

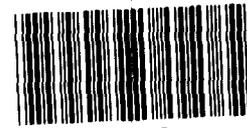
GAO

United States General Accounting Office
Report to the Honorable
Alfonse M. D'Amato, U.S. Senate

August 1992

NUCLEAR WASTE

New York's Adherence to Site Selection Procedures is Unclear



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United States
General Accounting Office
Washington, D.C. 20548

Resources, Community, and
Economic Development Division

B-248250

August 11, 1992

The Honorable Alfonse M. D'Amato
United States Senate

Dear Senator D'Amato:

In September 1989, a New York commission charged with choosing a site for a low-level radioactive waste disposal facility announced its intent to conduct limited investigations at five potential sites. The Low-Level Radioactive Waste Siting Commission had identified four of the sites by means of a statewide screening process. The fifth site, Taylor North, had been offered to the commission by an owner. The five sites were selected after technical evaluations were made of these and numerous other sites. Cortland County, where the Taylor North site is located, contends that the commission did not follow its prescribed process for considering offered sites when it selected the Taylor North site. In addition, Cortland and Allegany counties, which contain the four other potential sites, have raised other objections to the site selection process.

Because of objections raised over the commission's selection of potential sites, you asked us to review the commission's site selection process. After discussions with your office, we agreed to determine if the commission's consideration and selection of the Taylor North site was consistent with its prescribed procedures for considering offered sites. We also agreed to identify technical and other issues that need to be addressed before the final site evaluation and the selection steps can be completed.

Results in Brief

Among other things, the procedures for considering offered sites required the commission to make a preliminary determination that the site was at least as good as other sites under consideration. This procedure was not literally followed by the commission in its consideration of the Taylor North site in that

- the site contained more productive agricultural land than state regulations allow to be displaced by radioactive waste disposal facilities, and
- the numerical score that the commission's staff assigned to the site as a result of an initial technical evaluation was less than the minimum score the commission's staff deemed necessary for a site to be considered further.

Other commission procedures for considering an offered site, such as determining if the offer was made in good faith and notifying local governments of the offer, are not specific enough to determine if the commission followed the procedures. Nevertheless, the commission's actions on the Taylor North site raise questions about how closely the commission followed these procedures.

Commission officials said they included Taylor North for further study because of the possibility of obtaining a waiver from the agricultural criterion and because it seemed reasonable to further examine offered sites if they appeared to have some potential. In addition, the officials said they verified the ownership prior to the selection of the site by talking to the offeror and examining maps; they did not consider it necessary to do more than this until they were ready for on-site investigations.

Cortland and Allegany counties have raised other issues regarding compliance with the siting guidelines and the technical qualifications of the sites. For example, both counties have concerns about the commission's ability to obtain evidence that various characteristics of the sites—such as their geology—will be adequate for a low-level radioactive waste facility. Commission officials said that many of these issues, including site geology, will be addressed more thoroughly with on-site investigations, commission responses to public comments, and oversight from a reorganized advisory committee and a new scientific and technical review panel.

Although it is up to the commission to interpret its own siting procedures, documenting compliance with and deviations from the procedures may help establish and maintain credibility in the siting process. For example, without thorough documentation and articulation of the siting process in the case of Taylor North, the public—and perhaps ultimately the state's disposal facility licensing authority—could have difficulty understanding how the commission selected the site.

Background

The federal Low-Level Radioactive Waste Policy Act of 1980, as amended in 1986, requires states, either separately or in compacts of two or more, to dispose of commercial low-level radioactive waste generated within their

borders.¹ To implement the act, New York enacted its Low-Level Radioactive Waste Management Act on July 26, 1986. The state act created an independent Low-Level Radioactive Waste Siting Commission to select a site and disposal method for a low-level waste disposal facility. The act also required the state's Department of Environmental Conservation (DEC) to establish criteria for siting the facility and to certify, during a future licensing process, that the commission's selection of the site and disposal method conforms with the DEC's regulations.

Beginning in August 1988, the commission conducted a multi-step screening process that identified five potential sites for on-site investigations. First, through the use of a geographic information system, the commission started to apply exclusionary criteria that eliminated much of the state from further consideration.² By December 1988, the commission had narrowed its search to 10 candidate areas—representing about 2 percent of the state—ranging in size from 49 to 162 square miles. The commission's staff selected 96 sites from the 10 candidate areas; by April 1989, it had narrowed the number to 51 sites.

