

# BOYD COUNTY SOCIOCULTURAL ASSESSMENT

Prepared by: Rocky Mountain Social Science  
P.O. Box 3462, Logan, Utah 84323

Prepared for: Boyd County Monitoring Committee  
P.O. Box 376, Butte, Nebraska 68722

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Following is the Methods and Procedures section from the Boyd County Sociocultural Analysis.

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## METHODS AND PROCEDURES

Data used in developing the analysis of sociocultural conditions and potential social impacts of the proposed LLRW facility were collected over a seven-month period, beginning in November 1991. Because the use of multiple data collection strategies can substantially improve the scientific validity of research (see Webb et al., 1966), several complementary research procedures and approaches were utilized.

### Field Data and Other Information Sources

To assure that the analysis was based on a well established, first-hand understanding of local conditions and responses to the LLNW siting proposal, the initial phases of the research relied heavily on field research involving direct observation of local conditions and social processes as well as face-to-face interviews with a broad range of local area residents and officials. The two RMSS senior scientists traveled to Boyd County in December 1991 and again in February 1992 to conduct the field research. During these visits the investigators attended several public meetings pertaining to the LLNW siting issue. They also met with representatives of several local organizations to explain the purpose of the study and to solicit information about local conditions and perspectives regarding the proposed facility.

**Key informant interviews.** In addition, the investigators conducted a series of "key informant" interviews with a wide variety of local residents and officials. Starting with easily-

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identifiable persons occupying organizational or governmental leadership positions, potential informants were identified through a "snowball sampling" procedure (see Babbie, 1975). Those initially contacted were asked to identify other persons who might be knowledgeable about community conditions or who might have important insights into local responses to the proposed LLNW facility. A total of over 50 individuals were interviewed during the two field research periods. The interviews were guided by a research protocol which specified topics important for discussion. However, the protocol specified neither the exact wording of questions nor the sequence of questioning. Rather, the flow and direction of the interviews were determined, in large part, by the informants

Those contacted included local business owners, operators and employees; elected and appointed community and county officials; religious leaders; public safety organization personnel; school system administrators and teachers; representatives and members of local organizations which both support and oppose the proposed LLNW facility; 10 individual farm owners and operators; and a broad range of other county residents. Although the process for identifying and selecting such informants does not guarantee a statistically representative sample of the affected population, those interviewed did comprise a cross-section of the county population with respect to geographic location, occupational background, age, and significant numbers of supporters of both PFP and SBC were interviewed.

**Viewpoints regarding the proposed LLNW facility.** It should be noted that the greatest proportion of interview respondents were selected from the geographic areas closest to the proposed site. Thus, residents of Bristow, Gross, Lynch and Monowi were statistically underrepresented, while residents of Butte, Naper and Spencer were statistically over-represented. The decision to focus the key informant interview efforts most heavily on those residents living closest to the proposed site was made for practical reasons rather than theoretical or political reasons. Funding restrictions made a full ethnographic description of the entire county impossible, so study efforts concentrated on areas nearest the proposed site. It was assumed that residents living near the proposed site would likely be more effected by the project and would therefore be more involved in and aware of the issues than those living further from the site. That is, self interest would motivate them to pay closer attention to the issues, and they could therefore provide more information per interview than those Boyd County residents dwelling further from the site.

**Available data.** Several sources of available data supplied information on the social and economic context of Boyd County and the communities within the county. These included various U.S. Census Bureau reports on population characteristics, employment, economic activity, and agricultural operations. Selected materials prepared by US Ecology and its contractors provided information regarding the characteristics of the proposed LLNW facility and potential project impacts. Several locally-assembled volumes

furnished information on the history of Boyd County and the towns of Spencer and Butte. Other historical materials dealt with early settlement and railroad development activities. Typed transcriptions and tape recordings of several earlier public meetings and hearings regarding the LLNW siting proposal were reviewed. Finally, selected articles from both the local weekly newspaper (*Spencer Advocate*) and several regional newspapers (particularly the *Lincoln Star* and the *Omaha World-Herald*) yielded additional background information regarding the project and the responses of various groups and organizations to it.

