

Communication Techniques for the Toronto East Community Awareness and Emergency Response Association's Siren Test Communications Plan

Date: March 10, 2022

To: Economic and Community Development Committee

From: Acting Fire Chief and General Manager - Emergency Management, Toronto Fire Services

Wards: All

SUMMARY

This report responds to a request from the Economic and Community Development Committee that the Fire Chief and General Manager - Emergency Management, Toronto Fire Services report back on the progress made addressing the suggestions provided during the October 21, 2021 meeting of the Economic and Community Development Committee regarding the Toronto East Community Awareness and Emergency Response (CAER) Association's and City of Toronto's Siren Test Communications Plan.

The Toronto East CAER Association maintains a siren system to alert residents of potential chemical hazards. The siren system is tested three times per year to ensure optimum performance and to increase public awareness of protective actions to be taken in the event of an environmental emergency. The Toronto East CAER Association worked with the City's Office of Emergency Management and Strategic Public and Employee Communications to develop a Siren Test Communication Plan. The Toronto East CAER Association and Office of Emergency Management welcomed input and suggestions from the Economic and Community Development Committee to improve the Plan and have updated the Plan to incorporate the feedback provided during the October 21 2021 meeting.

RECOMMENDATIONS

The Acting Fire Chief and General Manager - Emergency Management, Toronto Fire Services recommends that:

1. The Economic and Community Development Committee receive this report for information.

FINANCIAL IMPACT

There is no financial impact resulting from the adoption of the recommendation in this report as any costs associated with improvements will be fully funded by the Toronto East Community Awareness and Emergency Response Association.

The Chief Financial Officer and Treasurer has reviewed this report and agrees with the financial impact information.

DECISION HISTORY

At its meeting on October 21 2021, the Economic and Community Development Committee requested that the Fire Chief and General Manager - Emergency Management, Toronto Fire Services report back to the Economic and Community Development Committee in the second quarter of 2022 on the progress made regarding the suggestions provided during the October 21, 2021 meeting of the Economic and Community Development Committee regarding the Toronto East Community Awareness and Emergency Response Association and risk mitigation and preparedness measures.

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2021.EC25.8>

At its meeting on May 5 and 6, 2021, City Council requested the Director, Office of Emergency Management, to meet with representatives of the Community Awareness and Emergency Response Association as well as local City Councillors, to establish how the City of Toronto could assist in supporting the success of the Association and to provide an update on these discussions to the Economic and Community Development Committee in the fourth quarter of 2021.

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2021.MM32.21>

COMMENTS

At its meeting on October 21, 2021, the Economic and Community Development Committee requested that the Fire Chief and General Manager - Emergency Management, Toronto Fire Services report back on the progress made addressing the suggestions provided regarding the Toronto East Community Awareness and Emergency Response (CAER) Association's and City of Toronto's Siren Test Communication Plan.

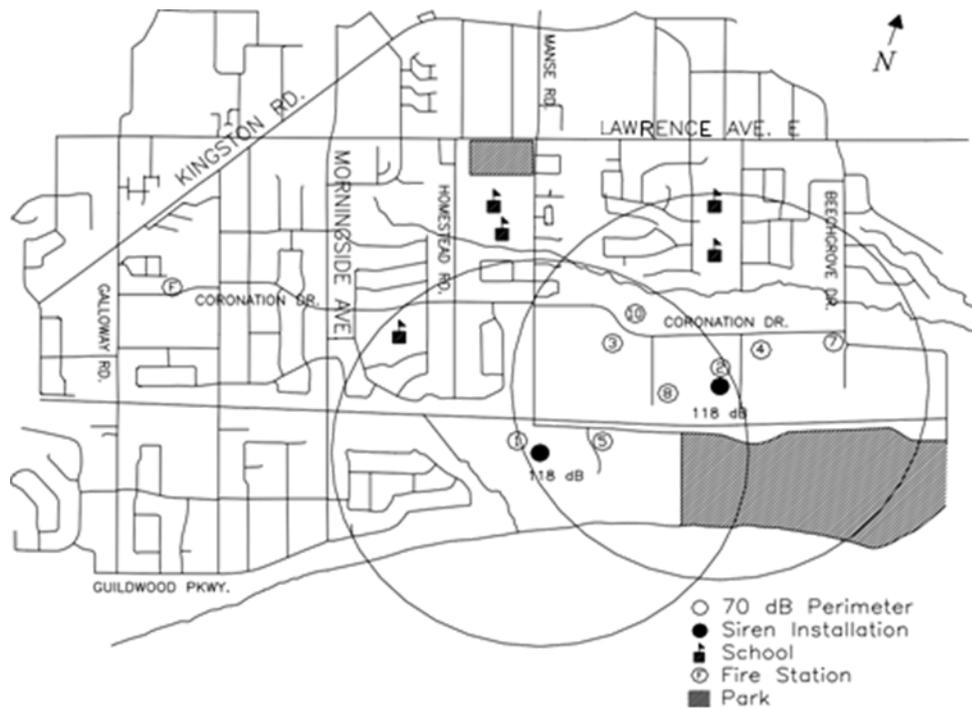
The Toronto East CAER Association is located in southeastern Scarborough. The Toronto East CAER Association was formed in 1988 and has grown to include chemical manufacturing companies, local government agencies such as the Office of Emergency Management (OEM), Toronto Fire Services, Toronto Police Service, Toronto Water, and other critical infrastructure partners that have operations in the east part of Toronto.