In its original plan for screening and selecting potential sites, the commission stated that it would consider offered sites that either had community support or were "obviously superior compared to other potential sites." In January 1989, the commission reduced the latter standard to "at least as good as" other sites. In February 1989, a landowner in Cortland County in the south-central part of the state offered the Taylor North site to the commission. The commission did not immediately determine if the site had community support, and later concluded that it did not. After the commission's staff evaluated the site and decided that it was at least as good as other sites, it added Taylor North and three other offered sites to the 51 sites that the commission was still considering.

The commission's staff then applied additional DEC criteria to the geographic information system. The commission's staff also incorporated information that was provided from counties in the candidate areas, from

¹Since 1990, New York and its two affected counties challenged the constitutionality of the federal law. New York questioned whether Congress may compel a state to be responsible for and develop a plan for the disposal of the waste in its state and to take title to the waste if the state fails to develop such a plan and have disposal facilities in operation by 1996. The U.S. District Court for the Northern District of New York and the U.S. Court of Appeals both ruled that the amendments passed in 1986 were constitutional. On June 19, 1992, the Supreme Court ruled that although the take-title provision of the act was unconstitutional, it could be severed from the remainder of the act.

²A geographic information system uses a computerized data base to capture, store, retrieve, analyze, and display information by locations. The commission used computers to compile the data and to produce maps showing areas of the state that would either be excluded or included based on the criteria.

visits to the sites, and from technical judgments at various stages in the process. From this analysis, the commission's staff selected 19 possible sites. After additional analyses, the number of potential sites was narrowed to five, including Taylor North.

The commission had intended to conduct initial on-site technical investigations of the five sites by late spring of 1990 and then select at least two of the sites for a more intensive, 1-year characterization process. However, public protests—including civil disobedience during the commission's attempts to gain access to the sites—and other objections from citizens and local governments caused the Governor to request the commission to defer on-site work until a new approach to the siting effort could be developed. The commission indefinitely suspended its field work in April 1990.

The Governor called for a quick response to what he said were legitimate concerns expressed by citizens and local officials. In July 1990, the state amended its waste act to provide more effective communication and public participation in the siting process and to establish a mechanism for independent scientific and technical review. Cortland County, however, continued to question the commission's credibility, in part because the county contended that the commission did not follow its site selection plan in selecting Taylor North. Among other things, Cortland County questioned why Taylor North was not excluded for its agricultural land and for the numerical scores it received when it was initially evaluated by the commission.

Taylor North Site Did Not Meet "at Least as Good as Other Sites" Requirement

After receiving the offer of the Taylor North site, the commission's staff completed a preliminary technical evaluation of the site. On the basis of this evaluation, the staff decided to include the site among the ones to be evaluated in more detail. For two reasons, this decision was inconsistent with the commission's requirement that to be considered further, an offered site must be "at least as good as" other sites under consideration at that time. First, Taylor North contained more than 5 acres of agricultural land in active production, contrary to state regulations that prohibited a low-level radioactive waste disposal site from containing more than 5 acres of such land. Second, the site scored below the minimum score that the commission's staff had established to identify promising sites for further consideration. According to the commission's staff, favorable site characteristics made it prudent to further examine the site rather than prematurely eliminate a potentially acceptable site from consideration.

Taylor North Contained Agricultural Land

DEC's regulations for certifying a low-level radioactive waste disposal facility prohibit the use of a site containing more than five acres of land in active agricultural use—that is, land that is in any of the four highest soil productivity categories assigned by the state.³ The commission further defined active use as use that generates more than \$10,000 of income per year from farming, as reflected in state tax exemption records. The commission staff used these and other criteria to screen the state, identify the first 96 sites, and subsequently reduce the number of sites to 51. Taylor North and three other offered sites were then added to those 51 commission-identified sites under review. Each of the four offered sites contained 5 or more acres of active agricultural land.

In a September 1989 report describing its selection of five sites for on-site investigations, the commission said that it might be possible to seek a variance from DEC's agricultural exclusion criterion for the Taylor North site on two grounds.⁴ First, the offeror was willing to sell the land and take the land out of agricultural production. Second, the site was classified as one that contained the fourth of the eight levels of productive soil; therefore, a variance would not be inconsistent with other state regulations that prohibited solid waste disposal facilities located in only the two highest productivity classifications of agricultural lands.

Shortly after the commission had announced the selection of Taylor North for on-site investigation, the commission's Executive Director sought DEC's guidance on applying for a variance, particularly one from the agriculture criterion. In December 1989, the DEC responded that it would base its decision to grant a variance or not on whether (1) the disposal facility could not be certified without it; (2) the facility could meet the performance objectives with a variance; and (3) the variance would have no significant adverse impact on public health, safety and welfare, or the environment and natural resources. Also, DEC said that it could not consider a variance request until the commission had submitted a complete application for a site permit.

