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## Patriotism, Profits, and Waste

### The Moral Dimensions of Low-Level Radioactive Waste Disposal in Texas

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Radioactive waste is an undeniable yet undesired product of modern society. Ironically, in a society where public fears about radiation run high, radioactive waste has the potential to accumulate great economic value for those willing to dispose of it properly. Given that some entities are expected to profit from waste disposal while others are projected to experience a disproportionate share of the risks, the politics of radioactive waste management is fraught with moral implications:

- When there is uncertainty regarding the technological capacity to dispose of waste safely, who has the right to decide where a disposal facility will be located? The government? Scientific "experts"? Private corporations? Or, local communities?
- Is it morally acceptable for a business to profit handsomely from the waste trade?
- Is it acceptable for disadvantaged groups, such as ethnic minorities and the poor, to suffer disproportionately from the transportation and disposal of radioactive waste? If not, how do we determine what counts as "disproportionate" suffering?
- Should a local community that hosts a waste disposal site receive tangible benefits in exchange for accepting the associated risks? If so, what is a fair way to define the boundaries of the affected "community" or "region of interest?" Should communities located along the corridor for the transportation of this toxic waste receive any benefits? What is the best way to determine how and what should be provided in exchange for unknown and uncertain risks?

This chapter examines the ways in which questions of morality such as these are addressed in the political debates about low-level radioactive waste (LLRW) disposal in Texas. The Texas case is unique in that it is not yet characterized by NIMBY (Not-in-My-Backyard) politics. Instead, the proposed host community, Andrews County, is lobbying hard on behalf of a private company that has submitted a license for a disposal facility. This paper considers how both the proponents and the opponents of the proposed facility use moral rhetoric to support their arguments in the political debate over waste disposal.

## DEFINING THE PROBLEM OF RADIOACTIVE WASTE

Before turning to the Texas case, it is necessary to provide some background information on the different types of radioactive waste, how new laws have changed the future storage and disposal of radioactive waste, and how the licensing process has played out in other states. Not all radioactive waste is the same. Waste policy makes general distinctions between two sources of radiation (defense and commercial) and between two levels of radioactivity (high-level and low-level). Defense wastes are associated with the nuclear weapons industry. Commercial waste consists of the spent fuel generated by nuclear reactors for electricity production, as well as other radioactive waste from industry, academic research, and medical institutions. By definition, high-level radioactive waste is dangerous to humans and other life forms and will generate significant levels of radiation for over 10,000 years. High-level radioactive waste (HLRW) comes from the use of uranium fuel in nuclear reactors and nuclear weapons processing and requires very special handling. LLRW consists of most other forms of radioactive waste that by definition do not require shielding during handling or transportation. LLRW is generated from hospitals, commercial and academic laboratories, and nuclear power plants and includes papers, rags, tools, soils, and protective clothing and gloves contaminated with radioactive materials. Low-level waste is an umbrella category that includes some items that are not very radioactive and other items that are almost as dangerous as high-level waste. Depending on the level of radioactivity, low-level waste is further subdivided into three different categories (each requiring different handling procedures): Class A, Class B, and Class C. Class A waste will remain radioactive for up to 100 years, Class B for up to 300 years, and Class C for up to 500 years (Envirocare of Utah 2006a). While most wastes can be categorized as either LLRW or HLRW, there are some additional categories: transuranic waste, naturally occurring radioactive materials (NORM), uranium mill tailings, and mixed waste (Murray 2003).

Opponents of nuclear energy highlight the issue of radioactive waste. Although nuclear power plants are known to produce less pollution than conventional power plants that rely on fossil fuels, the problem of radioactive waste has been described as the "Achilles heel" of nuclear power (Song 2003). All of the commercial high-level waste comes from nuclear power plants. There are over one hundred nuclear power plants in the United States, which produce "spent fuel," one of the most radioactive types of waste. In addition to high-level waste, nuclear power plants also generate low-level waste. According to the United States Department of Energy (DOE), nuclear power plants account for 56 percent of low-level waste by volume and 79 percent of low-level waste by radioactivity.<sup>1</sup> The annual volume of low-level waste has increased in recent years due to the cleanup of U.S. DOE sites, and after a temporary decline, the volume is likely to increase in the near future with the decommissioning of nuclear power plants between 2010 and 2030 (English 1992; United States General Accounting Office 2004).

Radioactive waste has been regulated for over fifty years by various government organizations, including the U.S. DOE. However, the U.S. government did not have a comprehensive plan for dealing with the permanent disposal of radioactive waste until new legislation was passed in the early 1980s (English 1992; Flynn and Slovic 1995; King 1995; Murray 2003; Nuclear Energy Institute 2004). Since the 1950s, all of the HLRW from the defense-industry and some of the high-level waste from the commercial sector have been transported to several locations for temporary storage, including Hanford, Washington; Idaho Falls, Idaho; and Savannah River, South Carolina (Murray 2003). The remaining high-level waste from the nuclear power industry, including much of the spent fuel, has been stored on site near the nuclear reactors. Currently, HLRW from the weapons industry and nuclear power plants is temporarily stored at 125 sites in thirty-nine states (United States Department of Energy 2006b). The majority of waste is located east of the Mississippi River (Flynn and Slovic 1995). This is considered a temporary solution and a security problem. In response to this issue, Congress passed the Radioactive Waste Policy Act in 1982. This act gave the DOE a mandate to establish and maintain a national repository for the nation's HLRW. The Yucca Mountain site in Nevada was selected as the national repository site in 1987, yet the licensing process has been stalled by political controversy and legal proceedings (State of Nevada Agency for Nuclear Projects 1998; United States Department of Energy 2006a).

