Grassroots Environmental Opposition to Chemical Weapons Incineration in Central Kentucky: A Success Story

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Introduction

On January 13, 1993, the United States signed the International Comprehensive Ban on Chemical Weapons, obligating the country to dispose by 2004 of an estimated 27,000 tons of blister agent (mustard gas) and nerve agents (GB-Sarin, VX, and GA). The U.S. Army had amassed these chemical weapons during the period 1943 to 1969 as a "retaliatory stockpile," and stored them in rockets, tanks, projectiles, and bulk containers inside earthen bunkers called "igloos," maintained at eight Army depots around the United States and on Johnson Atoll in the South Pacific. The largest such facility, the Tooele Army Depot in Utah, holds 42% of the chemical stockpile, enough nerve agent to kill every creature on earth many times over. The smallest stockpile (1.6% of total) is stored at the Bluegrass Army Depot located in central Kentucky, approximately 30 miles south of Lexington.

Ironically, given its relatively minor contribution to the national chemical weapons stockpile overall, the Bluegrass Army Depot is at the center of the nation's public debate over how to handle the disposition of the U.S. chemical stockpile. The rockets holding the chemical weapons are leaking, international treaties require their elimination, and the U.S. Congress has mandated their destruction. Clearly, some action is necessary, but the means of disposition of the deadly chemical weapons is controversial due to the potential environmental and public health risks. As early as 1982, the Army considered incineration to be the best technology for destroying the chemical stockpile, and in 1986 formally proposed the adoption of this method in the Chemical Stockpile Disposal Program (CSDP) (Public Law 99-145; *Department of Defense Authorization Act, 1986)*. Prior to this, during the 1950s and 1960s, the Army

got rid of its obsolete chemical agents by open pit burning or by ocean dumping. The ocean dumping program was code-named "OPERATION CHASE," CHASE being the U.S Navy's acronym for "Cut Holes and Sink 'Em." For obvious reasons, the public, once informed of these practices, demanded a halt to them. The stated intention of the U.S. Army's proposal for the on-site incineration of chemical weapons is to provide higher standards of public and environmental safety (Silton, 1993).

When the idea of building such an incinerator at the Bluegrass Army Depot was first made public in 1984, however, it met with strong and unforeseen opposition by local citizens, who expressed concerns about the risks posed to the local population and the natural environment. In a series of public assemblies, called "scoping meetings," held in communities near the Depot during a period spanning almost two decades, the Army maintained the safety of its incineration program, while members of the public voiced opposition to it. Two leading citizens' groups emerged in the late 1980s – the "Concerned Citizens of Madison County" and "Common Ground," which together spearheaded a grassroots environmental movement in Kentucky and later across the United States against the Army's chemical weapons incineration plan. These central Kentucky community groups, along with citizen opposition groups at other chemical weapons stockpile sites, coalesced in 1990 into the Chemical Weapons Working Group (CWWG), which is led by the Berea-based Kentucky Environmental Foundation (KEF). This coalition, formed initially to focus on the nerve gas issue, now supports a range of community-based environmental campaigns in the United States and abroad.

For two decades the citizens of Madison County have steadfastly maintained their opposition to the Pentagon's incineration plans at the Bluegrass Army Depot. Initially

advocating removal of the ordnance to other less-populated sites for incineration, the movement later spearheaded an alternative plan for weapons disposal that called for their neutralization and biodegradation. On November 20, 2002 the Bluegrass-based environmental movement won its battle. The U.S. Army formally announced it would abandon its plan to incinerate chemical weapons at the Bluegrass Army Depot in favor of neutralization technologies long advocated by the citizen activists. This victory is a hopeful story, with immense benefit for the communities of central Kentucky and for other localities where chemical stockpiles exist. And because it successfully engages a relatively small group of determined citizens against the monolithic powers of the Pentagon, the environmental movement has far-reaching symbolic consequences as well. It suggests ways by which citizens can participate meaningfully in the discourse on national environmental policy - to practical end. In this presentation, I outline a brief history of the Kentucky-based grassroots effort to oppose chemical weapons incineration, and I discuss why it was successful when so many environmental movements fail.

