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Along with the increased use in the 1970s and 1980s of radioactive substances in energy generation, medical treatment, and research came the increased need to dispose of the hazardous low-level radioactive waste ("LLRW") produced by these industries. However, states were fearful of opening or maintaining LLRW disposal sites because of Commerce Clause restrictions preventing states from keeping out-of-state waste from being disposed of at facilities within their borders. States reacted cautiously, allowing for the creation of very few disposal facilities, to prevent themselves from becoming dumping grounds for the nation’s LLRW. As a result, only three LLRW disposal sites existed in the 1970s.

The Low-Level Radioactive Waste Policy Amendments Act of 1985 ("1985 Act") was Congress’s improvement upon previous ineffective legislation concerning states’ desires to avoid becoming dumping grounds for other states’ LLRW. The 1985 Act, and the simultaneously enacted Omnibus Low-Level Radioactive Waste Interstate Compact Consent Act ("Consent Act"), allowed states to establish congressionally approved multi-state compacts to bypass any Commerce
Clause restrictions, permitting the states to discriminate between LLRW produced in the compact regions and LLRW produced outside the compact regions. However, states remain concerned about the environmental impact of LLRW disposal, and twenty-five years later the nation still has only three active LLRW disposal sites.4

EnergySolutions, LLC v. Utah, and the context under which it was brought, illustrate states’ and Congress’s desires to exclude out-of-region and out-of-country LLRW from their disposal sites. This case note addresses the impact of EnergySolutions on the disposal of both domestically and internationally generated LLRW. In particular, this note focuses on how Congress’s attempts to prevent the import of internationally generated LLRW and how the lack of a centralized system for managing American LLRW has frustrated disposal efforts and the industries that generate LLRW. In addition, this case note analyses the effect of EnergySolutions in light of the recent Japanese nuclear crisis. Ultimately, it proposes a way out, borrowing from methods used by other countries in managing their LLRW disposal needs in a way that will assist policymakers in dealing with the nation’s current and future LLRW disposal needs.

II. FACTS AND HOLDING

EnergySolutions, LLC, is the owner and operator of an LLRW disposal facility in Clive, Utah.5 Utah is a member state of the Northwest Interstate Compact on Low-Level Radioactive Waste Management (“Northwest Compact”).6 In 2007, EnergySolutions entered into an agreement to import and dispose of LLRW from decommissioned nuclear power plants located in Italy.7 As part of this plan, EnergySolutions agreed to dispose of the resulting LLRW at its Clive facility.8 The Northwest Low-Level Waste Compact Committee (“Northwest Committee”) voted unanimously to deny EnergySolutions permission to

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4 See infra notes 56–60 and accompanying text.
5 EnergySolutions, 625 F.3d at 1265.
6 Id.
7 Id.
8 See id.
import the Italian LLRW. EnergySolutions subsequently sued the Northwest Compact, claiming: (1) the Northwest Compact did not have statutory authority over the Clive facility; (2) federal law preempted the decision to exclude foreign-generated LLRW; and (3) the decision to exclude foreign-generated LLRW violated the Dormant Commerce Clause of the United States Constitution.

The United States District Court for the District of Utah granted summary judgment in favor of EnergySolutions on the first claim and declined to rule on the second two claims because the first ruling rendered the other claims moot. The district court concluded the Northwest Compact, as well as other LLRW interstate compacts approved by Congress through the Consent Act, had only the authority explicitly granted to them in the Low-Level Radioactive Waste Policy Act of 1980 ("1980 Act") and the subsequent 1985 Act. Because the district court concluded the Clive facility was not a "regional disposal facility," as defined in the 1985 Act, it held the Northwest Compact did not have authority to exclude foreign-generated waste from the Clive facility. The Northwest Compact, along with the state of Utah and the Rocky Mountain Low-Level Radioactive Waste Compact ("Rocky Mountain Compact") as intervening defendants, appealed.

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9 Id. at 1270. The Northwest Committee was responsible for approving foreign-generated waste disposal at facilities located in the compact area. See Omnibus Low-Level Radioactive Waste Interstate Compact Consent Act, Pub. L. No. 99-240, 99 Stat. 1842 (1986) ("Consent Act") (codified at 42 U.S.C. § 2021d). The Northwest Committee included one official from each member state and required a vote of two-thirds of all members, including the member state in which the facility was located, to accept foreign LLRW. Id.

10 EnergySolutions, 625 F.3d at 1270.


12 Id. at *11. The 1980 and 1985 acts provided states authority to establish interstate compacts to provide for the disposal of LLRW. See id. at *9-10.

13 Id. at *14.


III. LEGAL BACKGROUND

A. Dormant Commerce Clause and Compact Clause

*EnergySolutions* illustrates how Congress uses the authority granted to it under the Compact Clause to permit states to engage in activity normally violative of the Constitution’s Dormant Commerce Clause. The Dormant Commerce Clause is the term used by the Supreme Court to refer to the Commerce Clause’s implied prohibition of state regulation of interstate commerce when Congress has not legislated on the

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15 For the purposes of this note, and to reduce confusion, the document establishing the Northwest Compact’s authority and duties is referred to as the “Northwest Charter” and the entity made up of eight states in the American West is referred to as the “Northwest Compact.” *Nw. Interstate Compact on Low-level Radioactive Waste Mgmt.*, Pub. L. No. 99-240, § 221, 99 Stat. 1842 (1986) (“Northwest Charter”) (codified at 42 U.S.C. § 2021(d)).
16 *EnergySolutions*, 625 F.3d at 1271.
17 Id.
18 Id. at 1273–74.
19 Id. at 1278.
20 Id.
21 U.S. CONST. art. I, § 8, cl. 3.
Generally, the Dormant Commerce Clause prohibits a state from interfering with interstate commerce by discriminating against property originating in another state. This applies even to an item not intrinsically valuable which finds its primary worth in the price one will pay for its disposal. However, the Compact Clause provides a means by which Congress can delegate its lawmaking authority to the states. The Compact Clause permits states to enter into congressionally approved agreements, or “compacts,” which allow states to act in ways normally considered to be an impermissible encroachment on, or interference with the legislative supremacy of Congress.

