

The Wasteland: The Failure of Federalism in Low-Level Radioactive Waste Disposal  
or  
For a National Waste Disposal Policy

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*What are the roots that clutch, what branches grow  
Out of this stony rubbish? Son of man,  
You cannot say, or guess, for you know only  
A heap of broken images . . . .*<sup>1</sup>

I. INTRODUCTION

This is the story of radioactive waste's little brother. And much like the story of any little brother, it involves many episodes of attention-grabbing attempts. From flaming trucks to near major environmental catastrophes, low-level waste has been trying to make the headlines. Unless you live near a disposal site, however, you have most likely never heard of it. Yet, low-level radioactive waste (LLRW) surrounds us all. It is in your smoke detector and your watch dial; There is a good chance you pass buildings storing it in store-closets on your daily commute. Radioactivity is so ubiquitous, it is encountered everywhere.

We are so circumscribed by waste because of the lack of effective available disposal options. It has been twenty-five years since the enactment of the Low-Level Radioactive Waste Policy Act Amendments (LLRWPA) by Congress in 1985, and not a single new facility handling all classes of LLRW has been built since the Act was passed.<sup>2</sup> Additionally, the legislative framework has faced continued litigation,

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<sup>1</sup> T. S. ELIOT, *THE WASTE LAND* (1922), reprinted in *THE WASTE LAND AND OTHER POEMS* 29-30 (1930).

<sup>2</sup> U. S. Nuclear Regulatory Comm'n, *Low-Level Waste Disposal*, N.R.C., U. S. NUCLEAR REGULATORY COMM'N *Low-Level Waste Disposal*

assailment, and refinement in federal courts.<sup>3</sup> All things considered, the current framework of the Act has been paralyzed for a number of years, if not completely halted.

This note first presents an overview of the LLRW and its classification, followed by a brief history of disposal in the United States, and the passage and current status of the LLRWPA. Secondly, the the failure to effectively track and document the production and disposal of waste, and provide options for all types of LLRW will be addressed. Thirdly, the policies of federalism and inter-state cooperation in this waste disposal are analyzed, including the effects of the so-called Not In My Back Yard NIMBY (NIMBY) syndrome, the failure of states to effectively take on the responsibilities delegated to them, and the approaches of several federal court cases of the past decade dealing with the continuing problems of the Low-Level Radioactive Waste Policy Amendments Act of 1985 (LLRWPA).<sup>4</sup> Finally, several solutions to better disposal are proposed, such as national tracking and reporting, for better education, and a new national framework of legislation.

## II. BACKGROUND

### III. THE FUNDAMENTALS OF LOW-LEVEL RADIOACTIVE WASTE

LLRW comes from many common sources. As the Supreme Court once said in *New York v. United States*, “[w]e live in a world full of low level radioactive waste. Radioactive material is present in luminous watch dials, smoke alarms, measurement devices, medical fluids, research materials, and the protective gear and construction

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(FebSept. 28, 2011009), <http://www.nrc.gov/waste/llw-disposal.html>; see also *Energy Solutions v. Utah*, 625 F.3d 1261, 1269 (2010) (mentioning that the facility in Clive, Utah, which by license can accept only the lowest level LLRW “is the only currently-operating LLRW disposal site that began operations .after the 1980 and 1985 acts” (emphasis in original)).

<sup>3</sup> See, e.g., *New York v. United States.*, 505 U.S. 144 (1992);, *Entergy Arkansas, Inc. v. Nebraska*, 358 F.3d 528 (8th Cir. 2004);, *EnergySolutions, LLC v. Northwest Interstate Compact on Low-Level Radioactive Waste Mgmt.anagement*, No. 2:08-CV-352 TS, 2009 U.S. Dist. LEXIS 41209 (D. Utah May 15, 2009).

<sup>4</sup> 42 U.S.C. §§ 2021b-2021j (2006). Since the original LLRWPA was not overridden by the LLRWPA, the two collectively form the current legislative construct, and will be referred to in unison as LLRWPA/A.

materials used by workers at nuclear power plants.”<sup>5</sup> Nuclear power facilities, both operational and decommissioned alike, produce the largest amount of LLRW and refuse.<sup>6</sup> Industry, government, academic research, and medical facilities also contribute a significant, although much smaller amounts.<sup>7</sup>

LLRW is separated into regulatory categories<sup>8</sup> based on its radioactivity, half-life, and dangerousness.<sup>9</sup> The health risks of those exposed to LLRW are far from accepted scientific fact. However, one recent study funded by the state of New York, documented such dangers from the West Valley Demonstration Project, a single closed disposal site in western New York. The report found not only LLRW, but also much more highly radioactive materials that were

[p]ackaged in canisters, drums, cardboard boxes, and plastic bags, the list of contaminated wastes reads like a laundry list of dangerous elements . . . . These elements, if ingested or inhaled, lodge in human tissues, fat, or bone and are known to be responsible for leukemias [sic] and cancers at very low doses. There is no known safe level of exposure to radioactive chemicals--each exposure increases the likelihood that cancer and other health effects may occur.<sup>10</sup>

Specifically, “the authors and contributors to this report do not consider low-level waste to be low risk,”<sup>11</sup> and the description of loose packaging practices in the above quote were particularly apropos of early LLRW disposal practices.<sup>12</sup>

<sup>5</sup> *New York*, 505 U.S. at 149 (1992).

<sup>6</sup> H.R. Rep. No. 99-314, pt. 2, at 15-16 (1985);, Jorge Contreras, *In the Village Square: Risk Misperception and Decisionmaking in the Regulation of Low-Level Radioactive Waste*, 19 *ECOLOGY L.Q.* 481, 485-87 (1992).

<sup>7</sup> Contreras, *supra* note, 6 at 485-87.

<sup>8</sup> The categories of waste are: A through C and Greater Than Class C or GTCC waste, which is waste that falls above class C, but is still not high-level waste.

<sup>9</sup> 10 C.F.R. § 61.55 (20110).

<sup>10</sup> ALICE NAPOLEON ET AL., *THE REAL COSTS OF CLEANING UP NUCLEAR WASTE: A FULL COST ACCOUNTING OF CLEANUP OPTIONS FOR THE WEST VALLEY NUCLEAR WASTE SITE* 8 (2008), available at <http://www.psr.org/nuclear-bailout/resources/the-real-costs-of-cleaning-up.pdf>. , [on file with the author of this article].

<sup>11</sup> *Id.* at 20, n. 13.