### **Survey Procedures**

An additional major data collection activity involved the use of standardized self-completion survey questionnaires, which were administered to a representative sample of 300 adult Boyd County residents. The survey addressed a number of major issues, including respondents' sociodemographic characteristics, community satisfaction and value orientations, general environmental attitudes, and attitudes and perceptions regarding low-level nuclear waste storage issues (see Appendix A).

To ensure that a statistically representative sample of Boyd County residents was contacted, the selection of potential survey respondents required a multi-stage sampling methodology (cf. Mueller, Schuessler and Costner, 1977). A sampling frame which listed all housing units in the county was assembled. Part of the sampling frame was constructed from county maps of Boyd County's

eight incorporated villages.\* A fieldworker then verified all of the houses and their locations in the villages with on-site visual enumeration. Those areas not represented on existing maps were also mapped by the fieldworker. The remaining part of the sampling frame included those houses not located within the villages, the locations of which were taken from the *Farm and Home Directory* (Farm and Home Publishers, Ltd., 1990)\*\*

Each housing unit was assigned a number, and simple random sampling procedures were used to select a representative sample of households from throughout the county. The sampling procedure included selection of a "primary" sample comprised of 300 housing units. In addition, the same random selection procedures were used to select a "secondary" or "replacement" sample of 150 additional housing units to provide for substitution when units within the primary sample were found to be unoccupied or abandoned, nonexistent, or nonresidential.

The second stage of the sample selection procedure occurred at the point of survey implementation and involved the selection of one adult from each sampled household for participation in the survey. Within each sampled household the person 18 years of age or older whose birthday had occurred most recently was selected to

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\*Anoka, Bristow, Butte, Gross, Lynch, Monowi, Naper and Spencer

\*\*There were some overlaps between village maps and the *Farm and Home Directory*. Inspection by the fieldworker eliminated any house listed twice. It should be noted that while some of houses from the non-village areas were vacant, that fact in no way detracts from the random qualities of the sample.

complete the questionnaire. This method results in an essentially random selection of adult household members without the complexities or intrusiveness of some more traditional respondent selection methods requiring detailed information on household composition prior to respondent selection.

Survey implementation commenced on April 6, 1992, with delivery and retrieval of questionnaires continuing through April 21. Questionnaires were personally delivered to members of the sample by two trained fieldworkers who gained the cooperation of the selected person before leaving the questionnaire. The fieldworkers returned to retrieve the completed questionnaires within a day or two after they were delivered. In order to obtain the highest degree of cooperation, an article describing the project and a photograph of the fieldworkers were published in the county newspaper immediately before the start of the survey and during the first week of survey administration. In addition, each fieldworker possessed letters from the leadership of both PFP and SBC supporting the research endeavor and encouraging their supporters to cooperate in filling out the questionnaires.

Of the 300 questionnaires that were delivered, two were returned only partially completed, and 36 individuals refused to participate in the survey. Usable responses were obtained from 262 individuals, representing an overall response rate of 87.33 percent. This unusually high level of cooperation for a self-completed survey (see Dillman, 1976) is indicative not only of effective survey implementation but also of the very high level of

local interest in the nuclear waste storage issue.

### **Data Limitations**

The data generated by this study are vastly superior to information derived from public comments at meetings or through various other "public involvement" procedures associated with the site licensing process for the proposed LLNW facility. Data obtained through public hearings or comments do not allow for the level of analytic detail which is necessary for conducting a competent impact analysis, nor do they provide information which can be generalized to the affected population with any acceptable degree of confidence (see Heberlein, 1976). In contrast, the data generated by this study provide for both analytic detail and statistical inference to the county population, the latter guaranteed by the random nature of the sampling.

However, even with these overwhelming advantages there remain important data limitations which constrain the types of conclusions that can be drawn from this research. Most importantly, the researchers did not; have access to true baseline data on local social and cultural conditions prior to time when the LLNW facility became a public issue. Instead, the research was conducted more than three years after the possibility of siting the facility in Boyd County was first announced in 1988, the time when an ideal SIA should have been initiated.