The offeror's willingness to sell the Taylor North site influenced the commission's position on obtaining a possible variance from the

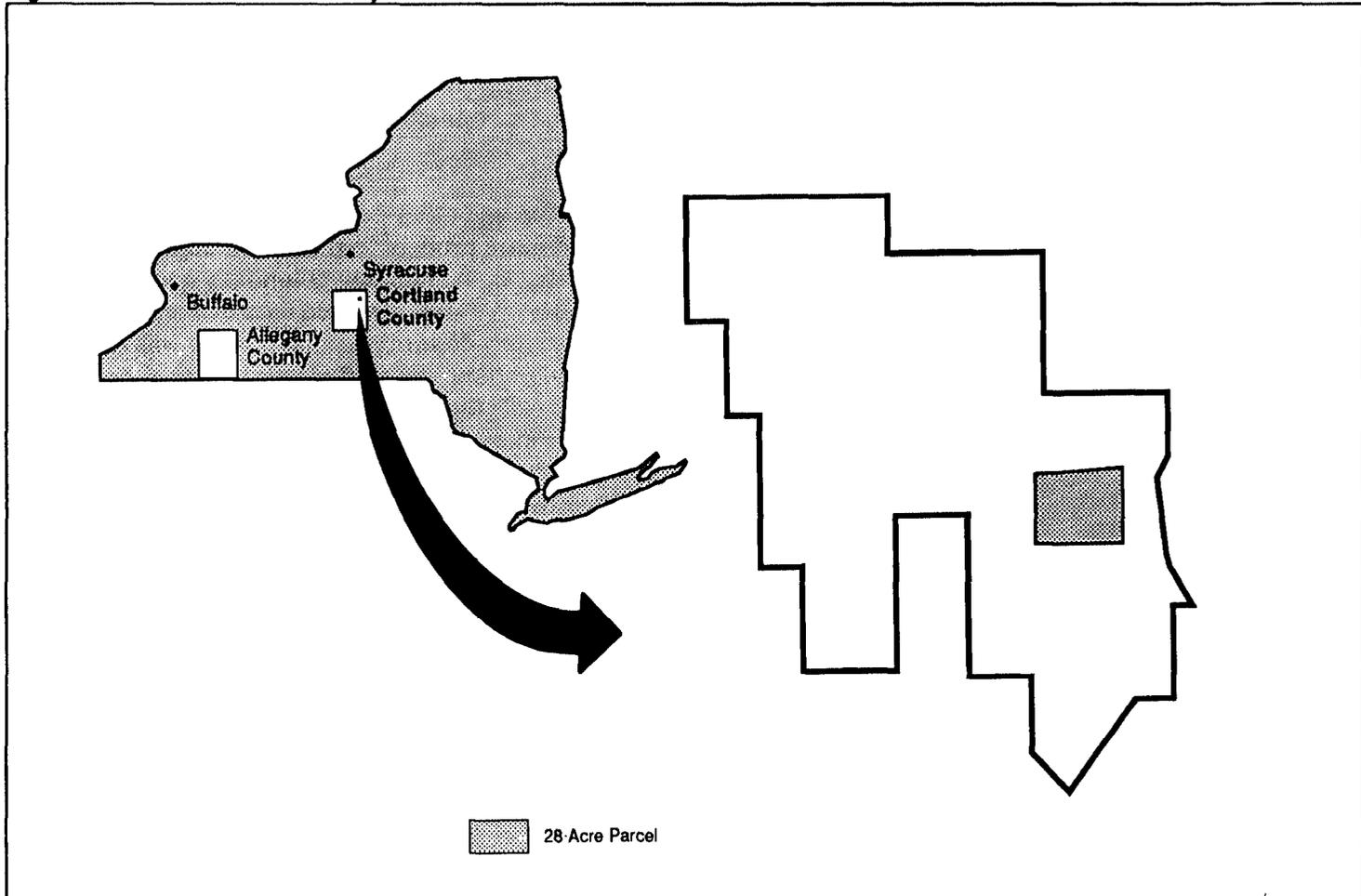
³The DEC siting criteria state that "the site must not contain more than 5 acres of lands in active agricultural use in mineral soil groups 1-4 as classified by the New York State Land Classification System" "Active agricultural use" is defined in these regulations as "lands used for agricultural purposes no less than two of the five calendar years 1983 to 1987 inclusive."