Until the development of nuclear power plants in the 1950s and 1960s, the volume of LLRW waste was relatively low and much of it was dumped in oceans and shallow landfills operated by the U.S. Atomic Energy Commission. Beginning in the 1960s, six different commercial sites

were opened to dispose of low-level waste using shallow land burial methods. By the late 1970s, three of these sites (Maxey Flats in Kentucky, West Valley in New York, and Sheffield in Illinois) were closed after it was discovered that radiation leaked into the environment due to a "bathtub effect" during periods of heavy rainfall. Another site (Beatty in Nevada) closed temporarily in 1979 due to violations of waste management procedures, and then closed permanently in 1992 when waste reached full capacity. Only two of these earlier sites are still accepting LLRW: Richland in Washington and Barnwell in South Carolina (English 1992; Kearney and Smith 1994).<sup>2</sup> A new site, Envirocare of Utah, received a license to dispose of mill tailings in 1979 (Bedsworth et al. 2004), and by 2006, Envirocare had expanded its services to include disposal of NORM waste, mixed waste, and Class A LLRW (Envirocare of Utah 2006b).

With LLRW, there have been three general problems: problems with radiation leaking into the environment due to poor technology; high volume of waste and too few sites for disposal; and an unequal burden on a small number of states. New disposal methods have vastly improved the technological issue, but the two other problems have not been resolved. In 1980, the governors of the three host states pressured Congress to pass the Low-Level Radioactive Waste Policy Act. This law essentially transferred responsibility for commercially generated low-level radioactive waste from federal to state governments. The act requires each state to develop its own solution for low-level waste produced within its borders. States may either develop their own waste disposal site, or they may join a compact with other states, one of which serves as the "host" state for LLRW from other compact members. The law was amended in 1985 with deadlines for forming compacts, selecting host states, and licensing sites (English 1992; Murray 2003).

Although it has been over twenty-five years since this law was enacted, the development of new disposal sites has been problematic. As of 2004, forty-three states have entered into one of ten compacts and each compact has selected an initial host state (United States General Accounting Office 2004). Despite spending nearly \$600 million collectively in the effort to develop new sites, none of the compacts have succeeded in selecting an acceptable site (United States General Accounting Office 1999). Currently, low-level waste is disposed at two locations that were opened before the law was passed, and one site that developed outside the framework of the compact system: Richland, which now serves as the site for the Northwest Compact and the Rocky Mountain Compact; Barnwell, which plans to limit access to states within the Atlantic Compact beginning in 2008; and Envirocare of Utah, which is limited to the disposal of Class A waste (Murray 2003). Figure 6.1 shows the location of the three active sites. In addition to these disposal sites, much of the

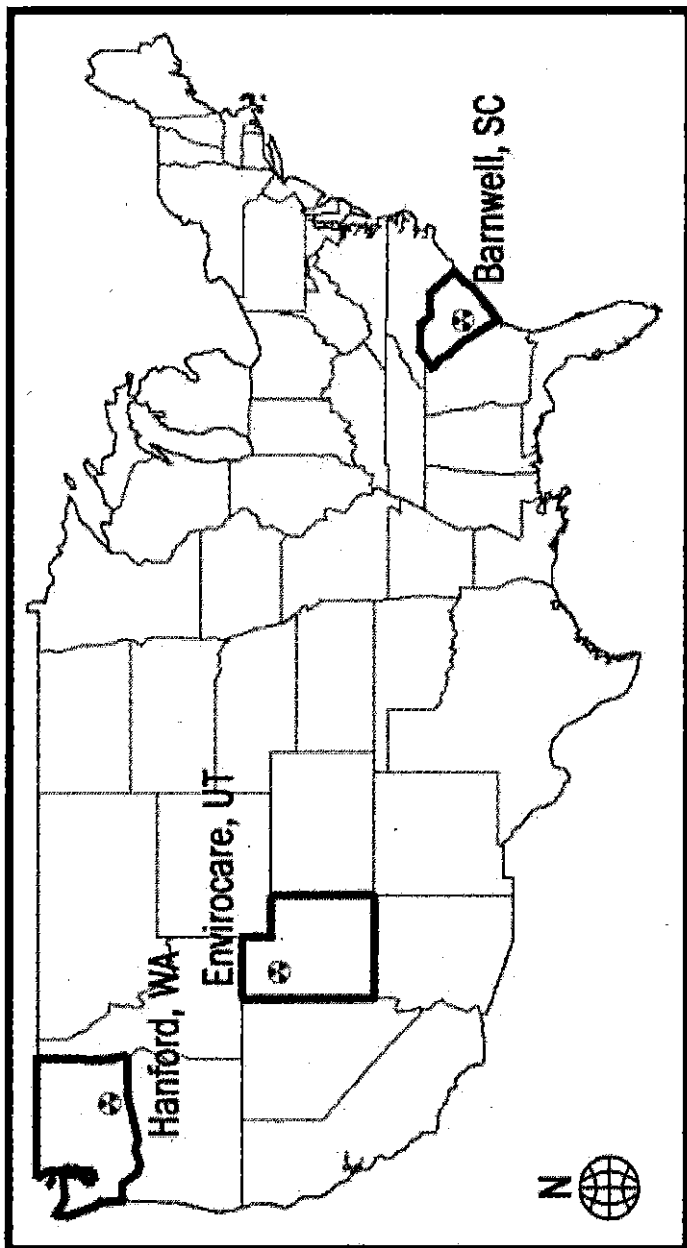


Figure 6.1. Location of Low-Level Radioactive Waste Disposal Sites in the United States

low-level waste produced is temporarily stored where it is generated, that is, at universities, hospitals, and nuclear power plants.

