

**FINDING OF NO SIGNIFICANT IMPACT (FONSI)
FOR TRACER PARTICLE AND GAS TESTING IN
NEW YORK CITY MASS TRANSIT
ENVIRONMENTS AND CRITICAL INFRASTRUCTURE**

SUMMARY

Pursuant to section 102(2) (c) of the National Environmental Policy Act (NEPA) of 1969 and the Council on Environmental Quality regulations (40 CFR Parts 1500-1508) on implementing the procedural provisions of NEPA, the Department of Homeland Security (DHS) has conducted an Environmental Assessment (EA) on the planned releases of aerosolized particulate material and inert tracer gases at pre-determined locations in New York City (NYC).

The Proposed Federal Action includes tests that are scheduled to start October 2021. The Proposed Action would include the release of low concentrations of safe particulate and gas tracer materials as part of two projects sponsored by the DHS Science and Technology Directorate and entitled “Urban Threat Dispersion (UTD)” and the “Chemical and Bio-defense Testbed (CBT)”. The purpose of the tests is to collect quantitative data and information on the transport and deposition of particles that simulate the release of a biological agent in a major metropolitan area (UTD) and to evaluate the sensor architectures for rapid detection and mitigation of a chemical-biological event in the subway (CBT).

The Proposed Action and the No Action Alternatives have been considered in the EA, according to the following timelines:

UTD: Particle and gas tracer releases would occur within the two-week timeframe October 17 – October 30, 2021. There would be five separate testing days scheduled within this timeframe. Test locations include the following outdoor locations: Times Square, World Trade Center Complex, Union Square Park. Indoor release locations include platforms at Times Square and Union Square subway stations, as well as the Oculus transit hub.

CBT: Particle and gas tracer releases would occur on a rolling basis starting October 2021, with the specific schedule dependent on the pace of technology installation and funding availability. Testing would occur up to 10 days per month, with a maximum of four test events per day. The test locations include subway platforms at Grand Central and Times Square Stations. CBT test activities would not overlap with the UTD test window.

The proposed particle tracers contain common substances that are not hazardous, particularly in the quantities to be released, which in all cases are below published exposure limits by the National Institute for Occupational Safety and Health (NIOSH). Components of the particulate material to be aerosolized include the following:

- (1) Salt, this is the same as common table salt.
- (2) Glycerol, an ingredient that is added to many foods including processed fruits and frostings and is used in many personal care products, such as soap.
- (3) Maltodextrin, a common additive used in food and drink products such as beer, protein shakes, and sweeteners such as Splenda.
- (4) A fluorescent brightener that is non-hazardous and found in toothpastes and laundry detergents to make whites appear brighter.

- (5) Non-coding DNA oligos that do not have any function or biological activity. DNA is ubiquitous in byproducts like skin and hair from all organisms, and is also present in food items like fruits, vegetables, and meats.
- (6) Amorphous silica, a common food additive in spices and creamers to ensure free flow of powdered products and absorption of moisture.
- (7) Fluorescent dye and/or proteins, which are non-toxic and allow for particle detection.
- (8) Alginate-based hydrogel. Alginate is commonly used as a thickening agent in the food industry.
- (9) A fluorescent powder commonly used in leak testing.

The proposed gas tracers include sulfur hexafluoride as well as perfluorocarbon tracer. Sulfur hexafluoride is a safe gas commonly used in leak testing and already present in urban backgrounds due to its use in the electric power industry. Perfluorocarbon tracer gases are safe, inert, odorless, colorless gases that have been used in many similar airflow studies in the past.

The tests are being planned and coordinated in partnership with stakeholders in New York and New Jersey, including the New York Police Department, Fire Department of New York, Department of Health and Mental Hygiene, Metropolitan Transportation Authority, Port Authority of New York and New Jersey, NYC Office of Emergency Management, NYC Department of Parks and Recreation, New Jersey Department of Health, and New Jersey Transit.

The outcomes of the tests and analysis will be documented in detailed Technical Reports to DHS. The DHS-sponsored studies will deliver evidence-based, actionable information to inform planning and decisions that may be taken by federal, state, and local authorities to enhance and protect public health and safety in a major urban setting. The results are expected to be transferrable to other urban centers across the nation.

ANALYSIS OF ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

The Proposed Action would involve the release of particle and gas tracers into the human environment, potentially during operational hours in the transit system locations. As a result, thorough review of the potential effects on human health and the environment was performed and is documented in the EA. The information reviewed and summarized in the EA also includes available data regarding safety to animals, environmental decay, and pre-existing usage. The findings are summarized below.