⁴The DEC regulations state that a variance may be granted from any of the provisions except the performance objectives, which generally involve public health and environment protection—in particular, protection from radioactivity at a nuclear waste site.

agricultural regulation. The commission had not determined, however, if a parcel of land surrounded by the site would be acquired by eminent domain. It was recognized by the commission that this 28-acre parcel of land was surrounded by—but was not a part of—the Taylor North site. Figure 1 indicates the general location of Taylor North and the 28-acre parcel, which was not owned by the offeror of Taylor North. In its preliminary evaluation of the Taylor North site, the commission's staff did not address the possibility that some or all of the 28 acres might be needed if the site was eventually selected to host a low-level radioactive waste disposal facility because the staff did not believe that resolution of the issue was necessary that early in the site evaluation process. Commission officials told us that they have not determined whether this property included active agricultural land.⁵ If the land was needed and a negotiated settlement could not be reached with the owner, the state could acquire the land through eminent domain proceedings, according to the commission's General Counsel.

⁵Cortland County officials told us about 8 acres were in agricultural production in 1991.

Figure 1.1: General Location of Taylor North and the 28-Acre Parcel Within Its Boundaries



Source: Prepared by GAO based on maps from New York Low-level Radioactive Waste Siting Commission.

Taylor North Site Scored Below Cutoff Level

The commission staff's preliminary technical evaluation of the Taylor North site, which was expressed in numerical terms, was lower than the cutoff score that the staff had used to select promising sites for further evaluation. The commission had used some of its site selection criteria to rate the sites' capacity to host two basic types of waste disposal facilities—a near-surface disposal facility and a drift mine.⁶ In March 1989, the commission's staff established this cutoff level based on the numerical

⁶A near-surface facility would contain waste above ground or below ground, with shallow excavation. A drift mine would contain waste in a horizontal tunnel in the side of a hill.

scores that were given to 96 sites from the commission's 10 candidate areas. If a site had 5 or more contiguous 40-acre cells that scored 3900 or greater using criteria for evaluating sites as potential near-surface facilities, it was retained for further consideration. Taylor North, however, had only 2 contiguous cells that met or exceeded this 3900 score. (App. I discusses these issues in detail.)

The chairman of the commission and other commission officials told us that they believed it appeared more prudent to further examine offered sites such as Taylor North rather than eliminate potentially acceptable sites prematurely. The commission's staff also told us they continued to examine Taylor North because they determined that the site was as good as the other sites under consideration. The staff also said that although the site did not have 5 contiguous cells that each scored at or above 3900 points, many of the cell scores exceeded 3800 points for the near-surface disposal method, and most of the site exceeded 4000 points for the drift mine disposal method. Other factors contributing to the decision to continue studying Taylor North included its large size (686 acres), regular shape, and moderate slopes; its lack of drainage constraints; its sufficient relief for a drift mine; and its location within one of the 10 candidate areas identified for potential sites. On this basis, the commission's staff decided that Taylor North was as good as other sites under consideration at this time, and therefore it was eligible for further study.

Other Actions Raise Questions About Adherence to Procedures

Other commission procedures for considering offered sites—such as determining if offers were made in “good faith” and notifying local governments of the commission's receipt of offers—lack the specificity necessary to determine if the commission followed the procedures. For example, upon receipt of an offer, the commission's staff was to obtain an accurate description of the site boundaries and determine that the offer had been made in good faith, in addition to conducting the initial technical review. Thereafter, the commission's staff was to recommend to the commission members whether the commission should further consider an offered site. Finally, upon favorable commission action on the site, the commission was to notify local governments of the offer. The commission's actions on the Taylor North site raise questions about how closely it followed these procedures.

Determining Boundaries and a Good Faith Offer

The commission's procedures for verifying both a good faith offer and the site boundaries contained no guidelines for implementation. Although the

commission obtained some information concerning boundaries and ownership several months after receiving the offer of Taylor North, the commission's staff did not formally verify the boundaries or the ownership until 2 years after the commission had selected it for on-site investigation. At that time the commission's staff had examined both the offeror's deed and a signed statement from other owners of the site that stated that the offeror could represent them in discussions with the commission.

Commission officials told us they originally verified the boundaries and ownership by discussing the two issues with the offeror and by examining a conservation plan map, prepared with the assistance of the U.S. Department of Agriculture's (USDA) Soil Conservation Service. The USDA Soil Conservation Technician, who helped prepare the map about 5 years before it was submitted with the offer, told us that the map provided very little information on ownership, and the boundaries were not necessarily accurate for that purpose.

Additional verification of the boundaries occurred after commission officials visited the offeror's land and determined that Taylor North was 1 of 19 sites that should receive further consideration. This further verification, based on an examination of state tax maps for all 19 sites, occurred about June 1989. Commission officials told us that although their examination of state tax maps served to confirm the offer, that was not their primary purpose for examining the maps. According to the commission's staff, the purpose of examining the maps was to provide information on whether local assessors considered the 19 sites to be composed of land used for residential, agricultural, or other purposes. The commission provided us with a copy of the tax map for Taylor North. It states in part: "These maps were prepared for tax purposes only. They are not intended for use in the conveyancing of land."

