SPECIAL PLANNING BOARD MINUTES
August 5, 2026

The special meeting of the Planning Board was called to order by Vice Chairman Mr. David Catalana at 6:12 PM at the Landis Theater, located at 830 E. Landis Avenue, Vineland, N.J. 08360.

Members Present:
John Casadia
Douglas Menz
Thomas Tobolski
Scott Reale
Sandy Velez
Janine Andreoli
Robert Odorizzi
Elizabeth Arthur
David Catalana

Also present were:
Michael Malinsky, Planning Board Solicitor
Amanda Moscillo, Alternate Planning Board Solicitor
Yasmin Perez, Planning Board Secretary
Kathleen Hicks, Supervising Planner
Ryan Headley, Planning Board Planner/Engineer
Elizabeth Jambor, Assistant Planner
Brian Murray, Fire Marshal
Thomas Leisse, Pennoni Associates
Bryant Hendrickson, Jensen Hughes

FLAG SALUTE

This meeting is being held in accordance with the New Jersey Open Public Meetings Act. Notice of this meeting was given on July 24, 2025, and has been posted on the Official Bulletin Board in City Hall, posted on the City's website and published in the Vineland Daily Journal.

PUBLIC HEARING

DataOne Vineland, LLC–amended preliminary/final major site plan approval to construct an AI Data Center facility over two phases:

a) Phase 1 includes the construction of a 129,622 square foot AI Data Center Building along with associate site plan improvements (currently under construction)
b) Phase 2 includes the construction of the following:
    1) 587,980 square foot two-story AI Data Center Building Expansion to existing Phase 1 Building (293,990 square foot per floor)(currently under construction);
    2) Four (4) ground-mounted Bloom Power areas (52,200 square feet each);
    3) Three (3) 2-Story Platform Bloom Power areas, measuring the following:
        a) 104,420 square feet (52,210 square feet per floor);
        b) 104,702 square feet (52,351 square feet per floor);
        c) 110,734 square feet (55,367 square feet per floor);
    4) Two (2) 3-Story Bloom Power Areas (194,061 square feet each, 64,687 square feet per floor);
    5) 92,466 square foot Chiller Building;
    6) 8,660 square foot Liquefied Natural Gas (LNG) Tank and Related Infrastructure;
    7) LNG Facility & Filling Station;
    8) 6,750 square foot Water Treatment Plant with three (3) treated water tanks;
    9) 161,896 square feet of Megabay structures in two areas (53,096 square feet and 108,800 square feet); and
    10) Associated parking, landscaping, and site plan improvements.

The applicant was represented by Michael Fralinger, Esq. He provided the Board with a background of the project and explained that the project was originally approved by the Board in 2024. The original approval consisted of a very large-scale development containing six data center buildings, an office component, and a parking garage. In 2025, the applicant returned to the Board with an amended proposal that revised the previously approved project. The amended plan removed the office component and the parking garage and consolidated the six proposed data center buildings into two larger data center buildings.

The Board was shown the first amended and perfected site plan for the project. Mr. Fralinger explained that the 2025 amendment consolidated the data center buildings into two large buildings rather than the six semi-large

buildings that had been included in the original approval. The revised plan also introduced on-site power generation facilities. The power generation would consist of natural-gas-fired generating units, commonly referred to as gensets, located alongside the front data center building. In addition, separate power-generation buildings were incorporated into the project, which would also utilize natural gas for power generation. He further explained the size and configuration of the proposed buildings. The Phase Two portion of the development consisted of a two-story building with a footprint of approximately 630,071 square feet, resulting in approximately 1.26 million square feet of gross floor area. Phase Three consisted of an additional approximately 577,906-square-foot footprint, also consisting of two-story buildings, resulting in more than one million square feet of gross floor area. He noted that the proposed power-generation buildings would likewise be two-story structures. The amended proposal therefore represented a significant consolidation and reconfiguration of the previously approved data center development while maintaining a very large overall development footprint and incorporating dedicated on-site natural-gas power-generation facilities.

Mr. Fralinger continued the project history and explained that the previously proposed development involved a substantial amount of power generation and a significant amount of data center development. Earlier in 2026, the applicant submitted a further amended site plan, identified as the second amended application. The Board was shown the Bergen site plan as originally filed with that application. He explained that the second amended application reduced the amount of data center development proposed on the property. Specifically, the Phase Three data center building at the rear of the property was eliminated, and the Phase Two portion of the front data center was shortened. Under the revised plan, Phase One of the data center building consisted of approximately 129,622 square feet and was proposed as a one-story structure. A two-story addition of approximately 293,990 square feet was also proposed, resulting in a building footprint of approximately 293,990 square feet and a total gross floor area of approximately 587,980 square feet.

The second amended plan also introduced significant power-generation and cooling infrastructure. A large power plant facility of approximately 165,800 square feet was proposed, along with a chiller building of approximately 178,200 square feet. The power plant was proposed to contain 32 Bergen natural-gas-fired engines. He explained that Bergen engines are large industrial engines capable of operating using various fuel sources and are commonly utilized in applications such as marine and cruise-ship power generation. Under the proposal, the engines would be fueled by natural gas, with approximately 27 of the 32 engines operating at any given time. He further described the emissions-control equipment that would be associated with each Bergen engine. Each engine would be equipped with an oxycatalyst system, a selective catalytic reduction (SCR) system, two wet scrubbers, and a biofiltration system identified as Cyclia. Mr. Fralinger explained that the proposed power-generation equipment would require substantial cooling capacity. The plan therefore included numerous large dry-cooling units, referred to as “Megabays” or Megabay fans. These units would provide the necessary cooling for the Bergen engines and associated power-generation equipment. The proposed Bergen engine facility would provide approximately 300 megawatts of available live load to supply power to the data center building.

Mr. Fralinger explained that the second amended plan also removed the substation that had been shown at the lower portion of the property. He explained that the change was related to the proposed power-generation configuration and the need to provide a reliable backup fuel source. The proposed facility would rely upon natural gas for power generation, an additional backup source was necessary to ensure that the natural-gas supply would remain available during periods of high demand. The proposal therefore included construction of an on-site liquefied natural gas (LNG) facility. He described the proposed LNG facility as approximately 1.5 million gallons in capacity and noted that larger LNG facilities exist elsewhere. The Bergen site plan also showed a reservoir toward the lower portion of the property, along with stormwater management basins. He indicated that the purpose of the reservoir would be discussed further as part of the application. A water treatment plant and several additional structures were also depicted on the plan.

Mr. Fralinger explained that following submission of the second amended application, concerns had been raised regarding the proposed development and its power-generation approach. The applicant acknowledged those concerns and had continued evaluating alternatives intended to provide a better solution for powering the data center. As a result of that process, the applicant identified Bloom Energy fuel cells as an alternative power-generation solution. He then requested that the Board review the Bloom Energy site plan, which was displayed for the Board’s consideration. He continued by explaining that, in July 2026, an amendment to the second amended application was submitted to the Board. The applicant had reached an agreement with Bloom Energy following an extended period of negotiations to incorporate Bloom Energy’s fuel-cell technology into the project. He stated that the change in the proposed power-generation technology would provide several benefits to the project, particularly from an environmental standpoint, and advised the Board that additional testimony would be presented regarding those benefits during the hearing. The Bloom Energy fuel-cell facilities would be located toward the rear of the property, while the proposed data center building would remain unchanged from the previous plan. The chiller building, however, would be substantially reduced in size, from the approximately 178,200 square feet previously proposed to approximately 92,000 square feet. The number of Megabay cooling units would also be reduced by approximately one-third. The representative explained that the Bloom Energy fuel cells do not require the same level of chilling and cooling infrastructure as the previously proposed Bergen natural-gas engines, which resulted in the reduction of the chiller and Megabay facilities. He also directed the Board’s attention to the reservoir shown on the revised site plan and

indicated that testimony would be provided regarding the purpose of the reservoir. The LNG facility remained part of the revised plan, and he advised that the applicant would explain during the hearing why the LNG facility continued to be included despite the change in the primary power-generation technology.
Mr. Fralinger characterized the difference between the Bergen engine plan and the revised Bloom Energy plan as a change in the source of power generation. Under the prior proposal, electricity would have been generated by Bergen natural-gas-fired engines accompanied by extensive emissions-control equipment. Under the revised proposal, the Bergen engines and associated emissions-control apparatus would be replaced by Bloom Energy fuel cells. He explained that the Bloom fuel cells operate differently from conventional combustion engines because they use a non-combustion electrochemical process involving natural gas and air to generate electricity. He indicated that a technical witness would provide the Board with a more detailed explanation of the operation of the Bloom Energy fuel-cell technology. The revised application identified a total Bloom Energy fuel-cell nameplate capacity of approximately 374 megawatts. He clarified that the 374-megawatt figure represented the nameplate capacity of the fuel cells installed at the property and did not mean that the facility would necessarily operate continuously at 374 megawatts. He explained that the larger nameplate capacity was necessary to provide redundancy and backup power for the data center and to ensure a reliable power supply. Rather than utilizing conventional diesel generators for backup power, the revised proposal would incorporate additional Bloom Energy fuel cells at the site. The project was being designed to require approximately 300 megawatts of power, although the actual demand would likely be somewhat less than 300 megawatts. The additional Bloom Energy fuel cells would provide redundancy and backup power to ensure reliability for the data center operations.

Mr. Fralinger summarized that the application before the Board constituted an amendment to the previously approved project. The amendment would change the source of power generation, eliminate one of the data center buildings included in the original approval, and incorporate the chiller building and LNG tank shown on the current site plan. He stated that the current application was variance-free, although several design waivers from the prior approval would carry forward. He noted that there were also one or two additional design waivers associated with the current amendment, which would be addressed during the applicant's presentation and testimony. He then directed the Board to a rendering of the proposed site plan and requested that the rendering remain displayed for the duration of the initial testimony. He explained that the rendering provided a visual representation of what the completed development would look like. The rendering depicted the Bloom Energy fuel-cell units toward the rear of the property, the Megabay dry-cooling units, the reservoir, the LNG tank, and the other major components of the proposed development. He advised the Board that the rendering would be utilized by the applicant's first witness to assist in explaining the proposed improvements and their locations on the property. He further clarified that the existing property did not currently resemble the completed rendering, as substantial construction activity was already occurring on the site, including significant earthmoving and site preparation work. The rendering was presented to provide the Board with an overall visual understanding of the proposed final configuration of the project. He estimated that, following approval and continued construction, the project could be substantially completed within approximately one year.

Mr. Fralinger addressed concerns that had been raised by members of the public regarding the project. He acknowledged that there had been public comments and concerns relating to transparency, including questions regarding the extent to which the applicant had communicated with the public concerning various aspects of the project. He stated that the applicant had complied with the applicable requirements concerning notice and communication with the public. He then addressed the project's proposed energy structure and emphasized that the project had been deliberately designed so that its energy requirements would not be subsidized by existing electric or natural-gas customers. He stated that it was important to the applicant that the project itself be responsible for the costs associated with providing its required power, regardless of the ultimate power-generation solution selected. He indicated that testimony presented during the hearing would establish how the proposed energy system would accomplish that objective. He also explained that the current proposal would include Bloom Energy fuel cells with an aggregate nameplate capacity of approximately 374 megawatts. He again clarified that the 374-megawatt figure represented the total rated capacity of the installed fuel cells and did not mean that the project would continuously generate 374 megawatts. The anticipated power requirement and generation for the project would be approximately 300 megawatts. The Bloom Energy fuel cells would provide power directly to the project "behind the meter." The representative explained that this meant the electricity generated by the fuel cells would be used directly by the data center rather than being supplied to or drawn from the public electric grid. The proposed system would therefore generate power on-site for the project's use, rather than relying upon the existing electrical grid to supply the data center's primary power requirements. The electricity generated by the proposed Bloom Energy fuel cells would be used by the data center itself. The only exception would be approximately five megawatts of power that would be obtained from the City of Vineland through the existing Clayville Substation. The five-megawatt allocation resulted from discussions between the applicant, the City of Vineland, and the City's utility representatives. The City expressed an interest in participating economically in the project and had available excess electrical capacity. The applicant agreed to utilize approximately five megawatts of that excess capacity. He stated that providing the five megawatts would not require the City to incur costs or make upgrades to its existing utility system. The connection necessary to deliver the five megawatts from the substation to the data center would be fully funded by the data center project. The arrangement was characterized as essentially a pass-through of electricity. The City would purchase the electricity from the regional grid through PJM and pass the electricity

through its utility system to the data center. The arrangement would involve only five megawatts and would not require an upgrade to the City's existing electrical system.

He reiterated that the proposed arrangement was intended to avoid impacts to Vineland utility customers and other City residents. He stated that there would be no required upgrades to the City's utility infrastructure and no resulting costs or impacts to City ratepayers. The project ownership wanted the power arrangement structured so that the project would remain responsible for its own energy requirements while allowing the City's utility to participate economically through the limited five-megawatt power allocation.

He then provided additional background regarding earlier discussions with Atlantic City Electric. He explained that, approximately two and a half to three years earlier, when the project was initially being developed, Atlantic City Electric had been consulted regarding the possibility of providing electrical service to the project. He stated that such consultation was a normal part of evaluating the project's potential power requirements. Atlantic City Electric advised at that time that it could provide approximately 50 megawatts of electrical power on a temporary basis almost immediately. They further indicated that it could potentially provide approximately 300 megawatts of power within approximately one to two years. Based upon the initial discussions with Atlantic City Electric, the applicant had anticipated that the availability of electrical power would allow the project to proceed on an expedited construction schedule. However, as discussions with Atlantic City Electric progressed, it became apparent that the approximately 50 megawatts of power initially identified as being available would only be temporary. He explained that the proposed location for the temporary power connection was associated with the substation shown on the prior site plan, but that substation could not be converted into a permanent facility at that location. Mr. Fralinger further explained that the anticipated 300 megawatts of electrical capacity was not actually expected to be available within the one- to two-year timeframe initially discussed. Instead, the availability of approximately 300 megawatts was projected to be approximately five to seven years away. Because the project required a reliable power source within a much shorter timeframe in order to meet its data center construction and operational schedule, the applicant determined that a different approach was necessary. The applicant therefore decided to pursue on-site power generation and began evaluating what would be the most appropriate solution for providing the required electricity. He explained that the initial on-site generation concept involved the use of Bergen natural-gas engines. At an earlier stage, Mainspring units had also been located on the property as a temporary power-generation solution, with the Bergen engines ultimately intended to provide the permanent power for the proposed power buildings. Once the Bergen engine design had been developed, the applicant was required to submit a revised site plan reflecting the Bergen engines and associated power-generation facilities. He explained that the revised plan was necessary because the Bergen engine proposal required detailed analysis and consideration of emissions-control measures associated with the proposed natural-gas combustion equipment. Mr. Fralinger stated that discussions with Atlantic City Electric concluded when the applicant learned that even the proposed 50-megawatt electrical service could not be provided as a permanent solution at the existing substation location. A separate, permanent off-site substation would have been required, potentially located across the street or elsewhere in the surrounding area. He further stated that the permanent 50-megawatt service would itself have taken approximately two years to become available. Based upon those limitations and the extended timeframe associated with obtaining permanent grid power, the applicant determined that it would be preferable to remove the project's primary power requirements from reliance on the electrical grid. The applicant therefore proceeded with the evaluation of on-site power-generation alternatives, ultimately leading to the revised Bloom Energy fuel-cell proposal currently before the Board. He continued by explaining that the discussions with Atlantic City Electric included an understanding that, if any upgrades to the electrical network were required as a result of the project, those upgrades would be paid for by the project rather than by existing utility customers. He emphasized that avoiding impacts to ratepayers had remained an important consideration throughout the development of the project. The initial temporary 50-megawatt electrical service would not have required upgrades to the existing system and therefore would not have affected ratepayers. However, converting that temporary service into a permanent connection would have required upgrades to the electrical system. Those required upgrades were the reason the permanent service would have taken approximately two years to provide. He indicated that the additional requirements associated with making the service permanent were not fully understood by the applicant during the initial discussions with Atlantic City Electric, which ultimately led the applicant to discontinue those discussions and pursue an alternative power-generation approach. He reiterated that the applicant initially pursued the Bergen engine solution but continued to evaluate alternatives in an effort to identify a better overall solution. The applicant ultimately selected Bloom Energy fuel cells as the proposed power source.