Nerve Gas Incineration as an Environmental and Public Health Hazard

From the onset, local citizen's opposition against nerve gas incineration at the Blue Grass Army Depot has focused on the environmental and human health hazards of burning chemical agents in the manner proposed by the Army. This controversy centers on the confrontation between a government bureaucracy committed to a course of action that will bring environmental risks to a community, and local citizens who seek a voice in such decisions. The safe disposal of lethal chemical weapons was not a primary concern

to the Army in their early manufacture, mainly because it was assumed they would be used and not stored for long periods (CBS, *"60 minutes,"* January 5, 1992). Once it became apparent, however, that the national chemical stockpile was aging and posed dangers from leakage or explosion, attention was given by the Pentagon to its destruction. The disposal of chemical weapons by open pit burning or ocean dumping, as practiced in the 1950s and 1960s, was also proposed initially as the easiest method of disposal for the 27,000 tons of outstanding chemical ordnance. The idea was abandoned in 1970, however, because of widespread public and scientific protest against the policy in the United States and abroad.

In the early 1970s, based upon recommendation of the National Academy of Sciences, the U.S. Department of Defense began looking into incineration as a preferred method of chemical weapons destruction. The technology requires that chemical munitions (e.g. M55 rockets, which contain agent VX or GB) be dismantled, drained of chemical agents, and the materials fed separately into a high-temperature incinerator complex. Nerve agents, metal parts, explosives, and packing materials would be burned in separate, specially designed incinerators. The safety of the incinerator technology, especially the exposure risk to the public and the natural environment of chemical agents from factory emissions or from a catastrophic melt-down, lie at the heart of the public's concerns. Concerns also center on the potential release of chemicals during the handling and transportation phases of munitions destruction, and on the fact that a great deal of stress is placed on the hardware by the extremely high temperatures of the incinerators (1600 to 2700 degrees F.), which may in the long run compromise the ability of the incinerators to meet high efficiency and safety standards (Davies, 1998).

These concerns are based in part on problems that plague the Army's first chemical weapons incinerator, built on Johnson Atoll in the South Pacific in 1985. As a prototype of the Blue Grass Depot, it has proved to be a poor model. The Johnston Atoll Chemical Agent Disposal System (known as JACADS) has functioned less than 50% of the time, and has suffered countless problems including three live nerve agent releases, explosions, furnace fires, and equipment failures (Johnston et. al., 1996.) A number of by-products of the incineration process also pose known dangers to human health and the natural environment, including emissions of dioxin, benzene chromium, mercury, and vinyl chloride. Documents of the Environmental Protection Agency (EPA) cite exposure to these emissions, and their biological concentration in the food chain, as in fact the major environmental health threat posed by the incineration technology.

In the event of a release of nerve and blister agents, immediate and known health risks ensue for human populations. GB, also known as Sarin, vaporizes instantly and when inhaled causes death. VX exposure through inhalation or skin contact results in nervous system disorders, including convulsions, coma, and death due to paralysis. Blister agents, commonly known as mustard gas, cause eye injury and skin burn, as well as systemic effects such as intestinal disorder (Blackwell et. al, 1987). Their dispersal through the air will affect non-human life as well, and their entry into soil and water regimes may contaminate local natural resources for many years.

As reports emerged about the Army's incineration program and its potential impacts on public and environmental health, it became clear to military leaders that local communities were not equipped with adequate emergency preparedness to respond to the requirements of the proposed incineration program. In 1988, therefore, the Army

established the $700 million Chemical Stockpile Emergency Preparedness Program (known as CSEPP), which was designed to provide protection to citizens from chemical accidents at the incinerators. CSEPP offices were established in communities near the proposed incineration sites, to serve as clearinghouses of information, and to provide support for such actions as disaster evacuation and the distribution to households of protective clothing, gas masks, duct tape and plastic, and other forms of in-place protection (Smithson, 1994). The initiation of the CSEPP program was viewed with skepticism by incinerator opponents, however, mainly because the "public education" arm of CSEPP, through its various outreach campaigns, is believed to simply justify the Pentagon's plans to incinerate chemical weapons rather than to promote a balanced perspective on the issue and a meaningful platform for community dialogue and protection.

