

INDEPENDENT INTERVENOR EXHIBIT 7

ALLIED CONVERTERS MANUFACTURING FACILITY

Individual Intervenor Richard Ellenbogen is the President of Allied Converters and has focused on “Green” manufacturing that we believe is a pragmatic solution to the decarbonization goals of New York State. The Individual Intervenors recommend that the Consolidated Edison rate case focus on his proven example until such time that the DPS provides the support necessary to determine if the PSL 66-p approach is viable.

The Allied Converters factory currently generates or offsets 72% of its electrical energy use onsite with a building Carbon Footprint 30% - 40% lower than the electricity supplied by Con Ed. Beyond just being less carbon intensive, the facility operated with a TOTAL energy cost of just \$1.19 per square foot in 2024 despite running thermally intensive manufacturing processes. A DOE Report¹ analyzing the factory’s energy data and an analysis of a potential additional energy storage system was issued on June 13, 2025 that confirms those numbers. The DOE analysis estimated that the facility could achieve an additional 24% emissions reduction beyond the 30% - 40% it already has by adding the energy storage which is currently undergoing fire safety testing. It will also allow the factory to operate entirely off of the Con Ed electric system during times of peak load, freeing up capacity for other customers. Additionally, it will allow for full factory operation during a power outage.

The low operating cost of the building is an indicator of the energy efficiency of the system. Except in rare circumstances, if a technology has a higher operating cost, questions need to be asked about its holistic efficiency.

¹ <https://pragmaticenvironmentalistofnewyork.wordpress.com/wp-content/uploads/2025/06/nynj-015-doe-allied-converters-2025-06-13-1.pdf>

The low energy cost at Allied was accomplished using a high efficiency Combined Heat and Power System (CHP) (the first microturbine system in the Con Ed Service Area) and a large solar array (The first commercial scale solar array in New Rochelle). According to research, the \$1.19 energy cost per square foot is approximately 33% to 50% of the energy cost of the average commercial facility in NY State. The US DOE analysis of the facility's energy use in 2025 confirmed an annual savings of between \$50,000 and \$70,000 annually when compared to a conventional utility customer in the Con Ed service Area. The CHP system became operational in 2003 after a four-year approval process with Con Ed and the solar array was added in 2007.

Ironically, as is made clear by the NY Times article², "New Skyscraper, Built to Be an Environmental Marvel, Is Already Dated" the use of CHP systems are now criticized and show just how far that NY State has regressed in its thinking. One Vanderbilt is still the correct way to ensure a low carbon footprint along with energy security. The NY Times article is filled with mis-statements that aren't supported by scientific facts. Among other things, it does not recognize the poor energy density of wind and solar. To replace the CHP system in One Vanderbilt would require covering one-third of Central Park with solar arrays along with installing massive amounts of batteries just to support one building. Beyond being environmentally unfriendly and impossible to site, the cost to implement such a plan would be orders of magnitude more expensive than what they already have accomplished.

² <https://www.nytimes.com/2023/02/14/climate/green-skyscraper-one-vanderbilt.html>

There is another advantage of the Allied Converters system. Ellenbogen became aware of reactive load issues on the utility system resulting from the use of inverter-based generation and designed a system to mitigate those issues. According to both the factory's internal meters and Con Ed's Smart meters, the factory operates with a Power Factor of 0.99. According to Con Ed's measurements in 2008 while on-site, it has hospital quality power³. Con Edison engineers requested a paper⁴ on the project to explain the results and large amounts of data were provided by Ellenbogen, gratis, to both Con Ed and the PSC that resulted in the initiation of Case 08-E-0751. That paper is extremely relevant given the recent blackout in Spain.

In 2010, Ellenbogen received a grant from NYSERDA to test the process on the utility distribution system. This was executed in conjunction with Con Ed. The project showed that reactive loads could be reduced on the local distribution system, however the money was not available at that time to implement it as the State was focused on lighting issues. As with all infrastructure projects, there are tradeoffs dictated by the available financial resources. Reducing reactive loads increases grid capacity and reduces transmission and distribution system energy losses.

Why is addressing reactive load important? As more and more renewable generation is added to the system, the inverters that power the renewable based system will do nothing to compensate for it. This issue compromised the utility system on the Iberian Peninsula and resulted in the blackouts in Spain and Portugal in April, 2025. The aforementioned paper, written 17 years ago predicted the potential for just such a blackout. From page 5 of that paper is the following quotation:

³ https://www.perplexity.ai/search/what-is-hospital-quality-elect-XR_94xmhT_y.PDbAwFMScw#0

⁴ <https://pragmaticenvironmentalistofnewyork.wordpress.com/wp-content/uploads/2025/06/distributed-generation-customer-loads-utility-network-final-w-glossary-02-01-08.pdf>

With the inevitable arrival of widespread net metering in New York State, alternative energy solutions, many of which are inverter based, will become far more cost effective. While there is certainly a net positive effect from these systems because of the additional efficient power that they provide, there is a downside in that a large number installed under the current installation criteria will eventually affect network stability. This issue must be addressed for locations where these are installed, as well as for the utility grid, in its entirety.

Spain did nothing to address this issue and now they are trying to figure out how to fix a major problem. Ellenbogen's prepared summary⁵ analysis and an article from Bloomberg documenting these issues, what caused the blackout and the delusional response of Spanish politicians to the cause of the issue which will leave them vulnerable to repeat blackouts. That is not much different to the mindset of politicians and regulators here in NY State.

Large amounts of land-based wind were installed in West Texas and a similar problem has developed there. They are now spending \$800 million installing Synchronous Condensers on their substations to fix the problem⁶. NYS will experience similar issues when all the proposed renewable energy needed to meet CLCPA targets are developed. Although generation in NY State is provided by independent energy service companies, grid stability is a function of the utilities. Very little money has been set aside in any of the tariff hearings to provide for mitigating this issue. That is another hidden cost built into this process. The difference between fixing the problem in West Texas and fixing it in downstate New York is that the wind energy in

⁵ <https://pragmaticenvironmentalistofnewyork.wordpress.com/wp-content/uploads/2025/06/spanish-blackout-ravitz.pdf>

⁶ <https://pragmaticenvironmentalistofnewyork.wordpress.com/wp-content/uploads/2025/06/7.1-west-texas-synchronous-condenser-rpg-project-ref-page-1.pdf>

West Texas costs \$25/MWh, half of the cost of gas generation. In NY State, the reliance on offshore wind means it will be six times higher and three times the cost of the gas generation, \$155/MWh. That makes mitigating the problem worth the investment in Texas. In NY State, it makes already expensive energy that much more expensive.