Mr. Fralinger then addressed the natural-gas supply required for the Bloom Energy system and explained that the applicant intended to structure the natural-gas service in a manner similar to the electrical arrangement, so that project-specific infrastructure costs and reliability risks would not be shifted to existing utility customers. He stated that the project would not result in an increase in utility rates attributable to the development. He explained that the project would be responsible for the costs necessary for South Jersey Gas to provide natural-gas service to the property, including any infrastructure necessary to deliver the gas to the project. He then explained that the natural-gas supply involved two separate components: the natural gas itself, which is a commodity, and the transportation and delivery of that commodity. He stated that South Jersey Gas provides transportation and delivery services, but the applicant did not intend to obtain the natural-gas commodity directly through South Jersey Gas. Instead, the project would purchase the natural gas as a commodity through

a third-party supplier in the broader natural-gas market. The gas would be purchased on the open market and transported into the region from outside the State. He emphasized that this structure was intended to ensure that the project's natural-gas requirements and associated infrastructure would be addressed specifically for the project without shifting the costs of the development's energy requirements to existing utility customers. He continued by addressing the use of South Jersey Gas transmission infrastructure. He acknowledged that the project's use of the existing South Jersey Gas transmission lines could raise questions regarding potential impacts to the utility system. However, he explained that the project's use of the transmission system was viewed as beneficial because South Jersey Gas has available capacity within its pipeline network that it would like to utilize. South Jersey Gas does not necessarily have sufficient gas commodity available to fill that capacity, and the project's arrangement would allow the available transmission capacity to be utilized while the project independently procures its natural-gas supply. The project would therefore provide an economic benefit to South Jersey Gas through increased utilization of its transmission infrastructure without requiring the utility to provide the natural-gas commodity itself. He further stated that no upgrades to the South Jersey Gas transmission system would be required because sufficient capacity already exists within the system to serve the project. He explained the different types of natural-gas service available through the utility system. He described "firm" or guaranteed delivery service as a level of service under which a customer is assured of receiving its contracted gas supply regardless of circumstances affecting demand. Residential customers were provided as an example of customers generally receiving guaranteed service because their natural-gas supply must remain available. He contrasted firm service with interruptible, or limited-firm, service. He explained that certain customers require greater quantities of natural gas than would ordinarily be consumed by typical customers. Where sufficient pipeline capacity exists, South Jersey Gas can provide that additional gas; however, a portion of the service may not be guaranteed. Under an interruptible or limited-firm arrangement, the utility retains the ability to reduce or interrupt a portion of the customer's gas service when demand is particularly high or when system conditions require the available gas to be directed elsewhere. The applicant approached South Jersey Gas regarding the proposed arrangement and indicated that the project wanted to utilize the utility's existing transmission lines while recognizing the distinction between guaranteed and interruptible service. He stated that the applicant was willing to structure its natural-gas supply in a manner that would account for the utility's system needs and the possibility that a portion of the gas service could be interrupted under specified conditions. South Jersey Gas would not be able to guarantee or provide firm service for the entire quantity of natural gas required by the project. In response, the applicant proposed a service arrangement under which a portion of the project's natural-gas supply would be provided on a firm basis, while a substantial portion would be provided on an interruptible basis. Mr. Fralinger stated that the applicant would assume the risk associated with the interruptible portion of the gas supply. To address that risk, the project would utilize the proposed LNG storage facility. He explained that South Jersey Gas would have the ability to interrupt a substantial portion of the natural-gas service to the project when system demand or operating conditions required it. He specifically referenced periods of high demand, such as the winter months when residential customers rely heavily on natural gas for heating. He stated that the arrangement would allow South Jersey Gas to prioritize residential and other firm customers during periods of high demand, while the project would rely upon its LNG supply to address any interruption to its natural-gas service. He emphasized that the proposed arrangement was intended to avoid adverse impacts to South Jersey Gas and its customers. He stated that the project would not require upgrades to the South Jersey Gas system and that the utility would retain the ability to manage its system during periods of high demand. Similarly, he reiterated that the project's electrical configuration would not place additional demands or upgrade requirements on the City of Vineland's electric utility or its customers.

Mr. Fralinger stated that the financial risks associated with providing power and natural-gas service to the project would be borne entirely by the project itself. He explained that the project was structured so that existing utility customers would not be responsible for project-specific infrastructure costs or the financial risks associated with the project's energy requirements. He further stated that the project's approach was consistent with recently announced objectives by Governor Sherrill concerning the protection of existing utility customers. He noted that the applicant had developed its energy and infrastructure approach before those objectives were announced, but believed that the project's structure was consistent with the stated goals.

He identified several objectives that he believed were advanced by the project's proposed energy configuration, including protecting existing utility customers, avoiding stranded infrastructure costs, promoting operational flexibility and resiliency, and requiring data centers to internalize the infrastructure and energy costs attributable to their operations. He explained that the LNG facility would provide additional resiliency and operational flexibility by allowing the project to maintain its operations when a portion of its natural-gas supply was interrupted. He concluded that the project had been structured so that the costs associated with its energy requirements and necessary infrastructure would be borne by the project itself rather than being transferred to existing utility customers or residents. With respect to electricity, he reiterated that the project would generate its primary power on-site through the proposed Bloom Energy fuel cells and would not rely upon the regional electric grid for its primary power requirements. The only exception would be approximately five megawatts of power obtained through the City of Vineland's electric utility. He stated that the City had available capacity and that the arrangement would not require upgrades to the City's electrical system or result in costs being imposed on City ratepayers. Regarding natural gas, he reiterated that the project would purchase its natural-gas commodity from a third-party supplier rather than purchasing the gas commodity directly from South Jersey Gas. The project would utilize South Jersey Gas transmission infrastructure, but he stated that

sufficient capacity existed within the system and that no upgrades to the utility's transmission system would be required as a result of the project. The natural-gas facilities and connections required specifically to serve the data center would be paid for entirely by the project. Mr. Fralinger acknowledged that considerable information had been circulated publicly concerning the project and its potential effects on utility rates. He stated that some of the information was accurate while other information was not accurate or did not fully reflect the project's current proposal.

Mr. Malinsky addressed the exhibits to be entered into evidence. He identified Exhibit A-1 as the 2025 amended site plan, which depicted the various project phases separated by colored lines. Exhibit A-2 was identified as the plan originally submitted as part of the 2026 application. Exhibit A-3 was identified as the amended Bloom Energy site plan. Exhibit A-4 was identified as the site plan rendering depicting the proposed completed development. Mr. Fralinger confirmed that the exhibits had been correctly identified and that the descriptions of Exhibits A-1 through A-4 were accurate.

Timothy Ruga was sworn in and confirmed that he would provide truthful testimony regarding the application. Mr. Ruga possessed additional areas of expertise that were applicable to the matters under consideration. He testified that, in addition to his civil engineering experience, he had considerable experience in water supply engineering, including the design of reservoirs and related facilities. He further testified that he had practiced as a hydrogeologist since the 1980s and possessed expertise concerning aquifers and groundwater issues. He also testified regarding his academic experience, stating that he served as an adjunct professor from 1997 through 2003 at the University of Pennsylvania and Drexel University, where he taught courses involving groundwater flow, solute transport, and related subjects. Based upon his professional and academic experience, he indicated that he was qualified to address matters involving the aquifer and groundwater conditions associated with the project. He further described additional professional experience involving ice processes and climate-related matters. He testified that he had served as a contractor for the Federal Energy Regulatory Commission from 2008 through 2015 and had participated in climate-change studies involving ice processes in Alaska and other locations, as well as other projects involving climate-related conditions. He stated that his experience included matters involving temperature data, rainfall, sea-level rise, and other issues affected by climate conditions. Based upon Mr. Ruga's prior acceptance as an expert in civil engineering and the additional qualifications presented, Mr. Fralinger offered Mr. Ruga as an expert in civil engineering, water supply engineering, and climate-related matters involving weather and hydrology.

Mr. Ruga confirmed that several review letters had been received in connection with the project. He specifically identified the Planning review letter dated July 27, 2026, prepared by Mr. Headley, together with the related engineering review letter dated July 26, 2026. Paragraph 6 identified a potential variance requirement concerning the rear buffer. Mr. Ruga confirmed that the original configuration would have required a rear-buffer variance but explained that the applicant had agreed to modify the roadway layout to eliminate the encroachment. It is shown on the upper-right portion of the Bloom Energy site plan. He explained that the roadway originally extended around the wetlands and was located approximately 14 feet from the rear property line, while the applicable zoning requirement provided for a 25-foot buffer. As a result, the original roadway configuration would have required a variance. Under the revised plan, the roadway would be relocated to avoid the buffer encroachment. Mr. Ruga explained that the roadway could be extended northward from the point where the roadway currently tied into the upper portion of the site. The roadway would continue through the area currently identified as Stormwater Basin M and connect to the roadway on the right-hand side of the plan. Stormwater Basin M would be relocated to another portion of the site. Mr. Ruga stated that sufficient space was available to relocate the basin and that the revised roadway configuration could be accommodated without adversely affecting the site plan.

He then proceeded to paragraph 7, the design-waiver comments. He explained that previous applications had included design-waiver requests concerning stormwater basins and the provision and width of access drives. In particular, the prior approvals included waivers where access drives to certain stormwater basins were not provided, despite a required access-drive width of 10 feet. Mr. Ruga confirmed that the applicant continued to request the applicable waivers as part of the current application and noted that some of the facilities had already been constructed in accordance with the prior approval. Mr. Ruga explained that an access drive was necessary in at least one location, which he indicated was addressed under a separate review comment. However, for the majority of the stormwater basins, dedicated access drives were not necessary. Subsection B, the presence of stormwater-management basin drives. He confirmed that the same reasoning applied to the request for a waiver of that requirement. He explained that most of the basins were either sufficiently shallow or could be accessed for maintenance by other means, eliminating the need for a dedicated drive into each basin. He then described the location and general configuration of the stormwater-management facilities throughout the property. He identified a large basin on the far-left portion of the plan, adjacent to the area labeled Phase One. Mr. Ruga stated that this basin had already been constructed approximately one year earlier and was the site's single infiltration basin. He explained that the infiltration basin had access around its perimeter, allowing maintenance personnel to access and maintain the facility without the need for a separate dedicated access drive. In addition to the infiltration basin, the project included 11 additional stormwater basins. Beginning near the upper portion of the infiltration basin, the plan identified Stormwater Basins I and J, followed by additional basins extending clockwise along the northern portion of the property and continuing

toward the lower-right portion of the site. He indicated that the configuration and accessibility of these facilities supported the applicant's request for the applicable access-drive design waivers.

He explained that the bioretention basins would be filled with topsoil and planted with vegetation, allowing stormwater to pass through the basin and be filtered through the floor. Water would then be collected at the bottom of the facility. Mr. Ruga distinguished these facilities from the large infiltration basin that had already been constructed on the left side of the property, explaining that the existing basin was designed specifically to infiltrate stormwater into the groundwater. He explained that bioretention is a method of satisfying New Jersey State stormwater-management water-quality requirements and, for this project, was considered the preferred approach for managing stormwater quality. Subsection 7C, design-waiver request concerning fencing around the stormwater-management basins. Mr. Ruga confirmed that the entire project site would be enclosed by fencing and therefore individual fencing around each basin was not necessary. The property would not be open to the public. Mr. Fralinger noted that a similar waiver had previously been granted as part of the project. Subsection 7D, Basin S was identified as a large stormwater-management facility and bioretention basin. Mr. Ruga explained that access was available to most of the basin, but the current configuration did not provide access around the outlet structure. He agreed with the City Engineer's review comment and stated that the applicant would add the required access and turnaround area. Subsection 7F concerning the required side setback for Stormwater Basin L. Mr. Ruga identified Basin L as being located near the area where the roadway was proposed to be relocated. He explained that, because the roadway would be moved, Basin L could also be shifted farther down on the site to satisfy the required setback. Mr. Ruga confirmed that the applicant would comply with the City Engineer's requirement regarding the basin setback. Subsection 7G concerning the side slopes of the stormwater-management basins. Mr. Ruga confirmed that the project included several basins incorporating retaining walls. Mr. Ruga confirmed that they were permitted under the applicable DEP requirements. Mr. Fralinger explained, however, that the Vineland Stormwater Code contained a provision requiring stormwater basins to have a three-to-one side slope. Mr. Ruga confirmed that the City Code did not incorporate the DEP provisions addressing the alternative basin configuration at issue. He testified that he believed the waiver was reasonable and confirmed that the proposed configuration would function properly and could be maintained. Mr. Fralinger noted that a similar waiver had been granted for another basin as part of the project's original 2024 approval.

Paragraph 8, landscaping and screening requirements. The plan currently showed 11 trees where 14 were required. Mr. Ruga confirmed that the applicant could comply with the requirement and would add the additional trees. The landscaping comments concerning tree caliper size and minimum shrub-planting height were then discussed. Mr. Ruga confirmed that the omission was not an issue and that the appropriate notes would be added to the plans.

Paragraph 9 concerning driveway dimensions. Mr. Ruga identified the portion of the plan where the driveway width exceeded the applicable standard. He also identified the roadway located between the data center building and the large infiltration basin on the far-left portion of the property. He explained that the main entrance drive entered the property from Lincoln Avenue in the upper-left portion of the plan and then curved around and continued in front of the data center. That roadway was approximately 40 feet wide to accommodate truck traffic and allow for the safe and efficient movement of large vehicles. Mr. Ruga noted that the roadway had previously been approved in that configuration and exceeded the applicable standard, but he considered the width appropriate for the anticipated truck traffic associated with the facility. Mr. Fralinger stated that there were several lane widths shown on the site plan that exceeded the applicable maximum. The lane widths were approximately 17.05 feet, 18.5 feet, and 20 feet, compared with a stated maximum lane width of 17 feet. He indicated that the locations appeared to include areas along the north and south sides of the building and potentially the west side of the building. Mr. Ruga confirmed that those configurations had also been previously approved as part of the project. Mr. Fralinger stated that, because the roadway configuration had already been constructed pursuant to the prior approval, the applicant would continue to request the applicable waiver as part of the current application. Mr. Ruga confirmed that the existing configuration did not create any engineering concerns and, in fact, provided additional maneuvering room.

Paragraph 11 concerning the orientation of building entrances toward a street. He explained that the comment applied to the proposed Chiller Building and the Water Treatment Facility. Mr. Ruga confirmed that the Chiller Building was oriented toward the north and the Water Treatment Facility was oriented toward the east, rather than toward Lincoln Avenue. He confirmed that the primary data center building, however, was oriented toward the street. Regarding pedestrian walkway, Mr. Ruga confirmed that the facility would be private and would not be open to the public. He explained that there was no functional pedestrian connection between the buildings because of the nature and of the industrial facility. He stated that movement between the various buildings would occur by vehicle, including electric vehicles or conventional vehicles, rather than by pedestrian pathways. He then addressed the bicycle-parking requirement. Bicycle parking could be provided within the buildings. The plan currently indicated six bicycle spaces where 17 spaces were required. Mr. Ruga confirmed that there was no issue with providing the required bicycle parking. Subsection 11D concerning fencing around a stormwater basin. Mr. Fralinger noted that the issue was similar to a previously discussed basin-fencing requirement and that the applicant had previously received a waiver. Subsection 11E concerning the shape and location of a stormwater-management basin within a front-yard area was then discussed. Mr. Fralinger identified the basin located along Lincoln Avenue, which had already been constructed. Mr. Ruga

confirmed that a waiver had previously been granted for the basin and that, if a waiver remained necessary under the current application, the applicant would continue to request it.

Paragraph 12 under the special zoning standards. He noted that the front of the data center included a loading dock that had been approved as part of the prior application and was already constructed. Mr. Headley advised that the waiver should be included because the loading dock had been shown on the previous site plan and was identified as a loading dock for trash and related activities. He further noted that the property was located within the applicable IP zoning district and that the requirement should therefore be addressed.

Paragraph 17 concerning engineering and plan requirements. Counsel asked Mr. Ruga whether there would be any difficulty complying with Subsections 17A and 17B. Mr. Ruga confirmed that the applicant could comply with those requirements. Subsection 17C, concerning profile views, was then discussed. Mr. Ruga explained that the applicant was requesting a waiver because all of the project's piping would be located internally on the property and would not involve interfaces with City infrastructure or work within a City roadway. Because the piping would not involve City streets or similar public infrastructure, Mr. Ruga stated that preparing the profile views would not provide significant additional value to the review. The applicant would be able to provide them if required. Subsection 17D concerning preliminary architectural plans and elevations. Mr. Fralinger explained that the data center building was already under construction and, therefore, preliminary architectural plans were no longer applicable. He noted that architectural plans had been submitted to the City and were currently under review by the Building Department for the data center building.

Paragraph 18, area of stone located along the northern portion of the Bloom power field was not labeled on the site plan. Mr. Ruga stated that the area would simply be identified on the plan as an empty stone area and noted that it was already depicted in that manner on the site-plan rendering. Mr. Fralinger then addressed the vegetated earthen berms located along the southeastern and northeastern boundaries of the property. He noted that, although the site plan identified the berms, the plan did not clearly indicate vegetation on those areas. Mr. Ruga confirmed that the berms would be vegetated and that the plans would be amended to specifically show the proposed vegetation.

Paragraph 19 noted that the project had previously received an extended approval period. He requested that the previously approved extended approval period continue to apply to the current application. Mr. Fralinger then moved to the City Engineer's review letter dated July 27, 2026. Mr. Ruga confirmed that he had received and reviewed the engineering review letter. He discussed the review comments with the City Engineer, particularly with respect to revisions to the stormwater calculations. Mr. Ruga stated that he believed the applicant and City Engineer had reached an agreement concerning all of the comments.

Paragraph 20, Mr. Ruga addressed the traffic-engineering comment concerning the anticipated frequency of tractor-trailer and other heavy-duty vehicle traffic associated with the facility. He testified that the applicant had discussed the anticipated operational needs with representatives of Nebius. Based upon those discussions, the applicant understood that truck traffic during normal operations would be relatively infrequent, estimated at approximately two to five heavy-duty vehicles per month. There could also be additional delivery vehicles associated with routine deliveries, including vehicles similar to those used by companies such as Amazon. He further explained that the facility would periodically undergo refurbishment, generally on a five- to ten-year cycle. During those refurbishment periods, computer equipment would be removed from the data center one data hall at a time. He stated that each data hall would typically undergo refurbishment over approximately one month. During those periods, the applicant anticipated approximately 20 to 30 trucks per month associated with the removal and replacement of equipment. Mr. Ruga characterized the anticipated truck traffic as relatively low, including during the periodic refurbishment activities.

Mr. Ruga to addressed the handling of hazardous waste and electronic waste generated by the facility. He previously participated in discussions with the project ownership and Nebius concerning electronic waste and that it was important to establish how such materials would be handled as part of the site plan and project operations. He stated that the amount of electronic waste generated during normal operations would be minimized through structured logistics and sustainable equipment life-cycle management. He explained that damaged equipment would generally be removed from the facility and returned to the manufacturer for repair and subsequently returned to the data center, rather than being treated as waste generated at the site. He further explained that electronic equipment would be handled differently during major refurbishment or when equipment reached the end of its useful life. During those periods, equipment removed from the data center would be handled by third-party vendors. Based upon his discussions, he understood that a significant portion, and potentially the majority, of the equipment would be resold or otherwise reused. Any remaining equipment that could not be resold or reused would be handled by qualified third-party vendors for recycling or disposal in accordance with applicable regulations.

