NEW ZEALAND POLICE
Ngā Pirihimana o Aotearoa

30 October 2019

REF NUMBER: IR-01-19-27512

Mr Joseph
fyi-request-7181-c3bf00fd@requests.fyi.org.nz

Dear Mr Joseph

I refer to your Official Information Act request of 28 January 2018 for information relating to speed and alcohol tolerances.

You requested:

1. *I reside in New Zealand and am curious to tolerances police give. For example, driving above the posted speed limit is against the law. Due to the tolerances of speedometers and natural human error, are police justified in issuing tickets for those who exceed the speed limit by 1?*

As per previous contact, Police apologises for the delay in responding. The mailbox had previously been unmonitored due to human error. Police is rectifying this by responding to the people who had previously emailed and will be closing off the email address.

Police uses a range of speed detection equipment including radar, laser, mobile speed cameras and static speed cameras. The Measurement Standard Laboratory (MSLNZ) has calculated the uncertainty parameters for each of these speed measuring devices. MSLNZ also calibrates these devices annually at the frequency recommended by the International Standards Organisation (ISO).

The Police Calibration Laboratory is accredited to the highest standard in the world – it is an ISO 17025 laboratory – and is audited annually by the International Accreditation New Zealand (IANZ). You may refer to the International Guide to the Expression of Uncertainty in Measurement which is adopted in New Zealand by IANZ. When MSLNZ estimates the uncertainty measurement for any of the Police speed measuring devices, all uncertainty components of relevance in the given situation are taken into account using the appropriate methods of analysis.

The Stalker DSR radars used in New Zealand are set by the manufacturer to round down the true speed by up to 0.9 of a kilometre. This means that a vehicle travelling at 50.9 km/h will be indicated at 50 km/h on the radar display. Given the radar display only displays whole numbers and does not include decimal points, the quoted uncertainty is ±0.6 km/h. The uncertainty was estimated by MSLNZ to be better than ±0.03 km/h, but because the radar only reads in whole units it is reported as ±0.6 km/h. This MSLNZ calculated result was in agreement with measurements made at the National Institute of Standards and Technology (the US standards laboratory). Therefore the radar will always round down the true speed and not falsely indicate a vehicle to be speeding due to measurement uncertainty.

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New Zealand law states that it is an offence to exceed the posted speed limit. Therefore, the moment a posted speed limit has been exceeded an offence has been committed. As such, Police is justified in issuing tickets for those who have exceeded the speed limit by one km/h.

2. *Also, because the alcohol limit is 0 for persons under 20. Will a person under 20 be charged with having alcohol in their system if it is an extremely negligible amount, or is there a tolerance? It's worth noting that some foods may naturally contain small amounts of alcohol like orange juice.*

Some foods and beverages contain trace amounts of ethanol creating a mouth alcohol effect immediately after consumption.

New Zealand Police uses evidential breath testing instrumentation to confirm a positive breath alcohol screening test to a precise level. Evidential equipment, which takes a full sample of breath, is therefore not susceptible to error induced by the mouth alcohol effect that may result from the immediate consumption of certain non-alcoholic foods.

To exceed the under-20 drink driving threshold of 150 mcg of alcohol per litre of breath, a non-trivial amount of alcohol must have been consumed. The 150 mcg limit is considered zero in practical terms because even one standard drink could lead to a breath alcohol concentration that exceeds this limit, however in technical terms it is not a zero threshold.

Orange juice is estimated to have approximately 0.77 grams of ethanol per litre. A standard drink has 10 grams of alcohol which would equate to 13 litres of orange juice. It is therefore not considered plausible that the evidential breath testing threshold of 150 mcg is able to be reached by consuming foods that contain trivial amounts of alcohol, such as orange juice. Consumption of such foods may lead to a positive breath screening test, especially from mouth alcohol (rather than breath alcohol) following very recent consumption. However, it would not result in a positive evidential breath or blood test.

You have the right, under section 28 (3) of the Official Information Act 1982, to ask the Ombudsman to review my decision if you are not satisfied with the way I have responded to your request.

Yours sincerely

Inspector Amelia Steel
National Manager Road Policing (Acting)