board to assist in the most pressing issues facing the cleanup of the facility. DOE hired an independent convener in the spring of 1993 and a board was formally established in August 1993 as the Fernald Citizens Task Force. That fall, the Task Force realized that it needed independent technical and facilitation support and hired The Perspectives Group (then Phoenix Environmental) to provide this support. Armed with a detailed work plan and this support, the group delivered comprehensive recommendations to DOE 18 months later. The Task Force developed and released its recommendations over a seven month period from November, 1994 through May, 1995. A final report presenting the overall approach and results from the process was released in July, 1995 (Fernald Citizens Task Force, 1995).

The Task Force's recommendations for final clean up of the site are summarized below:

> The impacts on the Great Miami Aquifer are minimized so that groundwater quality meets the standards of the Safe Drinking Water Act.
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> A disposal facility be constructed on-site to accept low-level contaminated materials exclusively from the Fernald site. This facility must meet the criteria for site-specific waste acceptance.

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The clean up schedule be accelerated from the original 25 years to 10 years.

For future use, the site should be divided into three zones: the area to be used for the on-site disposal cell, a transition zone, and remaining property. The third zone will be available for public use to benefit the surrounding community (with public participation in deciding the use).

The recommendations were developed to provide maximum impact on the process and each one was supported by a detailed discussion of issues and rationale. All of the recommendations were eventually accepted by the DOE and its regulators and today a great deal of progress has been made in cleaning up the Fernald site to the standards identified by the citizens in 1995. The work of this group also went a long way to healing the wounds of the community and turning a tense and angry environment into one of increasing trust and open communication.

The Fernald Citizens Task Force changed its name to the Fernald Citizens Advisory Board (FCAB) in 1997 to coincide with other advisory boards that had been established throughout the Department of Energy. The FCAB has continued to meet on a monthly basis, advising DOE on a wide variety of issues relating to the implementation of its clean up recommendations and has continued to build a reputation as one of the most effective SSABs in the DOE complex (Fernald Citizens Advisory Board, 2001; Telfer, 2000; Depoe, 1998; Duffield and Depoe, 1997; Battis and Wagner, 1996).

THE CHALLENGE OF FUTURE USE

When the FEMP begins long-term stewardship activities in Fiscal Year 2007, the site will look very different from what it did when the plant was closed in 1989. A majority of the 1050-acre site will be restored to a natural state or will be used for ecological research. Wetlands, ponds, prairies, and upland forest areas will provide a diverse natural area for wildlife. An On Site Disposal Facility (OSDF) and its natural buffer area will occupy 123 acres of the northeastern corner of the property. The OSDF will be covered with a vegetative cap, surrounded by fencing, and rise nearly 65 feet above ground at its highest point. Twenty-three acres of the south-central section of the property may be opened for economic development. If this area is not used for development, it will be restored to a natural state.

By 2007, very few facilities will remain on site. An advanced waste water treatment (AWWT)plant will remain in place until 2010 or beyond to ensure that the final remediation levels for groundwater are maintained. Depending on the progress of the Silos Projects, two earthen-covered silos may remain in 2007, but it is anticipated that these structures will be removed within a few years of initiating stewardship in 2007. Similarly, a power station located on the southwest corner of the OSDF will remain, but will be dismantled within a few years. The area that these facilities currently occupy will be restored to a natural state after remediation. No other structures, aside from the OSDF, or foundations will remain on the site after 2007. It is anticipated that the perimeter of the property will be fenced with access roads and entrances.

In planning for long-term stewardship of the site, the DOE-FEMP set out to develop a *Master Plan for Public Use of the FEMP* as its initial proposal for public use and access to the site. Before completing the report, DOE requested the FCAB to take a lead role in obtaining public comment about the *Master Plan* draft and to prepare a citizen's vision statement for public use of the site. In response to DOE, the

FCAB instituted the Future of Fernald process, a broad-based stakeholder effort to explore issues surrounding the appropriate public use of the Fernald site after clean up.

The future uses of the Fernald site following remediation were a major consideration of the FCAB's 1995 recommendations. These recommendations prevented agricultural or residential uses at Fernald and strongly discouraged heavy industrial uses. While the FCAB envisioned some type of natural environment and green space for the community, it believed that those choices were best left to future generations, as the remediation was not scheduled to be completed until some decades hence.