In the United States, the storage and disposal of radioactive waste has been a hotly debated political issue. After new laws were passed in 1980 and 1982, federal and state governments have tried to develop a number of sites to dispose of both HLRW and LLRW. The most notorious case involving radioactive waste is the political stalemate over Yucca Mountain in Nevada. One hundred miles north of Las Vegas, Yucca Mountain is the site selected by the federal government to become the nation's single repository for high-level nuclear waste generated from the defense industry and the nuclear power industry. Experts considered dozens of potential sites, and most of the sites were challenged by local opposition. The list was first narrowed to nine candidates in six states in 1983, and then narrowed to three sites in 1986: Yucca Mountain in Nevada, Hanford in Washington, and Deaf Smith County in Texas (Liebow 1988). In 1987, an amendment to the Nuclear Waste Policy Act cancelled further investigation of all sites other than the Yucca Mountain site (Flynn and Slovic 1995). The DOE favored the Yucca Mountain site for a number of reasons: "the area's dry climate, remote location, stable geology, deep water table and closed water basin" (United States Department of Energy 2006a).

Nevadan politicians and citizen groups, however, do not believe that the site is geologically ideal for radioactive waste and do not want this in their backyard. They resent the fact that the federal government expects Nevadans to accept the bulk of risk associated with radioactive waste disposal. In a recent survey, 76.8 percent of Nevadans oppose the Yucca Mountain project while 19.2 percent support the project (State of Nevada Agency for Nuclear Projects 2004). In 1989, the Nevada Legislature passed a law that made it illegal for any person or government entity to store radioactive waste in Nevada (Flynn and Slovic 1995). By 2002, after \$7 billion had been spent on site investigations, the U.S. Secretary of Energy declared that the Yucca Mountain site was suitable as the national repository and that the facility would open in 2017. The governor of Nevada objected, yet this was overruled by the U.S. Congress. In response to continuing political controversy, in March 2006, the DOE announced the formation of a new body of experts to conduct yet another round of independent scientific investigations regarding the technical safety of the proposed facility. The final scene in this political drama is yet to be played out (United States Department of Energy 2006c).

Throughout the public hearings and debates, the opposition has drawn on moral and emotional arguments, as well as on economic and environmental arguments. On the moral side, opponents state that the process is unfair and that the federal waste law (in particular the 1987 amendment) has not adequately considered the will of Nevada's citizens, the majority of

whom oppose the project (Flynn and Slovic 1995). Native Americans, many of whom have already been exposed to radiation as "downwinders" from the Nevada Test Site, have objected to the fact that they have not been consulted by the DOE. In a public comment to the DOE, one Native American argues:

Indian people have already suffered greatly as a result of the US nuclear program. . . . We should not be put at any more risk. If this project is as safe as you claim, there would be no need to build it here far from the sources of nuclear waste. But because you recognize the extreme danger and risk involved in the storage of this waste you choose to ship it far from yourselves, burdening our land and our future generations with it. This is not surprising considering the history of contempt and disregard with which you have treated our lands and people. This is an issue of environmental justice. (Eureka County 2003: 115)

Although the DOE claims that the repository will be "safe," representatives of the State of Nevada as well as citizen organizations question the science behind these studies. In particular, they cite the uncertainty that radioactive substances might leak into the environment, especially if there is an earthquake in the region. One of the greatest concerns is whether or not the transportation of radioactive waste along highways in Nevada will be safe. Another concern is whether or not the development of the waste facility will endanger the tourist industry and other business developments in the region (State of Nevada Agency for Nuclear Projects 1998, 2004).

Although LLRW has not received as much media attention, local debates about low-level radioactive waste mirror the political controversy surrounding Yucca Mountain. Opponents often challenge the validity of scientific studies regarding the safety of sites and criticize the process itself for disregarding local concerns. Since the Low-Level Radioactive Waste Policy Act was passed in 1980, ten compacts have been formed but no new disposal sites have been developed. In dozens of communities, citizens have united against proposals to situate radioactive waste disposal facilities "in their backyard" and have succeeded in preventing or delaying such developments. NIMBY politics and such responses are associated with a decline of public confidence in the ability of government and industry to assess and limit risk from environmental hazards (Kraft and Clary 1991). Proposed sites have failed to receive licenses in a number of states, including Illinois, California, New York, Connecticut, and Texas (English 1992; Kearney and Smith 1994; Rabe et al. 1994).

The academic literature on risk perception can provide useful insights for understanding the problems that plague both high-level and low-level waste management. To begin, studies have shown that laypersons and experts usually do not agree with the risks associated with certain hazards. Laypersons on average have heightened fears of radiation-related hazards,

such as nuclear power and radioactive waste. These fears are explained in part by the images of nuclear war and the dread associated with nuclear tragedies such as the accidents at Chernobyl and Three Mile Island (Slovic et al. 1980). Since laypersons do not share the same perception of risk, risk perception analysts have developed more nuanced understandings of variations in risk perception. Building from Mary Douglas and Aaron Wildavsky's (1982) work on the social construction of risk, the "social constructionist" perspective suggests that different subgroups may assign different meanings to events based on their group-based values and beliefs (Albrecht and Amey 1999). In situations of environmental conflict, such as the conflict over the siting of a LLRW facility, different groups assert the "moral superiority" of their own definition of reality. Both sides try to demonstrate that their opponents are "wrongheaded, ill-informed or even evil" (Albrecht and Amey 1999: 742; Bedsworth et al. 2004). Antiwaste activists, in particular, are criticized for being "too emotional" and for "marketing fear" (Rossin 2003).