The state tax maps showed that the offeror did not own all of the land that he offered. The commission did not publicly state that the offeror did not own all of the site, nor did it verify that the offeror was legally authorized to represent the other owners, until December 1991. The commission's staff told us that the offeror's parents owned about 20 percent of the site. In addition, the offeror had leased oil and gas rights on the land to an oil exploration company from 1985 to at least 1995—or longer if oil or gas is produced.

The commission's staff told us they were aware of the multiple ownership when they evaluated the site in 1989 and the offeror told them that he

could represent his parents. The commission's General Counsel said that from undocumented conversations with the offeror (and not with the parents), the commission knew of the oral agreement before it selected the potential site. The commission's geologist, in an undated note to the commission's Executive Director, said that the offeror told him in April 1989 about the oil and gas lease.

In its report describing how the potential sites were selected, the commission did not mention the multiple ownerships. In addition, until November or December 1991 the commission did not formally document whether either the validity of the offer or the boundaries were affected by the multiple ownerships. In response to questions during a November 1991 commission meeting, the commission's General Counsel reviewed the offeror's deeds and other documents related to the offeror's ability to represent other owners. In a December 1991 commission meeting, the General Counsel said he was satisfied that the offeror had authority to speak on behalf of all the owners. The day before the December commission meeting, the offeror's parents signed a statement that said their son could represent them in discussions with the commission. The statement also said it ratified and extended the oral authority that the parents granted to the offeror in 1989. The commission's staff told us that the multiple ownerships were not mentioned before December 1991 because they were not important for the siting decisions that were made. Commission officials told us they had intended to spend more effort on verifying ownership before they began on-site investigations.

A representative of the oil exploration company's land department told Cortland County in a November 1991 letter that the commission had not contacted the company. In December 1991, the commission's General Counsel stated that the lease was a conveyance of a real property interest. According to the General Counsel, if Taylor North was the site ultimately selected, under the eminent domain law in the state any interest in real property can be set aside in the public's interest if a negotiated settlement cannot be reached with the oil company.

Notifying Local Governments

The siting procedures that applied to Taylor North and other offered sites did not require the commission to inform the affected county government and relevant town supervisors of an offer until after the commission had acted favorably on its staff's recommendation to consider the site further. This step came after the staff had determined the boundaries and size of the parcel, performed an initial evaluation of the site, and determined that

the offer had been made in good faith. Based on one possible interpretation of these procedures and the actions of the commission and the commission's staff to implement them, the commission's approval of Taylor North and notification to local governments could have occurred 6 months earlier.

As discussed earlier, the commission's staff said they initially determined the boundaries and the offeror's good faith by examining a conservation plan map received in February 1989 and by discussing the issues with the offeror. Furthermore, to determine if Taylor North was at least as good as other sites, the staff performed a preliminary evaluation of the site in March 1989, and they decided the site should receive further consideration as one of the 55 sites that would receive limited site visits. One interpretation of the procedures is that the staff could have recommended the site to the commission for further study at that time. The staff, however, further studied the site until 19 sites remained; it then decided to evaluate the site further until 5 sites remained. The staff first recommended to the commission that Taylor North be further evaluated during the September 1989 recommendation of sites for on-site investigations. Commission officials said they notified local officials of the recommendation three days earlier. Commission members and staff told us that the procedures were implemented as the commission intended.

Cortland County's Low-Level Radioactive Waste Coordinator told us that the commission never referred to the procedures for an offered site—or how the procedures were applied to Taylor North—until July 1991, even though the commission faced many questions about the selection of the site before that time. The procedures were not discussed in the commission's September 1989 report describing how Taylor North and four other sites were selected for on-site investigations.

Commission officials told us that the procedures themselves were passed in a resolution at a public meeting in 1989. We found the procedures in the minutes for the commission's January 1989 meeting; the commission's staff said it provided the minutes to the county. The commission's attendance list did not include any county government representatives at the meeting, which occurred when Cortland County was 1 of 10 candidate areas under consideration. County officials were listed in attendance at the February 1989 meeting where the January minutes, including the procedures, were distributed, according to commission officials.