<sup>12</sup> See, e.g., U.S. ENVTL. PROT. AGENCY EPA/ROD/R04-91/097, SUPERFUND RECORD OF DECISION: MAXEY FLATS DISPOSAL SITE Region IV, EPA/ROD/R04-

On the other hand, some studies have found the exposure risks of LLRW minimal. For example, according to one scholar, a failed disposal site in Kentucky led to only negligible exposure for local populations, less than one millirem per year, as compared to the 363 millirems the average person in the United States is exposed to annually from natural background sources, despite rainwater collecting in the disposal trenches and overflowing into the surrounding area.<sup>13</sup> Another researcher determined that “[t]he idea that all low-level radioactive waste is deadly for thousands of years is largely attributable to the idea’s frequent repetition in news accounts, without qualification or context, in the same manner that matters of scientific consensus might be reported.”<sup>14</sup> Unsurprisingly, that same author criticizes the authors of the previously cited New York study, stating that a panel of health and science professionals found their earlier work to be “mind-boggling,” and based on “important errors of fact and evidence of bias.”<sup>15</sup>

However, it is scholars do agree that improper administration of LLRW disposal leads to a multitude of risks. For example, the Maxey Flats site has resulted in very little public exposure due to proper administration; were it otherwise, public exposure in the region would have greatly harmed the surrounding area. According to the Maxey Flats Disposal Site (MFDS) Record, in a no-action alternative the estimate for exposure of LLRW to the local population simply through well-water was as high as 4300 mrem per year,<sup>16</sup> more than eleven times the average background radiation dose.<sup>17</sup> The remoteness of the site may also be credited for avoiding immediate wide-spread exposure, the remote location of disposal facilities has also resulted in locating disposal

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91/097, Record of Decision: Maxey Flats Disposal Site, at 12 (1991) [h(Hereinafter MFDS RECORD)].

<sup>13</sup> Contreras, *supra* note 6, at 493.

<sup>14</sup> William F. Newberry, *The Rise and Fall and Rise and Fall of American Public Policy on Disposal of Low-Level Radioactive Waste*, 3 S.C. ENVTL L.J. 43, 44 (1993).

<sup>15</sup> *Id.* at n. 5.

<sup>16</sup> IDMFDS RECORD, *supra* note 16 at 66.

<sup>17</sup> Contreras, *supra* note 6, at 493 See *supra* text accompanying note 17.

facilities closer to farmlands that nationally provide food and other natural resources, and further from public scrutiny.<sup>18</sup>

Scholars also agree that dangers can exist from LLRW exposure over the long-term.<sup>19</sup> According to the MFDS Record, the EPA determined many uncertainties of possible long-term risks, including possible rainwater overflow of the trenches, resulting in much quicker transmission of radionuclides than through groundwater resulting in exposure to less-decayed and more dangerous substances.<sup>20</sup>

#### B. HISTORY OF DISPOSAL IN THE U.S.

Disposal of LLRW has been handled in a variety of ways since the dawn of the "Atomic Age."<sup>21</sup> It was originally disposed of by dumping of sealed containers into the ocean.<sup>22</sup> Concerns over the effects on the marine and coastal environment ended this practice, only to spawn the alternative of, near-surface, or shallow land burial, as the remaining option for long-term disposal.<sup>23</sup>

By 1971, six shallow land disposal facilities were built across the nation: Barnwell, South Carolina; Hanford, Washington; Beatty, Nevada; Sheffield, Illinois; West Valley, New York; and Maxey Flats, Kentucky. Seven years later, the number of facilities had already dwindled back to three (Barnwell, South Carolina; Hanford, Washington; Beatty, Nevada), the others having closed due to instability and numerous

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<sup>18</sup> MFDS RECORD, *supra* note 12, at 5-10.

<sup>19</sup> See, e.g., Contreras, *supra* note 6, at 492-493.

<sup>20</sup> MFDS RECORD, *supra* note 12, at 73.

<sup>21</sup> The "Atomic Age," also called the "Nuclear Age," refers to the period beginning with the first tests of atomic weapons, through the development of nuclear power for civilian uses. See Earl Lane, *The Leftovers of the Nuclear Age: Wanted: Safe Spot for Nuclear Waste*, NEWSDAY, Aug. 14, 1997, at A07 (part two in a series, describing the irony of the choice of Yucca Mountain to store high level waste: "[f]or some, there is an appealing symmetry to burying the spent fuel from the nation's commercial nuclear program in the same remote territory that helped give birth to the Atomic Age" (referring to early atomic bomb tests in remote American deserts)).

<sup>22</sup> Dan M. Berkovitz, *Waste Wars: Did Congress "Nuke" State Sovereignty in the Low-Level Radioactive Waste Policy Amendments Act of 1985?*, 11 *Harv. Env'tl. L. Rev.* 437, 440 (1987).

<sup>23</sup> *Id.* at 441.

environmental problems.<sup>24</sup> The Maxey Flats and West Valley sites were particularly ruinous of both the environment and people's perceptions of LLRW.<sup>25</sup>

The widely reported contamination incidents at Maxey Flats and in West Valley, and the Chernobyl and Three Mile Island nuclear accidents, in combination with increased public environmental degradation concerns may make LLRW siting efforts the biggest Not-In-My Backyard (NIMBY) issue ever. As a result, no new LLRW disposal sites have opened since 1971 and none seem likely to be established in the next few years.<sup>26</sup>

The harm to both the environment and people's perceptions may have in large part been attributed to the slow response to acknowledged problems. For example, migration of tritium (a form of radioactive hydrogen) was detected in groundwater at the perimeter of the Maxey Flats site as early as 1972. However the site was not closed until 1977, and was not referred for status as a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, more commonly known as Superfund),<sup>27</sup> site until 1983.<sup>28</sup>

Of the original sites, only the Barnwell, South Carolina and Hanford, Washington sites remain open today.<sup>29</sup> Part of the reason for the enactment of the LLRWPA and the Amendments was the intermittent closure, or restricted access to these sites after problems with packaging and transportation of waste were discovered.<sup>30</sup> In particular,

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<sup>24</sup> Berkovitz, *supra* note 22 *Id.* at 440-441 (1987).

<sup>25</sup> See Barry G. Rabe et al., *Nimby and Maybe: Conflict and Cooperation in Siting of Low-Level Radioactive Waste Disposal Facilities in the United States and Canada*, 24 ENVTL. L. 67, 75-76 (1994) ("In 1986, the United States Environmental Protection Agency designated Maxey Flats a federal Superfund site, adjudging it to be among the most severely contaminated sites in the nation."). See *id.*, at 76.