The credibility problems of CSSEP arise in part from the Army's long history of being less than candid to citizens living near the Bluegrass Army Depot about its chemical weapons operations. The depot was built in 1942 on 15,000 acres of farmland the Army took from local landowners in central Madison County, after razing numerous standing homes and country estates. At the beginning, the Bluegrass Army Depot maintained good relations with neighboring communities, providing jobs during War II, and offering public services such as fire protection. That relationship suffered, though, when nerve gas and blister agent shipments first arrived unannounced at the site in 1962, continuing into the mid-1960s. Open pit burns of munitions stockpiles occurred at the depot during the 1960s without the knowledge of the local communities. The serious

erosion of public trust began in the 1970s, when local citizens learned about the open pit burns, and increased notably after the "Smoke Pot Incident" of 1979.

On August 16, 1979, a cloud of dark fumes emanated from open pit burns of ordnance at the Depot and drifted westward to Interstate highway 75. Forty-five persons were hospitalized for burning eyes and respiratory problems. The Army first denied responsibility for the incident, but when later presented with evidence to the contrary, it admitted the Depot was the source of the fumes. There was no reported release of nerve agents in the incident, but the Army's initial denial of involvement deepened the level of public distrust. Since then, on separate occasions, cattle and deer were discovered dead on the Depot property, with blood samples positive for nerve agent. In these cases, as well, the Army initially denied culpability and then later recanted their story. Numerous reports from chemical stockpiles elsewhere in the country include nerve gas leaks at much larger scales, with similar Army denials and recantations. The pattern of disavowals and then forced acceptance of responsibility over a period of two decades created a heightened sense of distrust, which extended to the Army's Chemical Stockpile Emergency Preparedness Program.

The Geographical Setting

The Bluegrass Army Depot is located in central Madison County on the eastern edge of the Bluegrass Region. It is one of Kentucky's fastest growing counties with 72,500 residents. The communities of Richmond (27,000 population) and Berea (10,000 population) are located within 8 miles of the proposed incineration site, while the city of Lexington (metropolitan population of 450,000) is situated 27 miles north of the depot.

In addition to these three major population centers, as well as the dispersed rural population of Madison County, the depot's immediate environs include a major university (Eastern Kentucky University with 15,000 students), a college (Berea College with 1500 students) and several elementary and high schools. Furthermore, Interstate highway 75, one of the nation's busiest transportation arteries, is located only a few miles west of the depot.

A major factor in the initial rise of citizens' environmental activism against the Army's plan to incinerate chemical ordnance at the Bluegrass Army Depot is its close proximity to major population centers, which accentuates the risk to the public. This local concern, imbedded in the spatial problems of siting the incinerator, prompted initial efforts to transport the ordnance to Utah or to other incineration sites that are more geographically remote. This so-called "Not-in-My-Backyard" (NIMBY) movement, which was centered upon local concerns and risks, gradually gave way to a more generalized opposition to the Army's disregard for the geographical and environmental rights of all affected communities (Miller, 1993). It was this transition from specific to general concerns that eventually held promise for a national outreach of the Bluegrass environmental movement, such that communities located at other chemical weapons incineration sites might benefit. Along the way of its geographical journey from the Bluegrass to the nation and beyond, the grassroots environmental movement remained focused on the practical matters of technology and science, of public education, and of diplomacy in order to garner the political support considered necessary to achieve the aims of the movement.

Grassroots Mobilization

It is noteworthy that the mobilization of the grassroots environmental campaign against the Bluegrass Army Depot chemical weapons incineration program began not with outside radicals, but with the social aristocracy of Richmond, KY combined with political activists in Berea, KY. These are the two communities in Madison County located closest to the Depot, but they share very different origins. Richmond's history is bound up with a conservative, landed gentry who, since the town's beginnings in 1775, have controlled its politics and economics. Many of the grassroots environmental activists in Richmond descend from the community's "founding families," whose land was confiscated by the Army for purposes of the Depot in 1942. That initial land transaction, and the subsequent management by the Army of the Depot land, violated deeply held convictions among some of the social aristocracy of Richmond, whose sense of self identity comes from their attachment to the land and to a sense of local place (Ellis et. al, 1985). In effect, the Army disenfranchised a generation of rural social elite from their hereditary landed status in Richmond society.

Berea, meanwhile, is a more liberal community, whose contribution to the grassroots movement includes experienced environmental campaigners and peace and justice activists. Berea was established in 1855 based upon the principles of social justice and abolition, and has a long history of politically aware and environmentally active citizens. Historically at odds over the issue of slavery, the two modern communities of Richmond and Berea, one conservative and the other liberal, joined hands in the contemporary struggle against chemical weapons incineration in their shared backyard.

