SUBJECT: Disposal of out-of-state, low-level radioactive waste in Andrews County

COMMITTEE: State Affairs — committee substitute recommended

VOTE: 7 ayes — Cook, Craddick, Frullo, Hilderbran, Huberty, Smithee, Solomons

2 nays — Gallego, Turner

4 absent — Menendez, Geren, Harless, Oliveira

SENATE VOTE: On final passage, April 13 — 31-0

WITNESSES: For — (*Registered, but did not testify:* Kathy Garcia, CPS Energy; Rick Bluntzer, NRG Energy; Thomas Oney, Luminant Generation Company LLC; Derek Seal, Entergy Nuclear Operations and Vermont Yankee)

Against — (*Registered, but did not testify:* Yannis Banks, Texas NAACP; Karen Hadden, Sustainable Energy and Economic Development (SEED) Coalition; Cyrus Reed, Lone Star Chapter, Sierra Club; Tom "Smitty" Smith, Public Citizen)

On — (*Registered, but did not testify:* Victor Alcorta, Studsvik, Inc.)

BACKGROUND: A three-state compact to dispose of low-level radioactive waste from Texas, Maine, and Vermont in Texas was approved by Congress in 1998, although Maine later withdrew after decommissioning its nuclear facility. Texas is the host state for the Texas Low-Level Radioactive Waste Disposal Compact with Vermont. It requires Texas to develop a facility for the disposal of low-level radioactive waste generated within the compact's party states. In accordance with the compact and in compliance with state law, the Texas Commission on Environmental Quality (TCEQ) issued a license to Waste Control Specialists (WCS) to build and operate a facility for the disposal of low-level radioactive waste for the compact at their company's site in Andrews County. Construction of the disposal facility is under way and expected to be completed in late 2011.

DIGEST:

CSSB 1504 would allow the acceptance of out-of-state, nonparty low-level radioactive waste to be disposed of, with an additional surcharge, in the WCS facility in Andrews County. The bill would limit the amount of nonparty waste accepted into the facility and would require a study of the available volume and radioactivity of the waste that could be accepted for the disposal of both party-state compact waste and nonparty compact waste. The bill also would provide for financial assurances of the facility license holder and for rates and contracts for disposal. It would reopen compact membership to other states and provide for a joining fee to enter the compact.

Out-of-state, nonparty waste. The compact waste disposal facility license holder would be allowed to accept for disposal at the compact waste disposal facility approved, nonparty compact waste classified as Class A, Class B, or Class C low-level radioactive waste in accordance with the facility license to the extent the acceptance did not diminish the disposal volume available to party states.

The license holder could not accept nonparty compact waste that did not meet the waste characteristics and forms for disposal applicable to compact waste as set forth by TCEQ in the facility license. Before the license holder could accept nonparty compact waste for disposal, TCEQ would have to certify through a written evaluation that the waste was authorized for disposal under the license. If the disposal were not authorized under the license, TCEQ would have to inform the license holder of the license amendments necessary to authorize the disposal.

The facility license holder could not accept waste of international origin for disposal at the facility.

Limit on non-party waste. The compact waste disposal facility license holder could not accept more than 50,000 total cubic feet of nonparty compact waste annually. The license holder also could not accept an average of more than 120,000 curies of radioactivity of nonparty compact waste annually over the first 10 years of operation, with a total annual limit of 220,000 curies of radioactivity. The Legislature could revise the limits after considering the results of the capacity study.

The compact waste disposal facility license holder would not be allowed to accept a volume of nonparty compact waste that exceeded 30 percent of the total volume and radioactivity established for the facility by TCEQ in

the facility license. Of the remaining capacity, Texas would be entitled to 80 percent and Vermont would be entitled to 20 percent.

TCEQ's executive director, on completion of the capacity study, could prohibit the license holder from accepting any additional nonparty compact waste if TCEQ determined from the study that the capacity of the facility would be limited, regardless of whether 30 percent of the total volume had been reached.