Mr. Ruga addressed water usage at the project, noting that there had been considerable public discussion concerning the amount of water allegedly used by data centers. Mr. Fralinger specifically asked whether statements regarding data centers consuming billions of gallons of water accurately described the proposed project. Mr. Ruga indicated that such figures did not accurately describe the water requirements of this particular project. He explained that water would be used for several purposes throughout the facility. One use

would involve the Bloom Energy fuel cells. He stated that the Bloom units would require a certain amount of water to produce steam during startup. His understanding was that the units would be filled when they were initially started and would subsequently operate without requiring significant additional water because the steam would be reused within the system. He noted that additional testimony would be provided by others concerning the specific operation of the Bloom units and their water requirements. Mr. Ruga further explained that the project would have limited potable-water requirements associated with ordinary building and employee uses. In addition, water would be required to initially fill the closed-loop cooling system associated with the data center. He stated that, because the cooling system would operate as a closed-loop system, it would not require continuous replenishment of water during normal operations. Accordingly, he characterized the data center's ongoing water consumption from these sources as relatively low. Mr. Ruga identified the Megabay units as the component of the project that would require a greater amount of water. He explained that the Megabays were the large fan and cooling units shown on the site plan near the center of the property. The manufacturer referred to the units as "Megabays" and that they functioned as large dry-cooling units. Mr. Ruga explained that the project would include approximately 486 Megabay fan units, which would be used to assist in cooling the water serving the data center and Chiller Building. He stated that the fans would operate effectively under normal conditions; however, during periods of exceptionally high outdoor temperatures, supplemental water would be required through a misting or spray system to provide additional cooling for the closed-loop water circulation system. That supplemental water would be sprayed through the Megabay units, where it would be used for evaporative cooling. Unlike the water contained within the closed-loop cooling system, the supplemental water used for misting would evaporate and would not be returned to the system. He identified this evaporative cooling process as the project's largest ongoing water use. Mr. Ruga testified that the project was expected to require an average of approximately 8 million gallons of water per year for the Megabay cooling system. To provide this supply, the project would include a large reservoir shown on the lower-right portion of the site plan. He explained that the rendering made the reservoir appear empty because it was intended to depict the reservoir with a cover over it. The reservoir would provide the supplemental water necessary for the Megabay system during periods of high heat.

Mr. Ruga then described the analysis used to determine the appropriate size of the reservoir. He testified that he utilized local weather information from the Millville Airport and analyzed approximately 60 years of usable temperature data, beginning in 1949 and extending through the present. Because temperatures recorded in the earlier portion of the data set were generally cooler than current conditions, the historical data was adjusted to account for projected conditions through a 2050 planning horizon. The adjusted temperature data was then used to evaluate the potential cooling-water requirements of the Megabay system under varying weather conditions. Based upon the analysis of the 60-year data set, Mr. Ruga initially determined that approximately 20 million gallons of storage would be sufficient to address the modeled water demand. He then applied a statistical reliability analysis to account for the level of reliability required for continuous data center operations. That analysis resulted in a final proposed reservoir capacity of approximately 27 million gallons. Mr. Ruga explained that the full 27 million gallons was never utilized in the model. He testified that the highest modeled water requirement was approximately 20 million gallons. He confirmed that the average annual water requirement was approximately 8 million gallons. He further testified that, even if the project were subject to New Jersey Department of Environmental Protection (NJDEP) water-use restrictions for an entire year, the reservoir would contain sufficient water to meet the data center's modeled cooling requirements. Under that scenario, he stated that the project would not need to obtain additional water from the City of Vineland during the restriction period. Mr. Fralinger clarified that this meant the project would not need to draw additional water from Vineland residents during such a period, and Mr. Ruga confirmed that was correct. Mr. Ruga explained that the reservoir would be supplied through a connection to the City of Vineland water system from the existing water line along Lincoln Avenue. The reservoir would be filled at a relatively low rate and, under normal circumstances, would primarily be replenished during the off-season, particularly during the winter months when overall water demand is lower. Mr. Ruga clarified that the reservoir would not ordinarily need to be filled to its full 27-million-gallon capacity. The anticipated average annual replenishment would be approximately 8 million gallons. He stated that the reservoir would be filled at approximately 300 gallons per minute, preferably during periods when other water users were placing less demand on the City's system. He compared the project's anticipated water consumption with other industrial and commercial water users in the City of Vineland. He stated that the project's anticipated 8 million gallons per year represented approximately 8% of the water consumption of the City's largest water user in 2025. He further stated that the project's annual use represented approximately one-quarter of the consumption of the City's fifth-largest water user in 2025. Mr. Ruga also noted that the full 27-million-gallon reservoir capacity was less than the amount of water used by Vineland's fifth-largest water user in 2025. He characterized the project's water demand as relatively small in comparison with existing major users. He further stated that the average annual requirement of 8 million gallons equated to approximately 20,000 gallons per day. Based upon discussions with City representatives, the project would have no significant impact on the City's water supply or distribution system. He stated that the City has surplus water supply available and that the project would represent a relatively small user. He further testified that adequate water pressure and supply existed in the area to serve the project.

Mr. Ruga to addressed the project from his perspective as a hydrogeologist, including the aquifer underlying the property. He testified that the property is located above the Kirkwood-Cohansey Aquifer, which he confirmed is also the aquifer from which the City of Vineland obtains its water supply. He testified that the project's water use would be incorporated within the City of Vineland's existing water allocation and that the

impact on the aquifer would be very minor. He reiterated that the project's anticipated consumption was substantially lower than the water consumption of several of the City's existing major users. No additional approval would be required because the proposed withdrawal would fall within the City's existing allocation and available surplus under its current water-allocation permit.

The Board subsequently opened the witness for cross-examination. Ms. Casandia Bellevue, an attorney with Earthjustice representing Sustain South Jersey, introduced herself and indicated that she would be conducting the cross-examination. She acknowledged that some of her questions might fall outside Mr. Ruga's areas of expertise and stated that, where appropriate, she would reserve those questions for another expert witness.

Ms. Bellevue began by referencing the DataOne Environmental Impact Statement (EIS). She noted that the EIS discussed the City of Vineland's estimated water capacity, including references to firm and non-firm water capacity. She asked Mr. Ruga to identify the precise amount of water the DataOne project would require from the City, particularly in light of his earlier testimony that the water requirement for the Megabay system was relatively small.

Mr. Ruga responded that the project's average water requirement for the Megabays and related uses was approximately 8 million gallons per year. Ms. Bellevue then asked whether that figure represented the project's overall water demand, including the fuel cells and other facility operations. Mr. Ruga explained that the 8-million-gallon figure primarily represented the Megabay cooling requirement and that he had not yet calculated the precise amount of water associated with all other uses, including the fuel cells. He indicated that, if an estimate were necessary, the total could potentially be approximately 5% higher, but stated that the precise figure would need to be calculated.

Ms. Bellevue then asked Mr. Ruga additional questions regarding the project's cooling system. She inquired whether chemicals would be added to the water as part of the evaporative cooling process to maintain equipment performance. Mr. Ruga indicated that this question was outside his area of expertise. It was agreed that the question would be reserved for a subsequent expert witness who would be addressing the cooling system. Ms. Bellevue then indicated that her colleague would address the groundwater-related questions.

Mr. Colin Parts, also appearing on behalf of Sustain South Jersey, then proceeded with cross-examination of Mr. Ruga. Mr. Parts initially questioned Mr. Ruga regarding the applicability of stormwater regulations to the project site. Mr. Parts asked whether Mr. Ruga was familiar with the NJDEP inland flood protection rules. Mr. Ruga stated that he was not. Mr. Parts then asked whether an engineering design must comply with regulations that are effective at the applicable time. Mr. Ruga responded that the project design must comply with the regulations applicable to the location and confirmed that the project was intended to comply with the rules currently in effect.

Mr. Parts asked whether NJDEP guidance provided that divided large basins do not satisfy green infrastructure requirements. Mr. Ruga disagreed and testified that NJDEP did not address the issue in that manner. He explained that the applicable requirement was that a water-quality basin have a minimum 2.5-acre contributory drainage area, and he stated that the project had been designed to comply with that requirement.

Mr. Parts specifically asked about Basin AH and whether it complied with the 2.5-acre drainage-area requirement. Mr. Ruga testified that it did and stated that it complied strictly with the requirement. When questioned about whether other engineers might disagree with his interpretation, Mr. Ruga maintained that his professional opinion was that the stormwater system had been designed correctly.

The questioning then turned to the project's location within the Coastal Plain. Mr. Parts asked whether the project site was located in the Coastal Plain, and Mr. Ruga confirmed that it was. Mr. Parts referenced Chapter 5 of the NJDEP Best Management Practices (BMP) Manual and asked about the use of the Delmarva Dimensionless Unit Hydrograph for calculating pre-construction peak flow in the Coastal Plain. Mr. Ruga testified that the Delmarva method was permitted; however, he confirmed that the project's calculations used the SCS Standard Unit Hydrograph instead. Mr. Parts questioned whether use of the SCS Standard Unit Hydrograph meant that the plan did not follow Chapter 5 of the BMP Manual. Mr. Ruga disagreed. He explained that, in his professional opinion, the SCS method was more conservative than the Delmarva method and that NJDEP permitted the use of the Delmarva method in the Coastal Plain, while the SCS method used for the project provided a more conservative analysis. Mr. Ruga maintained that the methodology used for the project complied with the applicable requirements.

Mr. Parts then questioned Mr. Ruga regarding groundwater recharge. Mr. Ruga confirmed that he had addressed groundwater recharge as part of his work on the project. Mr. Parts asked whether groundwater recharge was required to be addressed through small-scale Best Management Practices and whether those practices were required to meet the definition of green infrastructure under the New Jersey Code. Mr. Ruga agreed with the general characterization of the requirements.

Mr. Parts then returned to Basin AH, asking whether it was identified as a groundwater recharge basin. Mr. Ruga confirmed that it was. Mr. Parts again referenced the 2.5-acre maximum contributory drainage area and

asked whether Basin AH exceeded that limitation. Mr. Ruga disagreed with the characterization that the basin exceeded the requirement by nearly four times and maintained that the project's design complied with the applicable requirements.

The cross-examination then addressed roof runoff and the groundwater recharge basin. Mr. Parts asked whether roof runoff would be directed into the groundwater recharge basin, and Mr. Ruga confirmed that it would. Mr. Parts further asked whether the roof runoff would include runoff associated with the cooling system. Mr. Ruga confirmed that it would.

Mr. Parts then questioned whether cooling systems could produce condensate and whether such condensate could leach metals from cooling-system equipment. Mr. Ruga disagreed that the cooling system would result in such metal leaching to the roof. When asked whether it was therefore his opinion that metals would not be leached from the cooling system into the groundwater basins, Mr. Ruga answered affirmatively. Mr. Parts further asked whether any metals from the cooling systems could reach City of Vineland Well No. 17, located near the project site. Mr. Ruga disagreed.

Mr. Parts next questioned Mr. Ruga regarding groundwater mounding. Mr. Parts asked whether NJDEP methodology assumes an initial saturated-zone thickness of 10 feet, and Mr. Ruga agreed. Mr. Parts noted that the BMP Manual allows a different assumption when continuous sampling borings are available and further asked whether the BMP Manual establishes a maximum assumption of 75 feet. Mr. Ruga agreed with that characterization.

Mr. Parts then pointed out that the project report used an assumption of 150 feet. Mr. Ruga confirmed that the 150-foot figure was used. Mr. Parts stated that this was twice the 75-foot maximum and questioned whether use of a different assumption could mean that groundwater would rise significantly higher than estimated if the project's assumption proved incorrect. Mr. Ruga responded that if the site conditions were different from those identified through the project's investigations, the groundwater could rise higher; however, he maintained that the project's 150-foot assumption was supported by the site-specific evidence.

Mr. Parts asked whether Mr. Ruga's conclusion regarding the 150-foot assumption was based upon continuous sampling borings. Mr. Ruga clarified that the conclusion was based upon multiple lines of evidence, including information associated with Well No. 17, work conducted in connection with Trout National, and multiple borings performed at the project site. He testified that these sources consistently indicated that the aquifer at the site operates with a total depth of approximately 150 feet, which was the basis for the assumption used in the analysis.

Mr. Parts then began questioning Mr. Ruga about the soil borings performed for the project and the fact that the site plan had changed during the course of the various applications. Mr. Ruga acknowledged that the site plan had changed over time and confirmed that soil borings had been completed. Mr. Parts then asked whether those soil borings corresponded directly to the locations of the stormwater basins. Mr. Ruga clarified that soil borings were not conducted for every basin because the applicant was not relying on infiltration or groundwater depth in the basins, other than confirming that the basins were deeper than the minimum depth required by the NJDEP, for which the applicant stated it had sufficient data. He further clarified that the only basin being relied upon for infiltration was the large basin at the front of the site, which has a maximum drainage area of 2.5 acres.

Mr. Parts then turned to water quantity and the modeling methodology contained in the report. He stated that there were six (6) existing drainage areas listed on the site. Mr. Ruga indicated that he would need to verify the number and believed there may be more than six. The proposed design includes two (2) discharge points, effectively consolidating the site into two (2) large discharging watersheds. One of the proposed discharge points would discharge to the Northeast Precast basin located nearby. It was discussed that approximately half of the DataOne/Vineland site would discharge into the Northeast Precast basin. Mr. Ruga confirmed that the Northeast Precast basin would receive water from both the Northeast Precast site and approximately half of the DataOne site, but stated that the discharge would occur at a greatly reduced rate. When asked whether the amount of water received by the Northeast Precast basin would be significantly greater under the proposed design, he stated that they did not expect an increase or any change to the Northeast Precast basin.

Mr. Parts then discussed existing wetlands and depression storage areas on the site. Mr. Ruga confirmed that wetlands exist on the property and that significant depression storage areas are present within the wetlands. He stated that each wetland was addressed as its own depression and that every existing wetland was considered a storage area. He further confirmed that land cover was determined through aerial imagery rather than survey data. When asked whether survey data would typically be more accurate for categorizing the landscape or vegetation at the site, he disagreed and stated that conducting a survey for land cover would be unusual.

Mr. Parts questioned the software used for the stormwater analysis. Mr. Ruga confirmed that the software used was DrainNet Version 1.3 Alpha. He explained that DrainNet is not commercially available and was described by the applicant as a "wrapper" software that serves as an interface for other software. The applicant explained

that the program utilizes TR-20, described as the accepted hydrology program for this type of study, to generate TR-20 hydrographs. DrainNet then correlates or collects the hydrographs and incorporates the other hydraulic components of the system into a format used by the EPA stormwater management model, identified as SWMM. The applicant stated that the analysis is performed by SWMM and that, although DrainNet itself is not yet commercially available, the output is generated from commercially available or public-domain models. He also explained that the component processes are independent. Mr. Ruga stated that hydrograph generation is independent from hydraulic computations and that, because the processes are independent and there is no dependency between the two, identical results would be obtained each time the same processes were performed.

Mr. Parts then asked whether assumptions could be entered into the models. Mr. Ruga stated that assumptions could be incorporated into the input data for the publicly available models, as is done by engineers generally, but stated that no assumptions were made regarding how the models themselves function.

Mr. Ray Went, of the Went Law Firm, then identified himself and stated that he represented Andrew and Stevi Groetsch. He first questioned the parking requirements and referenced Item No. 15, noting that the plans indicated that 100 employees would be present during the main work shift, while a brochure distributed at the meeting stated that the project would create approximately 200 jobs. Mr. Ruga stated that he was not the appropriate person to answer the question but explained that a data center operates with multiple shifts. He stated that the provision of 167 parking spaces on the site was based on accommodating approximately 100 employees at a single shift at a time, with the worst-case condition anticipated to occur during the day when the offices were substantially occupied and utility workers were also present. Mr. Ruga stated that the site would have adequate parking under that scenario. When asked to clarify whether the main shift would consist of 100 employees, Mr. Ruga stated that this was his understanding.

Mr. Went then introduced an exhibit that had been distributed. The exhibit was identified as Groetsch 1, and Mr. Went stated that there were actually five (5) exhibits and that he had provided an index identifying them. Mr. Went then asked about traffic and whether a traffic engineer or other traffic expert would be appearing that evening. Mr. Ruga stated that it was his understanding that there would not be a traffic expert present. Mr. Went asked whether the traffic discussion had included LNG tanker trucks that would be used to fill the LNG tank and the anticipated frequency of those trucks. Mr. Ruga stated that the LNG trucks would arrive very infrequently, primarily if the facility were curtailed during the winter. He explained that the trucks would enter the facility and proceed to the offloading area, but stated that the anticipated traffic load associated with supplying the facility would be light. He explained that a specific traffic analysis had not been conducted because the primary traffic concern was internal circulation for the types of vehicles expected at the site, including fire vehicles, and that adequate space and stacking areas had been provided for the anticipated traffic. When asked to explain how the LNG trucks would reach the property, including their route and frequency, Mr. Ruga stated that he anticipated the trucks would enter through the main entrance, which he identified as the only entrance to the facility. He explained that the trucks would proceed across the front of the site and down toward the lower portion of the property, below the lower megabays, and then proceed to the road on the left near the offloading facility, where they would make a loop.

Mr. Went next questioned the project's water requirements and referenced the approximately 8 million gallons previously discussed. He asked when the determination of the project's current water needs had been made. Mr. Ruga estimated that the calculation had been completed approximately one or two months earlier. Mr. Went then referenced Exhibit 4, consisting of a series of emails in which Mr. Ruga had been copied. He referred to an exchange beginning in early October between N.E. Consulting and Dennis Koons with the City. Mr. Went stated that, in an email dated October 1, Mr. Koons indicated that the project was considering using up to 2.2 MGD to meet cooling needs on the hottest days and was considering a maximum withdrawal of approximately 3,000 GPM for approximately 12 hours per day. It was clarified that GPM meant gallons per minute. Mr. Went then referred to an October 6 response from Mr. Koons, who stated that he was surprised by the request and referenced an earlier understanding that the project would have sufficient water to the point of potentially selling water to the City. Mr. Koons further stated that the City was working to find a solution to the request for 2.2 million gallons per day, but that the City of Vineland did not then have the allocation available to provide that amount. Mr. Went also referenced subsequent emails concerning meetings and a letter from the City dated July 30, obtained pursuant to an OPRA request, which stated that, as of that date, the City of Vineland Water Utility had not received a formal request for water from DataOne. The letter further stated that, when a request was made, the City Water Utility wished to reserve the right to restrict DataOne's water usage in the event of a local or state emergency. Mr. Went asked Mr. Ruga to explain how the project had progressed from an earlier expectation that it would have sufficient water to potentially sell water to the City, to the 2.2 million gallon per day request discussed in October, and ultimately to the project's current water requirement. Mr. Ruga explained that the change was addressed in the Environmental Impact Statements. He stated that an earlier plan submitted in March included a system that would have generated significant quantities of water and that the March Environmental Impact Statement addressed that configuration. He explained that the project subsequently adopted a completely different power solution and would no longer have the biological emission controls shown in the earlier plan. Instead, the project would use water for a spray system. Mr. Ruga stated that the project initially contacted the City to determine how much water might be available, while recognizing that the City likely would not have sufficient quantities to satisfy the needs of the

data center. After receiving confirmation of the City's limitations, the project reevaluated its water requirements based on the actual configuration. He stated that the project also considered the possibility of a drought condition lasting an entire year, noting that such conditions had occurred previously, and determined that it needed to plan for a scenario in which it received no water from Vineland. Based on calculations performed approximately two months earlier, Mr. Ruga stated that the project had determined a requirement of approximately 27 million gallons for that condition. He further explained that, after the remaining demands for the Bloom units and domestic uses within the buildings had been calculated, the project would return to the City of Vineland with a formal water request. Mr. Ruga further stated that the average water requirement would be more than 8 million gallons, with higher usage occurring on certain occasions, and that the project would provide specific figures once the final calculations had been completed. Mr. Went asked whether, assuming the requirement remained in the 8-million-gallon range, Mr. Ruga understood that the City could provide that amount. Mr. Ruga responded that the City could provide it.