The Richmond activists, led by influential community leaders, formed the "Concerned Citizens of Madison County" in 1984, and the Berea activists, led by a Vietnam War veteran, formed "Common Ground" in 1987. These two lead groups in the local grassroots movement represent a broad constituency, including members of the founding families, the business communities, political leadership, churches, and a wide range of self-described "solid citizens." The citizens were called to action by the Army's first public briefing of its incineration plan in 1984, when it became apparent to members of both groups that their communities were at risk. "Concerned Citizens" formed in Richmond specifically to provide public input into the decision-making process and to work conservatively from within the system by engaging local elected officials on the issue. "Common Ground," meanwhile, proposed to engage the Army in a strategy that included gathering testimony from scientists and other experts to refute the Army's claims about safety and risks, educating the public and organizing the opposition to incineration, lobbying key political officials, and sponsoring litigation when necessary to force a new trajectory of decision-making. While "Concerned Citizens" remained locally focused, "Common Ground" adopted a broader national perspective.

In 1990, "Common Ground" became The Kentucky Environmental Foundation (KEF), and attained nonprofit status. Its primary purpose is to disseminate information and educate the public on environmental issues, with the nerve gas issue as its focus. KEF determined early on they could not achieve their goal of stopping the incineration of chemical weapons at the Bluegrass Army Depot without forging a broader alliance with community groups based at the other proposed incineration sites in the U.S. This decision

extended the tactics of the grassroots movement beyond simply local activism and moved the debate into national view.

Concerned Citizens of Madison County and Common Ground, now the Kentucky Environmental Foundation, joined forces in 1990 to form the coalition known as the Chemical Weapons Working Group (CWWG). In 1991, CWWG sponsored the first International Meeting of Citizens opposed to the Army's incineration plan. The so-called Citizen's Summit, held at a Holiday Inn in Richmond, KY, included representatives from all eight continental U.S. sites, as well as delegates from Hawaii representing the interests of Pacific Islanders against the Army's Johnson Atoll facility and delegates from Russia. A consensus document from that meeting, entitled *The International Citizens' Accord on Chemical Weapons Disposal* (1991) includes the following points:

1. All plans to use incineration for chemical weapons destruction should be halted.
2. The Department of Defense should expand its investigation into alternative technologies.
3. There should be greater citizen involvement in all decision-making processes.
4. Environmentally unsound technologies for the disposal of chemical weapons must not be exported

The document makes clear the intentions of the movement are not to deny the need to act on the aging and unsafe stored ordnance, but rather to force the Army to critically examine and consider the alternative methods of disposal that promise greater safe for humans and the natural environment. Moreover, the document reveals the deep

reluctance of the community activists to allow the transportation of chemical weapons from one storage site to another, an idea initially proposed by some in the Bluegrass and in the Army as a possible solution to the local problem of the Bluegrass chemical ordnance. CWWG felt that such transportation options simply shunted the danger from one community to another and to all people located along transit routes. With the Citizens' Summit, the environmental movement moved away from a determinedly local perspective on the problem - "Not in My Backyard" to a national and international one – "Not in Anyone's Backyard," and embraced a consensus position on the development of safe disposal technologies. In effect, it no longer was an "Anti – Incineration" movement, but became a "Pro-Safe Disposal" movement, a watershed change that ultimately set the stage for its success more than 10 years later.

The incinerator opposition movement led by the Kentucky Environmental Foundation has enjoyed the support from early days of a wide-ranging assemblage of political officials and organization. They include several U.S. congressmen, a former state governor, and community organizations such as the Chamber of Commerce and local workers' unions, as well as the local chapters of several national environmental groups. This diverse base of support has helped considerably in gaining momentum among local communities in central Kentucky and in influencing wider political circles. With the inception of the Chemical Weapons Working Group, this mobilization effort extended nationwide to include Anniston Army Depot in Alabama, Pine Bluff Arsenal in Arkansas, Pueblo Depot in Colorado, Newport Army Amunition Plant in Indiana, Aberdeen Proving