During the intervening period between announcement of the proposal to site a radioactive waste facility in Boyd County and the time of the research, major shifts in the local social context

occurred. During that period there emerged new voluntary organizations, shifts in linkages between existing organizations and communities, altered social ties among area residents, new patterns of social and political involvement and participation, and changed attitudes and perceptions regarding waste storage, political processes, and a host of other related issues. In short, social structures in Boyd County and the local communities within it have undergone major changes since 1988. Although the research reported here can document many changes which have taken place, the absence of a true pre-project baseline limits the potential for establishing the magnitude of such changes or the relationships between apparent change, and the proposed LLNW facility.

Similarly, efforts to predict future impacts of the project are constrained by the need to rely on data collected only during a relatively brief research period prior to actual licensing, construction, or facility operation. Under the best circumstances, multiple over-time measures would have been made, allowing for more valid predictions of future behavior. Synchronic data are simply inadequate for trend analysis. Although such limitations are not uncommon in the impact assessment process, they are compounded in this case by the limited information currently available regarding some aspects of the proposed facility

and its operation (e.g., the actual quantity and types of waste that would be accepted at the facility, waste transportation routes, transportation schedules, housing plans for construction and operations workers, etc.). Also, scientific estimates, e.g., probabilities, of the potential

for accidents or waste leakage from the facility are absent.

Despite these limitations, the research procedures outlined above provide a substantial data base that resolves many of the limitations resulting from less systematic approaches. The remainder of this report draws upon that data base to document social conditions and changes, local responses to the LLNW facility siting process, and potential impacts of constructing and operating that facility in Boyd County.

Following is the Conclusions and Recommendations section from the Boyd County Sociocultural Analysis.

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## **CONCLUSIONS AND RECOMMENDATIONS**

### **Impacts to Date**

As evidenced by the findings outlined in the preceding sections of this report, the proposal to construct and operate a low-level nuclear waste disposal facility in Boyd County has already had substantial impacts. Local social structures have been altered and the personal well-being of many county residents has deteriorated. Study results indicate that issues related to the LLNW facility have attracted the attention and interest of nearly all area residents. A sizeable number of individuals are actively involved in organizations and activities which provide access to information about the facility as well as channels for expressing support or opposition, e.g., People for Progress and Save Boyd County.

Thus, the LLNW proposal has contributed to an emergence of new social structures and, for many area residents, resulted in heightened local participation and involvement. Although in many other contexts such increased social interaction would be viewed as a positive sign of an active and dynamic local community (see Wilkinson, 1979), the mobilization of local response has been accompanied by numerous social costs for the residents of Boyd County.

Many area residents have experienced a variety of personal costs as a result of their involvement in the LLNW issue. These include financial burdens associated with efforts to support grass-

roots organizations, as well as business and income losses resulting from economic boycotts which were stimulated by LLNW-related activities. There have also been important non-economic costs, including reduced recreation participation, altered family activities, and other lifestyle changes associated with the commitment of time and energy to activities surrounding the LLNW issue.

Among the most serious impacts are local social conflicts and interpersonal animosities which have become far more widespread and rancorous than was ever the case prior to the emergence of the LLNW controversy. Residents on both sides of the issue express considerable hostility and anger towards other locals who actively support or oppose siting the proposed facility in Boyd County. Disagreements over the LLNW issue have strained and, in some instances, severed social relations between family members, friends, and neighbors.

A majority of residents report lost or strained friendships, and nearly a third report strained relations with family members. A surprisingly large number of residents report that they have experienced verbal harassment. Some individuals who have been highly active in supporting or opposing the LLNW facility have also reported physical harassment as well as vandalism and property damage. They attribute the motives for these acts to the tensions created by the attempt to site the proposed waste facility in Boyd County.

Such interpersonal tensions have negatively impacted a variety

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of local social structures. For example, long-established patterns of informal interaction among patrons of local cafes, taverns and other area establishments have changed. Some individuals no longer spend time in long-used local business establishments, while others feel compelled to limit the topics of their discussions while in such places in order to avoid conflict and controversy. Some businesses have been identified as hangouts for supporters or opponents of the waste site. Conflicts have even emerged within church congregations over issues directly and indirectly associated with the LLNW proposal, and relations between church congregations have also been stained.