Volume and radioactivity capacity study. TCEQ would be required to conduct a study on the available volume and radioactivity capacity of the facility for the disposal of both party-state compact waste and nonparty compact waste.

TCEQ would be required to consider and make recommendations regarding:

- the future volume and radioactivity capacity needs of party state and nonparty state generators and any additional reserved capacity necessary to meet those needs;
- the result of using decay factors in revising radioactivity limits;
- the necessity of containerization of the waste; and
- the effects of the projected volume and radioactivity of the waste on the health and safety of the public.

TCEQ would be required to submit a final report of the results of the study by December 1, 2012, to the standing House and Senate committees with jurisdiction over the disposal of low-level radioactive waste.

The Texas Low-Level Radioactive Waste Disposal Compact Commission would be required to use the study to anticipate the future capacity needs of the compact waste disposal facility.

This requirement would expire August 31, 2013.

Additional surcharge on nonparty compact waste. TCEQ would have to assess a surcharge for the disposal of nonparty compact waste. It would be assessed in addition to the total contracted rate and would be:

- 10 percent of that rate before the fifth anniversary of the date disposal operations began; and

- 20 percent of that rate on or after the fifth anniversary of the date disposal operations began.

A surcharge collected would be deposited to the credit of the low-level radioactive waste account.

The Texas Low-Level Radioactive Waste Disposal Compact Commission, by rule, would be required to adopt procedures and forms for the approval of the importation of nonparty compact waste.

Recovery of historical operating losses through revenues from the disposal of nonparty compact waste. Historical operating losses incurred by the compact waste disposal facility license holder before beginning operations could be recovered by the license holder solely through revenues from the disposal of nonparty compact waste.

TCEQ would be required to determine the amount of historical operating losses by the compact waste disposal facility license holder that had been incurred before the license holder began operations at the compact waste disposal facility. In determining the amount of historical operating losses, TCEQ could consider only the costs, expenses, and expenditures established as true and accurate by the license holder. Those expenses would include:

- any cost, expense, or expenditure incurred or paid by the license holder before September 1, 2003, except for costs, expenses, or expenditures associated with real property used for the compact waste disposal facility site;
- losses relating to the development and operation of any facility other than the compact waste disposal facility;
- any other losses or factors that TCEQ determined were appropriate; and
- a reasonable rate of return on the above items.

The expenses could not include reasonable and necessary expenditures by the license holder for the compact waste disposal facility incurred on or after September 1, 2003, for any asset related to plant, property, equipment, or working capital or for permitting or licensing.
In determining historical operating losses, TCEQ would have to request, and the compact waste disposal facility license holder would have to file in response to the request, a proposed amount of historical operating losses

based on verifiable financial statements, supporting information, and analysis. TCEQ would be required to solicit and consider comments from party state compact waste generators on the license holder's proposed historical operating losses and would determine the amount of historical operating losses within 90 days of receiving the proposed amount from the license holder.

Financial assurance of the facility license holder. TCEQ would be required to conduct a review of the adequacy of the financial assurance mechanisms of the compact waste disposal facility license holder that were approved by TCEQ before January 1, 2011, against projected post-closure costs, including a review of the adequacy of funds for unplanned events. The review would consider:

- the segregation of financial assurance funds from other funds;
- the degree of risk that the financial instruments were subject to financial reversal;
- potential post-closure risks associated with the compact waste disposal facility; and
- the adequacy of the financial instruments to cover the state's liabilities.

TCEQ would be required to submit a final report of the results of the review by December 1, 2012, to the House and Senate standing committees with jurisdiction over the disposal of low-level radioactive waste. This requirement would expire August 31, 2013.

No disposal of elemental mercury. The compact waste disposal facility license holder could not accept elemental mercury for disposal at the facility.

Contested cases involving party state compact waste disposal fees. Only a party state generator of low-level radioactive waste could be considered a person affected in a contested case involving the adoption of party state compact waste disposal fees.

The administrative law judge assigned to the contested case would be required to issue a proposal for decision on fees proposed by TCEQ within one year of the date the case was referred by TCEQ.