The existing case studies of low-level nuclear waste politics demonstrate that moral conflicts have played a major role in the failure of most sites. Some studies have pointed out that the siting process has failed in the United States largely because of a top-down approach where a site is first selected by outside "experts," and then during the licensing process, local community members voice opposition and the site is ultimately rejected (Rabe et al. 1994). In the case of New York, for example, the siting process started with "experts" defining criteria to narrow down the list of potential sites, as has been the practice with other forms of hazardous waste. When affected citizens expressed disagreement with the scientific arguments that their backyard was an ideal site for a waste facility, they felt that their views were dismissed as irrelevant and irrational concerns by the Siting Commission. State officials, however, sided with local citizens after a series of non-violent protests, and the siting process was halted (Freudenberg 2004). Three proposed sites in Connecticut failed for similar reasons after eleven months of hearings and \$4 million of research development. In response to cases like this, some authors have recommended a more equitable process where local organizations and local values are considered in the process (Kearney and Smith 1994). Unfortunately, this democratic approach did not work well in California, where the advisory group included representatives from Native American groups and three nongovernmental organizations. Although the process allowed for new voices to enter the process, the advisory group was unable to reach a consensus (Bedsworth et al. 2004). In the context of NIMBY activism, another alternative is to call for towns that meet certain criteria to volunteer to host waste sites in return for a specified set of benefits. This bottom-up approach has been used successfully in Alberta and Manitoba to gain public acceptance from the earliest stage of the

licensing process. In both cases, potential host communities had forums to discuss the risks, negotiate compensation packages and to express their preferred method of disposal (Rabe et al. 1994).<sup>3</sup>

In addition to moral issues related to the siting process, there is the moral issue of siting a waste facility near a poor community with higher concentrations of ethnic minorities. Due to greater awareness of the need for environmental justice, the Nuclear Regulatory Commission has added legislative language that prevents the likelihood that a site will have unequal impacts on minorities or the poor. Despite these regulations, accusations of "environmental racism" were a major factor that prevented Texas from developing a LLRW disposal site in Hudspeth County (Amey et al. 1997).

### THE DISPOSAL OF LOW-LEVEL RADIOACTIVE WASTE IN TEXAS

Although most communities in the United States have resisted the waste trade, this chapter tells the story of a small Texas town that is rallying behind a company that seeks to dispose of LLRW in their backyard. The leaders of the town argue that the importation of waste will help diversify the local economy, which is dependent on the oil-and-gas industry and that the risks from radioactive waste are not qualitatively different than the risks from oil and gas. Local community leaders have also used patriotic rhetoric to support the further development of the waste facility.

Most of the information regarding LLRW disposal in Texas is of public record. However, my knowledge of this political process has been heavily informed by my participation. For the past two years, I have been employed as a part-time consultant for the Texas Commission on Environmental Quality (TCEQ). TCEQ is the regulatory agency that is currently reviewing the license application from Waste Control Specialists (WCS) for the proposed compact facility in Andrews County, Texas. I have been working with a team of TCEQ employees to review the application at various stages of its development. The other members of the Radioactive Material Licensing Team have scientific expertise in hydrology, geology, health physics, and engineering. I have contributed to the review process by assessing the portions of the application that deal with the social and economic impacts of the proposed facility. The review process consists of multiple steps. At each step, TCEQ provides an official request for further information and then the applicant responds by revising the application. In June 2006, the Radioactive Material Licensing Team finished reviewing the sixth incarnation of the license application. Due to a number of unresolved issues, the Waste Permits Division of TCEQ sent a 146-page "List of Concerns" to WCS and recommended that WCS apply for an extension in order to address these concerns with the application. An ex-

tension was granted in August of 2006 and WCS responded to the list of concerns in March 2007 (Texas Commission on Environmental Quality 2006). In addition to reviewing the application documents, I have observed public meetings and public hearings in Andrews and Austin, I have participated in business meetings with executives and consultants working for WCS and I have interviewed about two dozen local community members in and near Andrews County.

Table 6.1 shows a timeline of events that relate to the LLRW licensing process in Texas. The current licensing process represents the second attempt to develop a waste disposal facility in Texas. Shortly after the 1980 legislation was passed, the State of Texas created a new agency, the Low-Level Radioactive Waste Disposal Authority, to develop and manage a waste site for the State of Texas. After investigating several potential sites, the new agency determined that a site known as "Sierra Blanca," about ninety miles southeast of El Paso and about fifteen miles from the Mexican border, had ideal conditions for a disposal site. The Sierra Blanca site had already been used for the disposal of sewage sludge. In 1993, Texas finally formed a compact with two other unaffiliated states, Maine and Vermont, and agreed to become the host state for what is known as the "Texas Compact." Initially, the compact was denied by the U.S. Congress in 1995, but after heavy lobbying by then governor George Bush, Congress accepted a compact bill that even allowed Texas to accept waste from states outside of the compact (Public Employees for Environmental Responsibility 2000). Around the time that a draft permit was issued for the Sierra Blanca site in 1996, public opposition on both sides of the U.S.-Mexico border intensified. The opposition was concerned with the risk of radiation contamination, the geological stability of the site, the issue of environmental racism, the proximity to El Paso and Mexico, and the negative economic impacts (Students for Earth Awareness 2006). Amidst these concerns, the Texas Natural Resources Conservation Commission, the predecessor to TCEQ, decided to deny the permit in 1998 (Texas Environmental Profiles 2006; Tokar and Oliver 1998).

Some political insiders believe that lobbyists for WCS, who were making large campaign donations to Governor Bush and other Texas politicians, helped influence the Sierra Blanca decision, as well as the passing of House Bill 1567 in 2003 (Smith 2003; Texans for Public Justice 2001; Tokar and Oliver 1998). While the Sierra Blanca site would have been a state-controlled site, House Bill 1567 allows private companies the opportunity to acquire a license for radioactive waste disposal in Texas. The law also allows for a private company to dispose of low-level radioactive waste from the DOE's weapons production programs. The compact and federal facilities can be owned by the same company, but the wastes have to be disposed of separately.

