

# upper~harbor

## Upper Harbor Terminal Redevelopment Transmission Line FAQ

12/11/2019

### 1. What are these powerlines, and are they necessary?

The pair of transmission lines over the Upper Harbor Terminal (UHT) site carry power from the Riverside Plant across the River to serve North Minneapolis and downtown and thus they are absolutely necessary. There is a similar line that goes through Northeast Minneapolis along the riverfront. There is not room on the east side of the River to also accommodate the lines that go over the UHT site.

The lines are the larger transmission lines, not the smaller distribution lines that are common on city streets. Moving or burying distribution lines is relatively simple. Dealing with transmission lines is much more difficult and expensive.

### 2. Do the powerlines cause any health concerns?

(Summary of staff information from internet research)

Electric transmission lines generate electric and magnetic fields (EMF), as does the sun and a wide array of other things (e.g., cell phones, microwaves, Wi-Fi routers, power tools, X-ray machines). EMFs from powerlines are non-ionizing low radiation sources that research apparently has found have either no association or weak, inconclusive evidence of an association with human health concerns. Based on in-depth review of the scientific literature, the World Health Organization concluded that “current evidence does not confirm the existence of any health consequences from exposure to low level electromagnetic fields such as powerlines.”

Exposure to EMFs goes down with distance, and thus the height of overhead lines and the easement corridor under the lines will reduce EMF exposure.

Burying the lines would not eliminate EMFs. Underground lines do not produce above-ground electric fields, but may produce magnetic fields above ground that apparently can be as high as or higher than those associated with an overhead line. Staff has not found information about what the EMF levels would be at transition structures where an overhead line comes down to ground level to go underground.

Information sources:

National Institute for Environmental Health Sciences --

[https://www.niehs.nih.gov/health/materials/electric\\_and\\_magnetic\\_fields\\_associated\\_with\\_the\\_use\\_of\\_electric\\_power\\_questions\\_and\\_answers\\_english\\_508.pdf](https://www.niehs.nih.gov/health/materials/electric_and_magnetic_fields_associated_with_the_use_of_electric_power_questions_and_answers_english_508.pdf)

World Health organization -- <https://www.who.int/peh-emf/about/WhatisEMF/en/index1.html>

National Cancer Institute -- <https://www.cancer.gov/about-cancer/causes-prevention/risk/radiation/electromagnetic-fields-fact-sheet>

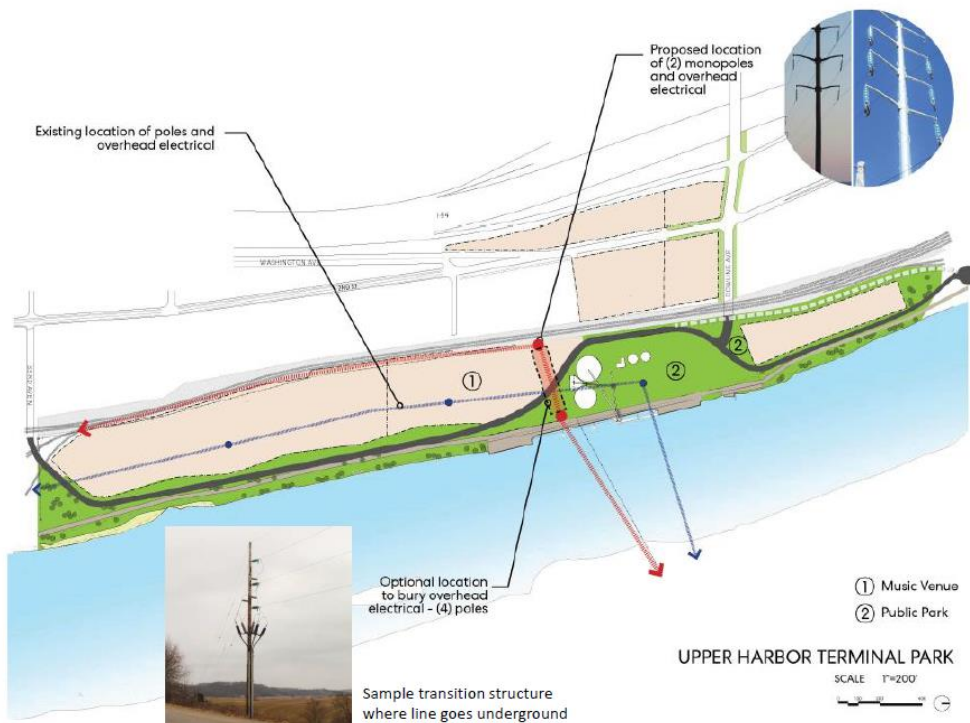
### 3. How do the powerlines impact development options, and what can be done to provide a better outcome?