<sup>26</sup> *Id.*, at 75.

<sup>27</sup> See Cheryl Kessler Clark, *State Liability Under CERCLA for Low-Level Radioactive Waste Disposal: Preparing for the Inevitable*, 11 PACE ENVTL. L. REV. 587 (1993) .

<sup>28</sup> MFDS RECORD, *supra* note 12, at 12-14.

<sup>29</sup> See USGS, *Armargosa Desert Research Site*, U.S. GEOLOGICAL SURVEY, <http://nevada.usgs.gov/adrs/site.htm> (last modified July 21, 2009), <http://nevada.usgs.gov/adrs/site.htm> (describing the closure of the Beatty, Nevada site).

<sup>30</sup> H.R. Rep. No. 99-314, pt. 2, at 17 (1985); see also Cheryl Kessler Clark, *State Liability Under CERCLA for Low-Level*

both the Beatty, Nevada, and Hanford, Washington sites were closed by their governors in 1979 after several alarming incidents, including one truck arriving leaking its cargo, and another which “passed through the gates of the site with its shipment of waste on fire.”<sup>31</sup> Interestingly, South Carolina’s governor became frustrated with being forced to receive the waste of the rest of the nation after closure of the two sites and attempted, ultimately unsuccessfully, to restrict access.<sup>32</sup>

Government publications are often vague at best as to the precise nature of shallow land burial. Phrases such as “[l]ow-level radioactive waste is packaged in containers appropriate to its level of hazard,”<sup>33</sup> often in fact means dumping the waste in long, shallow trenches about thirty feet deep<sup>34</sup> in whatever containers it arrived in, and covering up the trenches with excess dirt.<sup>35</sup> The waste was frequently contained in little more than cardboard boxes or no packaging at all.<sup>36</sup>

While disposal is now heavily regulated due to the failure and leakage at several closed sites,<sup>37</sup> shallow-land burial remains the only method of long-term disposal utilized in the United States.<sup>38</sup> However, according to the Nuclear Regulatory Commission (NRC), certain LLRW with a short half-life can be stored on site (including at hospitals

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*Radioactive Waste Disposal: Preparing for the Inevitable*, 11 *PAGE ENVTL. L. REV.* 587, 596-97 (1994).

<sup>31</sup> H.R. Rep. No. 99-314, pt. 2, at 17 (1985).

<sup>32</sup> *Id.*

<sup>33</sup> N.R.C.U. S. NUCLEAR REGULATORY COMM’N, *RADIOACTIVE WASTE: PRODUCTION, STORAGE, DISPOSAL*, NUREG/BR-0216, REV. 2, (2002), available at: <http://www.nrc.gov/reading-rm/doc-collections/nuregs/brochures/br0216/>.

<sup>34</sup> Rabe et al., *supra* note 25, at 67, 75.

<sup>35</sup> See 10 C.F.R. § 61 (2011); Contreras, *supra* note 6, at 489-490 (description of the entire process), see also MFDS RECORD, *supra* note 12, at 16 (description of disposal practices at Maxey Flats Disposal Site practices, conforming to the worst of the above description).

<sup>36</sup> Berkovitz, *supra* note 22, at 441, n.17.

<sup>37</sup> 10 C.F.R. § 61.56 (2011); Rabe et al., *supra* note 25, at 75-76.

<sup>38</sup> Contreras, *supra* note 6, at 490.

and colleges), “to decay to innocuous levels and to provide safekeeping when access to disposal sites is not available.”<sup>39</sup>

### C. DEVELOPMENT OF THE LEGAL FRAMEWORK

Prior to enactment of the LLRWPA in 1980, the Atomic Energy Act of 1954 controlled regulation of LLRW, allowing states some regulatory power via agreements with the federal government.<sup>40</sup> Kentucky, the first to become an “agreement state,” was also the one of the first to license a LLRW disposal site, the Maxey Flats site.<sup>41</sup>

Congress did not alter the regulatory structure again until 1980. Due to requests from state governors, Congress first tried to specifically address the issue of LLRW disposal. According to the Low-Level Radioactive Waste Policy Act of 1980 (LLRWPA), “[i]t is the policy of the Federal Government that . . . each State is responsible for providing for the availability of capacity either within or outside the State for the disposal of low-level radioactive waste generated within its borders [and] low-level radioactive waste can be most safely and efficiently managed on a regional basis.”<sup>42</sup> As such, the LLRWPA granted the states permission to enter into compacts for the accomplishment of these goals,<sup>43</sup> eventually permitting the states to exclude waste from outside of the compact regions.<sup>44</sup>

By 1985 it was clear more action was needed as no new sites were established and no compacts were ratified by Congress. Thus, “[a]s they had with the 1980 Act, the states themselves formulated a compromise”<sup>45</sup> largely meant to prevent the federal

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<sup>39</sup> U.S. NUCLEAR REGULATORY COMM’N NRC, *supra* note 371, at 25-26.

<sup>40</sup> Atomic Energy Act of 1954, 42 U.S.C. §§ 2011-2297h-13Pub. L. 83-703, § 274 (1954).

<sup>41</sup> MFDS RECORD, *supra* note 12 at 11.

<sup>42</sup> Low-Level Radioactive Waste Policy Act, LLRWPA Pub. L. No. 961-573, § 4, 42 U.S.C. § 2021d(a)(1)(A), (B), 94 Stat. 3347 (1980).

<sup>43</sup> LLRWPA 42 U.S.C. § 2021d§ 4(a)(2)(A).

<sup>44</sup> LLRWPA 42 U.S.C. § 2021d§ 4(a)(2)(B).

<sup>45</sup> Berkovitz, *supra* note 22, at 447 (citing to *Low-Level Radioactive Waste Disposal: Joint Hearing Before the Subcomm. on Energy Research and Development of the Senate Comm. on Energy and Natural Resources and the Subcomm. on Nuclear Regulation of the Senate Comm. on Env’t and Public Works on S. 1517 and S. 1578, 99th Cong., 1st Sess. 542, 249-251 (1985) at 249-251 (statement of Gov. Booth Gardner of Wash, State of Washington)*).

government from preempting their control over waste disposal, a field traditionally left to the states in all of its forms.<sup>46</sup> The compromise resulted in the Low-Level Radioactive Waste Policy Amendments Act of 1985 (LLRWPA).