**Table 6.1. Events Related to Low-Level Radioactive Waste Licensing Process in Texas**

<i>Date</i>	<i>Event</i>
1980	Passage of Low-Level Radioactive Waste Policy Act
1981	Texas legislature creates the Texas Low-Level Radioactive Waste Disposal Authority (TLLRWDA), which begins a screening process for a LLRW disposal site in Texas
1991	Texas legislature mandates the TLLRWDA to develop the waste disposal site in Hudspeth County, Texas
1993	Texas forms a compact with Maine and Vermont, and agrees to be the host state for the "Texas Compact" (Maine and Vermont agree to pay \$25 million each for site construction); Waste Control Specialists begin operations for hazardous waste in Andrews County, Texas
1995	U.S. Congress votes against the formation of the Texas Compact because the states are not contiguous
1996	TNRCC issues draft permit for the Sierra Blanca site in Hudspeth County; Public opposition to the Sierra Blanca site intensifies
1998	U.S. Congress approves of Texas-Maine-Vermont Compact, without a proposed amendment that would limit waste to the compact states; Waste Control Specialists receives license to store low-level radioactive waste; TNRCC decides to deny the permit for the Sierra Blanca site amid public controversy over the safety of the site, and the proximity to El Paso and Mexico
1999	The TLLRWDA is abolished and its charge to find a disposal site is given to TCEQ
2002	The Maine Legislature votes to leave the Texas Compact due to delays in the siting process
2003	Texas House Bill 1567 is passed, allowing private companies the opportunity to apply for a LLRW disposal license
2004	August: WCS submits an application and \$500,000 application fee to the Texas Commission for Environmental Quality (TCEQ) for a license to dispose of LLRW disposal; WCS submits an application to the Texas Health and Human Services Commission for a license to dispose of DOE by-product waste
2005	TCEQ completes administrative reviews of the WCS license application
2006	June: TCEQ completes the third technical reviews of the WCS license application, and requests additional information in a "List of Concerns" to WCS August: WCS requests an extension to address these concerns
2007	March: WCS submits a response to the concerns, and TCEQ begins the final review of the application; a draft license was issued in late 2007

The Dallas-based company, WCS, began their operations in Andrews County with a hazardous waste site that opened in 1993. The 16,000-acre site is located about thirty miles west of the small town of Andrews, along the Texas–New Mexico state border. By 1997, WCS expanded its services to include the storage and processing (but not underground disposal) of radioactive waste. Among other sources, the site has received DOE waste from the Rocky Flats site in Colorado and the Fernald site in Ohio. In 2004, after the passing of HB 1567, WCS submitted a license application to the TCEQ to add a low-

level radioactive waste disposal facility in Andrews County, Texas. WCS submitted a second license application to dispose of low-level radioactive waste and mixed waste from federal facilities. Both proposed facilities will be built at the WCS site in Andrews County, and both will involve near-surface land disposal. If granted, these licenses are expected to generate billions of dollars for WCS. And, according to state legislation, the State of Texas and Andrews County will each receive 5 percent of the profits from the disposal of the compact waste.

Figure 6.2 shows the proximity of the site to towns in Texas and New Mexico. The majority of residents in Andrews County live in the City of Andrews, thirty miles east of the site. The closest town is actually the city of Eunice in New Mexico, with a population of about 2,600 residents. In all of these towns, Anglos are the dominant ethnic group, but the Hispanic population is approximately 40 percent in both Andrews County in Texas and Lea County in New Mexico (Waste Control Specialists 2006).

Although the site will benefit residents on the Texas side of the border more (due to tax revenue), the border location has not become a big issue, largely in part due to the fact that another company, Louisiana Energy Services (LES), has filed a license application for a uranium enrichment plant on the New Mexico side of the border. The proposed LES site is on a piece of land that is contiguous to the WCS site, or as one Texas state senator put it "a nine iron chip from the Texas border" (Wilder 2005). Rumors suggest that LES is likely to send its waste across the border to WCS (Nuclear Information and Research Service 2005; Sage 2006).

What is fascinating about this case is that the proposed facility is strongly supported by local government officials in Andrews County (who are predominantly white). In their public statements, local officials repeatedly express their trust in WCS as a reliable company that has demonstrated its commitment to the community. This local support can be traced back to community efforts to save the town by creating a new economic niche. Long dependent on the oil-and-gas industry, members of the Andrews Industrial Foundation have actively sought out ways to diversify their local economy. In the early 1980s, Andrews County attempted to bid for an MX nuclear missile base (Lisher 2005). Being pragmatic about the opportunities for a small, relatively isolated town in an arid region, an economic development study conducted in the late 1980s suggested two other ventures that might be well-suited for Andrews: prisons and waste management (Ingram 1993a). One leader, the late newspaper editor James Roberts, often referred to this economic strategy as "turning liabilities into assets" (Ingram 1993c). Although local leaders failed to secure either a prison or a missile contract,

