

16 March 2020

Michael Vaughan

fyi-request-12392-975ce88a@requests.fyi.org.nz

Dear Michael,

CAS - 113923-H4J9Y2

Thank you for your request dated 5 March 2020 asking for information regarding LED street lights.

Please find answers to your request set out below:

What is the frequency of the RF transmissions from the LED lights in Auckland? How frequently are the RF transmissions taking place and what is the duration of the transmissions.

The Central Management System (CMS) that Auckland Transport (AT) has installed operates in the 455 MHz band. AT uses licenced frequencies within this band for both send and receive transmissions. The CMS operates using the polling method where the base station initiates a poll around all the lights. This occurs twice a day. The duration of each transmission to each light is dependent on the amount of data to be transmitted. Each transmission averages around 30 milliseconds for each light.

What information are the light units collecting and transmitting?

There are many detailed pieces of information being monitored and sent back to the central system. These can be summarised into the following categories. Faults. Each light checks for a number of faults that can occur and reports them back. Metering. Each light records the energy used and reports back for billing purposes. Monitoring of light level. Each light monitors the light level and reports back variances based on pre-set profiles. Each light receives information telling it when to turn on and off; what profile to manage the light output to.

Do any of the LED lights contain any sort of camera or any sort of surveillance equipment?

No. The street light CMS is not suitable for surveillance purposes.

Please give details of the spectrum of light emitted by the LED lights and whether any advice has been obtained by AT from eye professionals? The LED lights seem incredibly harsh to me.

The spectrum of an LED chip has no direct correlation to intensity/glare. Luminaires installed by AT are reviewed against numerous standards, one of which is IEC 62471 (Photobiological safety of lamps and lamp systems). AT specifies a colour temperature of 4000k for most of its lights.

Do the LED lights in the Auckland area contain any sort of Comfort Diffuser to reduce glare? If not, please explain why. If they do please explain why the LED lights are so harsh that it is not possible to look at them, whereas street lighting in the past has involved lighting much more comfortable to the eye.

Comfort diffusers and the like reduce efficacy (efficiency) and therefore increase environmental impact. AT specifies the limits of glare when we purchase LED lights. As mentioned, (4) above the lights AT install satisfy all relevant standards, so there is no requirements to further reduce glare.

Is the installation of LED lamps in the Auckland area connected in any way with the plans of Telecommunication Companies to roll-out 5G technology?

No. The street light CMS operates on the 455MHz band of RF and is a narrow band system. It can only transmit and receive small amounts of data at relatively slow speed. The 5G network operates in different RF bands and is a wide band system where it can receive and transmit large amounts of data at high speed. The two systems are in no way compatible.

Should you believe that we have not responded appropriately to your request, you are able to make a complaint to the Office of the Ombudsman in accordance with section 27(3) of the LGOIMA Act and seek an investigation and review in regard to this matter.

Yours sincerely,



Alan Wallace
Portfolio Delivery Manager