B. Statutory Authority for LLRW Compacts

Over the past thirty years, Congress has several times focused its attention on the nation’s competing interests in developing LLRW disposal capacity and states’ apprehension to allowing the construction of disposal facilities within their boarders. LLRW is the radioactive byproduct of many important industries and manufacturing processes. Because of its radioactive nature, LLRW is considered hazardous and dangerous. By the end of the 1970s, the United States had just three functioning LLRW disposal sites. Accordingly, policymakers agreed it

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24 Id. at 622–23.
27 EnergySolutions, 625 F.3d at 1265. LLRW is generated from medical, industrial, agricultural, and research applications as well as through the operation and maintenance, and decommissioning of nuclear power plants. GOV’T ACCOUNTABILITY OFFICE, supra note 2, at 4.
28 See U.S. RADIOACTIVE REGULATORY COMM’N, RADIOACTIVE WASTE: PRODUCTION, STORAGE, DISPOSAL 24 (2002), available at http://www.nrc.gov/reading-rm/doc-collections/nuregs/brochures/br0216/br0216r2.pdf. The danger of exposure to LLRW varies widely depending on the types and concentrations of radioactive material contained in the waste. Id. For example, standing next to some types of waste results in no increased danger, while exposure to other types of waste could lead to increased risk of cancer or death. Id.
29 Id. at 26–27.
was essential to encourage states to build more disposal facilities. However, because of restrictions on state protectionism derived from the Constitution’s Dormant Commerce Clause, a state could not prevent waste from entering a disposal site based on the waste’s state of origin. As a result, states were wary of allowing the construction of disposal sites with no way of protecting themselves from becoming dumping grounds for the nation’s LLRW. Acknowledging this challenge, Congress enacted the 1980 Act. This legislation gave states the authority under the Constitution’s Compact Clause to enter into interstate agreements to dispose of LLRW on a regional basis. Congressionally approved compacts would have the force of federal law to exclude LLRW generated outside of the compact region.

The 1980 Act stated that it was the responsibility of each state to provide for the “availability of capacity either within or outside the state for disposal of [LLRW] generated within its borders.” However, the 1980 Act provided no incentives to enter into a compact, nor did it include any penalties for failing to provide the capacity to handle waste. As a result, no new LLRW disposal sites were created, and the only compacts formed were around the three preexisting disposal sites.

Congress addressed the deficiencies of the 1980 Act by enacting the 1985 Act. The statute repealed and replaced the 1980 Act and provided penalties for states failing to provide disposal capacity, as well as

30 EnergySolutions, 625 F.3d at 1266.
31 See supra notes 22–24 and accompanying text.
32 EnergySolutions, 625 F.3d at 1266.
33 Id.
35 EnergySolutions, 625 F.3d at 1266.
36 Id.
38 EnergySolutions, 625 F.3d at 1266.
39 Id.
increased financial incentives for states that created new LLRW disposal sites. The 1985 Act remains in force today.

In January of 1986, Congress passed the Consent Act. The Consent Act provided congressional approval for several interstate compacts, including the Northwest Compact and the Rocky Mountain Compact. The Consent Act declared that the approved compacts were set forth "in furtherance of [the 1980 Act]." The Northwest Compact included eight states: Alaska, Hawaii, Idaho, Montana, Oregon, Utah, Washington, and Wyoming. According to the Northwest Charter's text, the Northwest Compact had "exclusionary authority" to deny facilities located in member states authorization to dispose of LLRW generated outside the compact area. Decisions on allowing the disposal of this sort of LLRW would be made by the Northwest Committee. The Northwest Committee was comprised of one official from each member state and required the agreement of two-thirds of all representing officials, as well as the official representing the member state in which the facility was located, to enter into arrangements for the disposal of out-of-region waste.

C. Low-Level Radioactive Waste Disposal

There are four basic categories of LLRW: Class A, Class B, Class C, and Greater than Class C ("GTCC"). LLRW is generally categorized

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41 See § 102 (allowing for states to collect surcharges from importers on out-of-state waste brought into the state to be disposed of. The surcharges would be deposited in an interest-bearing escrow account and the funds would be distributed to the state in which the waste was disposed if certain "milestones" were achieved); see also EnergySolutions, 625 F.3d at 1266.