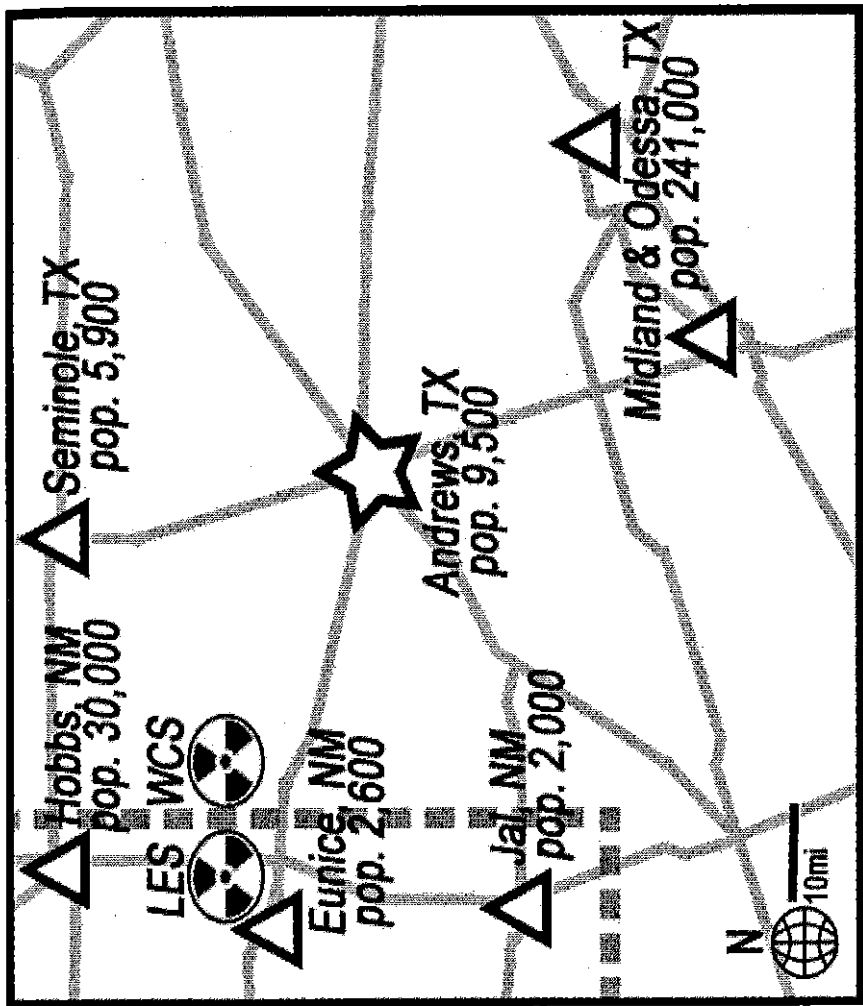


Figure 6.2. Location of Waste Control Specialists Facility in Andrews County, Texas

they succeeded in attracting the attention of Waste Control Specialists, a company that was searching for a site to place a hazardous waste facility in the early 1990s. Although it is unclear who courted whom the most, the match was solidified by 1993 when over 300 local community members showed up to support WCS at a public hearing to discuss their license application for hazardous waste. In 1993, local officials repeatedly stated that the site was not considering radioactive waste (Ingram 1993a; Ingram and Thompson 1993).

Radioactive waste was put on the agenda about five years later, but this did not seem to diminish local support for the company. In a survey of community leaders in the region, 60 percent agreed strongly and 40 percent agreed moderately that the proposed facility would bring economic development to the region (Hicks and Company 2006). They believe that it will create new jobs, create incentives for young people to stay in the town and produce some stability in a region dependent on oil and gas. As Russell Shannon, the vice president of the Andrews Industrial Foundation puts it, "If we thought we could get an NFL franchise or a Riverwalk, we wouldn't have looked at this industry. We just believe it will bring us some jobs, bring people to our community to get involved in an industry, like they did with oil" (*Midland Reporter Telegram* 2005). Local support for WCS is not limited to Andrews County. The company has received letters of endorsement from surrounding towns in Texas and New Mexico (Waste Control Specialists 2006). In light of NIMBY activism in response to most waste sites, the attitudes of local leaders and ordinary citizens in and near Andrews County seem very surprising. As Texas Democratic State Representative Lon Burnham states: "In a way, it's good news for the rest of the country, that Texans are so stupid that they want to take on the risk of becoming a nuclear waste sacrifice zone for the country. This is an after-effect of the Cold War, and nobody—except for Texans—wants it in their home" (Smith 2003).

At the local level, vocal opposition to the proposed facility has been very limited. In a 2005 public hearing in Andrews, thirty-eight people provided positive comments about the proposed facility, and only six local community members expressed concerns with the site. Some worry that the site could contaminate groundwater. A rancher family is concerned that the water used by WCS could affect water supplies for their cattle and that radiation leaks could affect water quality. Another resident is worried that the volume of trucks and rail cars will increase traffic accidents on state highways. Some residents, including one very vocal opponent in Eunice, are also concerned that if WCS receives this license, this might just be the beginning; more dangerous types of radioactive waste might come in the future (Texas Commission on Environmental Quality 2005).

Community leaders and WCS officials regularly make blanket statements about local support for the facility. The mayor of Andrews, for example, has publicly stated that he estimates about 95 percent of the residents do not oppose the site (Gilbert 2005). Further, in the original license application, WCS repeatedly stated that they had "widespread support" from the local community and that there was "no viable opposition" (Waste Control Specialists 2004). With the exception of support letters from local leaders, the application did not provide much evidence to support such strong language. Based on my own interviews in the region, I became convinced that there are probably numerous residents who do not support the site, yet choose not to vocalize their opinions because they feel intimidated and/or powerless. The risk perception literature would suggest that minorities and the poor would be likely to fall into this category. In my capacity as a TCEQ consultant, I have repeatedly made requests for further evidence for statements regarding public support. The first response was to provide qualitative data from a face-to-face survey, using a convenience sample, with twenty-six community leaders and twenty-four residents in the region. The participants were 82 percent white and 71 percent male. While the responses were certainly interesting and informative, the sample size was too small and biased to make any conclusions regarding public acceptance of the site. However, only 8 percent of the Texas sample had "strong concerns" with the facility, and 71 percent had no concerns at all (Hicks and Company 2005). In a subsequent response, WCS has provided quantitative data from a telephone survey with 605 residents in the affected areas, including residents in both Texas and New Mexico (Baselice and Associates 2006).

Figure 6.3 shows the results for one of the questions asked in the larger survey, regarding attitudes toward the disposal of low-level radioactive waste at the WCS site in Andrews County. The data suggests that the majority of community members support the proposal. However, the data also suggests that there is greater support in Andrews County than in surrounding counties, and that there is greater support among non-Hispanics than among Hispanics.