Commission officials told us there is no documentation of the rationale for the procedures or the manner in which they would be implemented other than the procedures themselves, which were discussed and enacted in a public session of the commission in January 1989.⁷

Issues to Be Addressed

According to officials of the two counties where the potential sites are located, there are many issues which must be resolved before siting can be completed. Besides Cortland County's concerns regarding the commission's adherence to its plan, the county is also concerned about other procedural issues—such as the commission's responsiveness to comments on the siting process—and technical issues—such as the ability to determine whether shale at the sites will be a suitable barrier to the migration of radionuclides. In addition, Allegany County officials said that the commission has not adequately addressed technical issues that would eliminate the county's sites, such as

- former oil and gas exploration activities that could have left improperly cased drill holes at the sites, which would reduce the natural barriers preventing radiation from reaching ground and surface water;
- site geology, soils, and hydrogeology that do not exhibit properties that will retard the movement of radionuclides; and
- potential tectonic activity that could cause earthquakes and possibly breach the integrity of the sites or change the hydrology so a site's ability to act as a natural barrier to radiation would be compromised.

Commission officials said that they examined the technical issues and, based on the information so far, such issues would not preclude examination of the five potential sites. For example, they told us that a February 1990 letter from the state geologist addressed the effects of an earthquake on a low-level radioactive waste facility. The state geologist said he surmised the probability of an earthquake in Allegany County is low because no earthquakes have ever been recorded there and a fault zone in the county has not proven to be active. Even if a moderate earthquake did occur, it would not affect a radioactive waste facility that might be sited in the county, according to the state geologist. He said the facility will be designed to withstand the expected ground motions from such an earthquake and will not be sited on unsuitable soil.

⁷The chairman of the commission told us that the original plan poorly explained how offered sites would be treated. He said that the original plan intended that an offered site without community support had to be "obviously superior" to other offered sites that did have such support. By January 1989, the commission received two land offers, but neither one had community support, and therefore the commission revised the process for treating offered sites, according to the chairman.

Several commission members believe that in selecting the potential sites, the commission examined the best information available—including information the counties provided—without on-site investigations of the locations. The commission has reexamined its process and presented a series of public briefings at the end of 1991. In some cases the commission's review led to conclusions about improvements that could be made, such as involving the public in reviewing and making recommendations on draft documents, and improving records management. Generally, commission members believed that they complied with the plan or made technically competent judgments as allowed in the plan. Commission officials said the process was systematic, fair, thorough, and defensible, and it held subjective decisions to a minimum.

Among its current efforts, the commission is developing responses to questions from 1989 on its report on the selection of the potential sites. Furthermore, commission officials said they are determining the method for waste disposal before continuing site selection, as required by the state's 1990 amended low-level radioactive waste law. Commission officials said the initial on-site investigations will address technical questions, including those raised by the counties.

In addition, the amended state law called for other actions such as requiring the addition of an environmentalist and a social scientist to the commission.⁸ Also, the state has revised its low-level radioactive waste advisory committee, replacing members from state agencies with additional members of the public.⁹ The state also plans to establish a scientific and technical review panel to examine the siting process.

Observations

Commission officials believe the commission made competent judgments regarding the procedures for an offered site that were consistent with the flexibility allowed in their plan. However, our review of the commission's actions leads us to conclude that the commission's consideration of the Taylor North offered site was inconsistent with some of its procedures—and may not have followed others—in evaluating and eventually selecting the Taylor North site for on-site investigation.

⁸A vacancy remains on the commission for a social scientist.

⁹Because of vacancies on the citizen advisory committee, it did not have a quorum as of June 1992, according to a committee member.

We are not in a position to determine the limits of the commission's discretion in interpreting consistency with its siting procedures. Clearly, however, in an area as controversial as siting nuclear waste facilities, it is imperative that siting authorities such as the commission clearly articulate the procedures they intend to follow, document how compliance with the procedures has been achieved, and, equally as important, document on what basis the authority intends to deviate from the established procedures. Although the results of siting activities may be controversial and contested, as has been the case in New York, careful attention to documenting and articulating the rationale for actions as they occur may help to establish and maintain credibility in the siting process. Without thorough documentation and articulation of the siting process in the case of Taylor North, for example, the public—and perhaps ultimately the DEC, which is responsible for licensing a state facility—could have difficulty understanding how the commission selected the site.

Scope and Methodology

To obtain information on the issues discussed in this report, we interviewed officials of the commission, its advisory committee, the New York Department of Environmental Conservation, the New York State Energy Research and Development Authority, the New York Department of Health, and Cortland and Allegany counties. Although other organizations and individuals may have additional views on the siting process, we limited our review to the comments of officials of relevant New York state agencies and counties where the potential sites are located. In addition, we obtained documents from the commission, the counties, the New York State Energy Research and Development Authority, and the New York Department of Environmental Conservation. Also, we attended a commission meeting and viewed videotapes of other sessions. We conducted our work between July 1991 and June 1992 in accordance with generally accepted government auditing standards.