Ms. Marissa Blackshire, employee of Bloom Energy, testified on behalf of the applicant. Ms. Blackshire stated that she is the Vice President, Environment and Regulatory at Bloom Energy. She explained that her responsibilities include serving as the company's environmental and land use lawyer and managing the company's environmental, health, safety, compliance, and permitting teams. She stated that she holds a J.D. degree and has worked on air, water, and waste matters. Ms. Blackshire stated that she has been with Bloom Energy for six years. Ms. Blackshire explained that, during her six years with Bloom Energy, her team's responsibilities had included permitting and projects as well as environmental, health, and safety compliance for every installation and manufacturing facility. She stated that Bloom had more than 1,000 installations during that period and that she had personally worked on hundreds of projects and matters that went before agencies at various levels for approval.

Ms. Blackshire explained that a fuel cell consists of a ceramic plate with an electrolyte coated on two sides, with one side serving as the anode and the other as the cathode. Fuel enters on the anode side and air enters on the cathode side, where a reaction occurs that produces an electron without combustion. She explained that the equipment proposed for the site consists of Energy Servers, which are made up of power modules consisting of stacks of fuel cells. She explained that the Bloom system converts natural gas into electricity through a process in which ambient air interacts with hydrogen extracted from the fuel, resulting in high-efficiency electricity without combustion. She explained that a steam reformation process occurs inside the equipment to obtain the hydrogen from the natural gas. When asked about water usage, Ms. Blackshire stated that water is required at startup and for maintenance when the system is shut down. She explained that the system operates at a high temperature and converts the water to steam, and that as long as fuel and air continue to be supplied, the process continues without requiring additional water. Regarding the life cycle of the fuel cells, Ms. Blackshire explained that the shell of the Energy Server remains in place while the 65-kilowatt power modules that make up the Energy Server are replaced, on average, every five years. When replaced, the modules are immediately taken off-site to Bloom Energy's repair and overhaul facility in Delaware, where they are recycled. She stated that the modules are recycled at a rate of 99.5% by weight, with other waste streams also handled at that facility.

The discussion then turned to emissions. Mr. Fralinger stated that one of the reasons the project selected Bloom technology was its low emission rate and asked whether Bloom equipment requires air permitting from the State of New Jersey. Ms. Blackshire confirmed that the technology's electricity generation is based on a non-combustion reaction, resulting in very low criteria pollutant emissions. She stated that the New Jersey Administrative Code includes a provision that exempts the equipment from air permitting in this circumstance.

Ms. Blackshire then provided background information regarding Bloom Energy. She stated that Bloom has been operating for 25 years and that its commercial installations have been operating since 2008. She stated that the company has more than 1,000 installations worldwide, with operations in or having operated in approximately nine countries. She identified Bloom's two major manufacturing facilities as being located in San Jose, California, and Newark, Delaware, and stated that the company has more than 200 sites across the Northeast. She emphasized that Bloom is an established company and that the technology is not an R&D project. Ms. Blackshire then discussed examples of Bloom customers shown in the slide presentation. She identified Equinix, Oracle, Intel, and AWS as data center customers and also referenced installations at Walmart, Home Depot, and IKEA. She stated that Bloom also has installations at universities, including Caltech, as well as customers in the biotechnology and pharmaceutical industries. She explained that Bloom has worked with sophisticated customers and has had installations at customer sites throughout its history. The presentation then returned to the configuration of the fuel cell system. Ms. Blackshire explained that the power modules comprising the Energy Servers are made up of stacks of fuel cells. The fuel cells use natural gas and ambient air as inputs to produce electricity through an electrochemical reaction. She confirmed that each power module contains multiple fuel cells and that stacks of fuel cells make up the power module, while power modules make up the Energy Server. Each power module has a capacity of 65 kilowatts. Ms. Blackshire stated that an Energy Server configured for this project contains five (5) power modules, resulting in a 325-kilowatt Energy Server.

Ms. Blackshire then explained several benefits of the technology. She stated that criteria pollutant emissions, depending on the pollutant, are approximately 78% to 97% lower than those associated with other combustion

alternatives. She reiterated that water is only used at startup, resulting in substantially lower water use than other onsite generation alternatives. She also reiterated that the equipment is exempt from air permitting in New Jersey and stated that Bloom has similar exemptions in several California air districts, New York, and several other states. She further stated that the Energy Servers operate quietly and that the specification sheet indicates a sound level of approximately 65 dBA at 10 feet, which she described as quieter than a blow dryer. Mr. Fralinger then asked whether the quiet operation and noise mitigation were attributable to the absence of an operating engine, and Ms. Blackshire confirmed that they were.

Ms. Marissa Blackshire gave testimony regarding Bloom Energy's equipment, including noise, safety, emissions, maintenance, and waste management. Ms. Blackshire stated that people generally seek this type of equipment because of its quiet operation. She explained that she has an Energy Server located outside her office building, with a freeway approximately 100 feet away, and stated that, when standing next to the Energy Server, she can hear the freeway more clearly than the Energy Server. She attributed the low noise level to the equipment having almost no moving parts other than certain fans. The Bloom PowerPoint presentation was marked as Exhibit A5.

Ms. Blackshire talked about the safety of the Bloom Energy Servers. Mr. Fralinger noted that the systems do not use combustion and do not store gas on site and asked about comments comparing the systems to batteries containing stored energy that could potentially explode. Ms. Blackshire stated that this was not accurate. She explained that the systems do not store energy like batteries and that Bloom does not store gas on site. Instead, the systems use the existing natural gas infrastructure, with gas entering the Energy Server and being immediately consumed. She confirmed that the system effectively operates as a pass-through, with the natural gas being consumed to produce electricity, and that nothing is stored inside the Energy Servers.

Ms. Blackshire explained that the systems are monitored through multiple redundant controls. Each Energy Server contains numerous sensors designed to monitor conditions such as temperature and leaks. She stated that certain sensor readings will automatically shut down the system. In addition, Bloom maintains 24/7 monitoring through its Remote Monitoring Control Center (RMCC), which continuously monitors the system data and sensors and has the ability to shut down a system remotely. There is also an on-site emergency control system that allows personnel to shut down the system, the natural gas supply, and the electricity.
When asked whether an entire system must be shut down if an issue occurs, Ms. Blackshire explained that, typically, only the Energy Server experiencing the issue would shut down while the remaining equipment would continue operating. She stated that the technology is designed to confine an issue to a single Energy Server and prevent it from spreading. She further confirmed that the system can detect issues automatically through its own monitoring equipment and through the RMCC, with a third redundant system also providing shutdown capability. Ms. Blackshire confirmed that the system can automatically shut itself down even without the RMCC. Ms. Blackshire was asked about Bloom's experience with emergency incidents involving Energy Servers, including whether any had exploded or burned. She stated that she was not aware of an Energy Server at any facility having exploded. She stated that, during the history of Bloom's operations, there had been a handful of incidents involving first response; however, in each instance, the incident was confined to the Energy Server level, did not spread, and resulted in no property damage or injuries. She confirmed that each Energy Server is self-contained and that this is an intentional safety feature.

Mr. Fralinger then asked about Bloom's responsibilities at the proposed site. Ms. Blackshire confirmed that Bloom would operate and maintain the Energy Server system after installation. She also confirmed that Bloom would meet with local first responders, including the Vineland Fire Department, to review the system and provide information regarding potential issues they may need to address. She stated that this is done in every instance, generally as part of the permitting process and again before the system is placed into operation.

Ms. Blackshire identified the facility as the RMCC, which monitors the system data as previously described. The next slide addressed fuel safety. Ms. Blackshire identified several safety features, including low-pressure gas, use of the existing natural gas infrastructure, no gas storage, and continuous leak detection. She also explained that airflow helps remove gas from the electronics. She stated that these features are intended to ensure that, if an issue occurs, it is quickly contained at the Energy Server or power-module level.

The discussion then returned to Bloom's criteria pollutant emissions. Ms. Blackshire stated that California was the only state she was aware of with a certification program for onsite electrical generation. She explained that California has standards for CO, VOC, and NOX, and that equipment meeting those standards qualifies for certification. She stated that every generation of Bloom technology has been certified through that process, which includes review of Bloom's third-party source-test reports. Ms. Blackshire further stated that Bloom's emissions profile has resulted in numerous states and air districts exempting the technology from air permitting and that testing indicates near-zero criteria pollutants at the Energy Server level. Ms. Blackshire then discussed a visual comparison of Bloom's emission rates with California's certification standards. She stated that Bloom's emissions were approximately 96% lower for NOX, 87% lower for CO, and approximately 50% lower for VOC than the applicable standards shown on the presentation. She stated that the comparison was intended to demonstrate the low emission factors associated with the technology.

The Board then reviewed a comparison chart showing Bloom's emissions and efficiency in comparison with a natural gas engine equipped with controls. Ms. Blackshire explained that the left side of the chart showed Bloom's actual emission factors, the right side showed the actual emission factors for controlled natural gas engines, and the far column showed the percentage difference. The chart also included noise comparisons. She stated that the emissions figures were based on third-party source testing conducted by a third-party consultant and that the results were further validated by the State of California through its distributed-generation certification process. She stated that the sound measurements were the result of a study conducted by a sound consultant.

The Board then returned to the life cycle of the fuel cells. Ms. Blackshire stated that, after approximately five years, the individual power modules are replaced and the removed modules are sent to Bloom's repair and overhaul facility in Delaware. She stated that approximately 99.5% of the material returned to the facility is utilized to make new field-replacement units, which are subsequently used in Energy Servers at Bloom installations throughout the country. Mr. Fralinger characterized this as nearly 100% recyclability or reuse of the parts, which Ms. Blackshire confirmed. Ms. Blackshire explained that the Energy Server is the enclosure containing the power modules and that the system is designed to allow “hot swaps” during maintenance. She stated that a power module can be shut down and replaced without shutting down the entire system, allowing the remainder of the site to continue operating.

She then discussed the additional components associated with the Energy Servers and the handling of waste. Ms. Blackshire explained that an Energy Server consists of four (4) or five (5) power modules, depending on its size. A 325-kilowatt Energy Server consists of five (5) 65-kilowatt power modules. The system also includes ancillary equipment, including switchgear and desulfurization canisters. She explained that sulfur compounds are added to pipeline natural gas in the United States primarily for safety purposes so that gas leaks can be detected by smell. Naturally occurring compounds may also be present, and these compounds can adversely affect the fuel cells. The desulfurization canisters therefore clean the natural gas before it enters the power modules. Ms. Blackshire stated that the desulfurization canisters are sealed and, while located on site, are housed inside the silver Energy Server enclosures. She stated that this prevents them from coming into contact with stormwater or groundwater. Because the sealed canisters are located inside another sealed enclosure, she described the configuration as providing double containment. When asked how long a desulfurization canister lasts, Ms. Blackshire stated that its service life depends on the quality of the natural gas and is currently approximately 15 to 36 months. When a canister becomes “spent,” Bloom sends a third-party rigging company to the site to remove the sealed canister. The canister is placed on a truck and transported to a recycler in Indiana. The old canister is replaced with a new sealed canister.

Ms. Blackshire explained that the Remote Monitoring Control Center receives a notification when the canisters are approaching the end of their service life. She stated that the system provides sufficient advance warning to allow Bloom to arrange for the rigging company to arrive before replacement is required. Regarding the proposed Vineland site, Ms. Blackshire confirmed that Bloom has field-service teams deployed close enough to its facilities to respond to service needs. She stated that the Vineland site would have access to a field-service team and that more than one person could potentially come to the site to service the systems.

Ms. Blackshire explained that the final slide of the presentation depicted Bloom Energy Servers installed in close proximity to sensitive receptors, including residences and balcony areas. She identified one installation as a 25-megawatt site in Delaware that had been operating since 2012. She also identified a tower configuration at a California data center where four floors of Energy Servers were located behind screening. Mr. Fralinger noted that the proposed Vineland configuration would be similar, although on a smaller scale, with two-story and three-story configurations.

Mr. Fralinger then discussed maintenance and redundancy. Ms. Blackshire stated that the Energy Servers do not require frequent maintenance and that most maintenance can be performed without shutting down the entire site. She identified replacement of the power modules as the most intensive maintenance activity and stated that the modules are designed for “hot swaps,” allowing the site to continue receiving power while a module is replaced.

Mr. Fralinger then referenced the previously discussed 374-megawatt nameplate capacity and stated that the facility would actually utilize approximately 300 megawatts, or somewhat less. Ms. Blackshire confirmed that understanding and explained that the additional capacity is intended to provide reliability and redundancy. She stated that Bloom had conducted a study in 2023 indicating that its systems were available 99.997% of the time. She explained that overbuilding the system allows the Energy Servers to operate at a level that provides the ability to increase or decrease output while maintaining approximately 300 megawatts of available capacity regardless of what occurs with individual servers. Mr. Fralinger further clarified that the Energy Servers would all operate while the total nameplate capacity would be 374 megawatts, but at a lower operating rate, with the approximately 300 megawatts being the expected utilized capacity. He explained that the redundancy is intended to ensure that, if an individual server experiences an issue, the remaining servers can detect the condition and automatically increase their output. Ms. Blackshire confirmed that this was accurate. She further connected the continuous operation of the servers to the previously discussed water requirements, explaining

that water is used at startup and that, once the system reaches the necessary operating temperature, the steam-reformation process continues without additional water.

Mr. Fralinger then addressed waste heat generation. Ms. Blackshire explained that the Bloom system operates at high temperatures and that one of its outputs is exhaust in the form of heat or steam. She stated that heat modeling is generally not required for regulatory purposes but that Bloom had performed heat modeling for substantially larger projects, including a project approximately six (6) times the size of the proposed project. She stated that the modeling generally showed that temperature effects decrease rapidly with distance from the site. She further stated that the modeled project was much larger than the proposed project and had shown no impacts to nearby receptors, and that the proposed project would also have a 30-foot noise attenuation wall between the site and the nearest sensitive receptor, which Bloom expected would further limit any localized temperature increase experienced by those receptors. Mr. Fralinger referred to the larger project's modeling and recalled that it showed an imperceptible temperature change at 22 feet. Ms. Blackshire stated that she did not believe the distance was 22 feet and recalled that the modeling showed the result at approximately 0.15 miles. She reiterated that the project being modeled was approximately six times larger, did not have a sound attenuation wall, and was otherwise substantially different. Mr. Fralinger stated that he would need to review the report again because he specifically remembered the 22-foot reference. Mr. Fralinger then asked whether, based on Ms. Blackshire's experience and the modeling performed for the larger project, heat generation from the proposed facility was expected to create an issue for nearby properties. Ms. Blackshire stated that she did not expect a perceptible temperature change at the nearest sensitive receptor.

The discussion then turned to CO2 emissions. Mr. Fralinger noted that the Bloom system, like other electricity-generating systems using natural gas, would produce CO2 emissions. Ms. Blackshire confirmed that CO2 emissions would result primarily from the use of natural gas as the fuel input. She agreed that CO2 is produced whether the natural gas is used in an engine or in the Bloom fuel cell system. When asked whether Bloom had studied CO2 emissions, Ms. Blackshire stated that Bloom generally places its CO2 emissions in context by comparing them with other sources. She stated that, when measured in pounds per megawatt-hour, Bloom's CO2 emissions were approximately 32% lower than those of the Clayville Generating Station and approximately 20% lower than the marginal emission rate for the PJM Vineland node.

Ms. Casandia Bellevue, an attorney with Earthjustice representing Sustain South Jersey, began her cross-examination by asking about Ms. Blackshire's qualifications. Ms. Blackshire confirmed that she holds a J.D. degree but stated that she does not have a degree in engineering, chemistry, or an advanced degree in the physical sciences.

Ms. Bellevue then questioned Ms. Blackshire about greenhouse gas and CO2 emissions from the proposed fuel cells. Ms. Blackshire stated that the average Bloom CO2 emission rate is 819 pounds per megawatt-hour. Ms. Bellevue referenced a 2025 Bloom Energy Technical Specification brochure stating that Bloom fuel cells can produce up to 833 pounds of CO2 per megawatt-hour. She then referenced the previously discussed 300 megawatts of operating capacity and calculated that, assuming continuous operation at 300 megawatts for 24 hours per day and 365 days per year, the resulting annual emissions would be approximately 2.19 billion pounds of CO2. Ms. Blackshire agreed that the calculation was accurate in substance, while explaining that CO2 emissions are typically expressed in metric tons per year. She further clarified that 819 pounds per megawatt-hour represents the average emission rate across Bloom's fleet, while 833 pounds per megawatt-hour represents the maximum. Ms. Bellevue noted that pounds of CO2 were used for purposes of making the quantity more understandable and acknowledged that pounds can be converted to metric tons by dividing by 2,000. She then asserted that the calculated amount was greater than New Jersey's entire electric grid emissions. Ms. Blackshire stated that she was not sure that assertion was accurate. Ms. Bellevue referred the Board to a graph included in material she had distributed. The document was marked as Earth Justice Exhibit 1. Mr. Catalana noted that the report was from 2019 and that the underlying data was based on EPA data from 2016, according to the discussion. Ms. Bellevue then questioned the life span of the fuel cells and the availability of the rare metals used in their manufacture. She referenced potential global supply shortages and asked what DataOne's plan would be for obtaining energy once the fuel cells were spent. Ms. Blackshire indicated that the question would be more appropriately directed to DataOne.