Maximum disposal rates for party states. TCEQ, by rule, would be required to set maximum disposal rates, which would apply only to party state generators.

In establishing the maximum disposal rates for generators in Texas and the party states, such as Vermont, the TCEQ:

- would be required to assume that nonparty compact waste would be accepted for disposal at the compact waste disposal facility at the maximum disposal rate; and
- could not consider the historical operating losses incurred by the compact waste disposal facility license holder before beginning operations.

Contracts for waste disposal. At any time before the adoption by TCEQ of party state compact waste disposal fees or maximum disposal rates, the compact waste disposal facility license holder could contract with a generator for the disposal of low-level radioactive waste at the facility at fees and rates established under the contract and could dispose of waste under the contract. A contract would be subject to authorization by the compact commission.

Party state compact waste generators located in the compact states of Texas and Vermont would not required to enter into any contract with the compact waste disposal facility license holder before the adoption by TCEQ of party state compact waste disposal fees or maximum disposal rates.

Regardless of whether TCEQ approved or disapproved a contract, after the adoption of final party state compact waste disposal fees or final maximum disposal rates, the parties to the contract would not be entitled to any refund or surcharge not contained in the contract.

Interim fees and rates for party states. Before TCEQ adopted final disposal fees and final maximum disposal rates, its executive director could set interim disposal fees and interim maximum disposal rates according to TCEQ rules.

The compact waste disposal facility license holder would be required to charge generators in Texas and the party states fees and rates consistent with the interim fees and rates while the interim fees or rates were in

effect. A generator would not be entitled to a refund and could not be charged a surcharge for the disposal of waste under interim fees or rates once the final fees or rates had been adopted.

Considerations in contract approval. After TCEQ adopted party state compact waste disposal fees and maximum disposal rates, in approving contracts between the compact waste disposal facility license holder and a party state generator, TCEQ could consider, subject to reasonable rules of confidentiality, the net revenues recovered by the facility license holder from the disposal of nonparty compact waste.

Party state compact waste disposal fees. Party state compact waste disposal fees would have to be sufficient to:

- allow the compact waste facility license holder to recover costs of operating and maintaining the compact waste disposal facility and a reasonable profit on the operation of that facility;
- provide an amount necessary to meet future costs of decommissioning, closing, and postclosure maintenance and surveillance of the compact waste disposal facility and the compact waste disposal facility portion of the disposal facility site;
- provide an amount to fund local public projects;
- provide a reasonable rate of return on capital investment in the facilities used for management or disposal of compact waste at the compact waste disposal facility; and
- provide an amount necessary to pay compact waste disposal facility licensing fees, to pay compact waste disposal facility fees set by rule or statute, and to provide security for the compact waste disposal facility as required by TCEQ under law and rules.

Compact membership with other states. Texas could enter into compacts with another state or several states for the disposal of low-level radioactive waste in Texas only if the compact limited the total volume of low-level radioactive waste to be disposed of from the other party states to 20 percent of the annual average projected to be disposed of in this state from 1995 through 2045.

Party state joining fees. Texas would have to establish the following terms and conditions for a state to become a party state to the compact after January 1, 2011:

- the joining state would have to make an initial payment of half the total amount due to the host state on the later of September 1, 2011, or the date the state became a party state; and
- the joining state would have to pay the remaining amount owed on the later of the date of the opening of the compact waste disposal facility or the date the facility first accepted waste from the state.

Each state that became a party state:

- after January 1, 2011, and before September 1, 2018, would be required to contribute a total of $30 million to the host state, including the initial $15 million payment; and
- on or after September 1, 2018, and before September 1, 2023, would be required to contribute $50 million to the host state, including the initial $25 million payment.

These requirements would apply to a state that became a party state after January 1, 2011, regardless of whether the state previously had been a party to the compact. A state that had withdrawn as a party state would be required to pay the previously committed fee of $25 million in addition to the party state joining fee of $30 million fee if they became a party state after January 1, 2011, and before September 1, 2018, or $50 million if they became a party state on or after September 1, 2018, and before September 1, 2023. The payments could not be refunded even if a party state withdrew from the compact.