### DISCOURSES OF MORALITY IN THE TEXAS DEBATES OVER LLRW

Proponents and opponents of the facility use different discourses of morality in the debates over the proposed facility. To begin, both sides implicitly suggest that "insiders" rather than "outsiders" should be making decisions about the future of the community. However, the two sides do not agree on

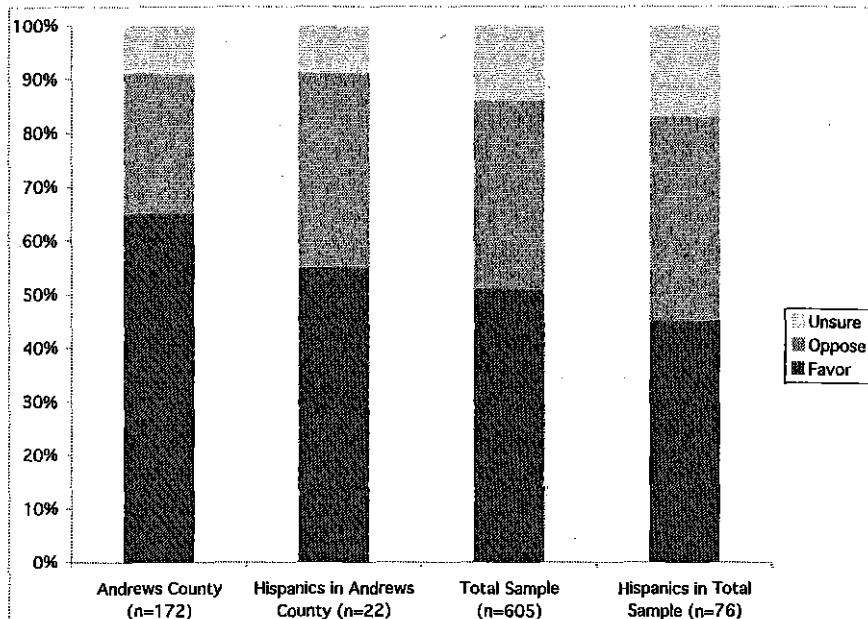


Figure 6.3. Attitudes Toward the Disposal of Low-Level Radioactive Waste by Waste Control Specialists in West Andrews County, Texas

who is an outsider. For the supporters of the site, the image of "outsiders" is used to describe environmental activists representing groups like the Sierra Club and Public Citizen. In 1993, one town leader, for example, predicted that "the majority of opponents of the landfill may come from outside the county" (Ingram 1993b). From the leaders' perspectives, insiders are united in their support for the site. And, now that WCS has been in the area for awhile, WCS is considered a reliable good citizen. In the qualitative survey, one respondent referred to WCS as a "good asset to the community" and a company who donates to community organizations (Hicks and Company 2005). When I was conducting interviews in Andrews last summer, one Hispanic business owner seemed very relieved to hear that I was not with the Sierra Club. He fears that environmental activists might come from the outside to mobilize Hispanics in particular and that this could have negative repercussions for ethnic relations in the town.

Opponents, on the other hand, resent the fact that an "outsider" company is making decisions that might have negative impacts on their local environment. In the public hearing, for example, one opponent pointed out that the WCS executives are constantly referring to her town as a "remote" location. Implicitly referring to WCS as outsiders, she asked: "From whose perspective is Andrews County a remote location?"

A second moral dimension to the debates is the issue of profit. Throughout the process, the company has never publicly stated how much profit they expect to make from the facility and local officials have never stated how the 5 percent tax revenues will be spent by county officials. In response to my requests for a rough estimate of expected revenues, WCS has repeatedly stated that this information is "indeterminate" (Waste Control Specialists 2006). While there are surely legal reasons for this declaration, I question whether the company's executives want to downplay the fact that they are likely to profit immensely from this deal. In an interview, Harold Simmons, the owner of WCS stated: "I don't think it's going to be any real fast gold mine. But it could be very productive and big business over a period of years" (Oppel 1996). Instead of discussing profits to the company, WCS and local officials continually promise that the facility will bring new jobs and indirect economic benefits to the community.

In contrast, opponents at the local and state level have discussed the profit issue in moral terms. To begin, in the media and on environmentally oriented websites, critics villainize the owner Harold Simmons as an immoral person.<sup>4</sup> He is described as a billionaire who has personally donated over \$400,000 to political campaigns and who has been charged with exceeding federal contributions limits and making illegal campaign contributions in his daughters' names. The same source notes that the two companies that he controls have donated an additional \$825,000 in unregulated corporate soft money to GOP candidates in the past two election cycles (Texans for Public Justice 2001). He is also cited as the top donor to Tom DeLay's defense fund (Wheat 2005) and the former owner of a lead smelting facility that is now listed as a Superfund site (Toxic Texas 2006). Critics have been more willing to discuss the expected profits, and they do so in moral terms. According to the Public Employees for Environmental Responsibility, the compact's waste will generate "hundreds of millions in disposal fees" for the State of Texas and WCS (Public Employees for Environmental Responsibility 2006; Toxic Texas 2006). An article in *Mother Jones* suggests that the federal waste is likely to generate more profits than the compact waste because the DOE has generated so much waste and there is nowhere to send it (Smith 2003).<sup>5</sup> Erin Rogers of the Sierra Club has discussed the ethical problem of profiting from the waste business: "We don't think private companies should be entrusted with something this serious and potentially dangerous. The state is publicly accountable, and they're not driven by a profit motive" (Smith 2003).

While NIMBY politicians would argue that it is immoral to site a waste facility near a community, the leaders of Andrews County have made it seem like it is immoral to question the licensing of the WCS facility. Some leaders have even made a link between supporting the site and being patriotic. In other words, hosting a waste site is discussed as a sacrifice for the nation

comparable to military service. Andrew city manager Glen Hackler, for example, has stated: "As hokey and idealistic as it sounds, this community has a feeling that we have provided a solution to a true state and national problem" (Lisher 2005). According to one political analyst, "Waste Control has hitched its campaign to growing fears of terrorism. . . . Since the Sept. 11 attacks, dump proponents have been warning that terrorists might steal radioactive material from Texas hospitals to make 'dirty bombs'" (Smith 2003). Given the strong support in the community, it is not surprising that opponents feel pressured to stay quiet. One vocal critic said that friends and family support her in spirit, but they are afraid to join her activism against the company. People worry about how this might affect their jobs, their economic well-being, and their social life.