The LLRWPA established a complex structure of deadlines for the development of new disposal facilities. Incentives to meet these deadlines were given primarily in three ways. First, states were gradually allowed to limit access to existing sites, or new sites established “under a compact,” for waste generators outside their compact regions.<sup>47</sup> Second, the government provided a series of monetary incentives for meeting each of the deadlines, funded by the states’ surcharges for disposal at existing sites.<sup>48</sup> Finally, the 1985 Act contained a “take-title provision,” where states failing to meet the final deadline to provide for waste disposal,

upon the request of the generator or owner of the waste, shall take title to the waste, shall be obligated to take possession of the waste, and shall be liable for all damages directly or indirectly incurred by such generator or owner as a consequence of the failure of the State to take possession of the waste . . . .<sup>49</sup>

The Supreme Court struck down the take-title provision in 1992’s *New York v. United States* as either “lying outside Congress’ enumerated powers, or as infringing upon the core of state sovereignty reserved by the Tenth Amendment.”<sup>50</sup> The Court specifically denied that the states’ agreement to the Act was sufficient to make it constitutional.<sup>51</sup> It has been speculated by both jurists<sup>52</sup> and scholars<sup>53</sup> that “[t]he

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<sup>46</sup> See, e.g., *United Haulers Assn., Inc. v. Oneida-Herkimer Solid Waste Management Mgmt. Authority*, 550 U.S. 330, 334 (2007).

<sup>47</sup> Low-Level Radioactive Waste Policy Amendments Act of 1985, 42 U.S.C. LLRWPA § 2021e5(b), & (e) (2006).

<sup>48</sup> 42 U.S.C. LLRWPA § 2021e5(d), & (e).

<sup>49</sup> 42 U.S.C. LLRWPA § 2021e5(d)(2)(C)(i).

<sup>50</sup> *New York v. United States*, 505 U.S. 144, at 177 (1992).

<sup>51</sup> *Id.* at 181-183.

<sup>52</sup> See *EnergySolutions, LLC v. Northwest Interstate Compact on Low-Level Radioactive Waste Mgmt*, No. 2:08-CV-352 TS, 2009 U.S. Dist. LEXIS 41209, at \*5 (D. Utah May 15, 2009).

<sup>53</sup> See Emma Garrison, *Entergy Arkansas, Inc. v. Nebraska: Does a Radioactive Waste Compact Nuke Sovereign Immunity?*, 30 *ECOLOGY L.Q.* 449, 454; Julius Pohlenz, Note, *New York v. United States—Invalidation of the Take Title Provision of the Low-Level*

Court's decision to sever the 'take title' provision from the rest of the Act has left the states with a diminished set of incentives to encourage development of LLRW disposal capacities."<sup>54</sup>

Currently, there are only two waste disposal facilities in operation that accept all three classes of waste: Barnwell, South Carolina and Richland, Washington.<sup>55</sup> Additionally, a facility opened in Clive, Utah in 1990, which disposes only of class A waste.<sup>56</sup> While the Clive site opened after the LLRWPA, government publications frequently make reference to the fact that no site has opened since the LLRWPA.<sup>57</sup> The most likely reason for this is that the Clive site was developed primarily to accept naturally occurring radioactive material (NORM), not LLRW, and began accepting limited amounts of class A LLRW (the least radioactive) in 1991 when its license was amended.<sup>58</sup>

The Barnwell facility is reaching its capacity, according to an already five-year old Government Accountability Office (GAO) report.<sup>59</sup> The Richland facility is the only site accepting all three classes of waste that has adequate space for the foreseeable future<sup>60</sup> But, because it is a regional disposal facility it has been unable to accept waste from outside the Northwest or Rocky Mountain compacts since 1993.<sup>61</sup> The Clive

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*Radioactive Waste Policy Amendments Act of 1985 and its consequences*, 7 TUL. ENVTL. L.J. 221 (1993).

<sup>54</sup> Rabe, et al., *supra* note 3125, at 88.

<sup>55</sup> U. S. Nuclear Regulatory Comm'n, *Locations of Low-Level Waste Disposal Facilities* (March 24, 2009), <http://www.nrc.gov/waste/llw-disposal/licensing/locations.html>.

<sup>56</sup> *EnergySolutions*, 2009 U.S. Dist. LEXIS 41209, at \*8 (D. Utah May 15, 2009), *supra* n. 34.

<sup>57</sup> See, e.g., *Low-Level Waste Disposal* N.R.C., *supra* note 21; U.S. GOVERNMENT ACCOUNTABILITY OFFICE, *LOW LEVEL RADIOACTIVE WASTE: FUTURE WASTE COLUMES AND DISPOSAL OPTIONS ARE UNCERTAIN*, GAO-04-1097T, 4 (September 2004) [(hereinafter GAO 12)].

<sup>58</sup> U.S. GOVERNMENT ACCOUNTABILITY OFFICE GAO, *LOW-LEVEL RADIOACTIVE WASTE: DISPOSAL AVAILABILITY ADEQUATE IN THE SHORT TERM, BUT OVERSIGHT NEEDED TO IDENTIFY ANY FUTURE SHORTFALLS*, GAO-04-604, at 28-29 (June 2004) [(hereinafter GAO 21)].

<sup>59</sup> *GAO 1*, *supra* note 57 at 28-2Id.9

<sup>60</sup> *Id.* at 35-37.

<sup>61</sup> *Id.*

facility was recently determined not to be a “regional disposal facility” by a federal court decision, and so accepts waste from all states,<sup>62</sup> but still only accepts class A waste.<sup>63</sup>

New waste facilities must first be licensed by either the NRC or its state if such state has the delegated authority.<sup>64</sup> Since the Court’s decision in *New York*, no new LLRW disposal facilities have been established.<sup>65</sup> Texas, a non-compact state, is the only state with a newly licensed facility, but it is far from fully-active.<sup>66</sup>

## I. ANALYSIS

Since the LLRWPA was passed it has failed in almost every sense possible. No new development of regional disposal facilities has resulted for any of the types of waste delegated to the states.<sup>67</sup> Meanwhile, current facilities are closing their doors to accepting to waste outside their regions.<sup>68</sup>

### A. NATIONAL LEVEL FAILURES

#### 1. TRACKING WASTE

According to several GAO reports there are numerous failures on the part of the federal government in its management of LLRW.<sup>69</sup> There is no centralized tracking of LLRW from generation to disposal, leading to the “orphaning” of some waste..<sup>70</sup>

<sup>62</sup> *EnergySolutions*, 2009 U.S. Dist. LEXIS 41209, LLC. v. Northwest Interstate Compact on Low-Level Radioactive Waste Management, No. 2:08-CV-352 TS, 2009 U.S. Dist. LEXIS 41209 (D. Utah May 15, 2009), *supra* n.34.