Andrews County would be entitled to receive 10 percent of the party state joining fee.

Repealer. CSSB 1504 would repeal a section of the Health and Safety Code providing that if Texas entered into a compact with another state and the terms of the compact conflicted with limitations on low-level radioactive waste disposal, the terms of the compact would control.

Effective date. The bill would take immediate effect if finally passed by a two-thirds record vote of the membership of each house. Otherwise, it would take effect September 1, 2011.

SUPPORTERS SAY:

CSSB 1504 would finalize an eight-year process for the disposal of low-level radioactive waste that began in 2005 when authorization was given by the Texas Legislature. It would establish a mechanism to ensure Texas

ratepayers of the lowest possible disposal fees by spreading the fixed operating costs of the disposal facility among out-of-state generators. This legislation would create an immediate new revenue stream for the state of Texas and Andrews County. Texas and Andrews County each would receive a percentage of the total disposal rate charged for imported, nonparty waste. Texas and Andrews County each would continue to receive a percentage of the rate charged for compact waste.

The bill would provide assurance that the disposal facility would open upon completion of construction, ensuring the availability of a safe, secure, remote facility to dispose of low-level radioactive waste. Low-level radioactive waste is temporarily stored at thousands of locations throughout the state, mostly in heavily populated areas. This waste is generated by hospitals, universities, research centers and power plants. The compact facility would offer a safe, permanent disposal solution.

While some have expressed concerns about safety, the WCS site in Andrews County was selected due to its location atop a ridge of almost impermeable Dockum red bed clay in a relatively remote, sparsely inhabited area of far west Texas. The nearest residence is about 3.5 miles to the west in New Mexico. Significant population growth in the immediate vicinity is unlikely because of the nature of land ownership and the lack of any surface water and readily potable groundwater.

WCS, local water well drillers, and oil and gas producers have drilled thousands of wells and spent tens of millions of dollars to verify the subsurface properties of western Andrews County and, as a result, have delineated the boundaries of the Ogallala aquifer. No groundwater has ever been found in the red bed clays within the boundaries of the proposed disposal units. Further, the low-level radioactive waste would be placed in concrete containers and buried 30 to 100 feet below the surface in lined cells in the red bed clay formation. The red bed clay formation is less permeable than concrete and is self-healing, meaning any cracks in the clay would close to prevent movement of fluids. Space between the containers would be grouted to prevent shifting and to preserve the integrity of the containers. As the cells were filled, they would be covered by more than 30 feet of liner material and red bed clay, and the surface would be restored to its natural state.

CSSB 1504 would take steps to ensure that Texas had access to the facility by permanently reserving facility capacity for Texas waste. Also, the bill

would direct TCEQ to study and prepare a report for the Texas Legislature on the facility after the first year of operation, including recommendations for the facility's future operations. Completing the study before the importation of waste, as some have suggested, would significantly delay importation, the revenue driver for the state due to surcharges on out-of-compact waste. It is unnecessary to cause such a delay because TCEQ would have the authority to halt disposal of waste from other states if capacity questions arose.

By allowing limited importation of waste from non-compact states, this legislation would enable Texas, as the host state, to fulfill its obligation to the Texas compact by ensuring a low-level radioactive disposal facility was open and operating for Texas generators when they needed it. While some have expressed concerns that litigation could result if WCS entered into a contract before the capacity study was completed and results indicated they could not fulfill the contract, the contracts for disposal would be subject to state law, and the compact commission would not approve future waste disposal unless it was feasible.

As part of the license application process, WCS submitted a transportation impact assessment that noted the characteristics of the sources of the waste and transportation routes and described the radiological and non-radiological impacts associated with the transportation of the waste. The transportation of radioactive waste has been considered thoroughly in the WCS license application. Based on the analysis in the license application of the transportation impacts, the low transportation incident rates for radioactive materials, and the U.S. Department of Transportation safeguards in place for shipments of radioactive materials, the transportation of out-of-compact waste would be expected to have a negligible impact on communities along a transportation route to the WCS facility in Andrews County.