However, a number of events coincided to bring those specific future use decisions to a more immediate focus. In the 1995 report, the FCAB recommended greatly accelerating the clean up timetable at Fernald. By doing so, it was estimated that the total project costs could be decreased by over $2 billion. The FCAB fully supported the accelerated clean up approach and lobbied extensively that Fernald be given the resources to make it happen. DOE listened and it was determined that clean up could be completed as early as 2006. Also in this time frame, DOE and the State of Ohio were working to resolve natural resource damage claims. The resolution of these damages was coordinated closely with area stakeholders and leaned heavily toward the designation of much of the Fernald site as an ecological park. One final influential event was the reinterment of a number of Native American remains on the Fernald site. These remains were unearthed during the construction of a new water supply to area residents. Reinterment of the remains in a protected area on the site was so popular with Native American groups and area stakeholders that it was widely agreed that the reinterment of additional remains from the surrounding region would be a positive use of part of the Fernald site (Native American Graves Protection and Repatriation Act, 1990).

Thus, in 1998, the FCAB began to look closely at issues facing Fernald upon the completion of remediation, including specific future uses and the long-term stewardship of the site.

DESIGNING A FUTURE USE PLANNING PROCESS

While the FCAB often provided input to DOE on specific technical issues concerning clean up, they recognized the importance of a much broader community effort for decisions which would so clearly impact the future of the entire community. FCAB members had identified a similar need years before when evaluating whether waste materials could be safely disposed on the Fernald site for the long-term. For that issue, the FCAB convened numerous large public workshops to evaluate options and explore the safety issues regarding an on site disposal facility. The success of that effort convinced the Board that a similar approach was needed for the future use of Fernald.

To that end, the FCAB sought to develop a process that achieved a number of far-reaching criteria that it had found essential in its previous efforts:

1. A high level of community participation
2. High levels of recognition for the process
3. A focused decision-making process that allows for broad-based participation and consensus-driven decisions
4. A strong education component to allow for broad-based understanding of the issues and alternatives
5. An Outcome that establishes a community legacy

Again, working with The Perspectives Group of Alexandria, Virginia, the FCAB designed and implemented a process that not only worked but has provided ideas and momentum toward achieving a real and promising future for the Fernald site far beyond what was originally imagined.

How the process met each of the design characteristics is discussed below.

Criteria 1. A high level of community participation

In order to achieve a positive future for the Fernald site, the FCAB recognized that the entire community needed to work together to develop a shared vision of local stakeholders and the government agencies who are currently managing the restoration process of the site. Only with such a shared vision in place did the FCAB feel that real progress on identifying and planning for specific uses was possible. As such, the FCAB invited three other local citizens groups who were working to bring about the safe remediation of Fernald and a positive future for area residents to be part of the Future of Fernald process. These groups included Fernald Residents for Environmental Safety and Health (FRESH), Fernald Living History, Inc., and the Fernald Community Reuse Organization (CRO).[2] In addition, the FCAB made a great effort to involve stakeholders who had not participated heavily in past activities. In particular, area teachers, historical societies, and similar groups were approached to get involved to ensure that educational and historical potentials of the site would be well considered.

Then, rather than coordinate the effort through the FCAB, a stewardship committee, chaired by an FCAB member, was established to include all of these groups and be open to all interested stakeholders. With open membership and full voting privileges of all attendees, the stewardship committee served as the managing organization of the process. Stewardship committee meetings are held monthly and average 20 to 25 attendees, of which only a few are FCAB members. In addition, Future of Fernald workshops are held in area schools and community centers that are not associated with traditional public meetings of the FCAB or DOE.

Criteria 2. High levels of recognition for the process

It was important to the FCAB that the process had an identity of its own and was well recognized in the community. The simple title "Future of Fernald" was used from the very beginning of the project to identify its activities and distinguish it from the FCAB. A specific logo was also created which showed the current industrial and future environmental skylines of the site along with the tag line "The End is Just the Beginning." These elements are used in all mailings, materials and meetings of the Future of Fernald process and have achieved a high level of recognition throughout the community.

Criteria 3. A focused decision-making process that allows for broad-based participation and consensus-driven decisions

The process designed for the Future of Fernald included monthly planning meetings of the Stewardship Committee punctuated by a series of large public

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[2] FRESH is the original citizens advocacy group organized by local residents in 1986 to address their concerns about environmental contamination resulting from production at the site. Fernald Living History, Inc. is a non-profit organization working to document oral and physical history of the site. CRO is a federally-mandated citizen and worker group to advise on the economic impact of site closure.

workshops to provide the public with needed information, establish dialog, and incrementally develop recommendations to DOE. To date three workshops have been held and a fourth is being planned.

- Workshop 1 – an introduction to the future use concepts under onsideration and an opportunity to identify community issues and concerns about future use.
- Workshop 2 – following additional efforts to introduce future use issues to the public, the second workshop provided a forum for the public to identify its desires for the future use of Fernald.
- Workshop 3 – the Stewardship committee presented the public a draft stakeholder vision statement for the Future of Fernald based on the results of the second workshop, participants revised and agreed to the statement and then spent time conceptualizing how the vision statement might be implemented at the site.
- Workshop 4 – a community design charette is being planned to involve a broad spectrum of community members in the development of visual design elements of the future site.