Finally, I want to say a few words about environmental racism. Race and class are clearly issues in this case, but this concept has not yet surfaced in public discourse about the site. Although there is a high percentage of Hispanic residents in the region, the numbers do not exceed the criteria established by law, which would occur if "either the minority or low-income population percentage exceeds 50 percent within the Region of Interest, or if the percent of minority or low-income populations is 20 percent greater than the state average." In the required section about environmental justice, WCS insists that this is not an issue because all groups would be equally disadvantaged by the facility. They state that transportation routes, for example, will not be limited to poorest areas of the nearby counties (Waste Control Specialists 2006). An interesting moral dilemma is whether or not regulations for environmental justice should be limited to existing demographic patterns, or whether they should consider population projections. If the latter were to be the case, environmental justice would be a stumbling block in the licensing process.

## CONCLUSION

The case of LLRW disposal shows how moral issues are tied to economic issues, especially when new commodities such as toxic waste are concerned. This case also demonstrates once again that what is moral and what is immoral is defined differently by individual actors.

It has been over twenty-five years since the Low-Level Radioactive Waste Policy Act was passed in Congress, yet not a single new waste facility has been developed. Technical issues always play into the political discussions, but most proposed sites have failed largely due to moral concerns about waste in general and the siting process in particular. In other locations where waste facilities have been proposed, local community members who feel excluded from the siting process have raised moral concerns. The An-

Andrews County case is fascinating because the vast majority of community leaders are in favor of the facility and there are few vocal opponents. One of the major differences in the Texas case is the fact that Texas law has allowed a private company to apply for a waste disposal license. In all of the other cases in the United States, a government agency at the state level has established criteria to narrow down a site, using a "top-down" approach that emphasizes technical, not social issues. In case after case, moral concerns have been raised about the nature of the siting process and public opposition has halted the process. While these approaches have consistently failed, the Andrews County site still stands a chance to be the first facility to receive a license for waste disposal since the Low-Level Radioactive Waste Policy Act was passed. Rather than surveying Texas for the "best" geological site, WCS started with a community that was relatively enthusiastic about hosting a radioactive waste disposal facility, and now representatives from the company (and the community) are trying to make a case for why this location is ideal for this facility. It is yet to be seen whether this case demonstrates that a private approach is more likely to succeed than a public approach. At the moment, this site is unlikely to fail due to public opposition. If the company does fail to gain a license, it will be primarily due to technical issues related to the geological suitability of the facility.<sup>6</sup>

In most other cases of LLRW, profit is not an issue because waste is handled by a state agency. In the Texas case, however, a private company is planning to profit from the disposal of radioactive waste. On the one hand, local community leaders who support the facility have not expressed concerns about the profits that WCS is likely to gain from the waste trade. Rather, the leaders of Andrews County appear to be satisfied with the additional tax revenue (e.g., 5 percent of profits) that Andrews County will receive, and they are not lobbying for any additional compensation. On the other hand, opponents have questioned the morality of the company owner and company lobbyists who have been involved in corruption scandals. And, they have also rightfully questioned whether a private company will be *more* interested in making profits than ensuring the safety of local citizens. This concern implicitly fails to recognize the role that state regulatory agencies, such as the TCEQ, play in the process. So far, opponents have directed their moral concerns at the company and its owner, not the regulatory agency. If the TCEQ commissioner decides to grant the license, opponents may shift their focus and begin to publicly question their trust in the regulatory agency, as has been the case with the Yucca Mountain site.

By regulating the risks associated with radioactive waste and ensuring that disadvantaged groups are not burdened with a disproportionate share of risks, the state has become a site where morality is institutionalized. Morality has been institutionalized at several different levels of the state. At

the federal level, the Nuclear Regulatory Commission provides guidelines for the siting of radioactive waste facilities, including guidelines that address the potential problem of environmental racism. At the state level, the Texas Legislature voted to allow private companies to submit bids for a low-level radioactive waste facility, yet ensured that a percentage of the profits would return to the local community. And, finally, state regulatory agencies, such as the TCEQ are responsible for reviewing the safety and socio-economic impacts of the low-level radioactive waste disposal facility. Although the state of Texas has opened up the waste trade to market conditions, all of these state agencies are acting collectively to limit the potential harm to society that might result from the free market trade of toxic waste.

## NOTES

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1. Figures regarding the relative volume of low-level waste from nuclear power plants vary widely for political reasons. Proponents of particular waste sites use data that emphasizes other more "benign" sources of waste material, while opponents (who often oppose nuclear power as well) tend to exaggerate the amount of waste generated by power plants (Albrecht and Amey 1999).

2. In the literature on nuclear waste, the Washington site is referred to as either the "Richland" or the "Hanford" site. I have chosen to refer to the site as the "Richland" site to distinguish it from the nearby high-level waste storage site, also known as "Hanford." Richland is the town closest to the Department of Energy's Hanford site, which produced plutonium and enriched uranium for nuclear weapons. The high-level and low-level waste sites are located in separate areas within the Hanford Reservation. The Richland LLRW facility is operated by U.S. Ecology, a company that leases land from the DOE. The Barnwell LLRW facility is operated by a company called Chem-Nuclear Systems LLC.

3. Using the case of Ontario, Hunold (2002) argues that voluntary siting processes that use the municipality as the unit of participation do not truly achieve the goal of participatory democracy.

4. Harold Simmons is currently listed as number 278 on *Forbes* magazine's list of the world's billionaires, with \$2.6 billion dollars in assets.

5. Although the State of Texas and Andrews County will each receive 5 percent of the profits from compact waste, this is not true for federal waste. One Republican Texas senator, Robert Duncan, unsuccessfully attempted to require financial benefits to the state of Texas for all federal waste. According to Duncan, South Carolina receives about \$24 million per year from the Barnwell site (Gilbert 2005).

6. A number of problems have been cited in the "List of Concerns" prepared by the TCEQ Radioactive Waste Materials Licensing Team. Some of the technical concerns include the depth of the water table, the possible impact of erosion, and radiological protection methods.

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