The cross-examination then turned to heat pollution. Ms. Bellevue stated that heat can be an emission that exacerbates air-quality concerns and referenced the Census Block Group in which the facility is located, which she stated was already adversely affected by several sources of air pollution under the New Jersey Environmental Justice Law. She referenced Bloom specification documents indicating that the fuel cells operate between approximately 650 and 850 degrees Celsius and asked how much heat would be emitted by the fuel cells. Ms. Blackshire explained that the system operates at approximately 800 degrees Celsius, but that the high-temperature reaction occurs underneath multiple layers within the equipment. She stated that the exterior of the equipment is cool to the touch and that heat is emitted in the form of steam, which exits the system at approximately 150 degrees Celsius. Ms. Bellevue noted that the heat information was not included in the Environmental Impact Statement and asked whether DataOne intended to supplement the EIS with the information. Ms. Blackshire stated that she did not know whether DataOne intended to do so.

Ms. Bellevue then distributed copies of the New Jersey Administrative Code and referenced N.J.A.C. 7:27-8.2(d)(11)(2), stating that the provision requires fuel cells above five (5) megawatts to obtain a minor source permit. She asked Ms. Blackshire whether she was aware of that requirement, noting that the relevant provisions were identified on pages 4 and 7 of the material distributed. Ms. Blackshire explained that Bloom had gone through a formal permit applicability determination process with the New Jersey Department of Environmental Protection (NJDEP) earlier in the year. She stated that NJDEP interpreted the applicable exemption based on the modular nature of the systems at the Energy Server level, meaning that each 325-kilowatt Energy Server was subject to the exemption until major-source permitting thresholds were reached. Ms. Bellevue asked when the formal NJDEP process had occurred and whether it related to the earlier proposal involving Bergen generators or the subsequent Bloom fuel-cell proposal. Ms. Blackshire clarified that Bloom had not merely spoken with NJDEP but had completed a formal permit applicability determination process. She stated that she believed the applicability determination was received at the end of May. Ms. Bellevue noted that she understood the Bloom fuel-cell updates to have occurred in July and asked what configuration had been under discussion with NJDEP in May. Ms. Blackshire explained that DataOne needed to determine the applicable permitting requirements before deciding whether Bloom technology could be used at the site. DataOne therefore asked Bloom to explore the permitting requirements and exemption process before making the decision to use Bloom at the site. Ms. Blackshire confirmed that DataOne was the party involved in making that decision. The material was subsequently marked as an Earth Justice exhibit 2.

Ms. Bellevue then asked about the proprietary nature of Bloom's technology. Ms. Blackshire confirmed that the Bloom design is proprietary and that Bloom is the only company with the ability to perform the associated power-module swapping, repair, and recycling described during the presentation. Ms. Bellevue asked what would happen to DataOne's power supply if Bloom were to go out of business. Ms. Blackshire stated that the question regarding DataOne's plan would need to be directed to DataOne. She explained, however, that Bloom enters into a service contract requiring Bloom to operate and maintain the system for the duration of its life and that the service contract is separate from the purchase contract for the Energy Servers. She stated that, as long as Bloom maintained an existing fleet, she would expect its service business to continue.

Ms. Bellevue next questioned the desulfurization filtration units and the handling of the material contained within them. She characterized the spent material as toxic waste and asked about the applicability of the federal Resource Conservation and Recovery Act (RCRA) and whether major fuel-cell facilities are generally considered hazardous-waste generators. She also asked why the EIS did not discuss Bloom and RCRA. Ms. Blackshire responded that the spent desulfurization-canister material is not considered hazardous waste under the applicable exclusion. She stated that the material is subject to a RCRA exclusion when it is being recycled and is transported under a bill of lading identifying it as excluded recyclable material before being sent to a recycler in Indiana. Additional articles concerning Bloom and hazardous waste were then distributed to the Board. The material was identified as an article and marked as Earth Justice Exhibit 3.

Ms. Bellevue then questioned Ms. Blackshire regarding fire safety and the presence of natural gas at the site. She noted that the Bloom presentation repeatedly stated that gas is not stored on site, while the proposed facility would have a natural gas pipeline supplying the fuel cells and an LNG tank on site. She asked whether, notwithstanding the description of the natural gas as passing through the system, there would nevertheless be gas and flammable fuel present at the property. Ms. Blackshire stated that she was not familiar with the LNG tank or its purpose. Regarding the natural gas pipeline supplying the Bloom installation, she explained that it is comparable to the pipeline supplying natural gas to a residence for appliances such as a stove and that it is not considered storage of natural gas. Ms. Bellevue followed up regarding the LNG tank and stated that her understanding was that the LNG tank would provide fuel to the fuel cells in the event of an interruption or issue with the natural gas supply. Ms. Blackshire reiterated that the LNG tank was outside her area of responsibility and that questions concerning that component of the site plan should be directed to another witness.

Ms. Bellevue then returned to the distinction between a fuel cell and a battery. She asked whether the fuel-cell system could be characterized as a type of battery. Ms. Blackshire stated that it was not a battery and explained that fuel cells do not store energy, whereas batteries do. She stated that the distinction results in different flammability risks between the two technologies. Ms. Bellevue then asked about the use of flammable rare-earth minerals in the fuel cells. Ms. Blackshire disagreed. Ms. Bellevue referenced lanthanum, cerium, samarium, and gadolinium, stating that her information indicated these materials were identified as flammable and were components of the composite used in Bloom's cells according to the 2025 Bloom technology specifications. Ms. Blackshire responded that the finished product does not have a flammability potential and explained that, even if individual components could be flammable on their own, they are not present in the finished system in quantities that would cause the system to be classified as hazardous material or trigger reporting requirements.

Ms. Blackshire was questioned regarding emergency preparedness in the event of a fire involving the fuel cells and the LNG tank. Ms. Bellevue noted that the fuel cells operate at very high temperatures and referenced the rare materials contained in the fuel cells, as well as the LNG tank proposed on the property. It was stated that the EIS only generally addressed fire flow and emergency water supply on pages 16 and 17 and did not provide details concerning emergency preparedness plans. Ms. Blackshire testified that she could not speak to

the site-level emergency preparedness plan, but stated that the redundant safety controls and first-responder training previously presented form the basis of the emergency response plan. When asked about a prior incident at another installation and the amount of time required for first responders to extinguish the incident, Ms. Blackshire stated that she did not have the duration available. She testified that incidents occurring at a handful of installations over the course of Bloom's operations had been contained at the Energy Server level and had not resulted in property damage or injury. When asked whether those incidents involved smaller properties or smaller megawatt fuel-cell installations, Ms. Blackshire stated that the incidents had occurred at various sizes and that she did not have the specific details for the individual sites. When asked whether the incidents included installations equal to or exceeding the size proposed for DataOne, she again stated that she did not have the specific information. Ms. Blackshire was then questioned regarding the emergency shutdown process. She testified that the shutdown takes less than 20 seconds. She further confirmed that the system has on-site shutoffs for both natural gas and electricity, the system can also be shut down remotely from the Remote Monitoring Control Center, and sensors within the systems can detect specified parameters and immediately initiate a shutdown.

Colin Parts identified himself for the record and stated that he had two questions. He asked about the NJDEP permit applicability determination and whether the determination was based upon the individual Energy Server being below the applicable threshold. Ms. Blackshire testified that each Energy Server does not meet the threshold and is therefore exempt until the major-source limits are reached. Mr. Parts clarified whether, provided each individual Energy Server remains below the threshold, there would be no permit requirement for the entire system, and Ms. Blackshire answered affirmatively. Mr. Parts then questioned Ms. Blackshire regarding the RCRA exclusion previously discussed and asked whether it was an exclusion rather than a determination that the material was not hazardous. Ms. Blackshire stated that the exclusion provides that the material does not have to be manifested or transported as hazardous waste. When asked whether the exclusion applies because the material is being recycled, Ms. Blackshire explained that it is a policy decision under which certain types of waste do not need to be characterized as hazardous for purposes of the applicable provision, in this case recycling. When asked to confirm that the material would otherwise be considered hazardous but for the recycling exclusion, Ms. Blackshire answered affirmatively.

A question was then raised as to whose determination it is that the material is excluded from being considered hazardous waste. Ms. Blackshire explained that there is a federal RCRA provision identifying types of waste excluded from the requirement to be labeled as hazardous waste, and that the relevant exclusion concerns recycling. She further stated that the provision is contained in RCRA and state analogs and is not specific to Bloom's technology.

Mr. Ray Went of the Went Law Firm then questioned Ms. Blackshire regarding Bloom's largest installation to date. Ms. Blackshire testified that Bloom currently has 80 megawatts operating in Korea. Mr. Went noted that the proposed DataOne installation would therefore be 400% larger than that installation, and asked whether Bloom had accounted for the increased scale. Ms. Blackshire explained that the equipment is modular, consisting of multiple 325-kilowatt Energy Servers that operate independently, and compared the modular configuration to building with "Legos." She stated that the fact Bloom had not previously completed a larger installation was not related to the capability of the technology, but rather to the historical availability of power from the electrical grid. She explained that, until the past few years, customers could obtain the power they needed from the grid, whereas current conditions have resulted in demand for much larger sites. Mr. Went then asked about Bloom's total installations and referenced 973. Ms. Blackshire testified that Bloom had completed approximately 1.8 gigawatts in total. Mr. Went asked what that equated to in megawatts, and Ms. Blackshire confirmed that 1.8 gigawatts equates to 1,800 megawatts.

Mr. Eric Reaman was sworn in and identified himself for the record as Eric Reaman. He testified that he is the President and CEO of Cashman Preload Cryogenics, which is a designer and constructor of LNG storage tanks. He confirmed that Cashman Preload Cryogenics is the designer and potential constructor of the LNG storage tank proposed for DataOne. Mr. Riemann testified that he has been with Cashman Preload Cryogenics for 18 years, serving as Chief Operating Officer for the first 5 years and as CEO for the last 13 years. As CEO, he oversees the company's engineering design team and operations group to ensure that the tanks constructed by the company comply with applicable codes and internal quality standards. He holds a bachelor's degree in Civil Engineering from Union College and a master's degree in Civil Engineering from Cornell University. Mr. Reaman confirmed that he personally oversaw the design of the proposed LNG tank at DataOne and was involved in the design on a daily basis. He testified that he has been involved with dozens of LNG tank projects and explained that his involvement has included design, permitting, construction, and commissioning. He testified that LNG tanks are designed to the NFPA 59A standard, which he identified as a national standard. He confirmed that NFPA 59A is applicable in New Jersey and testified that the New Jersey Fire Code adopts the 2016 version. He therefore confirmed that a tank designed in New Jersey is designed in accordance with NFPA 59A. Mr. Riemann testified that the proposed DataOne tank is a full-containment tank. He explained that the type of full-containment tank his company designs consists essentially of a tank within a tank. The inner tank is constructed with 9% nickel, which is capable of holding LNG at cryogenic temperatures, while the outer tank is constructed of pre-stressed concrete and is capable of containing 110% of the contents of the inner tank. He stated that the full-containment design is based upon a standard defined by an API standard recognized by NFPA 59A. He identified API as the American Petroleum Institute and further

identified API 620, API 625, and ACI 376 as additional standards applicable to LNG tank design and construction.

Mr. Reaman confirmed that Cashman Preload Cryogenics was engaged to design and construct the proposed DataOne tank. He explained that other adjacent firms would handle the tank top and waterfall piping, which Mr. Jacobs would address separately. He was not aware of an independent firm being brought on board for review purposes. Mr. Reaman stated that his personal role was to oversee the company's engineering group during the tank's design and ensure that the design met applicable codes and standards. He confirmed that he is familiar with the design plans and materials to be used in construction and that, to his knowledge, the tank was designed in accordance with NFPA 59A.

Mr. Reaman was questioned regarding hazards associated with LNG tanks. He testified that the hazards relate to the release and ignition of vapor and that the design addresses those hazards through the use of a full-containment tank, spill-containment siting distances in accordance with NFPA 59A, fire and gas detection equipment, emergency shutdown equipment, and electrical grounding. He further confirmed that he is familiar with the physical characteristics of LNG and the manner in which LNG is stored and handled. He testified that LNG is natural gas chilled to minus 260 degrees Fahrenheit, is colorless and non-toxic, and is stored at near-ambient pressures.

Mr. Reaman then confirmed that Cashman Preload Cryogenics' overall role in the project is the design and construction of the LNG storage tank. He stated that he had prepared a slide presentation to assist the Board in understanding the tank. The presentation was identified as a PDF and marked as Exhibit A6. It was stated that the PDF consisted of 14 pages. Mr. Reaman confirmed that the presentation was prepared by him and his team and was intended to provide a representation of the proposed tank at the DataOne site. Mr. Reaman testified that the proposed tank has a capacity of 1.5 million gallons. He stated that it is designed to contain and send out 56 million square feet per day when needed at 100%. The contents of the tank would be used on site and would not be used for pipeline distribution, export, or peak shaving. He explained that the LNG would be vaporized and consumed on site to keep the data center operating during a peak-day situation when the gas supply was curtailed.

Mr. Reaman described the full-containment tank as being similar to a thermos bottle. He explained that the inner tank serves as the primary containment and is made of 9% nickel steel, while the outer tank consists of pre-stressed concrete walls and a 9% nickel floor. The outer containment is designed to handle 110% of the LNG independently. He explained that 9% nickel steel is used because it has been safely used to store liquid natural gas at temperatures of minus 260 degrees Fahrenheit.

Mr. Reaman explained that minus 260 degrees Fahrenheit is the approximate boiling point of LNG, or the temperature at which liquid natural gas turns into vapor. He explained that, conversely, natural gas vapor is chilled to minus 260 degrees Fahrenheit to convert it into a liquid. He then described the proposed full-containment LNG tank, explaining that the concrete outer wall is constructed first and serves to contain the liquid and vapor within the tank. The outer wall is approximately 17 inches thick, consisting of a 14-inch precast concrete wall, a 5/16-inch steel liner on the outside, and approximately 3 inches of shotcrete. Mr. Reaman explained that the shotcrete provides compression to maintain the shell in a circumferential shape.

Mr. Reaman testified that the tank is designed for a 150-mile-per-hour sustained wind, which he described as equivalent to a very strong Category 4 hurricane and substantially greater than the approximately 75- to 80-mile-per-hour winds experienced in the area. The tank is also designed to withstand impact, including a code-defined 110-pound, 8-inch-diameter projectile traveling at 90 miles per hour striking the wall. He explained that concrete is inherently fire resistant and confirmed that the tank is fully grounded and connected to the grounding system throughout the site. The concrete outer wall is designed at 7,000 psi, which he explained represents very strong concrete.

Turning to the primary containment, Mr. Reaman explained that the inner tank is constructed of 9% nickel cryogenic-grade steel, which is designed to contain LNG without becoming brittle at extremely low temperatures. The inner tank is designed to hold the entire 1.5 million gallons of stored LNG. He testified that the inner shell is approximately 95 feet in diameter and 36 feet tall. The overall tank has a wall height of approximately 45 feet and is just under 60 feet to the top of the dome. The foundation is approximately 112 feet in diameter.

Mr. Reaman testified that the annular space between the inner and outer tanks is continuously monitored. In the event of a leak, monitoring equipment would detect it. The temperature of the floor slab is also monitored because of the potential effects of minus 260-degree liquid escaping from the inner tank. He explained that remote transmitting devices are located throughout the floor, walls, annular space, and on top of the dome to monitor temperatures. If an alarm condition occurs, various equipment on the tank would immediately shut down and appropriate mitigation measures would be initiated.

Mr. Reaman explained that a high-level condition during filling would trigger an alarm and automatically shut off the loading operation before LNG could spill from the inner tank into the annular space. He also testified

that equipment is provided to discharge dry chemical in the event of a fire on top of the tank. The tank operates at less than 2 psi, normally approximately 1 to 1.5 psi, and is designed for 2 psi. Pressure-relief valves and vacuum-relief valves are located on the dome and would release pressure if it exceeded 2 psi. Mr. Riemann compared 2 psi to the pressure associated with blowing up a balloon or being approximately 4.5 feet underwater.

Regarding construction, Mr. Reaman explained that the foundation is constructed first, followed by the outer wall. The outer wall contains an opening to provide access to the interior during construction. After the outer tank is completed, the dome is erected, creating a dry interior in which the inner shell is constructed. Once the inner shell is complete, the inner tank is hydrostatically tested and the outer tank is pneumatically tested. The tank is then insulated and placed into service.

Mr. Reaman testified that Cashman Preload has been in business for more than 95 years and has constructed more than 4,000 tanks for various applications. He stated that the company has constructed approximately 40 cryogenic storage tanks, most of which were LNG tanks, dating back to 1952. He confirmed that Cashman has a number of tanks that are more than 50 years old. He explained that there are two general types of LNG tanks: full containment and single containment. A single-containment tank has an outer shell that is not capable of containing a leak; in the event of a failure, the outer shell could crack and release vapor and, with a sufficiently large spill, liquid. A full-containment tank is designed so that the outer tank itself can contain the liquid.

Mr. Reaman further explained that a single-containment tank would require a separate dike around the tank to contain liquid in the event of a spill, whereas the proposed full-containment tank incorporates the necessary containment into its structure. The outer tank is designed to contain 110% of the LNG, which he characterized as a conservative design measure. He confirmed that the proposed tank was designed in accordance with NFPA 59A, as well as the applicable API, ACI, and ASCE standards.

Mr. Reaman described the full-containment design as a proven design and stated that full containment is recognized as the highest level of containment for LNG. He identified 9% nickel for the inner tank and pre-stressed concrete for the outer tank as industry-standard materials for cryogenic full-containment tanks. He reiterated that Cashman Preload has delivered more than 4,000 tanks during its 95-year history, with a number of LNG storage tanks having been in service for more than 50 years. He further stated that, worldwide, more than 80,000 LNG shipments have been delivered without a loss of cargo containment.