Additionally, formal organizations such as the county fair board, local school boards, village councils, and other similar structures have been negatively affected by controversy and debates about such things as the acceptance of donated funds that are felt, one way or another, to be linked to the LLNW project. Indeed, it appears that there is no level of community social structure that has not been modified by the tensions and contentiousness that have resulted from the proposal to site the LLNW facility in Boyd County. As has been observed in other areas of the country affected by projects involving hazardous and toxic materials, participation in activities associated with the LLNW issue has increased, while participation in more traditional community events and activities has decreased (see Kroll-Smith and Couch, 1992).

These changes have been accompanied by a significant deterioration of the quality of life and social well-being

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experienced by many area residents. There is widespread agreement that the area has become a less desirable place to live, due both to the levels of tension and controversy that have resulted as well as uncertainty about future conditions which may or may not emerge. Heightened stress levels are among the more important impacts to individual well-being. Increased stress is due in part to strained social relations. It is also attributable to concerns and fears associated with potential environmental contamination, unknown health and safety risks possible economic stigma effects, perceived

powerlessness to affect decisions, and the loss of trust in individuals and organizations (see Kroll-Smith and Couch, 1992).

Many locals indicated that their levels of anger and frustration have become nearly intolerable. Several area residents have allegedly moved out of the county to escape the stress and tension resulting from the LLNW project, and others indicated that they have considered doing so. Whether or not these individuals will overcome social and economic pressures which make it difficult for them to leave Boyd County is uncertain at this time.

### **Future Impacts**

**Without the LLNW project.** Future social conditions in Boyd County are certain to reflect the impacts of the proposed LLNW project even if the facility is not licensed or constructed. Just as the proposal for a waste site has caused dramatic social impacts, a decision not to build the facility will alleviate many of the sources of tension, stress and frustration that currently affect area residents and organizations. The distrust and

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interpersonal hostilities that were born and have festered during the past three or four years will also eventually dissipate. It is likely, however, that a reduction in the magnitude of these problems will be a slow evolutionary process, not an immediated elimination.

Efforts to site the facility have resulted in extremely high levels of distrust of numerous formal organizations. These organizations include not just the central Interstate compact Commission and US Ecology, but a variety of government agencies and other types of authorities. Many locals have become extremely disillusioned about the integrity and responsiveness of both the government and private-sector organizations involved in waste management activities. Such perceptions are likely to persist for a considerable time. Not only will they strongly influence local reactions to future proposals to locate noxious or hazardous facilities in the area (see Stoffle et al., 1989), but they will extend to more mundane and everyday decisions by these organizations.

The LLNW controversy has caused a significant escalation of long-standing tensions between some of the local communities in Boyd County. It is highly unlikely that those tensions could be resolved quickly if a decision is made not to site the facility in Boyd County. Opportunities for inter-community cooperation will likely remain restricted, except in those instances where certain communities experience strengthened relations as a result of the LLNW issue, e.g., Spencer/Naper and Butte/Lynch. Otherwise,

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possible future issues such as further consolidation of school systems or other actions that would involve shifts in community resources, facilities, and opportunities are likely to remain more divisive than would have been the case if the LLNW issue had never arisen.

Similarly, strained and broken social ties among individuals will likely not mend quickly. Some locals indicated that they could never forgive or forget the actions of some others who actively disagreed with and opposed them over the LLNW proposal. Some vowed that they definitely would not reestablish

either friendships or business ties with those from whom they were alienated as a result of the LLNW issue. If the facility is not built, those who actively supported the project are likely to experience considerable social, economic and political isolation. Some may find it difficult to continue living in Boyd County or doing business in the area.

Clearly, the social fabric of Boyd County has been seriously disrupted, and it will take many years for the wounds to heal even in the absence of the proposed LLNW facility. Indeed, the observations of many locals that it will take at least 40-50 years to recover from the tensions and conflicts of the past three years are probably quite accurate. In many cases the interpersonal hostilities caused by the LLNW issue will not be resolved during the lifetimes of those who have been actively engaged in the controversy. Some of the interpersonal hostilities and conflicts may not be eliminated for generations.