We discussed the facts in this report with the chairman and other officials of the commission and we incorporated their comments in appropriate instances. Generally they agreed with the accuracy of the facts.

As agreed with your office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from the date of this letter. At that time, we will make copies available to the Chairman, Nuclear Regulatory Commission; the Secretary of Energy; appropriate state officials; and others upon request. Please call me at (202)

275-1441 if you have any questions. Major contributors are listed in appendix III.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Victor S. Rezendes". The signature is fluid and cursive, with the first name "Victor" being the most prominent.

Victor S. Rezendes
Director, Energy and Science Issues

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Abbreviations

GAO	General Accounting Office
DEC	Department of Environmental Conservation
USDA	United States Department of Agriculture

Taylor North's Initial Scores and the Cutoff Level

The New York Low-Level Radioactive Waste Siting Commission did not comply with the letter of its procedure for an offered site, which stated that the commission should

“perform initial in-house review against technical criteria to determine that the parcel meets the cutoff level in use at the current selection stage. The parcel must be at least as good as the sites being considered at that stage.”

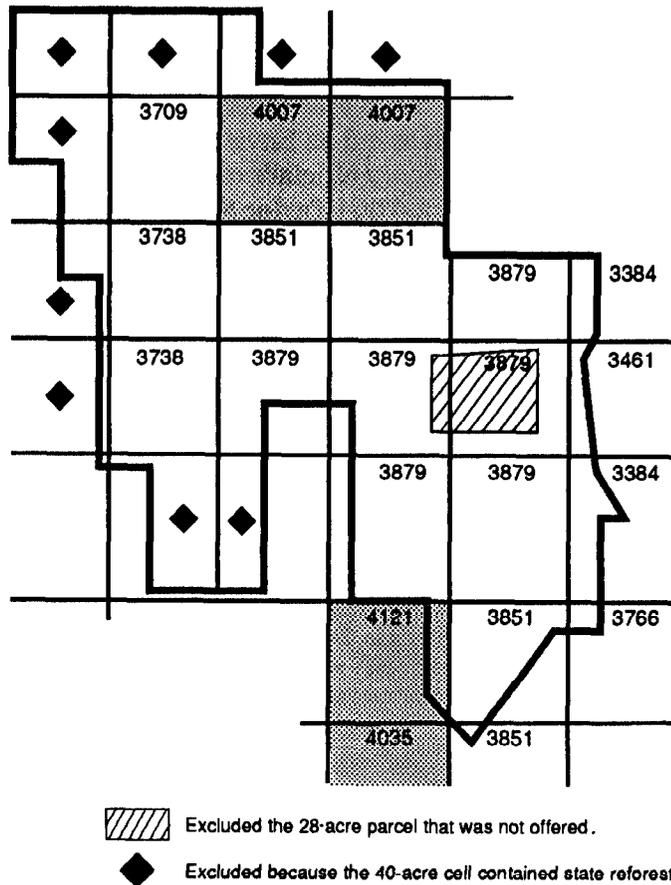
During the initial review of Taylor North, the site did not meet this cutoff level established for the sites identified by the commission's staff. Commission staff said that the cutoff level was important, but they told us that because of other considerations, they continued to examine the site.

The commission's staff rated each site against various criteria for two basic waste disposal methods — a near-surface disposal facility and a drift mine. However, the only cutoff level established at the time Taylor North was first examined applied to the sites' ratings as a potential near-surface facility; no cutoff level was established for the drift mine criteria. When the commission's staff initially rated the Taylor North site, it scored below this initial cutoff level, which was arbitrarily established in early March 1989. The cutoff level was designed to narrow the number of computer-generated sites to 96 — a more manageable number, according to the commission. Taylor North's initial score compared favorably to the cutoff level and the commission's additional reasons for continuing to consider the site were not included in the September 1989 report describing how Taylor North and other sites were selected for on-site investigations. Commission officials told us that a map of Taylor North containing its initial scores was provided to the county around September 1989.

Commission officials also told us that the geographic information system was used to divide Taylor North into 40-acre squares, similar to the composition of computer-generated sites. Commission officials said that each 40-acre square was rated in late March, 1989, after a cutoff score of 3900 was established to select the 96 computer-generated sites. Although the computer-generated sites required that 5 contiguous cells score 3900 or more for near-surface method criteria in order to be carried forward for further study, Taylor North had only 2 such cells. Figure I.1 indicates the Taylor North scores for a near-surface facility.