Geology, Soils, Topography and Geological Hazards

The Proposed Action would have no significant impact on New York City topography or geology resources since activities would occur in an already-existing urban area and transit locations with no potential to disturb existing topography or geology.

Land Use and Planning

The Proposed Action would use existing transportation infrastructure. The Proposed Action would not impact public transportation access or have appreciable effects on the city's electric system, potable water, sanitary sewer and wastewater infrastructure, natural gas, or waste management. Therefore, there would be no significant effects to land use or infrastructure overall.

Public Health and Safety

The public may be exposed to very low concentrations of particulate and gas associated with the test options. Exposures may include inhalation, ingestion, and dermal contact, as well as potential exposure to re-aerosolized particulate material after the Proposed Project due to air movement within subway station locations. Release quantities would be very low. Maximum exposure concentrations for all proposed tracers would be well-below existing guidelines established by the Occupational Safety and Health Administration, the Environmental Protection Agency, and the American Conference of Governmental Industrial Hygienists for exposure in occupational settings or for the health of sensitive populations. Impacts to the overall public human health and safety from the Proposed Action would be less than significant.

Socioeconomics

The greater New York City metropolitan area is extremely diverse in land use and demographics. No disproportionately high or adverse impacts on low-income populations, minority populations or environmental justice communities are anticipated from the selected particulate tracers. Therefore, there would be no significant effects to environmental justice communities under the Proposed Action.

Air Quality

The Proposed Action would have little to no significant impact on air quality in the urban and transit environments, which is already characterized by high particulate concentrations. Therefore, impacts to air quality from the Proposed Action would be less than significant.

Noise

Existing noise within NYC results from ongoing construction activities, vehicular traffic, and air traffic. None of the equipment or personnel due to the implementation of the Proposed Action would generate loud noises that would increase existing noise levels. Therefore, the Proposed Action would result in no significant impact to the existing noise environment.

Hydrology and Water Resources

There would be no significant impacts on water resources associated with the Proposed Action as activities would occur in an already existing transit location and urban area.

Biological Resources

Four threatened or endangered species (piping plover, red knot, roseate tern, and seabeach amaranth) reside within the county, but are all coastal species not anticipated to be present in the subway system or metropolitan area. Any tracer materials that disseminate to appropriate habitats would be expected to be at vanishingly low concentrations. While urban wildlife and their habitat may be present in the proposed project area, no effect is anticipated on wildlife, given the relatively low quantities and non-toxicity of the materials. Therefore, there would be no effect on threatened and endangered species, to wildlife or special-status species from the Proposed Action. According to the U.S. Fish and Wildlife Service's (USFWS) Information for Planning and Consultation, there is no critical habitat in the proposed project area. Therefore, there would be no impact and no significant effects to areas with special designation from implementation of the Proposed Action.

Cultural Resources

Many National Register of Historic Places (NRHP) listed properties and National Historic Landmarks are present within NYC. Additionally, the NYC vicinity and surrounding area has been inhabited by Native Americans for thousands of years and many sites remain which may have cultural significance. There would be no ground disturbing activities or need to permanently affix equipment to any structures or walls within subway stations. The temporary nature of the Proposed Action would not result in visual or audible impacts or direct or indirect effect to any contributing features of any historic properties or subway stations listed on the NRHP. As such, the Proposed Action would have no effect on historic properties.

Hazardous Materials and Wastes

None of the Proposed Action materials are CERCLA, RCRA, or SPCC regulated hazardous waste. Equipment used to release tracer materials will be properly stored before and after use, and any sampling waste generated during the Proposed Action will be disposed of according to applicable regulations. As a result, there would be no significant effects from the Proposed Action due to hazardous materials and waste.

Impacts from Past, Present and Reasonably Foreseeable Actions

There are numerous projects occurring in NYC that may require environmental analysis and public input. Due to the judicious selection of particulate tracer material, the relatively limited quantity of materials to be released, and temporary nature of the Proposed Action, no impact is anticipated on the resource areas discussed above, and would result in no significant effects when considered with other recent past, ongoing, or reasonably foreseeable future actions in the project area.

DETERMINATION

Based on a detailed technical analysis presented in the EA, DHS finds that the Proposed Federal Action will not have a significant impact on the human environment, either on individual release dates, or cumulatively and is compliant with the existing national environmental policies and objectives as set forth in the National Environmental Policy Act of 1969 (NEPA). Therefore, an Environmental Impact Statement (EIS) is not required for the Proposed Federal Action.

Public input was solicited through an online posting of the EA with a 30-day period for public comment and the publication in two New York City newspapers of a Legal Notice. Additionally, DHS has posted the final EA document online (<http://www.dhs.gov/nepa>).

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