The existing lines go north-south over the middle of the site and thus limit development potential. The lines generally need to be away from buildings, so the plan is to relocate them from the middle of the property to one side or another (railroad side to the west or closer to the river side to the east).

Moving the lines back by the railroad tracks generally gets the lines out of the way and consolidates the easements and space required by railroad tracks, utilities, powerlines, etc. into as minimal and unobtrusive a corridor as possible. The lines must cross the UHT property to get back by the railroad tracks. An overhead route along the western side of the site is considered much more preferable to one running along the eastern side of the site that would impact the river edge park and river views.

The current powerline route has a pole near the River where the lines coming across the River “land.” Pending a technical feasibility evaluation by Xcel, this landing location can be shifted somewhat upriver or downriver to a location that works better for the planned park. Strong consideration also is being given to eliminating this pole and having the overhead lines span all the way back to the western edge of the site, where it would turn to head south. This “long span” option tentatively appears technically feasible. If found to be feasible and cost-effective, this option would eliminate the need for a pole (or poles) near the River in the park (but would necessitate taller poles).

#### Overhead Utilities



Graphic courtesy of MPRB, with added graphic of transition structure

#### **4. Is burial of some or all of the lines, rather than overhead relocation, possible?**

The portion that crosses the River must remain overhead and must land at a pole (or pair of poles) on the west side of the River.

Burial of the lines once they reach the UHT site is likely to be technically feasible (although an engineering study would need to confirm that), but would be significantly more expensive (perhaps as much as ten times the cost of an overhead line). Xcel charges for engineering studies so there is a cost to fully understand options.

An overhead route would require simple single “monopoles” that can carry both lines (see photos in upper right graphic). Burial would require a pair of transition structures (one for each line) where the line goes underground and another pair where the lines comes back up again (see photo in lower left graphic). Transition structures include a pole as well as equipment that carries the lines underground. A pair of these transition structures would much more visually obtrusive from eye level than a single monopole.

The City tentatively will pay to relocate the overhead lines to a new overhead location, but does not have the additional funds to bury the lines underground. If additional funding sources could be found, it’s not clear that powerline burial would be the highest priority for that funding or if other project goals (e.g., affordable housing, a community hub, anti-displacement programs, community ownership options) would be higher priorities.

#### **5. When Xcel Energy sought to install an overhead transmission line along the Midtown Greenway, they eventually were required to bury it to achieve environmental justice. Why can’t that be required here?**

In the Greenway case, Xcel was seeking permission to install an entirely new line for which they needed extensive approvals and permits. Thus, there was a basis for the Public Utilities Commission (PUC) to require them to bury the lines. The burial was paid for by the Xcel customers (“rate-payers”) rather than an outside grant.

In the UHT case, Xcel already has an existing line that has all of the necessary approvals and easements. They’re not asking to relocate the lines or for any additional permits/approvals. The UHT project is asking Xcel to relocate the line, and thus there isn’t the same legal ability to require them to kick in any extra funding to bury the line.

Due to the terms of two of the easements/licenses, Xcel has agreed to pay the cost to relocate one portion of the lines, but those easement terms don’t require them to pay the additional cost to bury that portion or other parts of the line.

## **6. How much will powerline changes cost?**

The most recent preliminary estimate prepared by Xcel to relocate the powerlines entirely overhead to run next to the western/rail edge of the site indicated a total cost of about \$7 million, of which the City preliminarily anticipates covering \$5 million. This will be a significant investment by the City to enhance redevelopment of the site. It should be noted that there are many factors that will impact the actual cost (e.g., tariffs can increase steel costs and soil conditions will impact foundation costs), so all cost estimates at this point are very preliminary.

The cost to bury just the segment of line that impacts the park area and runs from the “landing pole” near the River back to the western edge of the site could add \$3 million or more to the cost, bringing the total cost to \$10 million or more. If the entire line over the UHT site were buried, it would add at least \$6 to 10 million to the cost, bringing the total cost to \$13 to 17 million or more.

## **7. What is needed to learn more?**

Any powerline relocation will require an extensive engineering study by Xcel to evaluate feasibility and arrive at a more informed cost estimate. The goal of the current phase of project planning is to arrive at a route for which Xcel will complete an engineering study. With completion of this study, Xcel will arrive at more detailed engineering plans and a more accurate cost estimate for the relocation.

## **8. What else needs to be considered?**

Powerlines can result in AC interference based on proximity to other metals, such as railroad tracks and other utilities. This is not expected to make relocation impossible, but the interference will need to be studied and may necessitate measures (and some extra costs) to mitigate for that interference.

A revision to the route where the lines cross the River is expected to require some additional review as a “river crossing.”