By the end of 2011, WCS will have made a real cash investment of more than a $350 million and have incurred more than $250 million of loans that will have resulted in a facility to dispose of commercial and federal low-level radioactive waste. WCS used the initial investment in 1995 to construct its hazardous waste facilities, and beginning in 1997, all future investments were made for low-level radioactive waste and byproduct disposal development. WCS has not received a penny of return on its more than $600 million investment. It is a general business practice to expect a return on an investment. A 22 percent rate of return based on the past

failures and extraordinary costs to site such a facility is reasonable, especially compared to other high-risk investments, such as technology or biotech start-up ventures.

The primary benefit of importing non-compact waste to the compact facility would be that it would dramatically decrease the cost of disposal for compact generators. The greater the volume of waste disposal in the compact facility, the less fixed costs of the facility are allocated to the compact waste. In fact, on average, importation would allow disposal rates for Texas compact generators to be 10 times lower than without importation. This would allow the generators to pass the savings on to their customers, thereby benefiting the citizens of Texas and Vermont.

OPPONENTS SAY:

Among many concerns about the disposal of low-level radioactive waste and the import of non-compact, out-of-state waste for disposal in the facility in Andrews County are the risk of contamination of groundwater, the risk of accidents resulting in exposure to waste during its transport from other states into Andrews County, and the possibility that opening the facility to out-of-state waste would result in insufficient capacity to meet Texas' and Vermont's disposal needs.

WSC claims that in order for the facility in Andrews County to be profitable, it needs to import non-compact, out-of-state waste. Texas should protect this state and keep other states' waste out, rather than bringing it just so that money can be made from it. This would allow other states to deal with their dangerous waste by dumping it in Texas.

A major health and safety concern is risk of groundwater contamination. Due to the proximity of the WCS dump site in Andrews County to the Ogallala Aquifer and Dockum aquifer — the edge of the disposal site is just 150 feet from the water-bearing strata —groundwater could intrude into the proposed disposal units and contact the waste from either or both of two water tables near the proposed facility. Also, water contamination of the aquifers could occur in the event of a leak. Burial most likely would be the method of disposal, and disposal sites of this type have leaked in the past. Further, there are no geological barriers in the sediments to stop the waste from getting into the aquifer water if there were a spill. Contamination of the Ogallala Aquifer would devastate the area environmentally and economically. The Ogallala aquifer is one of the most important sources of water in the Plains Region, used for residential and industrial purposes as well as agriculture, the base of the economy in the

area. Texas is one of the leading states irrigating from the aquifer, accounting for about 40 percent of Texas' water use.

Another health and safety concern is the risk of accidents as the waste is transported from all over the country into Andrews County. The most prominent method of transporting low-level radioactive waste used in the United States is land transport by trucks. The transportation of the waste from Vermont and out-of-compact states would significantly increase the number of trucks carrying radioactive waste on highways throughout the country and in Texas. In Texas, it is uncertain which highway routes would be taken to Andrews County, but some of the communities that occupy the areas surrounding interstate highways are heavily populated. Should any accidents take place, these communities could be exposed to radioactive materials and devastated by the damages of such accidents. Even though waste going to Andrews would be low-level waste, the severity and potential of transportation accidents on the routes to the disposal site would be too high. Teams of first responders should be prepared and properly trained to deal with any accidents that might occur on the site or during transportation of the waste.

An assessment of damages and costs of decontamination and cleanup in Texas urban and rural areas also would be needed in case of transportation accidents and contamination of an aquifer. There is an existing accident remediation fund for these of types of transportation accidents, but the fund contains only $500,000, which easily could be exceeded. The financial assurance that WCS would be required to provide should account for transportation accidents and potential damage to groundwater resources.