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**With the LLNW project.** If a license is granted for the proposed LLNW facility, a number of potentially significant socioeconomic impacts are likely to emerge. Some of these would involve "standard" socioeconomic effects associated with temporary population growth and associated demands for housing and services during the construction phase of the project. In addition, there would be a variety of social consequences that are uniquely linked to the real and perceived risks associated with hazardous and toxic facilities and events.

Although the primary focus of the research presented in this report is on social and cultural consequences of the proposed LLNW facility, it is important to at least acknowledge the potential for the project to generate significant socioeconomic effects, particularly during the construction phase. A previous analysis of potential socioeconomic impacts (Environmental Science Associates, 1991) suggests that direct and indirect employment associated with the project would generate a total of 360 jobs at the peak of construction activities. However, experiences at numerous other large-scale construction projects indicate that such pre-project estimates are often substantially lower than the actual level of employment experienced during facility development (see Freudenburg, 1986). Consequently, it is quite possible that construction-phase employment would substantially exceed the projected level., increasing the demand for temporary housing and services.

In addition, data from the current study regarding Boyd County

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residents' employment interests, willingness to participate in training programs, and reluctance to accept work associated with the LLNW project suggest that the proportion of local labor hired for the project would be substantially below the 60 percent that was assumed in the earlier socioeconomic assessment (Environmental Science Associates, 1991). Consequently, the total number of temporary in-migrants associated with the construction phase of the project is likely to be considerably greater than was previously projected.

Even though the peak level of employment is projected to last for only six months, the temporary population influx would seriously strain the adaptive capabilities of Boyd County and local communities, particularly given the lack of available housing and the very limited public and private-sector infrastructure that currently exists in the area. Some workers would likely locate temporarily in larger communities outside of the county, such as O'Neil, and commute. Nevertheless, the driving

distance to the LLNW site would limit the potential for growth impacts to be absorbed outside of the local area. As a result, there would be a substantial short-term demand for additional housing, water and sanitation systems, medical services, police and public safety personnel, and various other public services. Data discussed in earlier sections of this report indicate that Boyd County residents already perceive problems with the adequacy of some public services. In the absence of substantial service upgrades prior to the construction period, area residents would likely experience

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increased dissatisfaction with service availability and quality as a result of the added demands associated with project-related population growth. Because most community development funding allocated to local governments and service providers would not become available until the facility became operational, efforts to upgrade services in advance of the increased demand could be limited by fiscal shortfalls.

In addition to relatively short-term socioeconomic impacts associated with temporary population increases, there would be a number of more difficult and enduring social consequences associated with efforts to construct and operate the LLNW facility. As has been discussed previously, the proposal to build the facility has generated considerable opposition in Boyd county. Although some opponents may resign themselves to the eventual construction and operation of the facility if and when licensing approval occurs, available evidence suggests that many others will continue to actively oppose the project. Opposition responses would undoubtedly include efforts to halt the project through legal challenges or legislative actions. However, pursuit of on-site construction activities would make it increasingly likely that some opponents would engage in more direct actions designed to interrupt or disrupt the project, such as site picketing or attempts to prevent construction access through vehicle blockades and the use of human barriers to stop construction equipment and worker access.

In addition, evidence obtained through ethnographic observations and key informant interviews suggests a very high

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likelihood of violent confrontations at the time construction efforts are initiated. Local opponents of the LLNW facility have commented that the facility will be built "over my dead body." such sentiments appear to extend beyond more than just the few individuals who have publicly proclaimed such intentions. A large number of informants indicated that they anticipate bloodshed if construction efforts are initiated. Some who suggested they might otherwise not adopt such a stance indicated that they would nevertheless feel bound to "back up" their friends and neighbors if armed or violent confrontations were to occur.

Several informants commented that there are a number of Vietnam-era veterans in the area who are hostile toward the government, will "not get screwed twice," and are capable of and willing to mount armed resistance to the project. A number of individuals indicated a belief that some local opponents have acquired firearms and explosives, secreting them away in preparation for anticipated efforts to block construction activities. Many of those interviewed believed that it was almost certain that some lives would be lost as a result of violence which they expect to accompany site development efforts.