<sup>63</sup> GAO 21, *supra* note 57, at 33.

<sup>64</sup> *Low-Level Waste Disposal*NRC, *supra* note 21.

<sup>65</sup> *Id.*

<sup>66</sup> Geoff Folsom, *WCS Sshows off Pprojects*, OA ODESSA AMERICAN ONLINE, (October 28, 2009, 1:38PM), available at <http://www.oaoa.com/news/high-38601-county-wcs.html>.

<sup>67</sup> GAO 12, *supra* note 56.

<sup>68</sup> U.S. GOV’ERNMENT ACCOUNTABILITY OFFICEGAO, GAO-07-221, LOW-LEVEL RADIOACTIVE WASTE MANAGEMENT: APPROACHES USED BY FOREIGN COUNTRIES MAY PROVIDE USEFUL LESSONS FOR MANAGING U.S. RADIOACTIVE WASTE, 1 (2007) [hereinafter GAO 3].

<sup>69</sup> *Id.*; GAO 11, *supra* note 567; GAO 22, *supra* note 576; GAO 3, *supra* note 68. *Low-Level Radioactive Waste Management: Approaches Used by Foreign Countries May Provide Useful lessons for Managing U.S. Radioactive Waste*, GAO-07-221 (2007) (hereinafter GAO 3).

<sup>70</sup> GAO 3, *supra* note 689, at 3.

Additionally, the small amount of existing data has proven largely unreliable.<sup>71</sup> LLRW data collected by the Department of Energy (DOE) contains inaccuracies and does not contain all data on all disposed waste or waste that is produced and stored on site.<sup>72</sup> There is also no time limit for on-site storage.<sup>73</sup>

## 2. FINANCIAL ACCOUNTABILITY

Due to the lack of any financial accountability, several generators or users of LLRW have gone bankrupt, leaving the federal government fiscally responsible for their waste.<sup>74</sup> While states may share some of the liability under Superfund, neither of these financial solutions lead to liability upon the companies running the disposal facilities nor the actual producers of the waste, and thus create little incentive to make sure the sites are properly developed, maintained, and monitored.

Even in the case where the Superfund has been utilized, the federal government is left as the main funder of cleanup. In the case of Maxey Flats, where the federal government was not even included in the steering committee's decision on how best to clean up, it was left with the largest portion of the costs at several stages.<sup>75</sup>

## 3. WASTE NOT LEFT TO THE STATES

National regulation of LLRW has also failed to live up to the design of the LLRWPA. For example, while the DOE is still studying the feasibility of disposal options for greater-than-class C (GTCC) waste, there is still no long-term storage in place for such waste.<sup>76</sup>

The DOE is responsible for waste classified as GTCC but has not yet devised an implementation plan despite increasing pressure.<sup>77</sup> GTCC waste disposal was delegated to the DOE under the LLRWPA due to the heightened danger resulting from higher radioactivity, and subsequently because of the possibility of its use in "dirty

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<sup>71</sup> *Id.*; GAO 1, *supra* note 56,2 at 22.

<sup>72</sup> GAO 3 *supra* note 68, at 3.

<sup>73</sup> *Id.* at 4.

<sup>74</sup> *Id.*

<sup>75</sup> MFDS RECORD, *supra* note 12, at 15.

<sup>76</sup> GAO 3, *supra* note 68, at 2-3*Id.*, 3. GTCC waste still falls within the LLRWPA, but was separated out and left to the DOE.

<sup>77</sup> GAO 1, *supra* note 56, at 22.

bombs.”<sup>78</sup> While September 11th led to greater concern over GTCC, the DOE has done little more than collect and store it centrally.<sup>79</sup> Although concern for misuse of GTCC is high, funding is still lacking, preventing a long-term solution.<sup>80</sup> This type of waste presents the greatest risk, both in terms of safety and vulnerability to theft for adverse purposes.<sup>81</sup>

## B. THE FAILURE OF FEDERALISM

### 1. NIMBY AND THE ACTUAL SAFETY CONCERNS INVOLVED IN LLRW DISPOSAL

As with any waste disposal facility or other unpopular siting issues, one of the primary hindrances to development is what has been popularly termed “Not in My Back Yard,” or NIMBY syndrome. NIMBY, as the name suggests, is a common event in the siting of needed facilities that present localized risks.<sup>82</sup> While the need for such sites is generally recognized, citizens in sited localities are often opposed to having them located nearby, or “in my back yard.”<sup>83</sup>

While much planning and money have been expended to create new regional LLRW disposal facilities,<sup>84</sup> only one new facility is close to completion.<sup>85</sup> Planned facilities in Andrews County, Texas,<sup>86</sup> California,<sup>87</sup> Nebraska,<sup>88</sup> North Carolina,<sup>89</sup> and

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<sup>78</sup> *Id.* GAO 3, *supra* note 68, at 21.

<sup>79</sup> *Id.* at 21.

<sup>80</sup> *Id.* at 24.

<sup>81</sup> *Id.*

<sup>82</sup> See, e.g., Rabe et al., *supra* note 25; Anna Vari, *Public Perceptions About Equity & Fairness: Siting Low-Level Radioactive Waste Disposal Facilities in the U.S. and Hungary*, 7 RISK: HEALTH, SAFETY & ENV'T 181 (1996).

<sup>83</sup> See BARRY G. RABE, *BEYOND NIMBY/NIMBY: HAZARDOUS WASTE SITING IN CANADA AND THE UNITED STATES*, (1994) for an in-depth discussion of NIMBY and its causes and effects.

<sup>84</sup> GAO 3, *supra* note 68, at 20-21. Approximately \$1 billion has been spent on disposal development efforts as of 2004.

<sup>85</sup> Folsom, *supra* note 65.

<sup>86</sup> *Id.*

<sup>87</sup> Newberry, *supra* note 14, at 58-59.

<sup>88</sup> See *Entergy Ark., Inc. v. Nebraska*, 358 F.3d 528 (8th Cir. 2004); Garrison, *supra* note 53.

