



January 9, 2023

Honorable Supervisor and  
Members of the Town Board  
Town of Yorktown  
363 Underhill Ave  
Yorktown Heights, NY 10598

RE: Backup Generator discussion  
Wireless Telecom Facility  
Route 6 & Hill Blvd, Jefferson Valley

Hon. Supervisor and Members of the Town Board:

I would like to follow up on the discussion at the Town Board meeting of December 20, 2022 on how to improve the resiliency of backup generators at wireless facilities so that they are available during electric power outages when one needs them most.

Questions were asked what type of backup power is being provided, how it is fueled and how a “redundant” power backup system could be achieved, so I would like to first address how power backup is typically provided:

For carriers, back-up systems for their equipment are very important, especially in view of severe outages we all have experienced in the past and a lot of effort goes into providing continuous, uninterrupted service and each carrier has teams of technicians running programs dedicated to just the “back-up effort”.

It is important to understand that each carrier operates unique equipment specifications, such as computers, switches, radios and antennas that operate their communications systems and the technicians make sure that their backup systems technically conform to the specifications their equipment requires.

It is also important to understand that each carrier deploys the same equipment specifications across an entire region such as the north-east region, mid-west region, etc. or even nationwide. As a result, each carrier has very specific technical requirements for their backup systems, because it has to conform with the specifications of the equipment they are operating



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across an entire region. Since we have four (4) major carriers, each with their own different equipment specifications, each of the carriers has their own set of requirements and specifications for backup power and a single backup system for all carriers at one location as was suggested, could likely cause technical issues for the carriers.

For this reason, please note that imposing a specific backup system that possibly does not conform with a carrier's specifications for emergency power may hinder and/or delay carriers' deployment of a site simply because it doesn't conform with their requirements.

Additionally, these specifications are constantly being revised and upgraded to meet the growing and changing requirements and demands of each carrier.

Second, I would like to point out that the failure of backup generators during an emergency is typically not the breakdown of the generator due to a mechanical failure, but the lack of fuel for the generator after a certain period of run time, for a variety of reasons, be it undersized fuel storage or inability of the supplier to timely refill fuel during extreme emergencies.

Given these general requirements the best way to ensure an as-long-as-possible emergency power supply, would be to provide sufficient fuel capacity for the generators to run for 3 to 5 days so that it can be refueled in a timely manner. For example, a 50kw generator runs approximately 130 hours (+/- 5 ½ days) on a 500-gal propane tank at 60% power output, which is a typical draw.

However, due to spark zone requirements with propane storage tanks one has to consider a number of site-specific constraints to determine the appropriate sizing of the tanks such as available space and site layout.

Another backup fuel solution might be natural gas. As part of our due diligence, we are also evaluating the possibility of bringing a natural gas line from Hill Blvd to our Facility. While we have confirmed with ConEdison that natural gas is potentially available at Hill Blvd we have yet to determine where exactly that gas line is and if its viable to bring it to our location.

It is also extremely important to note that even if the natural gas line is installed, the backup power source would be entirely dependent on ConEdison service. We cannot be certain that ConEdison's fuel source would not be interrupted in the event of an emergency. Gas lines can be interrupted by road excavation work, nearby construction, and lack of supply. A gas line also increases the possibility of natural gas leaks and the project's environmental impact. Ultimately installing a gas line would remove the applicants' ability to control the source of backup power and would again necessitate relying on ConEdison in the event of a power failure.



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For these aforementioned reasons, we think it would be a best, more certain and safer solution to install a 500 gallon propane tank. As is outlined above, the 500-gallon tank would provide a backup power runtime of over 5 days. There is also room at the site for future co-locators to have similar sized tanks for their equipment.

We would like to thank you for your consideration. We are of course open to suggestions, but do believe this to be the best solution to providing backup power for the Facility.

Respectfully

*Klaus Wimmer*

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Klaus Wimmer  
Regional Manager  
Homeland Towers, LLC.