Chemical Stockpiles and Citizens' Movements

STATE	SITE	% OF NATIONAL STOCKPILE	LOCAL POPULATION	GRASSROOT MOVEMENTS
Alabama	Anniston Army Depot	7.1	27,000	Families Concerned About Nerve Gas Incineration; Burn Busters; Serving Alabama's Future Environment
Arkansas	Pine Bluff Arsenal	12	60,000	Pine Bluff for Safe Disposal; Arkansas Fairness Council
Colorado	Pueblo Depot	9.9	100,000	Sangre de Cristo Group of the Rocking Mountain Sierra Club; Citizens for Safe Weapons Disposal
Indiana	Newport Army Amunition Plant		16,773	Newport Study Group; Citizens Against Incinerating at Newport
Maryland	Aberdeen Proving Ground	5	Baltimore	Concerned Citizen's for Maryland's Environment; The Coalition for Safe Disposal; Aberdeen Proving Ground Superfund Citizen's Coalition
Oregion	Umatilla Depot	11.6	10,000	Citizens for Environmental Quality
Utah	Tooele Army Depot	42.3	Salt Lake City	The Utah Sierra Club; West Desert HEAL; Families Against Incinerator Risk

Ground in Maryland, Umatilla Depot in Oregon, and the Tooele Army Depot in Utah. All these sites have organized community opposition movements, and in a few of them – the so called "Army towns" of Anniston, Alabama and Tooele, Utah, counter-opposition movements (i.e. pro-incineration movements) as well have formed in support of the Army. Over a period of a decade, the mobilization efforts of the Kentucky Environmental Foundation in these dispersed communities has produced a national coalition in opposition to incineration that cuts across geographic, racial, ethnic, and class lines. This coalition extends internationally to include grassroots activists from Russia, which has about 50,000 tons of chemical weapons stockpile, and from the Pacfic who oppose incineration on Johnston Atoll (also known as Kalama Island).

From the onset, the U.S. Army challenged the legitimacy of the grassroots environmental movement based upon the technology of their incineration proposal. The very nature of the deadly chemical weapons, their storage devices, the rates of their deterioration, and the alternative means for their destruction all involve highly complex technical operations, which the Army argued is beyond the understanding of local citizens. This rationale promoted a kind of "technical adversarialism," which limited public involvement in the decisions made about chemical weapons destruction in Kentucky and elsewhere in the country (Futrell, 1999). In public hearings held in the Bluegrass communities during the 1980s, the Army maintained its "expert knowledge" as the primary justification for its environmental policies regarding chemical weapons destruction. Meaningful public participation was diminished by the Army's dismissive attitude toward citizen's concerns regarding the safety and risk assessments of the

technology, and residents simply were told to "trust the experts," (Hindman, D. 1989). At these hearings, Army personnel often appeared unconcerned about the safety issues raised by citizens and were perceived by many in the community to be simply "going through the motions" of a public hearing, as mandated by federal law. As the grassroots environmental movement took shape in the mid-1980s, it became clear from the public hearings that a primary need was for alternative "expert" witnesses on the technology issues.

Grassroots Tactics

Like most grassroots environmental movements, the central Kentucky opposition to the incineration of chemical weapons at the Bluegrass Army Depot has relied upon a small cadre of devoted individuals who have given much of their time and energy to the controversy. In the words of one participant, "What we learned early on was that we could get hundreds of people to a meeting, but if you needed people to lick stamps next Thursday night you were back down to about 12 or so" (Futrell, 1999: 128). The movement has benefited tremendously from the charismatic and financial leadership of the Kentucky Environmental Foundation, which has a small paid staff as well as interns and volunteers. As we will see below, the institutionalization of the environmental movement through the formation of the KEF in 1990 has been a key factor in the ongoing commitment of the grassroots effort and to its eventual success.

The Kentucky Environmental Foundation has employed several strategies in its grassroots campaign. These are worth noting, not only because they help to understand

the success of the Bluegrass-based movement, but also because they provide a useful framework for possible adoption by other grassroots environmental movements. These strategies include the following: 1. Form a broad-based coalition representing a wide cross-section of local society; 2. Provide an alternative source of expert information; 3. Adopt a pro-active rather than negative stance on the issues; 4. Navigate the political process from local to national scales of power; 5. Institutionalize the movement to increase influence and gain funding for sustained grassroots-based activity.