<sup>89</sup> Dana Beylerle, *Low-Level Radioactive Waste Lawsuit Headed to Supreme Court*, GADSEN TIMES, (Oct. 10, 2009), (available at <http://www.gadsdentimes.com/article/20091010/NEWS/910109984/1017>)

most famously New York,<sup>90</sup> have failed or been significantly delayed due to opposition from the public and local political leaders.<sup>91</sup> These failures can largely be explained by public opposition to the choice of location of facilities and to the failure of the accountability of public figures under the LLRWPA.

The delays surrounding the New York facility are representative of the problems faced by its counterparts. The counties chosen for development by New York objected to the possible siting of a disposal facility in their area. The state's political leaders, rather than taking responsibility for their obligations under the Act, brought suit against the enforcement mechanisms in the Act. The state actions were eventually dealt with by the Supreme Court in *New York v. United States*, a 6-3 decision, striking down portions of the enforcement mechanisms of the Act.<sup>92</sup>

The majority in *New York* claimed that accountability was diminished under the Act:

[W]here the Federal Government directs the States to regulate, it may be state officials who will bear the brunt of public disapproval, while the federal officials who devised the regulatory program may remain insulated from the electoral ramifications of their decision. Accountability is thus diminished when, due to federal coercion, elected state officials cannot regulate in accordance with the views of the local electorate in matters not pre-empted by federal regulation.

In fact, accountability has not been augmented by this judicial intervention. Currently no authority is directly politically responsible for the now nearly thirty-years of failure to find a solution to the problem of disposal.

Public concern and a lack of a solution have only aggravated the problem. While concerns over the issue are not completely unfounded, they are largely exaggerated. Radiation from LLRW, even at failed sites, is for the most part no greater than that from background radiation.<sup>93</sup> In addition, the vast volume of LLRW is class A, the least

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<sup>90</sup> See *New York v. United States*, 505 U.S. 144 (1992).

<sup>91</sup> Only the facility in Texas is still planned, but is facing continuing legal challenges. Folsom, *supra* note 685.

<sup>92</sup> *New York*, 505 U.S. at 144;. see *supra* text accompanying notes 55-59.

<sup>93</sup> See Contreras, *supra*, note 613.

radioactive class.<sup>94</sup> However, due to public perceptions of radioactivity in general, the risks are hugely exaggerated in public perception as well as in the media.<sup>95</sup>

The public concern over the safety of LLRW has led to a rather ironic result. Because communities refuse to allow siting of disposal facilities in their communities, the waste is often stored in less-secure , short-term storage.<sup>96</sup> The proliferation of short-term storage has led to a significant decrease in the security of the waste,<sup>97</sup> as well as an increase in the likelihood of an accident in one of the many sites where the waste is held in storage.<sup>98</sup>

## 2. REFUSAL OF COMPACT STATES TO ACCEPT SITING

Courts have largely been left without effective tools to enforce obligations under the Acts since the *New York* decision. While courts have found creative ways to punish states for failing to live up to their own promises, this has not yet led to actual results. The decision in *Entergy Arkansas. v. Nebraska* is exemplary; the Eighth Circuit found Nebraska liable for breaching its good faith obligations under the Central Interstate Compact in an amount exceeding \$151 million,<sup>99</sup> but the court still decided against enforcing an obligation against Nebraska to actually host a site.<sup>100</sup> As one scholar noted, “[t]he immediate political gains of denying the applications may outweigh, in the decisionmakers’ minds, potential future monetary judgments,” and it is unlikely that any incentives or punishments will eliminate resistance.<sup>101</sup>

The future of this type of sanction may ultimately be decided by continuing litigation in the Supreme Court involving the Southeast Interstate Low-Level Radioactive Waste Management Compact.<sup>102</sup> Alabama , and the other members of the Southeast

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<sup>94</sup> *Id.*

<sup>95</sup> *Id.*

<sup>96</sup> GAO 1, *supra* note 56-04-1097T; , GAO 3, *supra* note 68-07-221.

<sup>97</sup> GAO 1, *supra* note 56.*Id.*

<sup>98</sup> Pohlenz, *supra* note 53.

<sup>99</sup> *Entergy Arkansas., Inc. v. Nebraska.*, 358 F.3d 528, 553 & 555 (8th Cir. 2004).

<sup>100</sup> *Id.* at 554.

<sup>101</sup> Garrison, *supra* note 53.

<sup>102</sup> <http://origin.www.supremecourtus.gov/> (last visited December 28, 2009) (dDocket information is available by searching “Alabama v. North Carolina”) at the Supreme Court’s page:

Compact, sued North Carolina for \$80 million plus interest and fees for breach of its hosting obligations under that compact.<sup>103</sup> Under the original compact, South Carolina's Barnwell facility was to serve as the initial site for the region,<sup>104</sup> however, South Carolina withdrew in 1995 as the process for licensing a new facility in North Carolina drug on.<sup>105</sup> The commission had selected North Carolina as the next host state in September 1986.<sup>106</sup> Continued delays and cost run-ups eventually led to an impasse, with neither the Compact nor North Carolina willing to put any more money into the licensing process, after \$80 million spent by the Compact, and \$34 spent by North Carolina by mid-1999.<sup>107</sup> The Compact adopted a sanctions resolution against North Carolina to recover the money it had put in, and North Carolina withdrew from the Compact.<sup>108</sup>

The Court's most recent statement on the litigation denied any liability on North Carolina's part arising out of the Compact itself,<sup>109</sup> but left open the possibility of claims on an equity basis.<sup>110</sup> In denying claims based on the terms of the Compact, the Court acknowledged that such compacts constituted contracts, but did not read into it an implied duty of good faith and fair dealing:<sup>111</sup>

We have never held that an interstate compact approved by Congress includes an implied duty of good faith and fair dealing. Of course "[e]very contract imposes upon each party a duty of good faith and fair dealing in its performance and enforcement." Restatement § 205. But an interstate compact is not just a contract; it is a federal statute enacted by Congress. If courts were authorized to add a fairness requirement to the

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<http://origin.www.supremecourtus.gov/> (last accessed December 28, 2009) 130 S. Ct. 2296 (2010).

<sup>103</sup> 130 S. Ct. at 2304-05, Beyerle, *supra* note. 55.

<sup>104</sup> BRADFORD R. CLARK, No. 132, ORIGINAL, PRELIMINARY REPORT OF THE SPECIAL MASTER No. 132 2 (2009), available at:

[http://www.supremecourtus.gov/SpecMastRpt/Orig132\\_prelim.pdf](http://www.supremecourtus.gov/SpecMastRpt/Orig132_prelim.pdf).