On the basis of these comments, it is also likely that facility opponents would engage in less violent acts of resisting construction, e.g., "monkeywrenching." Construction equipment would be an obvious focus of monkeywrenching. Minor instances of damaging site equipment has already occurred. It would not be unrealistic to expect that such acts of sabotage would be extended

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to include the homes, automobiles or farm equipment of waste site proponents and workers.

If the LLNW facility is built and operated, long-term antagonisms and hostilities between facility proponents and opponents and between local communities which have become identified with the opposing sides of the LLNW issue would persist for some period of time. These tensions would be similar to those anticipated in the absence of the project, but they would likely endure for a longer period of time. In addition, those who have opposed the facility would experience heightened levels of dissatisfaction with local conditions, disillusionment with government authorities, and alienation from the political process.

Although such sentiments are already widely evident in Boyd county as a result of the LLNW controversy, many area residents remain hopeful that the project will eventually be canceled or sited elsewhere. Facility construction would shatter any remaining optimism among local opponents that their efforts might eventually prevail. If the hope for a no-facility future were eliminated, their dissatisfaction, frustration and hostility would be compounded.

Under such circumstances, it is likely that some residents who are opposed to or fearful about the LLNW facility would move away from Boyd County. As noted previously, a substantial minority of survey respondents expressed uncertainty about their long-term residential plans, due to the potential siting of the LLNW facility. If the facility is built, a number of those individuals

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would probably move elsewhere. The extent of out-migration would likely be limited due to the economic costs associated with relocation, age considerations, and many residents' long-term attachments to the area. However, a number of area residents indicated that while they would find it difficult to relocate, they would actively encourage their children to live elsewhere. Several informants suggested that they did not plan to have their children continue with farming operations, even though, in some instances, the farming tradition has persisted in the family for several generations. Thus, local population declines may be exacerbated due to both outmigration and a reduced tendency for younger persons to remain in or return to the area.

This research has documented high levels of concern among Boyd County residents about the potential for environmental contamination effects, health and safety risks, and potential economic effects from stigmatization associated with the presence of a radioactive waste disposal facility. Such concerns would likely be magnified in the short term if the facility is built and operated. In the long term, the intensity of such concerns would probably decline in the absence of accidents or leakage of radioactive materials. Although area residents would not quickly forget the tensions and social conflicts associated with the project siting process, risk perceptions and associated stress levels would tend to moderate if activities and events involving the facility remained "normal" over an extended time period. In this instance, familiarity would breed complacency.

However, significant accidents or facility problems with waste isolation would likely cause a substantial amplification of risk concerns, (see Freudenberg, 1992a; Kasperson et al, 1988). Under such circumstances, negative reactions to the facility would quickly intensify, particularly among those who are currently sensitized to the potential for waste processing accidents and facility failure, and who already anticipate storage problems. A serious containment failure or a series of problems and accidents would likely result in increased social conflict and controversy and active local efforts to force facility closure. Stigma effects associated with such events would increase the probability of property value declines. Other probable consequences would include heightened stress levels among area residents and increased rates of outmigration (see Edelstein, 1988; Kroll-Smith and Couch, 1992).

On a more positive note, should the facility proceed to construction, some residents of Boyd County, and the Butte area in particular, will feel that their support for and faith in the project has been justified, even in the face of continuing hostility and animosity from project opponents. Some of them may even obtain employment related to the facility construction or operation. Businessmen, especially those operating near Butte, will undoubtedly see some increase in business, at least through the construction phase.

Additionally, several taxing entities will become the beneficiaries of what they perceive to be the largess of the

Compact Commission. The Butte school system would undoubtedly be a major recipient of badly needed school funding, providing a beneficial economic lift. Other county agencies will receive increased funding as well, allowing local facilities and services to be upgraded over the period of facility operations.