42 Id. at 1267; see also Consent Act, supra note 9.

43 EnergySolutions, 625 F.3d at 1267.


45 Id. at § 221.

46 Energy Solutions, 625 F.3d at 1267 (quoting Consent Act § 221).

47 Id.

48 Id. (quoting Consent Act Art. V).

49 See GOV'T ACCOUNTABILITY OFFICE, supra note 2.
based on its concentration of long half-lived radioactive material.\textsuperscript{50} Class A waste typically has the lowest concentrations, Class C the highest, and Class B with concentrations in amounts between the two other categories.\textsuperscript{51} Class A waste makes up the vast majority of LLRW, accounting for about 99\% of all waste.\textsuperscript{52} The Nuclear Regulatory Commission ("NRC") and the states are collectively responsible for supervising the permitting, processing, and disposal of Class A, Class B, and Class C waste,\textsuperscript{53} while the Department of Energy is responsible for the disposal of GTCC waste.\textsuperscript{54} The NRC is responsible for licensing and regulating the safe handling of LLRW.\textsuperscript{55} Moreover, under certain, narrowly defined circumstances, the NRC has the authority to override compact restrictions and allow shipment of LLRW to regional disposal facilities.\textsuperscript{56}

Three LLRW disposal facilities currently exist within the United States.\textsuperscript{57} The first, EnergySolutions’ Clive facility, accepts about 99\% of the Nation’s Class A LLRW.\textsuperscript{58} The second, EnergySolutions’ Barnwell, South Carolina facility, accepts Class A, Class B, and Class C LLRW only from Connecticut, New Jersey and South Carolina.\textsuperscript{59} Prior to mid-2008,

\begin{footnotesize}
\begin{enumerate}
\item A radioactive material’s half-life is the amount of time it takes for the materials radioactive activity to decrease by half. \textsc{U.S. Nuclear Regulatory Comm’n, Radiation Protection and the NRC 5 (2010), available at \url{http://www.nrc.gov/reading-rm/doc-collections/nuregs/brochures/br0322/rl/brO322rl.pdf}.}
\item \textsc{Gov’t Accountability Office, supra note 2, at 1.}
\item \textsc{Maureen Conley, Barnwell’s closure not impacting safe LLW management, staff says, Inside N.R.C., April 27, 2009, at 4.}
\item \textsc{See Gov’t Accountability Office, supra note 2, at 1. The NRC has relinquished to 34 “Agreement States” some of its authority to license and regulate the use and disposal of radioactive materials. Id.}
\item \textsc{Id. Disposal of GTCC LLRW and its supervision by the Department of Energy are beyond the scope of this case note.}
\item \textsc{Id. The NRC allows certain “Agreement States” to license and regulate the disposal of radioactive materials within their borders.}
\item \textsc{Id. at 5.}
\item \textsc{Id. at 1–2.}
\item \textsc{Id. at 3.}
\item \textsc{Elaine Hiruo, LLW Classifications under review as NRC, others consider update, Inside N.R.C., Mar. 15, 2010, at 7.}
\end{enumerate}
\end{footnotesize}
the Barnwell facility accepted waste from across the country, accounting for about 99% of the nation’s Class B and Class C waste.\textsuperscript{60} The last facility, located in Richmond, Washington and operated by US Ecology, accepts Class A, B, and C waste from only the eleven states of the Rocky Mountain and Northwest compacts.\textsuperscript{61}

In light of the limited availability of disposal sites for Class B and C waste, many LLRW generators store their waste on-site.\textsuperscript{62} While the NRC has no rule proscribing a maximum amount of time a generator can store LLRW on-site,\textsuperscript{63} it permits continual on-site storage as long as the waste stays safe and secure.\textsuperscript{64}

IV. INSTITUTIONAL DECISION

The Tenth Circuit found the district court erred in looking only to the 1980 and 1985 acts to determine congressional authorization.\textsuperscript{65} It noted the language of the Consent Act transformed the Northwest Charter “from mere agreement into federal law.”\textsuperscript{66} Specifically, the Tenth Circuit found that the district court erred in three ways: (1) by not beginning its analysis with the Northwest Charter itself;\textsuperscript{67} (2) by finding the Clive facility not covered under the Northwest Compact;\textsuperscript{68} and (3) by finding the 1985 Act to limit the Northwest Charter.\textsuperscript{69}

Circuit Judge Tymkovich began his analysis in \textit{EnergySolutions} by giving an overview of the Dormant Commerce Clause as it applies to the disposal of LLRW.\textsuperscript{70} The opinion stated that while the Dormant Commerce Clause “forbids states from discriminating against articles of commerce based on the article’s state of origin,” states may regulate

\begin{itemize}
  \item \textsuperscript{60} \textit{See Gov’t Accountability Office} supra note 2, at 5.
  \item \textsuperscript{61} \textit{Id.} at 2.
  \item \textsuperscript{62} \textit{See Conley}, supra note 52, at 4.
  \item \textsuperscript{63} \textit{See Gov’t Accountability Office}, supra note 2, at 5.
  \item \textsuperscript{64} \textit{Id.}
  \item \textsuperscript{65} EnergySolutions, LLC v. Utah, 625 F.3d 1261, 1271 (10th Cir. 2010).
  \item \textsuperscript{66} \textit{Id.}
  \item \textsuperscript{67} \textit{See id.}
  \item \textsuperscript{68} \textit{Id.} at 1273.
  \item \textsuperscript{69} \textit{Id.} at 1271.
  \item \textsuperscript{70} \textit{See id.} at 1270.
\end{itemize}
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interstate commerce when Congress has made ""unmistakably clear"" its intent to allow such regulation. The court found this doctrine applies to both valuable goods and those without value, like trash or LLRW.

A. Interpretation of an Interstate Compact Begins with the Compact Itself

The Tenth Circuit held the district court erred in neglecting to look to the Northwest Charter when determining congressional authorization for the burdening of interstate commerce, and instead looking only to the 1980 and 1985 acts. "Congressional approval of the Northwest [Charter], through the Consent Act, transformed it from mere agreement into federal law." According to the court, this transformation required the Northwest Charter to be interpreted like a federal statute. However, the court also noted that as a compact, it must also be interpreted like a contract and ""construed and applied in accordance with its terms."