<sup>105</sup> *Id.* at 3. 130 S. Ct. at 2303-04, CLARK, *supra* note 104, at 3.

<sup>106</sup> 130 S. Ct. at 2303.

<sup>107</sup> *Id.* at 2304.

<sup>108</sup> *Id.*

<sup>109</sup> See part II of the Court's decision, *Id.* 2306-2313.

<sup>110</sup> See part III of the Court's decision, specifically III.A., *Id.* at 2313-14.

<sup>111</sup> *Id.* at 2312. See also RESTATEMENT (SECOND) OF CONTRACTS § 205 on the duty of good faith and fair dealing in contracts generally.

implementation of federal statutes, judges would be potent lawmakers indeed. We do not -- we cannot -- add provisions to a federal statute . . . . We are especially reluctant to read absent terms into an interstate compact given the federalism and separation-of-powers concerns that would arise were we to rewrite an agreement among sovereign States, to which the political branches consented. As we have said before, we will not “order relief inconsistent with [the] express terms” of a compact, “no matter what the equities of the circumstances might otherwise invite.” *New Jersey v. New York*, 523 U.S., at 811, 118 S. Ct. 1726 (quoting *Texas v. New Mexico*, *supra*, at 564, 103 S. Ct. 2558).<sup>112</sup>

Significantly, the Court repeatedly noted that the Compact at issue lacked specific provisions granting authority for financial sanctions,<sup>113</sup> or giving the Commission created by the Compact sole authority over disputes,<sup>114</sup> among other provisions, but that “[o]ther contemporaneously enacted interstate compacts” did contain such provisions.<sup>115</sup> The Court seemed to say, at least implicitly, that where explicit provisions for financial sanctions, exclusive authority to settle disputes, or placing sole responsibility for development of facilities on host states exist, they will be enforceable.

### 3. ENERGY SOLUTIONS

Another case involving the LLRWPA/A was recently decided in the Tenth Circuit. In that case the administrator of the disposal facility in Clive, Utah, (EnergySolutions, LLC) appealed a decision by the Northwest Compact and Utah to prohibit it from importing LLRW from Italy for disposal at the site.<sup>116</sup> The district court determined that the facility at Clive, Utah did not fall under the definition of a “regional disposal facility,” and therefore, pursuant to the Act and Dormant Commerce Clause jurisprudence, the Northwest Compact did not have the power to exclude waste from outside the compact region.<sup>117</sup>

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<sup>112</sup> 130 S. Ct. at 2312-13.

<sup>113</sup> *Id.* at 2306-07.

<sup>114</sup> *Id.* at 2307-08.

<sup>115</sup> *Id.* throughout Part II.

<sup>116</sup> *EnergySolutions v. Utah*, 625 F.3d 1261, 1265 (2010); *EnergySolutions v. Northwest Interstate Compact on Low-Level Radioactive Waste Mgmt*, No. 2:08-CV-352 TS, 2009 U.S. Dist. LEXIS 41209, slip op at \*18 (D. Utah May 15, 2009). *Id.*, at \*18.

<sup>117</sup> *EnergySolutions*, 625 F.3d at 1270; No. 2:08-CV-352 *Id.* at \*21-\*47.

Importantly, as it tends to be exemplary of judicial reasoning with regard to the LLRWPA/A,<sup>118</sup> the district court stated that “[i]t is undisputed that the primary purpose of the Acts was to assure the continued provision of LLRW disposal capacity, to encourage an increase in the total disposal capacity, and to spread the burden of providing disposal capacity more broadly.”<sup>119</sup> In neglecting exactly this well-established policy of the act,<sup>120</sup> the district court itself notes that “[i]t is not improbable, then, that denying compacts the right to exclude out-of-state waste would lead to states losing confidence in the compact system created by the Acts, and the country returning to the circumstances which led to the need for the Acts.”<sup>121</sup>

In giving this policy absolutely no weight in its decision, the court’s interpretation, if accepted, may have rung the death knell of the current regulatory structure. Thankfully, in its review of the case, the Tenth Circuit looked beyond the text of the LLRWPA itself, and gave more weight to the Congressional policy of developing disposal facilities, with primary responsibility on a state and regional basis. The court stated that EnergySolutions, and the District Court

misapprehend[ ] the potential consequences of concluding that compacts are powerless to exclude out-of-region waste (except in the case of regional disposal facilities, as defined by the 1985 Act). Congress had in mind not only the creation of new disposal capacity when it passed the 1985 Act, but also the ability of states to prevent themselves from becoming dumping grounds for the nation’s LLRW . . . . Utah’s license is instructive--from what the record indicates, it is unlikely that Utah would have agreed to issue the necessary licenses if it was powerless to control the flow of waste past its borders. Why would any other state behave differently in the future? Indeed, were the states to lose exclusionary

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<sup>118</sup> See, e.g., *New York v. United States*, 505 U.S. 144 (1992), *supra*; *Entergy Arkansas, Inc. v. Nebraska*, 358 F.3d 528 (8th Cir. 2004), *Inc.*, *supra*.

<sup>119</sup> *EnergySolutions*, 2009 U.S. Dist. LEXIS 41209, *Id.* at \*45.

<sup>120</sup> See also *New York*, 505 U.S. at 150-51 (“Congress declared a federal policy of holding each State ‘responsible for providing for the availability of capacity either within or outside the State for the disposal of low-level radioactive waste generated within its borders,’ and found that such waste could be disposed of ‘most safely and efficiently . . . on a regional basis.’”)

<sup>121</sup> *EnergySolutions, LLC. v. Northwest Interstate Compact on Low-Level Radioactive Waste Management*, No. 2:08-CV-352 TS, 2009 U.S. Dist. LEXIS 41209 slip op at \*45 (D. Utah May 15, 2009).

authority, they would refuse to license facilities in the first place or to re-license them after the fact with necessary limitations. Such an interpretation could actually hasten the closing of the Clive Facility, and enhance the reluctance on the part of other states to permit the construction of new disposal sites.<sup>122</sup>

Furthermore, the court acknowledged “a basic trend” which had been occurring in siting of LLRW disposal facilities:

a state is recognized as the "host state" for the compact; the designated host state begins the process of locating an acceptable site for LLRW disposal; political obstacles prevent the host state from making progress toward this goal; and finally, the host state, unable to comply with its obligations under the compact, withdraws or is removed by the other member states.<sup>123</sup>

The court also embraced the contract logic of the Supreme Court’s decision in *Alabama v. North Carolina*:

we treat the Northwest Compact like any other federal statute, and interpret it accordingly. And we must also bear in mind that “a compact when approved by Congress becomes a law of the United States, but a Compact is, after all, a contract. It remains a legal document that must be construed and applied in accordance with its terms” . . . . Congress extended broad authority to member states . . . . This interpretation is reinforced by a recent Supreme Court case reviewing a regional LLRW compact.<sup>124</sup>

## II. RESOLUTION

There are several ways to increase the effectiveness of the LLRWPA/A without wholesale rewriting. The first two solutions in this section could be enacted quickly; the third involves long-term reform of compacts and interpretation of the Acts.