Mr. Reaman testified that the tank is designed to address various upset conditions, including site-specific and seismic conditions. He explained that the foundation slab is heated to prevent the minus 260-degree temperature of the LNG from penetrating into the ground and creating frost conditions. He explained that LNG boils similarly to water, except that water boils at 212 degrees Fahrenheit while LNG boils at minus 260 degrees Fahrenheit. The resulting LNG vapor is captured and routed back to the engines or fuel cells for use. Mr. Riemann explained that the LNG remains at approximately minus 260 degrees Fahrenheit because the inner containment system is highly insulated. The liquid boils off only at the surface, while the liquid below the surface remains at approximately minus 260 degrees Fahrenheit. The boil-off gas is captured and returned to the plant or can be rerouted back into the tank. He confirmed that the boil-off vapor is not intended to leave the site or enter the atmosphere but is captured and directed into the system.

Regarding monitored settlement, Mr. Reaman explained that the tank imposes an enormous load on the ground when filled with liquid. Geotechnical studies were performed to confirm that the tank would not settle, and permanent benchmarks were installed on the foundation to monitor settlement. Inclinometers also run through the foundation to ensure that settlement remains within tolerable limits.

Mr. Reaman explained that prevention of overfilling relies on operator training and equipment incorporated into the tank. The fill lines contain valves that automatically shut off if a high-high alarm is triggered. Before the tank is placed into service, it will undergo hydrostatic testing, pneumatic testing, and testing during the filling process. He described the pre-commissioning and commissioning period for a tank of this size as approximately 1½ months. During that period, personnel monitor temperature, level, and pressure, look for problems throughout the system, and gradually cool the tank by controlling the rate at which LNG is introduced. He explained that introducing too much liquid into an ambient-temperature tank too quickly could shock the system, and the tank must gradually become cold enough to store liquid.

Mr. Reaman testified that although Cashman Preload has constructed both single-containment and full-containment tanks during its history, during the last 20 years the company has constructed only full-containment tanks for LNG and other cryogenic liquids, including liquid propane and ammonia. He stated that the technology has not materially changed during the last 20 years and that Cashman had been building LNG tanks to a full-containment standard before full containment was formally recognized as a standard. He did not provide a specific date for when the full-containment standard became formally recognized, estimating approximately 20 years ago, and referred the Board to Rick Jacobs or Justin Smith for that question. He stated that single-containment tanks can still be constructed if a client requests one and accepts the associated risks. Cashman has been building full-containment tanks since the late 1960s or early 1970s.

Mr. Reaman testified that, since the late 1960s or early 1970s, Cashman Preload has not experienced a leak involving one of its full-containment tanks and, to his knowledge, has not experienced a fire involving one of those tanks. He also stated that none of the tanks had "blown up." He explained that LNG does not explode within the tank because it is stored at minimal pressure and there is no oxygen inside the tank. He further explained that LNG vapor will ignite only when methane or natural gas is present in a relatively narrow mixture range with air. He identified that range as approximately 5% to 15% natural gas-to-air mixture. Mr. Reaman explained that the tank operates near ambient pressure, rather than at significant pressure. He testified that boil-off gas rises because it is lighter than both the surrounding air and the liquid inside the tank. The vapor rises to the top of the tank and is captured by the system. In response to a hypothetical fire occurring at the top of the tank, he stated that the fire and gas detectors would detect the condition and activate the dry-chemical system associated with the tank. He referred the Board to Mr. Jacobs for further technical testimony concerning that system.

Mr. Reaman was asked what would have to occur for the proposed full-containment tank to experience a leak. He testified that a large series of failures would have to occur, including failure of the inner shell resulting in liquid entering the annular space, followed by failure of the outer shell at a location where vapor could escape. He emphasized the conservatism and redundancy incorporated into the tank design for containing liquid and vapor. He confirmed that such a sequence had never occurred with one of Cashman Preload's tanks.

Mr. Reaman confirmed that the tank was designed in accordance with NFPA 59A, as well as the applicable API, ACI, and ASCE standards. When asked whether there were any additional regulations that had been overlooked, he stated that there were none but indicated that Mr. Smith could address the matter further. Based upon his knowledge, education, and involvement with the project, Mr. Reaman testified that the proposed tank is safe.

Ms. Casandia Bellevue of Earthjustice, representing Sustain South Jersey, began cross-examination. A question was raised as to whether the foundation for the LNG tank had already been constructed and whether approval was being sought after the fact. Mr. Reaman stated that he was not aware of the approval status but confirmed that the foundation had been placed. Questions were also raised regarding how LNG would be transferred from the tank to the fuel cells in the event that the natural gas supply was interrupted and the LNG backup system was required. Mr. Reaman referred the Board to Mr. Jacobs for an explanation of the LNG delivery system.

She further questioned the witness regarding the potential for LNG tank fires. Mr. Reaman confirmed that an LNG tank fire would generally require an ignition source and exposure to an air mixture in the range of approximately 5% to 15%. When asked whether he had previously seen LNG tanks co-located with solid oxide fuel cells on the same site, he stated that he had not personally seen such an arrangement. He acknowledged that he had been with the company for approximately 18 years and had not previously encountered a project with that particular configuration. Mr. Reaman was also asked when facilities such as the proposed project would begin consulting with local fire departments and other authorities regarding emergency plans. He stated that such consultation had already begun and referred questions concerning the details of those discussions to Mr. Fralinger

Mr. Colin Parts then questioned Mr. Reaman regarding the applicable NFPA standards. Mr. Reaman stated that the facility was designed using the 2016 edition of NFPA 59A because that was the edition adopted by the New Jersey Fire Code. When asked whether the 2023 edition was the more recent version, Mr. Reaman stated that he believed there was a 2023 version. He agreed that an updated code generally incorporates safer requirements but stated that the facility was designed to the standards that were required. When asked whether he could personally confirm that the facility was constructed to the 2023 edition, he stated that he could not and referred the question to Mr. Smith. Questions were also raised concerning the composition of the dry chemical fire suppression system and whether PFAS had been used in fire-suppression systems in the past. Mr. Reaman stated that those questions were outside his area of expertise and referred the Board to Mr. Jacobs, who was responsible for designing the fire suppression system.

Mr. Fralinger proceeded with the testimony of Mr. Richard Jacobs, who was sworn in and identified himself as the Vice President of Engineering at ZAP Engineering and Construction Services. Mr. Jacobs stated that ZAP Engineering's main office is located in Lakewood, Colorado, with additional offices in Houston, Texas, and the Bethlehem/Allentown, Pennsylvania area. He identified himself as a professional engineer and stated that he currently holds professional engineering licenses in Colorado, Utah, Wyoming, Texas, and New Jersey. Mr. Jacobs explained that he has a degree in chemical engineering and specializes in process systems, design, engineering, and operations.

Mr. Jacobs testified that he has expertise in cryogenics and began working for ZAP in 2013. He stated that he has personally worked on approximately 25 cryogenic gas processing facilities. He further explained that ZAP has been in business for approximately 25 years and specializes in cryogenic natural gas processing, gas compression, distribution, and midstream oil and gas projects. Mr. Jacobs confirmed that he is involved with the LNG facility proposed for the DataOne site. He serves as the project sponsor within his company and as

the engineer of record for the process and chemical design. His responsibilities include overseeing the team's quality and compliance with applicable codes and regulations and assisting with technical and resource issues. Mr. Jacobs explained that ZAP was retained as the balance-of-plant engineer and serves as the overall coordinator for the various components of the LNG system. Its responsibilities include coordinating the interface with the LNG tank and tank-top piping, coordinating the design of the platform and piping on top of the tank, assisting with sizing relief devices, reviewing the tank-related design, specifying the remaining system equipment, including the vaporizers and auxiliary systems such as compressed air and electrical systems, and coordinating the fire system design with Blue Engineering, the fire engineer. He confirmed that, with the exception of the tank itself and the fuel cell system, ZAP's engineering work encompasses the balance of the LNG facility.

Mr. Jacobs confirmed that he is familiar with NFPA 59A and that his design work was performed in accordance with that standard. He further identified other applicable standards and codes, including API 521 and API 520 for sizing relief devices, NFPA 70A, applicable provisions of the New Jersey Administrative Code modifying NFPA requirements, and applicable ACI and structural requirements concerning structural steel and piping supports. Mr. Jacobs was offered as an expert professional engineer with expertise in the design and integration of LNG balance-of-plant systems.

Mr. Jacobs explained that the purpose of the LNG system is to take LNG from the storage tank and transfer it to vaporizers. The vaporizers warm the liquid LNG through a water bath and coil system, causing the LNG to vaporize. The system is designed to bring the gas to the appropriate temperature, pressure, and flow rate required by the power system at the data center. The resulting gas is intended to be suitable for the pipeline and similar in characteristics to the natural gas supplied to the facility.

The Board reviewed a 3D model and overhead orthographic view of the LNG portion of the facility. Mr. Jacobs explained the procedure for an LNG truck arriving at the site. The truck would enter through a gate after verification that it is an authorized LNG truck and would proceed to one of four unloading bays. The truck would connect to the unloading skid, undergo required safety procedures, including tire chocking, and be connected through the appropriate hoses. The system would then be purged of oxygen using nitrogen to prevent the formation of a flammable mixture. Once the required conditions and interlocks were satisfied, including grounding of the truck, the operator would begin unloading the LNG into the storage tank.

Mr. Jacobs confirmed that the system is also designed to allow LNG trucks to supply the fuel system directly. He explained that the four unloading bays provide this additional operational flexibility. If the tank inventory is low, the tank is undergoing maintenance, or another circumstance prevents normal tank operation, trucks can be staged at the unloading bays and LNG can be routed directly to the vaporizer skids. This can be accomplished by changing the position of manual valves and placing the system into a different operating mode. The unloading pumps are designed to provide adequate pressure to supply the vaporizers and meet the required gas pressure at the data center.

Mr. Jacobs then described the normal operating sequence. Once sufficient LNG inventory is established in the tank, a minimum inventory must be maintained so that the in-tank pumps have sufficient liquid to operate. Interlocks prevent the pumps from operating until the required minimum inventory is available. The system requires two vaporizers in operation to meet the required flow rate, with an additional vaporizer available as a standby or “hot spare.” This provides redundancy so that, if one vaporizer experiences a problem, the standby unit can be placed into service and full-scale operation can resume. During normal operation, the selected pumps transfer liquid LNG to the vaporizers, where heat from the warm-water bath vaporizes the LNG. The resulting gas then passes through a metering skid before being delivered to the fuel system.

Mr. Jacobs continued his explanation of the LNG system and its utility systems, including the boil-off gas management system. He identified two reciprocating compressors located on the northern portion of the facility. The compressors are designed to manage the pressure within the LNG tank, with the desired maximum tank pressure being approximately 1.5 pounds. The compressors operate through speed control to regulate tank pressure and are sized at 100% capacity each, providing 100% redundancy. The system is designed so that if one compressor experiences a mechanical failure or other problem, the second compressor can immediately be placed into operation. The compressors compress the boil-off gas to pipeline pressure for delivery to the data center. A relatively small portion of the flow is consumed by the fuel cell system during normal operation.

Mr. Jacobs explained that the LNG piping system is designed to minimize potential leak hazards by limiting the number of flanges. The piping is primarily welded, with only limited flanged connections at certain valve skids associated with the vaporizer system. The valve skids contain controls for temperature and pressure parameters, and potential liquid released from a flange would be contained. Another potential area for a release is located on top of the LNG tank, where the pumps connect to the piping. A drip or spill pan is provided in this area, with a downcomer pipe directing any liquid toward the impoundment area. Mr. Jacobs explained that LNG spill containment differs from containment at liquid petroleum facilities because LNG rapidly vaporizes when exposed to normal temperature and pressure.

Mr. Fralinger discussed the identified potential leak areas, including the flanges and the truck unloading station. Mr. Jacobs confirmed that the truck unloading station was another potential area and identified the piping leading from that area toward the impoundment. He explained that the impoundment is a sealed concrete structure approximately 12 feet deep, located below grade in the center of the facility. The concrete is sealed and contains liners at the joints to prevent leakage. The impoundment is designed to collect liquid, including rainwater, which can then be removed by pumps. Mr. Jacobs described the area essentially as a large sump. When asked what would occur in the event of an LNG leak, Mr. Jacobs stated that a sufficiently large leak could result in LNG reaching the impoundment. He explained that this design is required by NFPA 59A, which establishes specific requirements concerning the amount of liquid that must be accounted for over a specified period from both the in-tank pumps and the truck unloading pump. Mr. Fralinger confirmed that the impoundment system was designed to comply with those requirements.

Mr. Jacobs explained that the sump pumps located in the impoundment basin are intended primarily to remove accumulated rainwater. The basin is intended to remain empty because contact between LNG and water can result in freezing and increased vapor generation. In the event of a sufficiently large LNG release, moisture in the surrounding ground could freeze and flow toward the impoundment. The basin is sloped toward the impoundment and dike system to collect such a release. Mr. Jacobs further explained that the impoundment contains cellular glass, or foam glass, blocks. If a significant LNG leak resulted in a liquid level forming within the basin, the LNG would flow around and potentially float the blocks. The insulating blocks would then provide a vapor barrier and reduce heat transfer, thereby slowing the rate of vapor generation and preventing a large amount of vapor from being released immediately. Mr. Fralinger asked what would happen to the sump pumps if LNG were detected in the impoundment. Mr. Jacobs stated that temperature monitors are provided in the basin and are currently set at approximately minus 50 degrees. If the temperature falls below that setting, the sump pumps will shut off. He confirmed that this shutdown is also a facility shutdown function and is a requirement of NFPA 59A.

Mr. Jacobs then described the safety features incorporated into the balance-of-plant system. He identified a Safety Control System (SCS) that performs process shutdown functions when abnormal conditions are detected. For example, a high-level condition in a compressor discharge scrubber would cause the system to take action, such as closing a valve and placing the system in a safe condition. The system also monitors for excessive temperatures at the vaporizer outlet. If the vaporizer were not completely vaporizing the LNG and low-temperature liquid or gas were being sent downstream, the safety control system would activate shutdown valves associated with that pathway to place the system in a safe condition.

Mr. Jacobs also described the fire and gas control system, which includes fire and gas detection monitors throughout the facility. Detection equipment is located at the truck unloading station near potential connection points, including the truck hoses. Fire and gas detectors are also provided at the vaporizers, which are fired pieces of equipment that use natural gas to heat the water bath. If a gas leak were detected, the system would initiate a safe shutdown. If a leak were sufficiently large to activate a gas detector and subsequently ignite, the facility would also be shut down. Mr. Jacobs confirmed that the fire detection and suppression systems are required by applicable fire codes and NFPA 59A. The balance-of-plant exhibit was marked as Exhibit A7. Additional safety features located on the LNG tank were discussed. Mr. Jacobs explained that relief vents are provided on the tank top to protect the tank from overpressure. If the relief vents open, LNG vapor consisting primarily of methane would be released. In the unlikely event that an ignition source, such as lightning, were present while the vent was open, a flame could occur at the tank top. A dry chemical fire suppression system is provided to address such an event. The system uses an inert powder agent that is discharged toward the vent to extinguish the flame by eliminating the oxygen available to support combustion.

Mr. Fralinger then asked about an additional structure shown on the plan. Mr. Jacobs identified the structure as an enclosed flare. He explained that, unlike the larger flares commonly seen at gas processing plants or refineries, this facility would have relatively few streams directed to the flare because it is not processing multiple hydrocarbons. The flare is intended to safely and controllably combust vented gas, including gas released during compressor maintenance. Rather than releasing the gas directly into the atmosphere when a compressor system is blown down for maintenance, the gas can be directed to the enclosed flare for controlled combustion. Mr. Jacobs stated that the objective is to recover and use boil-off gas through the boil-off gas compressors rather than continuously flare it.

Mr. Jacobs identified several additional structures shown on the plan. Two electrical enclosures are provided, including one serving the vaporizer and truck unloading systems, containing control panels, an electrical switchboard, and motor control center. Another structure contains the instrument air compressor and dryer used to provide utility air for equipment such as valve actuators and control valve positioners. The balance-of-plant electrical enclosure contains equipment associated with the boil-off gas compressors, in-tank LNG pumps, auxiliary pumps, and motors. A separate structure houses the Black Start backup generator. Mr. Jacobs explained that the generator allows the facility to operate the pumps and produce gas even when the facility does not have an available natural gas supply, providing the ability to start the system essentially from zero. The Black Start generator was further discussed. Mr. Jacobs stated that it is a diesel generator and therefore does not depend on the availability of natural gas at the facility. It is equipped with a double-walled, double-containment tank and is designed for a minimum of 24 hours of continuous operation.

Mr. Fralinger asked Mr. Jacobs about his experience with LNG and cryogenic facilities. He stated that although he had approximately 14 years of experience with cryogenic facilities, he had been specifically involved with LNG facilities for approximately five years. He testified that he had not experienced a leak, fire, or explosion on a project that was under his firm's operating control or on a facility designed by his firm. He explained, however, that he had been contacted by clients following incidents at other facilities and had assisted with identifying root causes and performing failure analyses. When asked whether he had an opinion as to whether the proposed facility was safe, Mr. Jacobs stated that it was safe. He explained that his opinion was based on the facility incorporating safety features intended to mitigate the principal risks associated with this type of facility and on the facility's compliance with NFPA 59A, which he stated had been developed over many years.

Mr. Jacobs was also questioned regarding the characteristics of LNG. He described LNG as natural gas that has been processed and converted into a liquid. He stated that LNG is non-toxic based on the composition limits of its impurities. He explained that pipeline natural gas contains trace impurities, including hydrogen sulfide, and stated that pipeline natural gas contains approximately 4 to 5 parts per million (ppm) of hydrogen sulfide. During LNG production, virtually all hydrogen sulfide is removed. Carbon dioxide is also removed because it can freeze within the heat exchangers used in the LNG production process and potentially obstruct them. Mr. Jacobs characterized LNG as cleaned and processed natural gas with these impurities removed.