In light of these principles, the Tenth Circuit found the district court erred in three ways. First, the court found the district court mistakenly determined that the 1980 Act had ongoing application to the grant of congressional authority under the regional compact. The Tenth Circuit deduced that by its terms, the 1985 Act completely replaced the 1980 Act. Therefore, the 1980 Act was no longer in effect, and it should not have been addressed when determining Congress's intent.

Second, the Tenth Circuit determined the district court erroneously assumed the Consent Act could not grant any authority in addition to that contained in the 1980 and 1985 acts. However, the Tenth Circuit noted

72 Id.
73 Id.
74 Id. at 1271.
75 Id.
76 Id. (quoting Texas v. New Mexico, 482 U.S. 124,128 (1987)).
77 See EnergySolutions, LLC v. Utah, 625 F.3d 1261, 1271–73 (10th Cir. 2010).
78 Id. at 1271.
79 Id.
80 Id.
81 Id.
the 1980 and 1985 acts were "enabling statutes," and as such were not necessary for states to form interstate compacts.\textsuperscript{82} Because an underlying statutory basis was not needed, the Tenth Circuit found that the district court should not have looked to the 1980 and 1985 acts in determining the Northwest Compact's authority.\textsuperscript{83} Therefore, the Tenth Circuit stated that the language of the Northwest Charter should have been considered first, rather than the language of the two acts.\textsuperscript{84}

The Tenth Circuit noted the Northwest Charter expressly states that it is designed to work with the 1985 Act, which the court interpreted as providing exclusionary authority to the Northwest Committee over LLRW disposal sites in the Northwest Compact area.\textsuperscript{85} The Tenth Circuit found support for this interpretation in a recent U.S. Supreme Court case reviewing another regional LLRW compact, \textit{Alabama v. North Carolina}.\textsuperscript{86} In \textit{Alabama}, the Supreme Court, referencing Congress's power to consent under the Compact Clause,\textsuperscript{87} looked only to the language of the compact itself.\textsuperscript{88} In its analysis, the Supreme Court treated the compact as a contract, applying traditional principles of construction to interpret its meaning.\textsuperscript{89}

Finally, the Tenth Circuit found the district court incorrectly relied on the ambiguous provisions of the 1985 Act to establish that the Northwest Compact had no exclusionary authority over the Clive facility.\textsuperscript{90} The district court construed the general provisions of the 1985

\textsuperscript{82} \textit{Id.} at 1272 (quoting \textit{Cuyler v. Adams}, 449 U.S. 443, 441 (1981)) ("Congress may consent to an interstate compact by authorizing joint state action in advance [i.e., in an enabling statute,] or by giving expressed or implied approval to an agreement the States have already joined.").

\textsuperscript{83} \textit{EnergySolutions}, LLC v. Utah, 625 F.3d 1261, 1272 (10th Cir. 2010).

\textsuperscript{84} \textit{Id.}

\textsuperscript{85} \textit{Id.}

\textsuperscript{86} \textit{Id.} (citing \textit{Alabama v. North Carolina}, 130 S.Ct. 2295 (2010)).

\textsuperscript{87} \textit{See} U.S. CONST. art. I, § 10, cl. 3.

\textsuperscript{88} \textit{See} \textit{Alabama}, 130 S.Ct. at 2314 n.5; \textit{see also} \textit{EnergySolutions}, 625 F.3d at 1272.

\textsuperscript{89} \textit{Alabama}, 130 S.Ct. at 2308–12; \textit{see also} \textit{EnergySolutions}, 625 F.3d at 1272.

\textsuperscript{90} \textit{EnergySolutions}, 625 F.3d at 1273.
Act to supplant the clear mandates of the Northwest Charter. In this case, the Tenth Circuit held the explicit mandates controlled.

B. The Northwest Charter Grants Exclusionary Authority Over the Clive Facility

The Tenth Circuit then turned its attention to the substantive question of whether the Northwest Charter granted exclusionary authority over the Clive facility. The court began this section of its analysis with the language of the Northwest Charter to determine the scope of its authority, assuming its ordinary meaning "accurately expresses the legislative purpose." The court noted that a facility is defined by the Northwest Charter as "any site, location, structure, or property used or to be used for the storage, treatment, or disposal of low-level waste, excluding federal waste facilities." EnergySolutions argued, and the court agreed, that the Clive facility fell within this definition. Moreover, because the Northwest Charter further provided that a "facility" in a "party state" may not accept LLRW generated outside of the region unless authorized by the Northwest Committee, the Tenth Circuit held the Northwest Committee had authority to exclude the import of waste generated outside the Northwest Compact region, including waste generated in Italy.