Broad-based Coalition

The grassroots environmental movement in central Kentucky contains a wide cross-section of local society, including members of the region's founding families, businesspersons and business organization, politicians, healthcare givers, educators, farmers, and householders. The early organizers of the opposition movement considered it important to show the Army in the public hearings that the local opposition to the incinerator plan was widespread and deeply entrenched within the community, and not simply restricted to a small band of vocal radical activists. The mobilization of this broad cross-section of society was facilitated by the requirements of the National Environmental Policy Act (NEPA) and by the Environmental Impact Statement (EIS) process, which compelled the Army to hold the public hearings among the central Kentucky communities. Without such federal laws, which essentially sparked the public debate by providing a forum for citizen participation and a legitimate channel for public input for the more conservative members of local society, it would have been difficult to

garner the support of such a diverse and broadly construed constituency. Furthermore, legitimate citizen action for many early opponents included lobbying local politicians. Again, the broad-based coalition of citizens was important in attracting the sustained interest of politicians, who came to see their political futures staked to their role in the public environmental debate about chemical weapons incineration. Finally, the broad coalition helped insure meaningful media coverage by local news organizations, which was important in the public education outreach campaign of the movement.

The conservative Richmond-based group (Concerned Citizens of Madison County) and the liberal Berea group (Common Ground, which later became the Kentucky Environmental Foundation) appealed to very different constituencies. This worked to the benefit of the movement because it provided the means for reaching a wide spectrum of people. In effect, the conservative outlook of the Concerned Citizens of Madison County brought people and organizations into the movement that otherwise would not have gotten involved. The Berea group, meanwhile, elicited the support of a liberal community deeply engaged in issues of social and environmental justice and with a significant community-organizing capability already in hand. In sum, the specific benefits of such a broad coalition to the movement include the following: greater success in lobbying local politicians; heightened interest in and attendance at public hearings (garnering audiences that ranged in size from 300 to 2000 citizens); more comprehensive news coverage of the controversy by diverse media; and, perhaps most importantly, a growing recognition among Army officials that the central Kentucky grassroots movement had considerable depth and would prove to be a formidable adversary.

Source of Expert Information

It was clear from the onset that any successful community campaign to contest the Army's decision to incinerate chemical weapons in central Kentucky had to include a science and technology component. The public hearings held in the 1980s demonstrated the community concerns about technological risks, which the Army countered with expert testimony obtained from Army engineers and scientists under contract with the Army (KEF, 1991). This testimony maintained the overall safety of incineration, downplaying the operating malfunctions experienced at incineration facilities on Kalama Island and in Tooele, Utah, which released nerve agents into public spaces, as being essentially human not technological problems. The Army's expert testimony appeased some members of the public, who took assurance in the expert testimony at the public hearings and in related documents, such as those published by the National Resource Council (NRC, 1984). Others in the public were skeptical, however, of the Army's scientific testimony, arguing that it failed to allay their concerns about incineration. This skepticism prompted action on the part of both the Army and the local citizens' movement.

To allay fears about the incineration technology, the Army produced additional scientific documents commenting on the safety of the technology, and organized fact-finding missions for incinerator opponents to its prototype facility located in Tooele, Utah. The Army reasoned if citizens could see for themselves the incineration technology and the safeguards in place at the Utah site, their opposition to a similar facility in Kentucky would abate. The first such Utah site tour included an inspection of

the technology, a survey of the depot grounds, and meetings with the Director of Operations, who commented that "a person is safer in the incinerator plant than he is at home," despite the fact the plant had been shut down "a number of times" because of chemical contamination (*Richmond Register* 8/16/84). Contrary to the Army's intention, the delegation returned to Kentucky with an even deeper conviction that incineration in densely populated Madison County was wrong. In accordance with the safety concerns of the public, the Army also stepped up its campaign of public education, including numerous outreach efforts organized under the umbrella of its Chemical Stockpile Emergency Preparedness Program (CCSEP).