CAER associations represents a commitment by the Chemistry Industry Association of Canada, its members, partner companies, and each of their employees to making the chemical industry life cycle safer. There are CAER associations throughout the country, including three associations in Toronto: the Toronto East CAER, the Toronto West

CAER and Toronto North CAER. The OEM is a long-standing member of all three CAER associations in Toronto, along with Toronto Fire Services and Toronto Police Service.

The Toronto East CAER Association is the only CAER association in Toronto that maintains a siren system to alert residents, schools and businesses within the vicinity of the CAER companies in the unlikely event of an environmental emergency where nearby individuals are required to shelter in place (see Figure 1 for the target geographic area of the siren system). The siren system is designed to be heard in a one kilometre radius around each siren, mainly in Scarborough-West Hill and Rouge Hill-Guildwood.

Figure 1. The Toronto East CAER Association Siren Target Area



The Toronto East CAER Association installed the siren system in 1998 as a special service to local residents based on community consultations. The [Environmental Emergency Regulations, 2019](#) (the Regulations), first established by the Federal government in 2003, require facilities with regulated hazardous materials to have the ability to communicate with the public in case of an accidental release. In the case of the Toronto East CAER Association, one of the ways the facilities that are subject to the requirements of the Regulations can accomplish this is with the siren system. The other CAER associations do not use sirens for emergency alerting in their geographies for several reasons, including the fact that companies in Toronto West and Toronto North do not have as many residents, businesses and schools in the immediate vicinity compared to the Toronto East CAER Association.

The Toronto East CAER Association tests the siren system three times per year to ensure optimum performance and to increase public awareness of protective actions to be taken in the event of an environmental emergency. During these system tests,

residents are encouraged to listen for the siren test, identify the siren, and practice their emergency response.

Based on direction from City Council in May 2021, the OEM worked with the Toronto East CAER Association and Strategic Public and Employee Communications to develop an enhanced Siren Test Communications Plan to support the siren system testing. The objectives of the Plan are to increase awareness about the rationale and process of the siren test, its benefit and to encourage active participation. It provides messaging to the community through enhanced social media and other tactics prior to, and on the day of siren testing.

At its meeting on October 21, 2021, the Economic and Community Development Committee provided suggestions in relation to item [EC25.8](#) to help expand the reach and effectiveness of the Plan. The OEM has worked with the Toronto East CAER Association to address these considerations.

Siren noise beyond intended radius

There have been instances where the sirens can be heard beyond the intended geographic area (i.e., beyond the one kilometre radius around each siren). It was noted that this may be confusing for residents outside the target area as they may not understand the purpose of the siren.

The Toronto East CAER Association reports that the siren system was designed such that the noise level is 70 A-weighted decibels (dBA) at the one kilometer radius point from each siren, which is generally understood to be the lowest suitable level for ensuring that residents will perceive the siren sound. For comparison, the average speaking voice is 65dBA.

Depending on the weather conditions (wind, cloud coverage, etc), the siren sound may travel outside of this radius. However, in order for it to be effective within the one kilometre radius (especially given the potential for adverse weather conditions during an emergency), it needs to be at that volume.

To mitigate any confusion in areas outside of the one kilometre radius, the OEM has worked with the Toronto East CAER Association to ensure that communication efforts are focused across a wider geographic area (i.e., beyond the one kilometre radius around each siren) with the goal that anyone that potentially hears the siren outside the target area will understand the purpose and intended audience. The Siren Test Communications Plan includes a range of actions to expand the reach of the messaging, including broadening the social media strategy.

To examine the effect of this effort, the OEM followed up with 311 and 911 after the October 2021 test to determine if residents in adjacent areas experienced any issues. Records indicate that 311 received only one call and that 911 received no calls with respect to the siren test. Going forward, the OEM will follow-up with 311 and 911 after each siren test to determine the impact of communication efforts in reaching individuals beyond the one kilometer radius.

The OEM will also continue to work closely with the local councillors' offices before and after each siren test to address any concerns or questions received through their offices about the testing.