C. The 1985 Act Does Not Limit the Compact

EnergySolutions advanced four other arguments the court found unpersuasive. First, it pointed out that the Consent Act stated that Congress consented to the Northwest Charter "subject to the provisions of

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92 EnergySolutions, 625 F.3d at 1273.
93 Id.
94 Id. (quoting Gross v. FBL Fin. Servs., Inc., 129 S.Ct. 2343, 2350 (2009)).
95 Id. (quoting Consent Act § 221, art. II(1)).
96 Id. at 1274.
97 Id.
98 See EnergySolutions, LLC v. Utah, 625 F.3d 1261, 1274 (10th Cir. 2010).
the [1985] Act." 99 EnergySolutions contended that Congress’s conditioning of its consent on compliance with the 1985 Act negated the more specific definition of “facility” found in the Northwest Charter. 100 EnergySolutions claimed the definition of “facility” found in the 1985 Act did not include the Clive facility. 101 The Tenth Circuit found the definitions were not in direct conflict with each other, and held the definition listed in the Northwest Charter to control. 102

Second, EnergySolutions argued that a clause in the 1985 Act stating that no compact may be construed to limit the applicability of any federal law or to diminish or otherwise impair the jurisdiction of any federal agency limited the effect of the compact on federal law. 103 However, the Tenth Circuit found that by approving the Northwest Charter, Congress abrogated the application of the Dormant Commerce Clause to the Northwest Compact’s authority over LLRW entering the Clive facility. 104 The court concluded that the clause in the 1985 Act did not limit the express grant of authority in the Consent Act. 105

Third, EnergySolutions argued that allowing the Northwest Compact to exclude out-of-region LLRW from the Clive facility would give the Northwest Compact the power to regulate the facility out of business. 106 The court found this argument to ignore the purpose of the 1985 Act to prevent the states from becoming dumping grounds for the nation’s LLRW, and that allowing the argument to succeed would place industry’s need to survive over states’ desire to exclude waste protected by the 1985 Act. 107

Finally, EnergySolutions argued that because the Clive facility is the only facility in the United States not operating as a regional disposal
facility, a holding that the Northwest Compact has no exclusionary authority over the Clive facility would not affect any other compacts. The court countered that the only way this would be true is if the 1985 Act provided that limitation, not the Northwest Charter. Otherwise, that legal conclusion would affect all other compacts, and could greatly undermine agreements made by other states.

Because the Northwest Charter had the effect of federal law, and its authority covered facilities like the Clive facility, the Tenth Circuit held that the Northwest Compact was permitted to exercise exclusionary authority over the Clive facility.

V. COMMENT

EnergySolutions represents more than just one state’s effort to keep foreign hazardous waste out of its borders. When viewed in light of the concurrent congressional efforts to ban internationally generated waste from entering any state and the diminishing disposal capacity for certain types of LLRW, the larger picture of the nation’s and the world’s management of LLRW becomes clear and the deficiencies of the nation’s management of LLRW are brought to light. Heeding the lessons learned by other countries, the United States can develop a safer and more secure LLRW disposal management system and create more certainty in waste disposal for LLRW generators, especially considering the challenges emanating from the Japanese nuclear crisis.

A. The Italian Job

If approved, EnergySolutions’ proposed disposal of Italian waste would not have been the first time LLRW was imported into the United States from another country. Of the twenty-four waste-import license

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108 Brief of Plaintiff-Appellee, at 54, EnergySolutions, 625 F.3d 1261 (No. 09-4122).
109 EnergySolutions, 625 F.3d at 1278.
110 Id.
111 Id.
applications filed over the years, the NRC has approved thirteen.\textsuperscript{112} This includes a 2006 license to import 6,000 tons of Class A waste from Canada.\textsuperscript{113} In fact, EnergySolutions’ Bear Creek facility in Oak Ridge, Tennessee, has been processing internationally generated waste for more than twelve years,\textsuperscript{114} and the Clive facility has been disposing of residuals from the processing of internationally generated waste since before 2001.\textsuperscript{115}

Despite the history of LLRW importation, members of Congress expressed concern that opening up American LLRW disposal facilities to the Italian waste would jeopardize states’ LLRW disposal capacity.\textsuperscript{116} They argued that permitting the disposal of the Italian waste would open the door to other nations to dispose of their LLRW within the United States.\textsuperscript{117} This led to the House of Representatives passing the Radioactive Import Deterrence Act ("RIDA"),\textsuperscript{118} which proposed to prohibit the NRC from issuing licenses permitting LLRW to be imported into the United States.\textsuperscript{119} The prohibition included both the domestic disposal and processing of foreign waste.\textsuperscript{120} The idea of RIDA was that by prohibiting the import of international LLRW, states could more effectively protect domestic disposal capacity and keep from becoming the dumping ground for the world’s LLRW.\textsuperscript{121}

\textsuperscript{112} Mark Clayton, \textit{Will U.S. become world’s nuclear-waste dump?}, CHRISTIAN SCI. MONITOR, Feb. 28, 2008, at 3.
\textsuperscript{113} Id.
\textsuperscript{116} Daniel Horner, \textit{Bill to stop LLW imports reintroduced in Congress}, INSIDE N.R.C., Jan. 19, 2009, at 1.
\textsuperscript{120} See Radioactive Import Deterrence Act, H.R. 515, 111th Cong. (2009).
\textsuperscript{121} Dolley, \textit{supra} note 117.
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However, the potential for the world’s streams of Class A LLRW, the category of waste EnergySolutions sought to import from Italy, to be directed to the United States and to jeopardize domestic disposal capacity was not a legitimate justification for Congress to keep the Italian waste out. According to EnergySolutions, prior to proposed importation of the Italian waste, the Clive facility had enough capacity to dispose of all the Class A waste from the decommissioning of the existing 104 domestic nuclear reactors and still have over 50 million cubic feet of capacity.\(^\text{122}\) In fact, during its effort to import the Italian waste, EnergySolutions stated that it was committed to cap the amount of international waste disposed of at the Clive facility to 5% of the facility’s capacity after any predicted domestic disposal needs.\(^\text{123}\) Furthermore, the need for domestic Class A waste disposal capacity decreased by two-thirds between 2005 and 2008.\(^\text{124}\) In 2008, the Government Accountability Office (“GAO”) issued a report stating that the Clive facility had thirty-three years of capacity remaining for domestic needs.\(^\text{125}\) Because of this, the GAO reported that the available disposal capacity for the nation’s Class A waste did not appear to be a problem in either the short or long-term.\(^\text{126}\) The following year, the NRC reported that the volume of domestic LLRW continued to decline, reaching a historic low in 2009.\(^\text{127}\) Because the Clive facility had more than enough capacity to dispose of the Italian waste as well as domestic Class A LLRW, and EnergySolutions had agreed to cap the amount of international waste disposed of at the facility, Congress’s justification to prohibit the import of international LLRW because of the lack of Class A disposal capacity was baseless.