The Kentucky Environmental Foundation, meanwhile, sought to bolster the grassroots movement by commissioning scientific expertise to counter the disputed claims of the Army. In effect, the decision was made for KEF to become a public clearinghouse for alternative technology information. Initially, the focus of this effort was on collecting documentation about environmental toxicity and soliciting expert opinions about the safety of the proposed chemical weapons incineration technology. The KEF turned to national organizations such as the Citizens Clearinghouse for Hazardous Waste, the National Toxics Campaign, and Greenpeace for technical information and assistance. Internationally renowned experts on incineration technologies and toxicity were invited to Madison County for public hearings. "Whistle-blowing" engineers from the Army were brought in with testimony that refuted many of the Army's claims about safety and risks assessments. In effect, the Army was put on the defensive as KEF marshaled convincing scientific evidence about the dangers posed by incineration technology to the environment and public health, thus anchoring its

opposition not in emotional appeals but in the scientific/technical paradigm employed by the Army.

A watershed occurred in the KEF information campaign when it turned away from an exclusive "anti-incineration" platform and focused instead on alternative technologies for safe ordnance disposal. Such alternatives had been proposed much earlier in the controversy but were given little initial attention in light of the immediate concerns about the incineration plans. However, as we shall see below, once the grassroots movement shifted its stance from "anti-incineration" to "pro-neutralization," advocating alternative disposal technologies, and brought expert information to bear, the levels of influence and public trust of the movement increased at all levels, from the community to the national congress. KEF, working with the national coalition of the Chemical Weapons Working Group (CWWG), lobbied successfully to get the National Academy of Sciences and the National Research Council to investigate alternative disposal technologies, including chemical neutralization and biodegradation technologies utilizing steam gassification and enzyme digestion (Lambright, 1998). In 1993, the environmental movement began a campaign to educate the local public and Congressional members about these alternatives.

Pro-active Stance on Alternative Disposal Technologies

In its early years, the Bluegrass environmental movement was centered on opposing incineration. As the movement grew in sophistication and influence, it shifted tactics to adopt a more proactive stance in support of the development of alternative

disposal technology. This was prompted by an understanding that the deteriorating chemical munitions had to be destroyed, but without accepting the Army' premise that on-site incineration was the best means of doing so. With this shift away from "anti-incineration" to "pro-alternative technology" came a renewed sense of purpose for the movement and a effective strategy for meeting the public's need – which always has been to safely destroy the chemical stockpile. This shift in focus and renewed support came as several events unfolded locally and in the nation, in part as a result of the efforts of the Bluegrass citizens movement.

The 1990s ushered in a heightened level of interest among members of the U.S. Congress in the Army's plan to incinerate chemical weapons around the country. This attention was due to the acknowledged technical malfunctions at the Army's prototype incinerator on Kalama Island, to schedule delays and budgetary over-runs (in 1994 the estimate for incineration technology was $1.7 billion; by 1998 this had risen to $16 billion), to the growing local and state opposition to incineration, and, importantly, to legislation introduced at state and national levels that required the Army to reevaluate its plan for chemical weapons disposal in Kentucky, as well as in Indiana and Maryland – the three national sites with the smallest percentages of U.S. chemical stockpile.

It was clear by the mid-1990s that alternatives such as neutralization and biodegradation were viable scientific, engineering, and political options for the elimination of the chemical stockpile. At this time, KEF and CWWG became key players in organizing local and national campaigns to gain their acceptance among communities and politicians, and eventually by the U.S. Army. They organized conferences, solicited expert opinions, lobbied for Congressional action, wrote

legislation, and initiated media campaigns to inform the public in all the communities located near the chemical weapon stockpiles. Ultimately, these efforts took the grassroots movement into the halls of the U.S. Congress.

Navigating the Political Process

From the early days of the incineration opposition movement, the citizens' effort had the support of some locally elected officials, many of whom initially advocated transporting the chemical ordnance out of central Kentucky to some other disposal site. As the movement gained influence, however, it reached a wider political audience, including state governors and U.S. Congressional representatives and senators. In the 1980s, Kentucky representatives to Congress brought national attention to the chemical stockpile program. The signing of the Bilateral Destruction Agreement by the U.S. and Soviet Union in 1990 spurred additional congressional interest. Kentucky Congressman Larry Hopkins introduced a bill in 1992 that required the Army to study all possible disposal alternatives, soliciting in the process the congressional testimony of the Bluegrass-based grassroots activists along with Army officials. At the state level, bills were introduced to the Kentucky Legislature in 1992, again with testimony by grassroots activists, that required the Army to prove incineration was the safest of all available disposal technologies before the state would grant the necessary environmental permits. U.S. Congressional hearings proceeded through the 1990s on the controversy, amid a major KEF-sponsored campaign that resulted in over 25,000 letters sent to members of

the House and Senate Armed Services and Defense Appropriations Committees (Futrell, 1999).