Communication techniques

One of the communication techniques used by the Toronto East CAER Association is signage on streets surrounding the sirens. Questions were raised as to the rationale for where signage is put, as it does not appear to cover all locations where the sirens can be heard.

The signage is intended to target people living within the one kilometer radius around each siren as that is where the sound is most concentrated. In advance of a test, signs are posted along Coronation Drive, from Morningside Avenue to Beechgrove Drive, along Manse Road, from Lawrence Avenue East and south to the Dow Company site and along Beechgrove Drive from Lawrence Avenue East and south to Coronation Drive.

After further discussion with Toronto East CAER Association, it was determined that these signs are optimally placed, as they are posted across all the access roads leading into the area that residents travel in order to get to and from their homes. As previously discussed, the increased messaging through the Siren Test Communications Plan will aim to reach residents outside of the one kilometer radius using other methods and the Toronto East CAER Association and OEM will monitor the effectiveness of the increased messaging.

Radio advertising

The OEM was also requested to consider adding radio advertising as part of the Siren Test Communications Plan, similar to what the Region of Durham does for their siren tests related to the nuclear generating stations within their region.

The Region of Durham maintains a siren system as part of its nuclear response program in order to alert residents about a nuclear event in a three kilometre radius around the nuclear plants. The OEM consulted with the Region of Durham and learned that the region spends approximately \$7,000-8,000 per test period to advertise on the radio in the days before their tests, which is funded by Ontario Power Generation.

Given the radius of impact for nuclear emergencies is much larger, radio adverts make sense to reach more residents. However, with a target audience within a one kilometre radius around each siren, radio advertising may not be the most cost effective tactic in the case of the Toronto East CAER Association.

The Toronto East CAER Association will continue to investigate the effectiveness of promoting their messaging in local print media.

Testing timing

The Toronto East CAER Association was asked to clarify how it selects the day of the week for a siren test, as it varies per test. The Toronto East CAER Association has identified that there is an intentional choice for the dates of the tests.

As previously mentioned, the Toronto East CAER Association tests the siren system three times a year. Two of the tests are typically conducted on Saturdays at 5pm based on research indicating that is when most residents are likely to be at home.

However, it is also important to ensure that schools have the opportunity to practice their "shelter in place" response at least one time per year. The Toronto East CAER Association consults with the local schools to confirm the timing of one of the annual tests, selecting a time on a weekday while children are in school.

Requirements for emergency plans

The Office of Emergency Management was asked to describe the processes that are in place to ensure that facilities with hazardous substances have emergency plans.

The requirement for environmental emergency plans (E2 plans) comes from federal legislation. The [Environmental Emergency Regulations, 2019](#) (the Regulations) under the [Canadian Environmental Protection Act, 1999](#) requires certain facilities to have an E2 plan to ensure measures are in place to prevent, prepare for, respond to and recover from an accidental release of a regulated hazardous substance. The Federal government undertakes compliance promotion and enforcement activities to ensure that facilities comply with the Regulations.

The testing of the siren system operated by Toronto East CAER is an example of the facilities' efforts regarding public notification before an emergency occurs. As per the Regulations, facilities must inform the potentially impacted public of how they will communicate with them in the event of an environmental emergency. For the facilities in the Toronto East CAER Association that are subject to the requirements of the Regulations, they achieve this through regular testing and communications to ensure the public knows how and why they intend to use the siren system and what to do if it is heard.

In most instances, these facilities are also required to maintain fire safety plans, as per the [Ontario Fire Code](#). A facility's fire safety plan must be reviewed by the owner annually and shall provide emergency procedures to be followed in case of fire, including: confining, controlling and extinguishing the fire; providing for the control of hazards in the building; and notifying the fire department in the event of a fire emergency.

Conclusion

The Toronto East CAER Association represents a commitment to making the chemical industry life cycle safer. Siren testing is a proactive, preventive measure to accomplish

this by informing and providing local residents an opportunity to practice safety manoeuvres needed during a real emergency. The testing is based on community consultation and research to ensure that the Toronto East CAER Association optimizes its reach and addresses the safety concerns of local residents. The Toronto East CAER Association and the City of Toronto regularly collaborate and champion appropriate mitigation and preparedness practices to help keep Toronto safe.

CONTACT

Jennifer Smysnuik, Manager, Office of Emergency Management, 416-392-3829,
Jennifer.Smysnuik@toronto.ca

Joanna Beaven-Desjardins, Director, Office of Emergency Management, 416-338-8746,
Joanna.Beaven-Desjardins@toronto.ca

SIGNATURE

Jim Jessop
Acting Fire Chief and General Manager - Emergency Management
Toronto Fire Services