\(^\text{123}\) Id.
\(^\text{124}\) See GOV’T ACCOUNTABILITY OFFICE, supra note 2, at 6 (the decline is attributed to the Department of Energy’s completion of several cleanup projects).
\(^\text{125}\) Id.
\(^\text{126}\) Id.
\(^\text{127}\) Conley, supra note 52.
So, given the nation's vast capacity to dispose of Class A LLRW, why the push to keep it out? The answer can be found in politicians' perception of the numbers. A request to import 20,000 tons of foreign hazardous waste into the United States is a prospect that would raise the attention of even the most uninterested politician. Members of Congress who supported legislation banning the importing of LLRW cited the "finite" amount of space domestically available for the waste.\textsuperscript{128} Ultimately, the Governor of Utah directed the state's Northwest Committee representative to vote to deny the disposal of the Italian waste.\textsuperscript{129} The Governor's opposition was so strong that he declined an offer by EnergySolutions to share half the revenues of the disposal of international waste at the Clive facility.\textsuperscript{130}

But, a closer look at the waste reveals that its impact on the Clive facility's disposal capacity would have been minimal at most. Of the 20,000 tons potentially imported into the United States, most of it would not make it past EnergySolution's Bear Creek facility, where it would be recycled into shield blocks for use at nuclear facilities or incinerated.\textsuperscript{131} According to EnergySolutions, only about 8%, or 1,600 tons of the imported waste would continue on from the Bear Creek facility to be disposed of at the Clive facility.\textsuperscript{132} This waste would also be reduced in volume by a factor of 200.\textsuperscript{133} Ultimately, the waste would represent less than 1\% of the average annual amount of waste disposed of at the Clive facility.\textsuperscript{134}

Furthermore, the processing of foreign LLRW does not seem to have been a concern for Congress. Following the Tenth Circuit's decision and the subsequent enforcement of the Northwest Compact's denial of the

\begin{itemize}
  \item \textsuperscript{128} Horner, \textit{supra} note 116.
  \item \textsuperscript{129} EnergySolutions, L.L.C. v. Utah, 625 F.3d 1261, 1270 (10th Cir. 2010).
  \item \textsuperscript{130} Steven Dolley & Daniel Horner, \textit{EnergySolutions offers to share foreign LLW revenues with Utah}, 50:8 NUCLEONICS WEEK 9 (Feb. 26, 2009).
  \item \textsuperscript{131} See Clayton, \textit{supra} note 112.
  \item \textsuperscript{132} Id.
  \item \textsuperscript{133} \textit{Energy Solutions' Italian Job}, \textit{supra} note 114.
  \item \textsuperscript{134} Clayton, \textit{supra} note 112.
\end{itemize}
license to dispose of the Italian waste at the Clive facility, the Senate companion bill stalled in committee. What’s more, EnergySolutions’ application to and approval of its plan to incinerate up to 1,000 tons of German LLRW and return the ashes to Germany was not met with the same legislative resistance as its application to process and dispose of the Italian waste. The lack of a congressional fight to keep the German waste out of the United States leads to the conclusion that, as far as Congress is concerned, the “not in my backyard” argument applies only to the permanent disposal of foreign waste in the United States and not to the “burn-and-return” strategy being proposed by EnergySolutions, despite the fact both involve the importing of foreign waste.

B. Class B and Class C LLRW

So, if Congress, in its efforts to keep the Italian waste out, was not trying to protect the nation’s Class A LLRW disposal capacity from being filled with foreign waste, what was it doing? Congress had a much more pressing interest to protect than the nation’s capacity to dispose of Class A LLRW—the availability of disposal capacity for Class B and C LLRW. These categories of waste have faced a significant drop in disposal capacity, with many states lacking any available disposal facilities. This has presented a growing cause for concern and created a problem,

139 See GOV’T ACCOUNTABILITY OFFICE, supra note 2, at 5.
which, if left to the devices of the current LLRW disposal system, has the potential to become a serious environmental hazard.