A consolidation of political support occurred in 1996, when Senator Mitch McConnell introduced legislation to toe U.S. Congress to halt the incineration program and to increase congressional oversight in the disposition of chemical stockpiles. This legislation set the stage for a bonafide alternative technology program and greatly increased the influence of the grassroots movement within the federal agencies and among affected communities across the United States. The Kentucky-based citizen movement was engaged at all stages in the political process, and, in fact, was largely responsible for it.

The grassroots effort was able to successfully navigate the complex bureaucracy and administrative labyrinth of political support by approaching it simultaneously on several levels. Local political officials were directly lobbied, their positions were made clear in local news media, and their electoral support was tied to immediate constituency demands. State congressmen were persuaded to view the controversy as being a problem in their own political backyards, hence requiring their personal and immediate attention. U.S. Congressmen whose political base was in Kentucky also had political reasons to support the movement once it became clear the interests of their constituencies clearly were at stake. Political expedience was served at the national level when it became apparent that the local concerns dovetailed nicely with foreign policy mandates for timely disposal of chemical stockpiles. Finally, the economic argument behind the development of alternative disposal facilities resonated at all levels of the political hierarchy, where jobs and economic development would ensue among their constituencies as an outcome

of the deliberations about disposal technologies. In the case of the Bluegrass Army Depot, over $1.5 billion will enter the local economy over a period of 12 years as a result of the adoption of neutralization technology.

Institutionalizing the Grassroots Movement

The Kentucky Environmental Foundation was formed as a nonprofit organization in 1990 in order to provide an education organization aimed at "improving public access to information and fostering cooperation between government and citizens (KEF Mission Statement, 1992). Organizationally, KEF provided a stable platform for public outreach campaigns centered on the incineration proposal at the Bluegrass Army Depot. The nonprofit status of KEF restricted its direct political activity, but The Concerned Citizens of Madison County and Common Ground still existed as the action branch of the grassroots movement. KEF, meanwhile, concentrated on educational efforts directed at the general public and at state and federal officials. It also entered the fund-raising arena, obtaining grants to finance both its educational efforts and the activist work of its coalition members.

Recognizing the need to create a unified opposition to incineration composed of all the stockpile communities, KEF in 1991 spearheaded the formation of The Chemical Weapons Working Group, which served to bring together community groups from the continental U.S. sites, as well as groups from the Pacific and Russia. CWWG recognized early on the national and even international dimensions of the chemical stockpile controversy. The formation of these organizations has resulted in increased credibility for

the grassroots movement among the various political offices, in a consensus-based mode of operation that creates a united front among the diverse opposition communities, in more assured access to funding, and in the establishment of a full-time dedicated staff to coordinate the educational campaigns, political lobbying efforts, and other activist-related strategies of the movement. The institutional personality of the grassroots movement reflects the maturation of both its membership and the nature of the issues it confronts. Ultimately, it is this institutional formation that provides a robust and effective organizational capacity sustained environmental action.

Conclusion

The success of the grassroots environmental movement opposed to incineration at the Bluegrass Army Depot is the result of two decades of steadfast work, first by citizens from Kentucky and then from across the nation and world. From its origins as a small group of concerned citizens to its development as a national coalition, the movement has proceeded with the same basic goal in mind – to involve citizens in decision-making that affects the quality of their lives, communities, and the local environment. In the case of opposition to the incineration of chemical weapons, the grassroots movement has had to negotiate a complex bureaucracy that extends from local to federal institutions, including the U.S. Congress and the Department of Defense. It learned to do so by insisting all a long for a kind of participatory collaboration that allowed the voices of people to be heard in meaningful ways among an entrenched and self-serving bureaucracy. This effort has by necessity required educational campaigns, science and knowledge-building, and

political lobbying. In the process, the adversarial relationship between the U.S. Army and opposition groups gave way to a more cooperative engagement to solve the incinerator controversy in central Kentucky. Equally important, the institutional legacy of the movement – the lessons learned and strategies devised - has far-reaching consequences; it provides a model for a kind of environmental democracy that will of support grassroots efforts elsewhere and into the future.

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