The Future of Fernald process was originally started on April 20, 1999 with an FCAB sponsored community workshop attended by approximately 75 local residents. An information booklet was developed and displays were used to describe key elements of remediation and how they would lead to possible future uses of the site. A number of conceptual models of the future site were presented to show how green space and hiking trails could be incorporated. Participants worked in small groups to discuss specific issues of importance and provide feedback to the process.

Results of the first workshop were important to the overall planning of the Future of Fernald process. One of the key aspects of the workshop was to present conceptual models of how the site might look following remediation, including the possible presence of various hiking trails throughout the site. A number of residents were alarmed at the thought of this future public access to the site, particularly close to the on-site disposal facility. Although billions of dollars were being spent to make such access perfectly safe, the FCAB realized that the community was not yet ready to envision the site as a safe, accessible property and that the FCAB would need to do more education and dialogue before such activities could be discussed. The FCAB also realized that specific ideas for use of the site needed to be generated by the community. Conceptual models developed by DOE created too strong of a suggestion regarding DOE's actual plans for use and were not helpful to facilitating community dialogue.

Following this first workshop, the FCAB began to work directly on issues of future use and long-term stewardship of the Fernald site and were asked formally by DOE to manage a process to provide direct community input to future use decision-making. The FCAB agreed to take on this role and coordinate the efforts through its stewardship committee. Through activities of the committee and working with other area stakeholder groups, the FCAB encouraged a much higher level of dialog throughout the community about the approaching end of remediation activities and the future use opportunities that would be possible.

On May 24, 2000 the second Future of Fernald Workshop was held and jointly sponsored by the four community groups supporting the Stewardship Committee.

Over 100 area stakeholders attended and the event was also broadcast live on the internet and by speaker phone to allow remote participation.[3]

Breakout groups were convened in which participants were asked to address several questions:

- What are the things you would most like to see as possible community assets at the site?
- What are the things you would definitely not want to see at the site?
- How would you like to see these assets managed within the community?
- Where should long-term support come from and who should be involved?

The results of each breakout group were reported back in plenary addressing three main points: What did we learn? What do we still need to do? What should the next steps in the Future of Fernald process be? As a result of the second workshop, citizens agreed that there was enough information available to begin drafting a community vision for the future of Fernald. The Stewardship Committee was assigned the job of taking the results of the workshop and creating a draft statement for evaluation at a third community workshop.

During the summer of 2000, the FCAB Stewardship Committee worked to develop a draft stakeholder vision statement for the Future of Fernald along with specific recommendations for achieving the vision. The draft statement was then distributed among all participants in the Future of Fernald process. On September 26, 2000, the Third Future of Fernald Workshop was held to discuss the statement and seek community consensus. Approximately 80 stakeholders attended the workshop. Small group sessions were held to identify any issues with the vision statement, as well as any areas requiring substantive change. The small groups were required to reach consensus before returning to the larger assembly and each of them did. In the larger group, each breakout group presented its proposed changes to the full group for discussion of whether to accept or reject the changes. In this manner, a final vision statement was adopted with unanimous consent from those present.

Following adoption of the stakeholder vision statement, participants returned to their breakout groups to develop draft ideas with regard to how the vision might be implemented at the site. Each group was provided a map of the site showing the likely physical characteristics that will be in place following remediation. Each group then created one or more conceptual plans for use of the site. including trails, education centers, nature preserves, overlooks, and Native American reburial plots. Shortly after the third workshop, the FCAB formally adopted the stakeholder vision statement and made a formal recommendation to the DOE that it be used as a model for designing the future use of the site.

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[3] In general, traditional public participation techniques were employed in the meetings to generate a wide range of options and focus on those preferred by citizens. One unique feature was the use of the Internet to engage participants who were unable to attend the meeting. An interactive “chat room” was set up on-line during the meeting with a facilitator to ask questions and guide the discussions. About 15 individuals logged on and participated at some point during the internet sessions. The ideas and recommendations of the internet participants were reported by the facilitator in the same manner as the comments from those who participated in the breakout groups at the meeting.

Criteria 4. A strong education component to allow for broad-based understanding of the issues and alternatives

Extensive stakeholder information and evaluation has long been a hallmark of FCAB efforts and the Future of Fernald planning process was not an exception. Strong emphasis was placed on creating the materials and information needed by stakeholders to understand future use issues. It was also very important to the FCAB to create opportunities for dialog among stakeholders and with subject area experts to ensure that all of the issues important to stakeholders were addressed. Focus was placed on the use of visualization and hands-on techniques so that stakeholders could evaluate the impacts of possible choices and decisions.