Currently, there exist three facilities in the United States accepting Class B and C LLRW. The first, US Ecology’s Richmond, Washington facility, accepts waste only from the eleven states in the Rocky Mountain and Northwest Compacts. The second, EnergySolutions’ Barnwell, South Carolina facility, accepts waste only from the three states in the Atlantic Interstate Low-Level Waste Management Compact. The third facility is located in Andrews County, Texas, and run by Waste Control Specialists (“WCS”). The WCS facility is regulated under the Texas Low-Level Radioactive Waste Disposal Compact (“Texas Compact”), and openly accepts waste from Texas Compact member states: Texas and Vermont. While the Texas legislature has opened the door to the import of LLRW generated outside the compact area, the imported waste is subject to additional fees and limits on amounts disposed of. This leaves thirty-four states with no dedicated capacity to dispose of Class B and C LLRW.

\[140 \text{ Id. at 3; see [SOURCE].} \]
\[141 \text{ Id.} \]
\[142 \text{ Maureen Conley, } \text{Lack of LLW disposal access impacts medical, research users,} \text{ INSIDE N.R.C., Mar. 1, 2010, at 7.} \]
\[144 \text{ See id.} \]
\[145 \text{ See id.} \]
\[146 \text{ See Asher Price & Tim Eaton, } \text{Texas House OKs expansion of radioactive waste site, AUSTIN AM.-STATESMAN} \text{ (May 17, 2011) http://www.statesman.com/news/texas-politics/texas-house-oks-expansion-of-radioactive-waste-site-1481825.html (explaining the Texas House of Representatives passage of a bill allowing for the import of LLRW); see TEX. S. JOURNAL 82nd Leg., Reg. Sess. 1550–51 (2011) (stating that the bill was signed by the governor).} \]
\[147 \text{ See TEX. HEALTH & SAFETY CODE ANN. § 401.207 (West 2011). Texas statutes limit the amount of non-compact-generated LLRW that can be disposed of at a Texas facility to no more than 50 thousand cubic feet annually and 30% of the capacity of the facility. See HEALTH & SAFETY § 401.207(e), (f)(1). There is a 20% surcharge for the disposal of non-compact-generated LLRW in a Texas facility. See HEALTH & SAFETY § 401.207(g).} \]
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The effect of this diminished capacity to dispose of Class B and C waste has been two-fold: First, industries that depend on available capacity to dispose of this waste, like the healthcare and research industries, have been forced to curtail or eliminate projects because of the lack and cost of disposal. Second, and more importantly, due to the lack of disposal capacity, Class B and C LLRW generators have been forced to indefinitely store waste on-site. And while the NRC permits generators to keep LLRW on-site, it is not the NRC’s preferred strategy as it does present certain inherent risks.

The shrinking size of Class B and C LLRW disposal capacity and the increasing use of indefinite on-site storage of waste by generators illustrates a real concern with permitting the importing of international LLRW. During their fight to prevent the import of the Italian waste into the United States, members of Congress voiced their concerns about waste other than Class A being brought into the country. If Class B and C waste were to enter the United States, where would it go? Would it be shipped back to Italy—a nation with no present capacity to dispose of any LLRW—or would it remain in the United States to be stored indefinitely by EnergySolutions and disposed of when more Class B and C disposal capacity became available? Consider how this problem might be multiplied if Congress were to permit the commercial importing of international LLRW. It seems that, whether Congress knew it or not, there was a very real justification to exclude the Italian waste, and any internationally generated Class A LLRW, from the United States.

This focus on the more pressing issue of Class B and C LLRW is not meant to diminish the potential effects the importing of international

149 See Tom Harrison, NRC favors exploring options to current LLW disposal system, INSIDE N.R.C., June 14, 2004, at 4.
150 See GOV'T ACCOUNTABILITY OFFICE supra note 2, at 29.
151 Conley, supra note 119.
152 See GOV'T ACCOUNTABILITY OFFICE supra note 2, at 7.
Class A LLRW could have on domestic disposal capacity, as Class A waste does represent the vast majority of domestic LLRW.153 The GAO has stated it is unclear how permitting the disposal of international Class A LLRW in domestic facilities would affect domestic capacity.154 And while EnergySolutions had committed to capping its disposal of international LLRW at its Clive facility with regards to the now-defunct Italian waste agreement,155 there is nothing binding it to that promise for future agreements.156

C. Repercussions From Japan

The GAO continues to assess the future of LLRW disposal in the United States as uncertain.157 It is a future made even more speculative when considered in the light of the Japanese nuclear crisis following the 2011 earthquake and tsunami. Due to these events, now more than ever, the future of nuclear power is being debated by nations who question its part in a safe and secure energy portfolio.158

One of the more significant potential effects of the Japanese nuclear crisis could be the decommissioning of nuclear power plants in other countries. And while there are no countries yet committing to the decommissioning of their nuclear fleet,159 it is a path several nations have taken before. Following the meltdown of the Chernobyl nuclear power plant in 1986, several nations, including Italy, reconsidered the place nuclear power generation had in their energy portfolios.160 Italy’s decision to remove nuclear power generation from its country left it with power

153 Id. at 5.
154 Id. at 6.
155 Press Release, supra note 122.
156 In regards to the WCS facility, Texas does not permit the disposal of internationally generated waste. See TEX. HEALTH & SAFETY CODE ANN. § 401.207(c) (West 2011).
157 GOV’T ACCOUNTABILITY OFFICE, supra note 2, at 2.
159 As of the date this note went to publication, no nations had committed to decommissioning any or all of their nuclear power plants.
costs one-third higher than most of Europe.\textsuperscript{161} In recent years, the country has seen a revived effort to make nuclear power a part of its energy portfolio.\textsuperscript{162} However, in the wake of the Japanese nuclear crisis, it has again begun to seriously reconsider the use of nuclear power within its borders, and has instituted a one-year moratorium on the construction of nuclear power plants in the country.\textsuperscript{163} And while Italy has decided to halt construction of nuclear power plants, Germany has decided to shut down for a period of six months all seven of its plants constructed prior to 1980.\textsuperscript{164} The decision to shut off a quarter of the country's generation capacity led to the country's highest energy costs since October 2009.\textsuperscript{165}