**Appendix I
Taylor North's Initial Scores and the Cutoff
Level**

Figure I.1: Taylor North Near-Surface Grid Cell Scores



Source: Prepared by GAO based on maps from the New York Low-level Radioactive Waste Siting Commission.

On several occasions the commission's staff has stated that although the selection of Taylor North as a potential site was not based on the scores alone, the scores were an important factor. The following are some of the commission's comments on Taylor North's initial cutoff scores:

- In its September 1989 report that described how it selected the sites, the commission said four offered sites—including Taylor North—that

displayed "high favorability scores" against the geographic information system criteria were added for consideration to the list of 51 sites. A fifth offered site was eliminated from further consideration because it scored "substantially below 3900."

- During the commission's public meeting to announce the selection of Taylor North and four other sites for on-site investigations, the commission asked its Environmental Programs Director to respond to a Cortland County official's question on whether Taylor North met the cutoff. He said that Taylor North scored 3900 or above for drift mine criteria and a little below 3900 for the near-surface method, and therefore it had an acceptable score on the first round of screening.

Also, the commission's Executive Director made the following statements in a November 8, 1989 letter to the Chairman of the Cortland County Legislature:

"It has also been asserted that the Taylor North site only marginally met the threshold favorability score at the initial GIS [geographic information system] screening stage. It is correct that at the initial GIS screening phase, the composite favorability score for the Taylor North site was close to the assumed cutoff score of 3900 points. It is important to add, however, that this GIS [geographic information system] score did not include all of the evaluation criteria in the site selection plan nor did it reflect the results of limited site inspections and other site-specific evaluations conducted subsequently. Thus, the GIS [geographic information system] score was only a preliminary measure of overall site favorability."

Commission officials told us that they continued to examine Taylor North because they determined that Taylor North was as good as the other sites under consideration. Commission officials said that the geographic information system evaluations indicated that, for near-surface disposal methods, much of the site exceeded 3800 points and, for drift mine technologies, the cell scores were higher—most of the site exceeded 4000. Commission officials told us that they did not consider the cutoff level for the 96 sites completely relevant to the offered sites. The decision to continue studying Taylor North, by including it in the limited site inspections, relied not only on the scores but other important considerations including

- the site's large size (686 acres) and regular shape,
- moderate slopes over most of the site,
- no apparent drainage constraints,
- sufficient relief for a drift mine,

**Appendix I
Taylor North's Initial Scores and the Cutoff
Level**

- a location within one of the 10 candidate areas.

On this basis, it was judged that Taylor North was comparable to other sites under consideration at that time, and therefore was as good as other sites and eligible for further study. The chairman of the commission and other commission officials told us it appeared more prudent to more closely examine Taylor North and some of the other offered sites with scores lower than Taylor North, rather than prematurely eliminate potentially acceptable sites. Furthermore, commission officials said the decisions resulted in the selection of sites that appeared to be promising locations to fulfill the health, safety, and other technical performance criteria.

New York Low-Level Radioactive Waste Siting Commission's Procedures for Responding to Offers



New York State
Low - Level
Radioactive Waste
Siting Commission



JAY D. DUNKLEBERGER • Executive Director

ANGELO FORAZIO • Chairman
DR. STANLEY J. GOLDSMITH
DR. H. DAVID MAILLIE
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Procedures for Responding to Offers of Parcels for LLRW Disposal Facilities

Definitions

An "Offered Site" is a parcel of land offered to the Commission for consideration as a LLRW disposal facility location by its owner.

A "Volunteer Site" is a parcel offered by its owner which has support in the local community for its use as a LLRW disposal facility.

Procedures

1. Upon receipt of a written offer, obtain an accurate description of the location boundaries and size of the parcel.
2. Perform initial in-house review against technical criteria to determine that the parcel meets the cutoff level in use at the current selection stage. The parcel must be at least as good as the sites being considered at that stage.
3. Determine that the offer is made in good faith.
4. Present staff recommendation on whether to proceed further on the site to the Commission Members for action.
5. Inform the County government head and the relevant Town Supervisors of the offer. This action is to be taken only after the first four steps have been completed favorably. The information is not available for public consumption prior to this time.
6. If the parcel is not in a Candidate Area, conduct a public information meeting at a nearby location.
7. Perform technical evaluations on the parcel as outlined in the Site Selection Plan.

1/26/89

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Related GAO Products

Nuclear Waste: Slow Progress Developing Low-Level Radioactive Waste Disposal Facilities (GAO/RCED-92-61, Jan. 10, 1992).

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Nuclear Regulation: The Military Would Benefit From a Comprehensive Waste Disposal Program (GAO/RCED-90-96, Mar. 23, 1990).

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