The first workshop was designed around the issues that were identified by the Stewardship Committee as the most interesting to the Fernald community regarding potential future use of the site. These included:

Native American History and Remains
Public Use of the Land
Environmental Education
Local and Cold War History

Fact sheets were developed for each issue, and a variety of displays and videos were used to provide the background information needed to understand issues relating to the completion of the remediation project and the potential for future uses of the site. Breakout group discussions were conducted for each issue allowing stakeholders to identify issues and concerns and to talk directly with subject area experts.

The second workshop followed a similar format and was organized around five slightly different facilitated breakout groups to address the evolving interests of Fernald stakeholders:

Environmental Education
Cold War History
Fernald History
Native American History and Burials
Education, Recreation, and Community Development.

The breakout groups were arranged in a manner that allowed each individual to attend two different breakout sessions. In each of the breakouts, participants discussed the issues that were important to them, were able to ask questions of subject area experts, and identified the items that they would like to see present at Fernald following remediation. Following the workshops, all participants received a detailed report on the many ideas and issues that were raised.

The third workshop used flip-chart sized maps of the site to allow stakeholders to explore different possible futures for the site in keeping with the consensus vision statement. To-scale models of burial plots and education centers allowed stakeholders to visualize the potential impacts of different sized buildings and other site features. As a result, a wide variety of ideas were generated for consideration by the Stewardship Committee and to inform future planning efforts.

All of the results of the Future of Fernald workshops were provided to participant stakeholders and are displayed on the FCAB website. (Fernald Citizen Advisory Board, 2001)

Criteria 5. An outcome that establishes a community legacy

The “Stakeholder Vision for the Future of Fernald” has received wide recognition and acceptance throughout the Fernald community. DOE and its

regulators have accepted the vision as a blueprint for the future of the site, and the FCAB and it Stewardship Committee are hard at work to determine ways in which the vision can be achieved. The vision reads:

> *Fernald Stakeholders envision a future for the Fernald property that creates a federally-owned regional destination for educating this and future generations about the rich and varied history of Fernald. We envision a community resource that serves the ongoing information needs of area residents, education needs of local academic institutions, and reinterment of Native American remains. We envision a safe, secure, and partially accessible site, integrated with the surrounding community that effectively protects human health and the environment from all residual contamination and fully maintains all aspects of the ecological restoration.* (Fernald Citizens Advisory Board, 2000)

This vision has been subsequently bolstered by the FCAB with specific recommendations and criteria which help to provide specific direction to DOE. In addition, the FCAB recognizes that achieving this vision will require the coordination and cooperation of many groups beyond those involved in the clean up of the site. They have begun to foster the types of relationships that will be necessary to bring this vision about. Key among these is integration with local schools and universities and seeking appropriate organizations to serve as the long-term stewards of the Fernald site.

CONCLUSION AND LESSONS LEARNED

In many ways, the Future of Fernald process has only just started. The excitement generated by the Future of Fernald process and the FCAB's outreach activities have begun to bear fruit. The FCAB recently received a commitment from the President of the University of Cincinnati to partner in future efforts. The site contractor has also made a commitment to donate a certain portion of their possible early-completion fee to the long-term management of an on-site education center. The FCAB is working with area architects and universities to develop a design charette which will allow area stakeholders to work with professional designers to begin developing design concepts for an education center on site. The FCAB is also working with DOE to identify what elements of remediation can be coordinated and integrated into supporting future use development.

The members of FCAB enjoy a solid reputation for productive citizen involvement in a highly technical and somewhat controversial arena. FCAB's recommendations are routinely embraced by DOE and state and federal regulatory agencies. Since its founding in 1993, the Board has played a meaningful role in setting standards for clean up at the Fernald site, creating a vision for future-use, defining technology and methods for the clean up work-plan, and participating in public policy decisions that reach throughout the DOE complex. The Board has a national reputation as one of DOE's most effective citizen boards. Although the success or failure of citizen participation in any process is dependent on a number of variables, we believe the FCAB's overall success stems from the following elements: (1) Board members, DOE and contractor staff, and state and federal regulators are united behind a common commitment to clean up the site and leave a positive legacy for the community. (2) The FCAB has stable and strong leadership among its members and outside consultants. (3) The Board has remained focused by annually developing a consensus based work-plan. (4) FCAB members have set aside

"personal agendas" to work collectively toward a consensus vision for the future of the site. (5) Local DOE staff have overcome the agency's traditional "culture of secrecy" and willingly share information and ideas that allow citizens in the community to participate in planning and decision-making. (6) There is clear evidence that individual participation is leading to long-term beneficial outcomes for the community and nation.

The FCAB will continue to support the Future of Fernald process up to and including the construction of on-site facilities and the design of long-term stewardship programs to ensure that whatever is implemented at Fernald will be sustainable for generations to come.

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