### A. REPORTING AND RESPONSIBILITY

The first, and easiest suggestion, is to follow through with the GAO recommendations and increase waste tracking. The GAO recommendations include:

- A.inventory all types of waste by volume, location and generator type;
- B.inventory the possession and status of use of sealed radiological sources;

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<sup>122</sup> *Energy Solutions*, 625 F3d at 1278.

<sup>123</sup> *Id.* at 1268.

<sup>124</sup> *Id.* at 1271 (citing *Alabama v. North Carolina*, 130 S. Ct. 2295 (2010); and *Texas v. New Mexico*, 482 U.S. 124, 128 (1987), also heavily relied on by the Supreme Court in *Alabama*).

C. designate a national authority to manage the radioactive waste inventory databases;

D. take steps to verify the completeness and accuracy of these databases;

E. require waste generators to submit waste inventory information to the national authority at least once a year; and

F. use the radioactive waste inventory databases to forecast future waste volumes, and to inform the public on volumes of waste at central storage and disposal facilities.<sup>125</sup>

Responsibility of reporting the waste should be put to the producers of the waste, with regulatory oversight by the NRC or DOE. Models for such a system abound. One example is the current method of tracking controlled substances in the United States. The Drug Enforcement Administration (DEA) maintains a comprehensive automated database that tracks the flow of controlled substances from their point of manufacture, to commercial distribution points, and to points of sale.<sup>126</sup> Besides providing for additional security of LLRW, in the case of an accident or site failure such information could easily insure that those ultimately responsible for the waste could be found and held responsible under Superfund.<sup>127</sup>

## B. EDUCATION

While LLRW is a danger to both human health and the environment, educating the public about the limited dangers and the lack of disposal options may help develop the political will to find solutions. As mentioned before, with no long-term plan for disposal, there is no national contingency plan, "other than allowing LLRW storage at

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<sup>125</sup> GAO 3, *supra* note 68, at 36-37.

<sup>126</sup> *DEA Major Information Systems: Automation of Reports and Consolidated Orders System*, DRUG ENFORCEMENT ADMINISTRATION/EA, DEA Major Information Systems: Automation of Reports and Consolidated Orders System <http://www.justice.gov/dea/foia/arco-2.html> (last modified Dec. 1998), <http://www.justice.gov/dea/foia/arco-2.html> (1998).

<sup>127</sup> Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. §§ 9601-9675 (2006) Pub. L. 96-510.

waste generator sites,”<sup>128</sup> where it “will begin to accumulate in a thousand closets and storerooms across the nation.”<sup>129</sup>

In addition, public participation in siting processes has largely led to greater success in finding possible solutions.<sup>130</sup> “In California, for example, the company managing the project [to establish a new disposal facility] achieved a considerable measure of local support for the development by directly involving the public and a wide range of interest groups in siting decisions.”<sup>131</sup> Additionally, community involvement at the Maxey Flats site helped lead to several immediate solutions (such as safe sources of drinking water).<sup>132</sup>

### C. A NATIONAL SOLUTION

Considering the *New York* decision, as well as the cases of Nebraska, North Carolina, and Utah, it had looked as though it may ultimately be time to start considering abandoning the LLRWPA and developing a new national solution. The GAO recommended nationalizing and centralizing disposal. Indeed, Justice O’Connor suggested such a solution would be more acceptable to the Court.<sup>133</sup> However, complete abandonment of the LLRWPA’s policy, stating that the problem is best dealt with on a regional basis, may not be completely necessary in view of the recent most recent decisions in the Tenth Circuit, and the Supreme Court itself. With the guidance of these recent judicial decisions it may be possible to develop a solution that does not leave so much discretion to unwilling states, but instead encourages cooperative federalism, and simply preempts unwilling states where necessary.

The Supreme Court clearly left open the possibility that strongly-worded state compacts would be given meaning,<sup>134</sup> thus giving the regional compacts real teeth for the first time. Thus, if compacts are well thought-out, and written to have strong sanctions for failures of member states,<sup>135</sup> and real power to the compact and member

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<sup>128</sup> *Id.* at 38.

<sup>129</sup> Newberry, *supra* note 14, at 43.

<sup>130</sup> *See, e.g. id.*

<sup>131</sup> *Id.*

<sup>132</sup> MFDS RECORD, *supra* note 12, at 16-19.

<sup>133</sup> *New York v. U.S.*, 505 U.S. 144, 167-68 (1992).

<sup>134</sup> *Alabama v. North Carolina*, 130 S. Ct. 2295 (2010).

<sup>135</sup> *See Id.*

states to actually exclude waste from outside their region,<sup>136</sup> each region may be left with no option but to develop storage facilities, and the actual power to see that it happens. For some regional compacts this may necessitate a review of the original compact language, and some strengthening. The Southeast Compact, for instance, may review its contractual language in the wake of the Court's decision in *Alabama v. North Carolina*,<sup>137</sup> and decide to rework it, with the approval of Congress.

### III. CONCLUSION

Since the passage of the Low-Level Radioactive Waste Policy Act thirty years ago, a coherent policy for the disposal of low-level waste has yet to precipitate, let alone produce actual tangible results. As the Act faces continuing disputes in court, and protests from sited communities and others, waste continues to “accumulate in a thousand closets and storerooms across the nation,”<sup>138</sup> including the most dangerous of those wastes, which still haven't found any permanent disposal site. It should have become clear long ago that a comprehensive new national policy, including provisions for tracking and reporting, as well as more comprehensive community education and participation, is long past overdue.

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<sup>136</sup> *EnergySolutions v. Utah*, 625 F.3d 1261 (10th Cir. 2010).

<sup>137</sup> 130. S. Ct. 2295.

<sup>138</sup> Newberry, *supra* note 14, at 43.