Allowing WCS to bring in non-compact, out-of-state waste could result in the facility not having the capacity to meet Texas' needs. WCS claims that excess capacity will be available at the facility even after receiving all the waste from compact (Texas and Vermont) generators. However, studies conducted by TCEQ and the compact commission show higher need by the compact generators than WCS claims. Both studies' figures exceed the licensed capacity, indicating WCS would not be able to take all the compact waste if they also imported waste from other states. Prior to importation of waste from other states, a capacity study should be conducted to assess the validity of WCS claims that the site has excess capacity and to assure adequate disposal capacity for Texas and Vermont waste generators.

While CSSB 1504 would direct the TCEQ to study and prepare a capacity report for the Legislature, it would be after the first year of operation. However, a great deal of waste is anticipated to be brought in that first year. By then, the study would be too late. WCS should not be able to contract for importation of out-of-state waste before the study was completed. If WCS entered into a contract while the study was being conducted and the study results indicated that they could not fulfill the contract, this could result in litigation.

WCS claims that for the facility in Andrews County to be profitable, it needs to bring in non-compact, out-of-state waste. Yet WCS has exaggerated their high capital costs and swelled a $153 million real investment into a $568 million investment on paper by adding pre-2003 costs and applying a 22 percent cost of capital return compounding annually. It is also a concern that TCEQ would set the rates for compact waste, but not for imported, non-compact waste.

CSSB 1504 would require TCEQ to charge a 10 percent surcharge on imported waste before the fifth anniversary of the date disposal operations began and a 20 percent surcharge after that. Yet WCS has said it expects most of its business to be generated in the first five years, so it would charge the lower rate during the time when most of the business was expected. Instead, the higher rate should be charged during that time. Also, while the state would earn revenue from fees charged to other states for joining the compact, no other states would likely join the compact because it would be less expensive to pay the surcharges to import their waste than to pay the large joining fee.

The Andrews County waste dump is a state-owned facility leased to WCS. WCS would make the money, while Texas would get stuck with the waste and the liability. The state needs to assure that Texas sets the rates for imported waste and Texas gets the lion's share of the profits, while allowing WCS to recover their cost of capital, $153 million, and get a reasonable return on investment.

NOTES:

The House committee substitute differs from the Senate-passed version of the bill by setting an annual limit of 220,000 curies of nonparty compact waste, with an annual average of 120,000 curies over the first 10 years of operation, rather than an annual limit of 120,000 curies; adding a provision allocating 80 percent of remaining capacity to the host state and 20 percent of remaining capacity to Vermont after the allocation of not more than 30 percent of total capacity to nonparty compact waste;

establishing a surcharge of 10 percent in the first five years of operation and 20 percent after the first five years, rather than a 20 percent surcharge for nonparty compact waste; adding to the list of considerations in the study of capacity the result of using decay factors in revising curie capacity limits; adding a provision requiring TCEQ to conduct a review of financial assurance mechanisms approved by TCEQ before January 1, 2011; prohibiting the facility license holder from accepting elemental mercury regulated under chapter 361 of the Health and Safety Code; and adding provisions relating to maximum disposal rates and recovery of historical operating losses.

A floor amendment is expected to be proposed to add a flat 20 percent surcharge on nonparty waste, rather than the graduated 10 to 20 percent surcharge. The amendment also would add a surcharge for the storage of elemental mercury for any period over one year. It would set a limit of 220,000 curies of radioactivity for the first year, and every year after that the annual limit would be 120,000 curies.

According to the fiscal note, CSSB 1504 is not expected to result in significant administrative costs to the TCEQ. More revenue is projected to be deposited to the Low-Level Waste Account No. 8 from the required 10 percent surcharge on imported nonparty compact waste in the early years. . Beginning in fiscal 2012, as the facility became operational, an estimated $4.0 million would be collected, increasing to $12 million in fiscal 2013 and $10.0 million in fiscal 2014 as disposers of waste that had been waiting for a disposal site sent their waste to the Andrews County facility. Beginning in fiscal 2015, the revenue stream is projected to decrease to an annual level of $6.0 million.

Additional fees would be deposited Low-Level Waste Account No. 88 if additional states joined the compact.