



Dina Cutting <dina@lymenh.gov>

for attaching to minutes.....

1 message

kevin sahr <kssa1959@gmail.com>
To: Dina Cutting <dina@lymenh.gov>

Mon, May 11, 2020 at 11:26 AM

From: "ODonnell, Michael" <Michael.ODonnell@dot.nh.gov>
Subject: RE: Lyme RT-10 Crosswalk- Any ideas ?
Date: May 1, 2020 at 3:03:43 PM EDT
To: 'kevin sahr' <kssa1959@gmail.com>

Kevin,

75 flashing sequences per minute, with each sequence lasting 800 milliseconds with the lights illuminated 50 milliseconds at a time. The document specifically calls out that the flash rate of the individual beacon indications "shall not be between 5 and 30 flashes per second to avoid frequencies that might cause seizures".

https://mutcd.fhwa.dot.gov/resources/interim_approval/ia21/index.htm

Mike

From: kevin sahr <kssa1959@gmail.com>
Sent: Friday, May 01, 2020 2:46 PM
To: ODonnell, Michael <Michael.ODonnell@dot.nh.gov>
Subject: Re: Lyme RT-10 Crosswalk- Any ideas ?

EXTERNAL: Do not open attachments or click on links unless you recognize and trust the sender.

Thanks, do you know what rate the RRFB's flash at as referenced in Approval 21 ?

Kevin

On May 1, 2020, at 2:37 PM, ODonnell, Michael
<Michael.ODonnell@dot.nh.gov> wrote:

Kevin,

Based on FHWA's response, I offer the following for your consideration:

The flash rates for various devices established in the MUTCD are purposely set to avoid

approaching the 5 to 30 flashes per second range that may be problematic for persons subject to seizures. A flash rate between 50 to 60 flashes per minute is standard for devices such as warning beacons, traffic signal faces, LED lights in signs, the "flashing Upraised Hand" indicating "Don't Walk" in a pedestrian signal, and In-Roadway Warning Lights at intersections. A flash rate of 55 to 75 flashes per minute is standard for warning lights on channelizing devices when a sequential flashing pattern is used. The flashing rate on Arrow Boards is 25 to 40 flashes per minute. The specific flash rate and pattern for RRFBs is established in Interim Approval 21 and while it is much more rapid, it also avoids the 5 to 30 flashes per second range.

More information on the "5 to 30 flashes per second range" can be found at the website below:

<https://www.epilepsy.com/learn/triggers-seizures/photosensitivity-and-seizures>

While it is not addressed in the Interim Approval, an RRFB flasher lens, like any other signal-device lens, could have visors or other means applied to limit visibility to the sides or top providing a smaller cone of vision. It would be important to maintain the rectangular shape and to ensure oncoming traffic receives the required brightness and flash pattern at sufficient viewing angles to remain in compliance with IA-21. If agencies determine this feature is needed, based on their engineering judgment, it would be permissible. It is worth noting that none of the original RRFB research and experimentation on RRFBs used any form of visibility limiting features, so an agency would need to proceed with caution if considering altering the optics and potentially the performance of the current design.

There are no shields or other visibility limiting products known to be on the market to perform this function. If the Town does come up with a modification for their RRFB please be sure to submit it to NHDOT for approval prior to installation, as we will need to get clearance from FHWA to move forward with the modification.

Our understanding with the RRFB is that because the lighting is LED based, there is already a strong directional component to the system...

https://www.energystar.gov/products/lighting_fans/light_bulbs/learn_about_led_bulbs

<image001.jpg>

So in summary, I would say that while it is not impossible for the flash pattern of the device to trigger a seizure, it is certainly very unlikely based on the research to date. The above notes and links should provide the Town some assurance in moving forward with the device as designed, but perhaps incorporating a modification for it would serve as a good faith effort for the citizen who could be at some level of risk of being impacted by the device.

Good luck, and let me know how it works out.

Mike