Mr. Jacobs further testified that Blue Engineering was involved with the project and performed the siting analysis, served as the owner's engineer and overall project reviewer for DataOne, and conducted the siting study, dispersion analysis, and fire system design and basis. He stated that Blue Engineering also participated in the process hazard assessment, which reviewed potential failures and operating conditions, including reverse flow, excessive or insufficient flow, excessive pressure, excessive temperature, and insufficient temperature.

Mr. Colin Parts then questioned Mr. Jacobs regarding the applicable NFPA standard and confirmed that the design utilized the 2016 edition of NFPA 59A, which Mr. Jacobs stated was required by New Jersey statute. Mr. Jacobs acknowledged that a 2023 edition exists. Mr. Parts also asked whether the fire suppression system contained PFAS. Mr. Jacobs explained that high-expansion foam systems have historically been used in some LNG facilities, including as a means of mitigating vapor release in the event of an LNG spill, and that such systems may contain PFAS. He stated that the proposed project does not use a high-expansion foam system. Instead, the project uses fixed closed-cell foam blocks in the impoundment basin and, to his knowledge, the system does not contain persistent chemicals. When asked what material the foam blocks contain, Mr. Jacobs stated that he believed they were calcium silicate but indicated that he was not certain.

Mr. Parts then asked about the effectiveness of the boil-off gas capture system. Mr. Jacobs stated that the boil-off gas compressors control the tank pressure and are 100% effective in capturing vapor as long as the vapor generation rate remains within the capacity of the two compressors. He acknowledged that circumstances could occur in which the vapor generation rate exceeds the compressors' capacity. He explained that the system also includes a backup emergency vent that can be manually opened by an operator to prevent the tank pressure from exceeding its rated pressure. When asked where the emergency vent would discharge, Mr. Jacobs confirmed that it would vent to the atmosphere.

Mr. Justin Smith was then sworn in and identified himself as a professional engineer with Blue Engineering and Consulting. Mr. Smith testified that Blue Engineering was retained for several purposes, including performing the required siting analysis to demonstrate compliance with NFPA 59A and reviewing the project design for compliance with that standard. He stated that he had been a professional engineer for approximately 14 years and had worked on LNG projects for approximately 13 years. Mr. Smith explained that quality control is one of the services provided by his firm and confirmed that, for this project, Blue Engineering reviewed the entire design, including the tank and balance-of-plant systems, for compliance with NFPA 59A. He was offered and accepted as an expert in the field of LNG tank and balance-of-plant compliance.

Mr. Smith explained that the siting analysis is required by NFPA 59A and involves calculating specific hazard distances associated with an accidental release at the facility. The purpose is to demonstrate that specified hazard thresholds do not extend beyond the property. He confirmed that a siting analysis was completed for the DataOne project and that the proposed location of the LNG tank and balance-of-plant systems satisfies the NFPA 59A siting requirements. Mr. Smith further testified that, based on everything Blue Engineering had reviewed to that point, the project met NFPA 59A requirements and that no deficiencies in code compliance had been identified.

Mr. Fralinger then asked Mr. Smith to explain the difference between the 2016 and 2023 editions of NFPA 59A. Mr. Smith stated that there was not a significant difference between the editions. He explained that the project was using the 2016 edition because that is the edition referenced by the 2018 International Fire Code, which is incorporated into the New Jersey Fire Prevention Code. He stated that NFPA standards are generally updated every three or four years and that changes between editions are typically minor, consisting primarily

of reorganization, the addition of new topic areas, or updates to referenced codes and standards. When asked whether the 2016 NFPA 59A standard was safe, Mr. Smith answered in the affirmative.

During questioning by Mr. Colin Parts, Mr. Smith confirmed that he is licensed as a professional engineer in Maryland, but not in New Jersey. He explained that the work performed by his firm generally does not require licensure in the state where a particular facility is located because the services and documents provided do not require a professional engineer's stamp. Mr. Parts questioned him regarding familiarity with New Jersey-specific requirements. Mr. Smith stated that the scope of his work was specifically related to NFPA 59A, which he characterized as a national standard. It was clarified for the record that Mr. Smith had not been offered as a New Jersey professional engineer and that his testimony concerned the national NFPA 59A standard rather than New Jersey-stamped design plans.

Mr. James Keith Londo was then sworn in and identified himself as working for BCCLT Consulting Engineers, where he provided mechanical and electrical engineering services for the project. Mr. London explained that his mechanical engineering responsibilities included the heating and cooling systems for both the process and support systems, including the closed-loop systems. He confirmed that he is a professional engineer licensed in New Jersey, that he has been practicing engineering for approximately 50 years, and that he has been practicing mechanical engineering for approximately 50 years. Mr. Londo stated that he was personally involved in the mechanical engineering of the closed-loop system for the DataOne data center and served as one of the senior mechanical engineers on the project. He was offered as an expert in mechanical engineering, and his New Jersey professional engineering license was confirmed to be in good standing.

Mr. Londo explained that the closed-loop system continuously recirculates the same water. In this application, the system removes heat accumulated from equipment and transfers that heat through the applicable cooling process. He confirmed that the data center's cooling system operates as a closed-loop system. When asked about the volume of water contained within the system, Mr. Londo initially estimated the amount at between 2 million and 4 million gallons and then clarified that the final estimated volume was approximately 2.4 million gallons.

Mr. Londo explained that although the closed-loop system is designed to recirculate the same water, leaks could occur. Preventive measures are incorporated into the system to identify and isolate a leak. Leak detection systems and meters are provided at the fill points, and the system is monitored through an energy management system. If a leak is detected, operators can identify its location and isolate the affected portion of the system through intermediate valves. Mr. Londo explained that the data center requires continuous cooling and therefore the system is designed with multiple loops and isolation capabilities so that a localized leak can be addressed while maintaining operation. He characterized the amount of water lost from an isolated leak as expected to be minimal and the occurrence as unexpected.

Mr. Londo further explained that the system contains three water-only loops and one loop identified as the technology cooling system. The technology cooling system supplies water to the data center equipment and requires a cleaner water mixture with additional components, while remaining a closed-loop system. He confirmed that the additional component is propylene glycol and stated that the mixture contains approximately 25% propylene glycol, with the remainder consisting of ultra-pure water. Mr. Londo stated that propylene glycol is considered a non-toxic product commonly used in the food and pharmaceutical industries. He distinguished propylene glycol from ethylene glycol, which is the toxic glycol commonly used in automotive antifreeze. He also noted that a small amount of chemical treatment is used for corrosion prevention, although the discussion indicated that the propylene glycol itself provides that function.

Ms. Casandia Bellevue of Earthjustice, representing Sustain South Jersey, began cross-examination. An exhibit entitled “Earthjustice for its Data Centers Hidden Toxic Impacts”. She questioned Mr. Londo regarding the cooling systems and water treatment. Mr. London clarified that his role involved designing the piping systems, pumps, air handling units, and related equipment, while another consultant was responsible for water treatment. When asked whether the cooling fluid circulating through the closed-loop system would periodically need to be flushed and replaced, Mr. Londo stated that it would not and confirmed that the water would not need to be routinely discharged. He was also asked whether he had information concerning PFAS or other potentially hazardous compounds associated with electronic waste from data center equipment. Mr. Londo stated that he was not involved in the disposal of electronic waste and referred that issue to others. When asked whether PFAS or other dangerous compounds result from the cooling system he designed, he stated that, to his knowledge, they do not.

Mr. Mark Hubal was sworn in and identified himself as a professional engineer licensed in New Jersey with Remington & Vernick Engineers. Mr. Hubal stated that his firm was responsible for designing the water treatment system associated with the Mega Bay coolers and the reservoir. He testified that he has been a professional engineer since 1994 and has previously been qualified as an expert and testified before boards. He was accepted as an expert, and his New Jersey professional engineering license was confirmed to be in good standing.

Mr. Hubal explained that the water treatment system will use water supplied by the City of Vineland and will treat the water to remove iron and manganese for the Mega Bay system in order to prevent scaling in the mixers. He explained that the system is non-potable. City water will initially be treated with sodium bicarbonate (baking soda) to stabilize the pH before entering the reservoir. When water is required by the Mega Bay system, it will be withdrawn from the reservoir and treated with a small amount of sodium hypochlorite, followed by green-sand filtration pressure filters to remove iron and manganese. The treated water will then be stored in finished-water storage tanks on the site and pumped to the Mega Bays as needed.

Mr. Hubal stated that the purpose of the treatment is to provide water that is cleaner than the City's incoming water. When asked what chemicals would be used in the water treatment process, Mr. Hubal identified sodium bicarbonate and sodium hypochlorite. He stated that sodium hypochlorite is essentially the same chemical formulation as household Clorox. Regarding the separate closed-loop cooling system, Mr. Hubal stated that his firm did not design that system but, to his understanding, it contains propylene glycol. When asked whether propylene glycol is hazardous, he stated that, to his knowledge, it is not and noted that his normal area of practice involves potable water systems, where propylene glycol is not typically treated.

During questioning by Mr. Colin Parts, Mr. Hubal was asked why a closed-loop cooling system would require a water intake. Mr. Hubal clarified that he is not an HVAC engineer but stated that he had been instructed to provide a small amount of makeup water for the system. He characterized the amount as a small quantity per year and negligible compared with the amount of water required for the Mega Bays. When asked whether the project would require 2 million gallons of water per day, Mr. Hubal stated that it would not. He confirmed that his firm had designed a system to treat water being brought into the facility for cooling but clarified that this was a different cooling system from the closed-loop system.

Ms. Casandia Bellevue questioned Mr. Hubal regarding the Mega Bay system and evaporative cooling. Mr. Hubal confirmed that the Mega Bay system is considered an evaporative cooling system. He was asked whether heavy metals such as copper and zinc could leach from piping used in such systems. Mr. Hubal stated that the Mega Bay system would use ductile iron pipe, which he said is not typically known for leaching heavy metals. He further stated that testing of the City's water supply showed that heavy metals meet potable-water standards and that the water would receive additional treatment through the green-sand filtration system. When questioned specifically about the possibility of additional heavy metals leaching from the piping after the water had been treated, Mr. Hubal stated that the ductile iron pipe would not leach heavy metals. When asked whether it was his testimony that there would be no heavy-metal or other dangerous-metal leaching from the pipes, he qualified his answer by stating, “To my knowledge, no.”

Mr. Hubal was also questioned regarding the project's wellhead and whether pollutants from the evaporative cooling process could affect a wellhead protection area. Mr. Hubal stated that, to his knowledge, the evaporative cooling system would have no liquid discharge, because the water would be released as vapor into the air. Based on that understanding, he stated that the evaporative cooling system should not impact the wellheads.

Mr. Hubal was asked further about the water treatment plant identified on the site plan. He confirmed that his firm was designing the water treatment plant. Mr. Hubal explained that the plant serves two primary purposes. First, City of Vineland water will be treated with sodium bicarbonate (baking soda) to raise the alkalinity and stabilize the pH before the water is stored in the reservoir for an extended period. Once the water is withdrawn from the reservoir, iron, manganese, and other metals will be precipitated through treatment with sodium hypochlorite and then removed through the filtration system. The purpose of the treatment is to prevent scaling in the fogger units associated with the Mega Bay system.

Mr. Hubal explained that precipitation involves changing the metals from a soluble form into an insoluble form so that they can be physically removed through filtration. The filters will be backwashed, and the backwash water will be settled. Approximately 90% of the backwash water will be recycled to the reservoir, while the remaining portion will be discharged to the sewer system operated by the Landis Sewerage Authority. When questioned about whether the backwash would contain metals, Mr. Hubal explained that the treatment system is designed primarily for iron, manganese, and other metals and stated that the water supply was not expected to contain significant amounts of heavy metals such as lead.

Ms. Bellevue asked where the backwash containing the removed material would ultimately go. Mr. Hubal confirmed that the backwash would be discharged to the sewer system and ultimately sent to the sewerage treatment facility for treatment. When asked what testing would be performed to ensure that the substances in the backwash were sufficiently treated before discharge, Mr. Hubal stated that testing would be performed in accordance with Landis Sewerage Authority regulations. He explained that the Sewerage Authority would determine what testing would be required for the discharge and that preliminary discussions had already taken place, with additional discussions to continue as the design was finalized.

Mr. Hubal was asked why the water treatment and wastewater information had not been included in the Environmental Impact Statement (EIS). He stated that he did not know because he was not involved in

preparing the EIS. He further confirmed that his firm was not involved in the preparation of that document or in the discussions concerning the wastewater treatment information contained in it.

Mr. Fralinger then called Lance Bischoff as the next witness. Mr. Bischoff was sworn in and identified himself as an employee of AKRF, which had been retained as the project's acoustical consultant. Mr. Bischoff stated that he had been involved in the field of acoustical consulting for just under 40 years. His educational background includes a Bachelor of Science in Electrical Engineering and a Master of Science in Acoustics. He is also an approved consultant under the National Council of Acoustical Consultants and is a member of several professional societies. Mr. Bischoff testified that he has provided acoustical consulting services for numerous clients, has previously testified, and has previously been qualified as an expert in acoustics. He was accepted as an expert in the field of acoustics.

Mr. Bischoff explained that AKRF was retained to review the project design, assess noise generated by the project at various receptors throughout the study area, and assist with noise mitigation necessary to bring the project into compliance with applicable noise regulations. He prepared a Noise Analysis and Mitigation Report dated July 2026, which was submitted to the City of Vineland.

Mr. Bischoff explained that, when preparing a noise analysis, his reports generally begin with background information concerning noise, including the various methods used to measure noise and typical ranges of noise levels. The report then identifies the applicable regulations. For this project, the applicable regulations included the New Jersey State noise code and the City of Vineland noise code.

In preparing the analysis, AKRF first requested detailed information regarding the project's design, including drawings, manufacturer specifications, and manufacturer-provided acoustical data for the equipment proposed to be used at the facility. Mr. Bischoff confirmed that this information was obtained for the DataOne project. He explained that manufacturers provide noise information in different formats, so the information must first be evaluated and placed on a consistent basis. For example, a sound-pressure level measured at 10 feet is different from a sound-pressure level measured at 100 feet, so a reference distance must be established when evaluating and comparing equipment noise data.

As part of the study, AKRF conducted field measurements of existing ambient noise conditions at three locations in close proximity to the project site. The collected ambient noise information was then combined with the equipment noise data and entered into a computer model. Mr. Bischoff identified the model as Cadna-A, an internationally recognized noise-modeling program produced by DataKustik. The model incorporates the project information into a three-dimensional representation of the site, taking into account factors such as topography and buildings, and is used to predict noise levels at various receptors, primarily residential properties surrounding the project site.

Mr. Bischoff confirmed that Cadna-A is an accepted noise-modeling program. He also discussed the use of ISO 9613-2, explaining that ISO refers to the International Organization for Standardization. He stated that ISO 9613-2 provides calculation methods used to predict sound levels at specified distances while accounting for acoustical factors such as shielding, topography, and absorption. The mathematical methods underlying the computer model are based on the applicable international standards.

Mr. Bischoff explained that the New Jersey State Noise Code governs noise emissions from properties based on their zoning classification, including residential, commercial, and industrial properties. He clarified that the State Noise Code does not regulate every source of noise occurring on a property. For example, vehicle noise is addressed through the New Jersey Division of Motor Vehicles, including requirements concerning vehicle mufflers, and aircraft noise is not regulated by the State Noise Code. Noise emissions from equipment associated with the proposed data center, however, would be subject to the applicable State Noise Code requirements.

Mr. Bischoff testified that the July 2026 noise analysis was focused on the proposed design and long-term operational noise of the data center and did not originally include construction-related noise because construction noise is temporary in nature and is not governed by the State Noise Code. He explained that construction noise is generally regulated at the local level, primarily through limitations on the hours during which construction activities may occur. Although construction noise was not part of the original scope of the analysis, AKRF subsequently assisted in reviewing certain construction-related noise concerns.

Mr. Bischoff described the modeling process used for the project. AKRF reviewed project plans and manufacturer specifications, conducted sound measurements, and incorporated the collected information into its acoustical model. The model produced predicted noise levels at designated noise receptors, with receptors located at or near properties surrounding the project study area. The model also generated contour maps that visually represented predicted noise levels in a heat-map format. Mr. Bischoff explained that the model was used to determine compliance with the New Jersey Noise Code and, where an exceedance was identified, to identify the noise sources contributing to the exceedance so that appropriate mitigation could be developed. With respect to the proposed data center, Mr. Bischoff testified that the project, when fully operational, is expected to comply with the New Jersey Noise Code, provided that the identified attenuation and mitigation

measures are implemented. He identified existing and proposed measures, including berming along the northerly and easterly sides of the property, a parapet or sound barrier wall around Phase One with acoustical panels on the interior, and a sound barrier wall along the northerly side of the property. The testimony referenced a northerly berm and an approximately 14-foot berm, although Mr. Bischoff stated that he did not recall whether vegetation was included on the berms. He further explained that the sound barrier wall had originally been contemplated as a wall constructed on top of the earth berm, but the design was subsequently revised from an earth-moving standpoint. The testimony ultimately referenced a 30-foot-high concrete sound barrier wall relative to grade.

Mr. Bischoff stated that, with the identified mitigation measures in place, the project should comply with the New Jersey Noise Code. He further testified that compliance with the Noise Code is required. He explained that additional noise mitigation options had been presented for certain project components and remained under consideration because they could further reduce noise levels if manufacturer-provided noise data were later determined to be inaccurate or if additional reductions were necessary. Some of those measures were described as being significantly more expensive.

Mr. Bischoff testified that his involvement with the project expanded beyond the original operational noise analysis. During construction, AKRF was contacted regarding construction-related noise concerns and conducted site visits, measurements at various locations throughout the surrounding community, and close-up inspections of construction activities. He stated that AKRF identified certain matters requiring immediate correction. AKRF was subsequently asked to assist DataOne with the installation of semi-permanent noise monitors at four locations around the project perimeter. According to Mr. Bischoff, the monitors became active during the first week of June.

Mr. Bischoff testified that there was not yet sufficient data from the four perimeter monitors to conduct a meaningful analysis. Once sufficient data are available, the monitoring results will be used to determine whether there are any exceedances of the New Jersey State Noise Code. He explained that the data will also provide information concerning the frequency content of the noise, allowing the noise to be examined in greater detail and potentially identifying the characteristic “fingerprint” of particular noise sources. This information could assist in further identifying and reducing noise from specific sources.