Italy's story illustrates a potential effect of the Japanese nuclear disaster on the disposal of LLRW. Countries may begin to shutter their nuclear power plants and initiate the long process of decommissioning them. This would increase the world's need for LLRW disposal capacity significantly as the materials used to dismantle these plants, as well as some of the power plant components themselves, will need to be disposed of in LLRW disposal facilities.\textsuperscript{166} However, as EnergySolutions and Congress have effectively shut the United States off from the import of international LLRW, the domestic impact of other countries' decommissioning efforts would be minimal. But, if the United States were to decommission its own nuclear power generation fleet, it would certainly see an increased need for LLRW disposal. And, while the nation

\textsuperscript{161} Id.
\textsuperscript{162} Id.
\textsuperscript{163} Italy announces nuclear moratorium, see, supra note 158.
\textsuperscript{165} Id.
\textsuperscript{166} In fact, in the face of significant congressional opposition to LLRW importation, EnergySolutions changed its international business strategy from the importing and domestic disposal of foreign waste, to the exporting of skills and knowledge to build facilities abroad to handle the international need for LLRW disposal capacity. Press Release, EnergySolutions, LLC, EnergySolutions Announces Change in International Waste Strategy (July 14, 2010), available at http://www.energysolutions.com/media-center/current-press-releases?viewID=17.
has more than enough Class A waste disposal capacity, the resulting Class B and C waste would, in many cases, have no place to go, increasing the need for domestic Class B and C disposal capacity.

Nations who follow Italy's path should be cautious. They, like Italy, may find themselves paying significantly higher energy bills if an alternative, cost-effective power source is not found. This means that serious deliberation must precede any nation's decision to abandon nuclear generation as part of its power generation portfolio.

D. Foreign Lessons

While the compact system has succeeded in protecting states from becoming the dumping grounds for the United States' and the world's LLRW, it has failed to facilitate the creation of adequate disposal capacity. The GAO has reported that among the factors dampening the development of new disposal facilities is political resistance. The power of this resistance finds its basis in states' ability to prohibit development of disposal facilities within their borders and to deny the import of foreign LLRW. Other countries have taken a different approach to the management LLRW disposal, which provides for safer storage methods while still placing the financial responsibility for the disposition of the waste on the generators. This system, if implemented in the United States, would improve certainty of future disposal needs and provide for safer storage and disposal of the nation's LLRW.

One of the failings of the current United States system is the lack of knowledge concerning the amount and location of the nation's LLRW. Many other countries track location and qualities of radioactive waste. There currently is no comprehensive listing of the types, locations, and

\[^{167}\text{See supra text accompanying notes 122–127.}\]
\[^{168}\text{See supra text accompanying notes 138–Error! Bookmark not defined..}\]
\[^{169}\text{Gov't Accountability Office, supra note 2, at 2.}\]
amounts of LLRW around the county.\textsuperscript{171} By tracking the nation’s LLRW, generators and waste disposal facilities would be better able to predict the nation’s disposal needs.\textsuperscript{172} This a strategy supported by most LLRW stakeholder groups.\textsuperscript{173}

To relieve generators from the responsibility of storing LLRW on-site when disposal capacity is not available, most other countries that have no storage options for certain categories of waste provide centralized storage facilities for that waste.\textsuperscript{174} Further, many other countries encourage or facilitate the prompt removal of high-activity LLRW from generator sites.\textsuperscript{175} The combination of these two strategies in the United States would have the potential combined effect of reducing the cost of waste storage\textsuperscript{176} while increasing the safety and security of its storage.\textsuperscript{177} Most LLRW stakeholders agree there needs to be more investigation in determining how these strategies would work in the United States.\textsuperscript{178}

Many countries that provide waste disposition options for LLRW generators also require the generators to set aside sufficient financial reserves to cover these disposition costs.\textsuperscript{179} This places the responsibility for disposition costs on the generators, and not with the government, and it provides for stability in the system. Implementing this in the United States in combination with the above strategies would help ensure the strategies’ success while not drawing from government funds. In addition, generators should be able to cover these costs, as they are already paying for the on-site storage of LLRW.

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\textsuperscript{171} See id. at 16–17.  \\
\textsuperscript{172} See id. at 16.  \\
\textsuperscript{173} Gov’t Accountability Office, supra note 170, at 16.  \\
\textsuperscript{174} Gov’t Accountability Office, supra note 2, at 3–4.  \\
\textsuperscript{175} Gov’t Accountability Office, supra note 170, at 17.  \\
\textsuperscript{177} Id. at 21.  \\
\textsuperscript{178} Id.  \\
\textsuperscript{179} Id. at 30.  \\
\end{flushright}
It is important to note that most domestic experts agree that, regardless of how the United States proceeds in its management of LLRW disposal, a comprehensive LLRW management plan should be developed. The plan would be able to guide and manage the course domestic LLRW disposal will take. Only then would the strategies implemented by the United States be able to work in concert.

VI. Conclusion

EnergySolutions, while seemingly a battle between a state and a private LLRW disposal company, illustrates the problems with the current system of LLRW disposal in the United States. While Congress intended to facilitate the development of more disposal facilities, states continue to prevent facilities from being built and other states from disposing their waste at existing facilities. A look at other countries' management of LLRW can help the United States develop a safer, more secure, and predictable system of LLRW disposal. The end result of these fixes will be the effective management of a problem within the United States; a problem that has the potential to further burden the industries that require LLRW disposal.

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180 Id. at 33.