### **Recommendations**

Although it is probably inevitable that efforts to site a low-level nuclear waste facility will generate risk perceptions and some degree of local opposition, the siting process pursued in the case of the proposed Boyd County LLNW facility has caused major social upheavals and extreme levels of conflict and opposition. Several factors appear to be at least partially responsible for the problems and policy failures which are evident. Although the siting process has evolved too far to resolve most of the difficulties which have emerged in Boyd County, the lessons learned in this case should provide guidance for any future efforts.

To a substantial degree, the hostile reactions of Boyd County residents to the LLNW proposal can be linked to beliefs that the health, safety and quality of life of local residents are of little concern to those responsible for planning, licensing, constructing or operating the facility. Many locals are convinced that the proposed facility property fails to satisfy licensing requirements due to hydrological and geological conditions. They are also convinced that the decision to develop the facility at that site is already so firmly entrenched that site developers will make every effort to ignore or hide evidence which might disqualify the site.

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Such beliefs are not surprising given that consideration of alternative facility locations was discontinued fairly early in the site evaluation process before much of the necessary data on site conditions had been collected or analyzed.\* Many believe that the site choice was based on politics, not science (cf. Kaufman and Moorer, 1991). Opposition to proposals for toxic and hazardous facilities is likely to be less widespread when the siting process includes full consideration of several alternative locations. Under such circumstances the economic and political costs of disqualifying an inappropriate site are less severe than when all efforts focus on only one location. In addition, local residents are more likely to believe that the site selection process is based on scientific criteria rather than expediency (see Kunreuther et al, 1992). In contrast the Central Interstate Compact Commission and US Ecology chose not to actively pursue investigation of several candidate sites through the entire licensing process. This exacerbated local distrust of site evaluation efforts and those responsible for conducting them.

An additional lesson learned from other cases involving hazardous facility siting involves the role of public involvement activities and processes. Early discussions of the possibility of locating the LLNW facility in Boyd County allegedly involved only a small handful of local elected officials and political leaders

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\* Candidate sites in Nebraska for the LLNW facility initially included locations in Nemaha and Nuckolls counties as well as Boyd county. However, consideration of siting the facility in those other areas was abandoned in 1989.

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before there was any dissemination of information to the public. This caused many residents to believe that a deal had been made "behind their backs." The fact that several of those who were originally identified as local liaisons in discussions about the LLNW project were closely identified with the recent school consolidation controversy simply reinforced residents' suspicions about the proposal, particularly when some of those same individuals were appointed to the local monitoring committee.

Several public information meetings held in Boyd County also failed to convince many local residents that the project might be acceptable, and many were angered by meeting formats which they believe precluded any legitimate opportunities for them to express their views, ask questions, or receive meaningful answers to their questions. Provision of funding to a local organization supportive of the LLNW facility and contentious relations between the Boyd County Monitoring Committee and representatives of the Central Interstate Compact Commission, US Ecology and the Nebraska Department of Environmental Control have simply reinforced local beliefs that those responsible for siting the facility have little, if any, interest in local views, concerns or preferences. While early implementation of meaningful public involvement structures allowing a degree of local input into siting decisions can facilitate acceptance of hazardous facilities (Kunreuther et al, 1992), such efforts have not been pursued effectively in Boyd County.

Just as many Boyd County residents believe that they have been

effectively shut out of the siting process, they feel that US Ecology has not dealt truthfully with them. The major issue that set the stage for widespread distrust involves many locals' understanding that, if they allowed US Ecology to study the site for a year and if they found the project unacceptable, they would be allowed to withdraw from consideration. These residents believe that they kept their side of the bargain but that US Ecology did not keep theirs. This perception by local residents of deception and deceit on the part of US Ecology only adds to the general level of distrust and provides justification for disbelieving all project information provided by US Ecology and for rejecting the project.

The issue of compensation is also linked to the Boyd County response to the LLNW proposal. Under some circumstances the provision of financial compensation or other incentives can facilitate local acceptance of hazardous facilities. However, rather than encouraging facility acceptance, the compensation and incentive programs developed for the proposed LLNW facility have added fuel to the local controversy about the proposal. The allocation formula for community improvement funds is viewed by many residents outside of the Butte area as arbitrary and inequitable. After all, they reason, the risks associated with the facility would affect residents of other areas as well, not just those living in Butte.\*

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\*Some proponents believe that because they helped further US Ecology's efforts, they and their community deserve the lion's share of the benefits, and that those who have actively opposed the project deserve nothing.