Mr. Bischoff also testified concerning noise complaints that had been received since March. He confirmed that the complaints had been investigated by the County Health Department and that he had communicated with the County regarding the complaints and reviewed investigation reports. He stated that he had been provided approximately 60 investigation reports and, as of the hearing, had reviewed approximately 40 to 45 of them. Based upon his review of the County investigation reports, Mr. Bischoff stated that only three of the approximately 40 to 45 reports he had reviewed documented an actual noise exceedance. He further explained that almost every report identified what the Noise Code refers to as “extraneous noise sources,” meaning other sources of noise present during the measurements that were unrelated to the project. Examples identified in the reports included aircraft, a water sprinkler system on a neighboring property, vehicles, a person playing a car stereo in a driveway, and wildlife. Mr. Bischoff explained that sound-level meters record sound without distinguishing between the source of the noise; therefore, extraneous sounds audible during a measurement can affect the recorded noise level. He stated that, based upon his review, aircraft, vehicles, and wildlife appeared to have affected certain County measurements.

Mr. Bischoff reiterated that construction-related noise is generally addressed at the local level because construction activities necessarily involve temporary sources of significant noise, such as concrete saws and jackhammers. He explained that local construction-noise regulations commonly establish permitted hours of construction rather than imposing the same operational noise limits applicable to completed facilities. He confirmed that this was the reason the report characterized construction noise as temporary in nature.
The testimony then turned to DataOne’s efforts to remain within the State Noise Code limits during construction and the challenges associated with doing so.

Mr. Bischoff testified that, in general, construction-related noise at the site had become quieter. When AKRF became involved in March to evaluate construction noise, the firm observed several activities that generated significant noise. One example involved illuminated safety signs and poles used around open pits during nighttime construction. The signs were powered by generators that operated continuously. After AKRF brought the issue to DataOne’s attention, the generators were replaced with rechargeable or solar-powered equipment, which substantially reduced the associated noise.

Mr. Bischoff confirmed that berms had subsequently been constructed around the site and stated that the berms were installed after AKRF began conducting site observations. He also noted that, prior to AKRF’s involvement, a 14-foot-high sound barrier wall had been constructed along three sides of the property, which also functions as a sound barrier. Mr. Bischoff stated that these measures were helpful in reducing noise.
Mr. Bischoff confirmed that he expected to remain involved with the project as it progresses and that, based upon his review and analysis, it was his opinion that the completed project would comply with the New Jersey Noise Code.

During additional questioning, Mr. Bischoff addressed A-weighted and C-weighted sound measurements. He explained that the New Jersey Noise Code does not use C-weighting. A-weighting is intended to approximate the way humans perceive sound by weighting the sound spectrum according to human hearing and produces a single-number sound level. C-weighting is comparatively flatter and less weighted across the frequency spectrum. Mr. Bischoff stated that the project had been analyzed using both A-weighted sound levels and octave-band sound levels and that the project was compliant under the applicable octave-band limits. He explained that octave bands break sound down into individual frequency components, similar to the low and high registers of a piano.

Ms. Casandia Bellevue, attorney for Earthjustice, questioned Mr. Bischoff regarding the frequency analysis. Mr. Bischoff confirmed that a full frequency-band analysis had been completed. When asked whether inaudible subharmonic frequencies and infrasound had been assessed, he testified that they had not. He explained that the manufacturer-provided noise data did not indicate the presence of infrasonic frequencies from the equipment. He further stated that the Cadna-A model has options for analyzing subharmonic or infrasonic noise, but AKRF did not currently have the licensing necessary to perform that analysis. Mr. Bischoff stated that, based upon his experience, there was no reason for AKRF to believe the project would generate problematic infrasonic noise. He identified wind-turbine blades and structural-dynamic issues associated with rail excitation as examples of projects where he had encountered infrasonic noise and stated that he did not anticipate similar conditions from this project. Handouts were distributed to the board, Exhibit “Earth Justice 5”.

Mr. Bischoff confirmed that the project does include lower octave-frequency bands and that the AKRF report contained information concerning those frequencies. He explained that the octave-band information had not been included throughout the main body of the report because doing so would have resulted in numerous additional pages of tables. He stated that AKRF intended to issue an addendum containing the octave-band sound levels for all receptors. Mr. Bischoff indicated that the addendum would include the low-frequency information that had already been analyzed but had not yet been fully presented in the report. He anticipated that the addendum would be submitted the following week.

Ms. Bellevue raised the issue of whether the Board could act on the application before receiving the additional information. It was clarified that the Board would not be voting that evening. The Board Chair and counsel further clarified that testimony would continue until approximately 12:00 midnight and that the matter would then be continued to a subsequent meeting, with notice to be provided regarding the continued hearing.

Mr. Ray Went, of the Went Law Firm, then questioned Mr. Bischoff regarding County noise investigations. Mr. Bischoff confirmed that he was aware of County citations or infractions concerning noise and stated that he had reviewed approximately 45 of the investigation reports. When asked whether all of the matters had been resolved to the County’s satisfaction, Mr. Bischoff stated that, following a meeting with the County the previous week, he did not believe all matters had been completely resolved, although potential methods of resolving them had been discussed. Mr. Bischoff stated that he was not an attorney and therefore could not comment on the legal status of the matters.

Mr. Went questioned the absence of octave-band compliance information from the report. Mr. Bischoff explained that the octave-band noise levels had been analyzed and were code compliant, but that the information had been omitted from the primary report because it would have consisted of extensive tables of numerical data. He reiterated that the information would be included in the forthcoming appendix or addendum. When questioned regarding the reported margin of approximately 0.6 from noncompliance, Mr. Bischoff stated that the project was compliant and that noise mitigation measures had been required to achieve compliance. He further characterized the New Jersey nighttime noise standard as particularly restrictive and stated that the nighttime limit is 50 dBA.

Mr. Went questioned how noise measurements were obtained in relation to residential property lines. Mr. Bischoff explained that the property-line noise levels presented in the report were generated through the computer model rather than by taking measurements directly at each property line. Actual noise measurements were taken near surrounding properties at locations where AKRF could safely secure its equipment. He noted that the equipment was expensive and, during some measurements, had to be secured to trees, road signs, and similar locations. Mr. Bischoff stated that this methodology had been accepted for numerous other projects. Mr. Bischoff further testified that, in response to neighbor complaints during the early stages of construction, DataOne contacted certain residents and AKRF conducted measurements at various residences with the residents’ permission, including measurements at their property lines. He explained that these measurements were related to construction noise and therefore were not incorporated into the operational-noise analysis contained in the report. Some of those measurements were conducted at approximately 5:00 a.m. Mr. Bischoff explained that 5:00 a.m. is considered nighttime under the New Jersey Noise Code and that the measurements were conducted at that time because arrangements had been made with the property owners to access their properties at that hour.

Mr. Went questioned whether additional measurements could be taken at other times and locations to distinguish operational noise from traffic or construction-related noise. Mr. Bischoff stated that, if DataOne

requested it, AKRF would conduct additional measurements at the properties of willing residents. Mr. Went and Mr. Fralinger indicated that such coordination could be arranged.

Mr. Went then questioned the reliability of the computer model for a project of the proposed size, referring to the project as a 374-megawatt facility and stating that it was substantially larger than an approximately 80-megawatt project he identified as the next largest comparable facility. Mr. Bischoff explained that direct measurements cannot be taken of a facility that has not yet been constructed. He noted that four noise monitors had already been installed at the project property and that, once the project is constructed, the monitors will provide actual measurements. If the monitors identify code exceedances, additional mitigation would be addressed.

Regarding the accuracy of the acoustical model, Mr. Bischoff stated that AKRF had used the model on large combined-cycle power plants, wind farm projects, and other power-related projects. He described the model as internationally recognized and stated that it had been used for approximately 20 years. When asked whether AKRF had taken sound measurements at another Bloom Energy facility, Mr. Bischoff stated that he had not. He explained, however, that the Bloom Energy noise data used for the project had been provided by Bloom Energy and had been obtained from real equipment using international measurement standards.

Mr. Catalana asked Mr. Bischoff to distinguish between the noise analysis for the completed project and the noise currently occurring at the site during construction. Mr. Bischoff explained that the operational analysis modeled the anticipated noise levels when the project is built out. He stated that AKRF had also measured existing noise levels before the project became substantially active in late November. Those measurements were conducted in response to neighboring residents' concerns regarding construction activities and were not included in the operational noise report. He further stated that four property-line noise monitors had been installed in early June and were recording measurements every second. The monitors were expected to remain in place for approximately one year, or for as long as DataOne determined appropriate, while the collected data continued to be evaluated for potential issues requiring additional mitigation.

Mr. Catalana acknowledged that noise was a significant concern for surrounding residents, particularly because properties that had historically been adjacent to farmland or otherwise inactive areas were now experiencing industrial activity and associated noise. He noted that, while the project is required to comply with the applicable State noise limits, surrounding residents are experiencing noise that they had not previously experienced and that individual residents may have concerns warranting investigation. Mr. Bischoff stated that he would be willing to conduct additional measurements at residents' properties. He also noted that AKRF had offered the previous week to conduct side-by-side measurements with County personnel in response to County noise complaints, although the County had not accepted that offer at that time.

At approximately 11:38 p.m., the Board and counsel discussed the remaining testimony. Mr. Went advised that he had professionals available to testify, and counsel indicated that the first witness would be planning expert Peter Steck. Mr. Went stated that Mr. Steck had extensive experience and could provide his testimony with limited questioning.

Mr. Went then raised a zoning-map issue. He stated that his office had learned during the week that the zoning map posted on the City's website had been inaccurate for approximately four years and that planners, including his planner, had relied upon that map. He stated that a report prepared by Mr. Steck, identified as an exhibit, had analyzed the inaccurate map and that, as a result, one of the arguments concerning a portion of the property being residentially zoned would no longer be pursued. Mr. Went stated that he intended to focus instead on his position that the proposed data center is not a permitted use in the applicable zoning district and therefore requires a use variance, which he asserted should be considered by the Zoning Board of Adjustment. He further stated that, in his view, the prior approvals did not eliminate the need for the variance. These statements were presented as Mr. Went's position.

Mr. Catalana clarified that the zoning-map issue was not specific to the DataOne application. The City's zoning map had not been updated generally, and the identified inaccuracies affected multiple areas rather than only the subject property. Mr. Headley confirmed that the map was incorrect in multiple respects and had not been updated for approximately four years. Mr. Went acknowledged the clarification. The Board then proceeded to have Mr. Peter Steck sworn in to provide planning testimony.

Mr. Peter Steck was sworn in and qualified as a professional planning expert. Mr. Steck testified that he holds a bachelor's degree in Civil Engineering and a master's degree in City and Regional Planning. He served as Planning Director for the Township of Montclair for just under 10 years and subsequently worked with Malcolm Kessler Associates and Alvin Gershon Associates. For more than 20 years, he has been self-employed as a community planning consultant, representing municipalities, developers, and neighborhood groups. He stated that he received his professional planning license in 1976, that his license remains in good standing, and that he has testified as a licensed planner for approximately 50 years. Mr. Steck confirmed that his observations and methodologies were based upon accepted principles in the field of professional planning and that his conclusions were offered to a reasonable degree of certainty within that field.

Mr. Steck then addressed the City's zoning map and a memorandum dated August 3, 2026. He stated that members of the public researching the application through the City's website would find a zoning map indicating that portions of the subject property were located in an R-6 residential zone. He testified that, in order to verify the information, he visited the municipal offices on April 30, 2026, at approximately 4:00 p.m. and requested to review the official zoning map. According to Mr. Steck, the map provided at the municipal offices was the same map displayed on the City's website and showed portions of the property, particularly in the northwest corner, within the R-6 residential zone. He noted that the property had previously consisted of multiple tax lots that had since been combined into one lot.

Mr. Steck testified that, after observing that the zoning map showed portions of the property in the R-6 zone while the site plan depicted the entire property within the Industrial Business (IB) Zone, he researched the ordinance that purportedly rezoned the property, identified as Ordinance 2022-44. He stated that he contacted the County regarding the ordinance and testified that, based upon his understanding, zoning ordinances are not effective until they have been submitted to and received by the County. Mr. Steck stated that the County did not have an executed copy of Ordinance 2022-44 and that, according to the information he received, the County had received the ordinance in advance of its adoption.

Mr. Steck reviewed the minutes, resolutions, and ordinance associated with the rezoning. He testified that the proposed rezoning had been referred to the Planning Board in 2022 and subsequently proceeded to the governing body. He stated that, under the Municipal Land Use Law, the Planning Board is required to identify inconsistencies between a proposed zoning ordinance and the municipality's Master Plan. Mr. Steck distinguished the 2008 Master Plan from the subsequent Master Plan re-examination report and testified that the 2008 Master Plan recommended residential zoning for a portion of the subject property and Industrial Business zoning for another portion. Based upon that distinction, he expressed the opinion that the Planning Board should have identified a substantial inconsistency with the Master Plan when reviewing the proposed rezoning.

Mr. Steck further testified that, where such an inconsistency exists, the Municipal Land Use Law requires the governing body to state on the record the reasons for proceeding with the rezoning despite the inconsistency. He stated that he found no information in the record indicating that either the Planning Board or governing body had identified the inconsistency or stated why the property was being rezoned despite the Master Plan designation. He also addressed the notice requirements applicable when property is reclassified, stating that the Municipal Land Use Law requires notice to property owners whose property is being rezoned as well as notice to property owners within 200 feet of the property being rezoned.

Mr. Steck stated that his review of the minutes and resolutions did not reveal evidence that the applicable notice requirements had been satisfied. He noted that, at the public hearing concerning the rezoning, no one appeared to provide comments. He expressed the opinion that the absence of identification of the Master Plan inconsistency and the absence of evidence concerning notice to surrounding property owners constituted significant procedural defects and, in his opinion, were fatal defects affecting the validity of the rezoning ordinance. He also commented on the color-coded map attached to the ordinance, stating that the map contained three different shades of yellow and that, in his opinion, an ordinary member of the public could have difficulty determining precisely which areas were being rezoned.

Mr. Steck then addressed the zoning classification of the property and the permitted uses within the IB Zone. He testified that, even assuming the entire property had been validly rezoned to the Industrial Business Zone, he believed the proposed data center was not a permitted use under the plain language of the City's zoning ordinance. He stated that the ordinance identifies specific principal uses permitted in the IB Zone and incorporates certain uses permitted in the I-1 and B-3 Zones. Because, in his opinion, a data center is not identified as a permitted use, he concluded that the use would require a D(1) use variance. Mr. Steck cited N.J.S.A. 40:55D-70 and stated that, where a use variance is required, jurisdiction to hear the application, including associated site plan matters, rests with the Zoning Board of Adjustment.

Mr. Steck summarized his planning opinion by identifying three issues: first, that the ordinance purporting to rezone the property was procedurally defective; second, that, based upon his reading of the ordinance, the proposed use was not permitted in the IB portion of the property; and third, that if an executed copy of the adopted ordinance had not been received by the County Planning Board, the ordinance had not yet become effective. Based upon those points, Mr. Steck expressed the opinion that the Planning Board did not have jurisdiction to hear the application.

Mr. Went then identified exhibits for the record. He stated that Exhibit 1 consisted of his August 3, 2026, letter transmitting Mr. Steck's report, with Mr. Steck's report itself consisting of 17 pages. He also referenced Exhibit 4 as a series of emails between Mr. Koons and Mr. Knoop and Exhibit 2 as the noise measurement report and County notice of violation.

Mr. Fralinger questioned Mr. Steck concerning whether the City's zoning ordinance was structured as a specific use-based ordinance or a category-based ordinance. Mr. Steck maintained that the ordinance was specific-use-based. When questioned about references in the IB and I-1 Zones to uses such as light

manufacturing, research and testing, laboratories, corporate offices, and food processing, Mr. Steck stated that he considered the listed uses to constitute specific uses rather than generalized categories. He referred to Sections 424-289 and 425-269 of the City's Zoning Ordinance and read language from his report stating that principal uses are identified by name and that uses not enumerated as permitted, conditional, or allowable accessory uses are prohibited.

Mr. Steck confirmed that he had reviewed the permitted uses in both the IB and I-1 Zones. When questioned regarding food processing, he maintained that the term constituted a specific use even though the ordinance does not identify individual types of food products. Mr. Fralinger disagreed, stating for the record that, in his view, the City's ordinance is category-based, as are the ordinances of many municipalities in New Jersey. Mr. Steck reiterated that his opinion was that the ordinance is structured around specific uses.

The Board discussed whether Mr. Steck would be available to appear at the continued hearing. It was noted that a date for the continuation had not yet been established, and therefore it could not be determined whether Mr. Steck would be available. The Board indicated that, if he appeared at the continued hearing, additional questions could be directed to him regarding his interpretation of the City's ordinance. The Board also clarified that the zoning ordinance at issue was the City's ordinance and that the Board would review Mr. Steck's interpretation in consultation with the City's professionals.

At exactly midnight, the Board determined that the hearing would need to be adjourned and continued to a second meeting. The date of the continued meeting had not yet been established. It was stated that proper notice of the continued hearing would be provided through the City's website and newspaper. A motion was then made to adjourn and continue the matter to a subsequent meeting, with the motion proceeding to a vote.

The Chairman entertained a motion to close the public hearing. Ms. Velez so moved, Mr. Odorizzi seconded.

Roll Call:
- John Casadia: Yes
- Douglas Menz: Yes
- Thomas Tobolski: Yes
- Sandy Velez: Yes
- Janine Andreoli: Yes
- Robert Odorizzi: Yes
- Elizabeth Arthur: Yes
- David Manders: Yes

ADJOURNMENT

The Chairman entertained a motion to adjourn.

Roll Call:
- John Casadia: Yes
- Douglas Menz: Yes
- Thomas Tobolski: Yes
- Scott Reale: Yes
- Sandy Velez: Yes
- Janine Andreoli: Yes
- Robert Odorizzi: Yes
- Elizabeth Arthur: Yes
- David Catalana: Yes

TIME: 12:00 AM

Respectfully submitted,

Yasmin Perez
Planning Board Secretary