TransEd LRT VALLEY LINE

Winter Construction -

Light Plants and Generators

Decreases in both daylight hours as well as ambient temperature during the winter months increase the frequency of our use of light plants and generators.

Where and Why Light Plants are Used

Light plants are portable units used to light roadways and work zones along the alignment. Construction in certain areas has made it necessary to temporarily remove light posts along some adjacent roadways. In their place, light plants have been set up to adequately light roadways for both pedestrians and motorists. Because these are replacing permanent light fixtures, we are required to keep them on throughout the night even if no work is being performed.

Lights used for our work zones will remain on as long as work is being performed. At the end of the shift, these will be powered down if no work is occurring in the work zone.

Types of Light Plants

The type of light plant most commonly used along the alignment is a solar-powered "whisper-quiet" model that gathers energy during the day via solar panels to power the lights each night. When it's cloudy or snowing, the amount of energy gathered may not be enough to power the light for the entire night. In these cases, the solar plants will pull energy from a backup diesel generator that will run for several minutes until the plant is charged enough to run off of the battery.

Because of this, generators may run for a period of time during the night to ensure enough power for the light plant.

Noise Associated with Light Plants

As previously mentioned, backup generators for light plants may turn on for a period of time during the night to ensure the plant has enough power to last until morning. On average, generators for these light plants runs at a volume of approximately 65 dB(A) decibels. Diesel generated light plants run at a volume of approximately 69 dB(A). Please see the associated chart for more context on decibel levels.

Heating and hoarding

A majority of earthworks along the alignment require a minimum temperature to occur. For this reason, certain areas of the construction site incorporate a method known as "heating and hoarding" to achieve an appropriate temperature during winter months. Tarps or tents are set up to insulate these areas and warm air is cycled through via portable glycol heating units or diesel-powered generators.

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Types of Heaters

These heating units remain active until the specific construction activity in that area is complete. This means that many of these generators will be running throughout the night to control the temperature even when no work is being performed.

Noise associated with Heaters

These units run at a volume of approximately 69 dB(A) decibels.

Overview

TransEd approaches construction along the Valley Line LRT Stage 1 route with great care and regard for the amount of noise and vibration caused by construction activities. While noise and vibration are unavoidable in any construction project, TransEd is committed to minimizing noise and vibration impacts along the corridor during construction and operations. If you have any concerns about noise or vibration, please call 780-224-0964.

The City of Edmonton's Community Standards Bylaw 14600 describes noise control. It identifies that hours of work for construction are Monday to Saturday, from 7:00 a.m. to 9:00 p.m., and on Sundays, from 9:00 a.m. to 7:00 p.m.

Sometimes, TransEd must apply for a permit to allow work outside of the regulations of the Noise Bylaw. The most common reason for this is to allow for overnight work to occur.

Such necessary work can involve continuous or lengthy processes such as concrete pours and utility work -- or work in roadway areas during low traffic conditions.

TransEd incorporates noise mitigation in its work planning and construction activities where possible. For example, we try to schedule noisier work for daytime hours, limit the size of equipment where feasible, ensure regular equipment inspections and proper mufflers, adjust work methods, change back-up alerts to strobe lights instead of beeping, and more. TransEd tailors noise mitigation to the location and the kind of construction activity.

All project personnel have been trained in the importance of noise control, and it is discussed during "Tool Box Talks" at the start of work shifts. Project engineers and scientists monitor sound levels and evaluate nuisance noise conditions, important for adjacent residents and impacted communities but also for construction staff working nearby.

How do different levels sound?

85 dB(A) is comparable to a power lawnmower or motorcycle at 7.5m.	**80 dB(A)** is comparable to a busy traffic intersection at 15m.	**70 dB(A)** is comparable to a freeway at 15m from pavement edge.	**65 dB(A)** is comparable to an urban environment during the day.

» **Solar-powered** light plants average around **65 dB(A)**

» **Diesel-powered** light plants average around **69 dB(A)**

» **Ambient baseline** noise in this area averages **63 dB(A)**

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