



# City of Philadelphia

City Council  
Chief Clerk's Office  
402 City Hall  
Philadelphia, PA 19107

## Legislation Text

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Authorizing the joint City Council Committees on Public Safety, Public Health & Human Services, and Environment to hold public hearings reviewing and investigating major planned construction by PECO to build a massive electric substation at 2000 N. 59th Street in West Philadelphia.

WHEREAS, On March 7, 2017, at approximately 2:00 p.m., a massive fire broke out at the PECO substation located in the Tioga section of North Philadelphia, located on the 2600 block of Westmoreland Street. As a result of this fire, thick plumes of black smoke followed by massive power outages resulted in the evacuation of a nearby apartment complex and loss of power to more than 36,000 residents, as well as closures to schools, businesses and medical facilities; and

WHEREAS, The massive fire in North Philadelphia was not the first dangerous incident to occur at a substation operated by PECO. Three months prior on December 2, 2016, shortly before 1 p.m., at the PECO substation located at Juniper and Waverly Streets in Center City, a transformer glitch at the substation triggered the release of massive amounts of fire-suppression foam into the streets outside of the facility. In total, 2,700 Philadelphia residents lost power; and

WHEREAS, Electric substations are used to step down high voltage that is generated in power stations for domestic and commercial usage. These high voltage lines transmit radiation called the "electro-magnetic field" or "EMF." Whenever a current passes through a conductor, an EMF is always associated with it. There are two types of electromagnetic fields produced by overhead and underground cables and the substation equipment itself; and

WHEREAS, Measured electromagnetic fields, such as those produced by substations, have been associated with health effects such as cancer, depression, dementia, infertility, miscarriage and heart problems; and

WHEREAS, An electric field traverses the air and starts oscillating human cells at high frequency, causing them to heat up. Thus high-power EMF can damage body cells. Similarly the varying magnetic field induces an electric current in human cells and tissues. Since skin is directly exposed to these radiations, it can be badly damaged; and

WHEREAS, Studies have been conducted by researchers on individuals that live within 300 meters, or 0.18 miles, of a substation. Based on these studies, evidence suggests that individuals living in close proximity to electric substation are at an increased risk of developing cancer due to exposure to EMF radiation; and

WHEREAS, According to research and publications put out by the World Health Organization (WHO), EMF such as those from power lines, can also cause headaches, fatigue, anxiety, insomnia, prickling and/or burning skin, rashes, and muscle pain; and

WHEREAS, Electrical substations also have the potential to have an effect on other surrounding utility infrastructure. The most common source of elevated magnetic field readings (high EMF) in homes is electrical currents passing through water pipes. This is more accurately described as neutral current diversion into a

metallic plumbing and grounding system, also referred to as plumbing current, or ground current; and

WHEREAS, Electrical substations also have the potential to have negative effects on small businesses that surround these sites, due to some of the current that would normally return through the electrical service line feeding the building instead being channeled into the grounding system, where it returns to the transformer by way of alternate paths, including water pipes, public water mains, and neighboring residences; and

WHEREAS, This unbalanced current creates a strong magnetic field with a wide spatial extent. The type of power distribution system used in the U.S., in combination with important National Electrical Code grounding requirements, establish the underlying conditions for this problem to occur. It is more common in communities with moderate to high housing density, especially those served by overhead power distribution lines; and

WHEREAS, Based on the above, the construction of a new, massive electric substation at 2000 N. 59th Street in West Philadelphia has the potential to have a significant impact on the residents of the neighborhoods of Wynnefield and Overbrook, with respect to health and safety, and also a potential harmful effect to the environment. Therefore, it is imperative that PECO present itself to the Council to assure that any questions or concerns are addressed, prior to the construction of a potentially harmful electric substation.

RESOLVED, BY THE COUNCIL OF THE CITY OF PHILADELPHIA, That it hereby authorizes the joint City Council Committees on Public Safety, Public Health & Human Services, and Environment to hold public hearings reviewing and investigating major planned construction by PECO to build a massive electric substation at 2000 N. 59th Street in West Philadelphia.