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Financially stressed areas such as Boyd County would seem likely to react favorably to funding allocations that would significantly benefit the county as a whole and the individual villages within it. Had the compensation program provided for more equal allocations across local jurisdictions, reactions might have been less negative. Instead, the provision of funds associated with the LLNW facility has simply exacerbated pre-existing tensions and competitiveness between Butte and other communities in the county and reinforced local beliefs that the financial incentives represent nothing more than "bribe money".

At this point in the process, there appears to be little, other than halting the process and starting over from the beginning, that might be done to resolve the social disruption that has occurred in response to the LLNW proposal. The tensions experienced during the last several years and the negative views that most residents hold regarding the entire siting process suggest that it would not be possible to secure widespread support for or acceptance of a LLNW facility. This would be the case even if a new site in Boyd County were identified or different firms were assigned the responsibility of constructing and operating the facility. However, if the facility is eventually built in Boyd County it will be important to implement mitigation programs to minimize any additional disruptions that might occur; and, in order to provide effective mitigation, it will be necessary to carefully monitor existing social conditions and sentiments.

To avoid overloading of local infrastructure and to reduce the

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potential for conflict between facility workers and local residents, temporary on-site housing facilities should be provided during the project construction phase. A monitoring program should be implemented to track potential impacts on local and county services, and mechanisms should be established to direct funding to those programs and areas which experience increased demands and/or costs. Because adverse social and economic impacts would potentially involve the entire county, the formula for allocation of community development funds should be revised in a manner that would more evenly distribute funding across local jurisdictions and other units of government.

In addition, there is a need for a long-term commitment to providing for locally-controlled monitoring of site operations and environmental conditions. This would help to alleviate suspicions about the integrity of facility operations and environmental monitoring programs. A local monitoring committee should be established on a permanent basis, with sufficient funding and authority to allow it to hire qualified professionals to pursue independent site inspections and testing procedures. Furthermore, there should be regular public meetings involving the committee and representatives of facility management to provide information and answer questions regarding facility operations and site conditions. Provision of such local review and oversight capacity, along with efforts to develop more cooperative relations between such a committee and those responsible for facility management, would provide an important step toward increased levels of trust in the

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integrity of responsible authorities.

Finally, regardless of whether or not the facility is built, there is a need to implement programs which might alleviate some of the local hostilities and antagonisms that have arisen due to the LLNW issue. At this point in time the social costs attached to the proposed facility have been borne by Boyd County residents on both sides of the debate. These hidden, and generally externalized, costs need to be returned to those agencies and organizations which generated them. The people of Boyd County should not bear these social costs alone.

Although some individuals may never be able to overcome their animosities toward some area residents, a broad-based conflict resolution program could help many to establish more supportive ties with those who adopted opposing positions regarding the LLNW facility. Because hostilities are deeply seated, such a program would require a substantial commitment of professional personnel, time, and funding. However, unless such a commitment is made it would seem highly likely that at least a full generation of Boyd County residents will never be able to reestablish the level of social cohesion needed to collectively confront community needs and problems.

The problems of local opposition, distrust, risk perceptions, and conflict experienced during the attempt to locate a LLNW facility in Boyd County resemble those encountered by the federal government in its attempts to site a high-level nuclear waste repository. Speaking of the difficulties the federal government

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had encountered in siting a high-level waste facility, Gervers notes:

State governments and possibly Indian tribes might have been willing to accept a repository within their borders if the site selection process was demonstrably fair, if the technical program was credible, if the

consultative process was open and cooperative, and if the site selection program avoided political influence (1987:18).

Likewise, Boyd County might have been willing to accept the LLNW facility and considerable disruption and social costs might have been avoided had Gervers' advice been followed. The failure to do so has generated enormous problems not only for those attempting to site the facility, but also for the residents of Boyd County. In attempting to redress the situation which has emerged during the past several years, it must be remembered that the current problems facing Boyd County were not created by those who live there.