

Wildfire Smoke in New York City – Our Response, Lessons Learned, and Preparedness for the Future

NY State School Environmental Health Conference 2024
Saratoga Springs, NY



Agenda

- **Meet the Presenter**
- **About NYC Public Schools**
- **Situational environment**
- **Response**
- **Lessons Learned**
- **Preparing for the next event**

Meet the Presenter

John T. Shea



John is the Chief Executive Officer of the New York City Public Schools Division of School Facilities. NYCPS DSF manages 1,500 buildings across 135M square feet of educational space, with over 9,000 employees. Prior to managing school facilities he was an engineer supervising ship construction and repairs, and is a graduate of the United States Merchant Marine Academy.



New York City Public Schools



Statistics

- 915,000 Total Enrollment
- 119,000 students with housing insecurity
- 200,000 students have IEPs
- 160,000 do not speak English as a primary language

Spring 2023 Wildfires



Situational Environment

- From March through October 2023, 71,000 square miles of Canadian forest burned.
- Smoke and associated unhealthy air quality significantly affected Canada and the United States, and even reached the European continent.
- June 6th, 2023 – NYC had the worst air quality index of any major city on earth, with an Air Quality Index (AQI) surpassing 400.

Timeline of Events

June 4th - **IAQ 20** – Potential Hazard identified for NYC – NYCEM EOC on Standby. NYCPS begins preparations.

June 5th – **IAQ 52** - First smoke effects in NYC. First NYCEM Call. NYCPS makes decision to remain open for in person learning. Masks distributed.

June 6th – **IAQ 400+** - Most dangerous AQI. NYCPS remain open, outdoor activities suspended. HVAC repair team mobilized.

June 7th – **IAQ 235** - Schools remain open for in-person learning with after-school and outdoor activities cancelled.

June 8th – **IAQ 166** - Previously scheduled Staff Development Day – schools closed. Conditions improving.

June 9th – **IAQ 57** - Pre-K through 8 previously scheduled Clerical Day – no students in attendance. High Schools move to remote instruction.

Air quality did not reach **green** again until **June 14th**.



Citywide Mobilization

- NYC Emergency Management (NYCEM) is the lead agency for all citywide emergencies. Under the general direction of the Mayor's Office, NYCEM coordinates the interagency communication and response.
- Depending on the situation, NYCEM can order the activation of the Emergency Operations Center (EOC), either partial or full, which is located at their headquarters in Brooklyn.
- If an in-person presence is not required, NYCEM will convene update calls for all relevant agencies.
- Each city agency has their own emergency preparedness group that participates in NYCEM activations and provides direction to each agency's leadership related to the situation.

Major Stakeholders

for Air Quality Incident

FDNY/NYPD/EMS

Uniformed services



DOHMH

Department of Health
and Mental Hygiene

DCAS

Department of Citywide
Administrative Services



NYCEM

NYC Emergency
Management

NYCEM Interagency Call Notes

Air Quality Interagency Call

Purpose: Weather forecast, Public Health advisory from DOHMH, and agency check-in.

Incident: Severe air pollution due to wildfires in Canada

Date/Time: (06/07/2023) @ 1200 hrs.

WEATHER:

- Current Air Quality Index ("AQI") in New York City is between 150-160.
- AQI is a complex formula which includes the level of particulate matter and other major air pollutants in the air.
- Smoke forecast from NYS DEC is issued for the next day between 1500 - 1600 HRS. Daily forecasts are then updated in the mornings between 0800 – 1000 HRS. Forecast is only for current day.
- Per current forecasts, conditions will stay poor throughout the day and night (6/7). There will be some gradual improvement by tomorrow morning (6/8) at 0800 HRS, and hopefully some more clearance by 1200 HRS tomorrow (6/8).
- A little more smoke will arrive Friday morning (6/9), and then clear again, with a possible return on Saturday (6/10).
- On Sunday, winds will switch to W/SW, with potential for showers. That may bring some reprieve from smoke.
- A lot depends on fire suppression in Canada, and whether the source of the smoke will dissipate; however, we anticipate continued smoke at various levels through the weekend.

NYCEM Interagency Call Notes

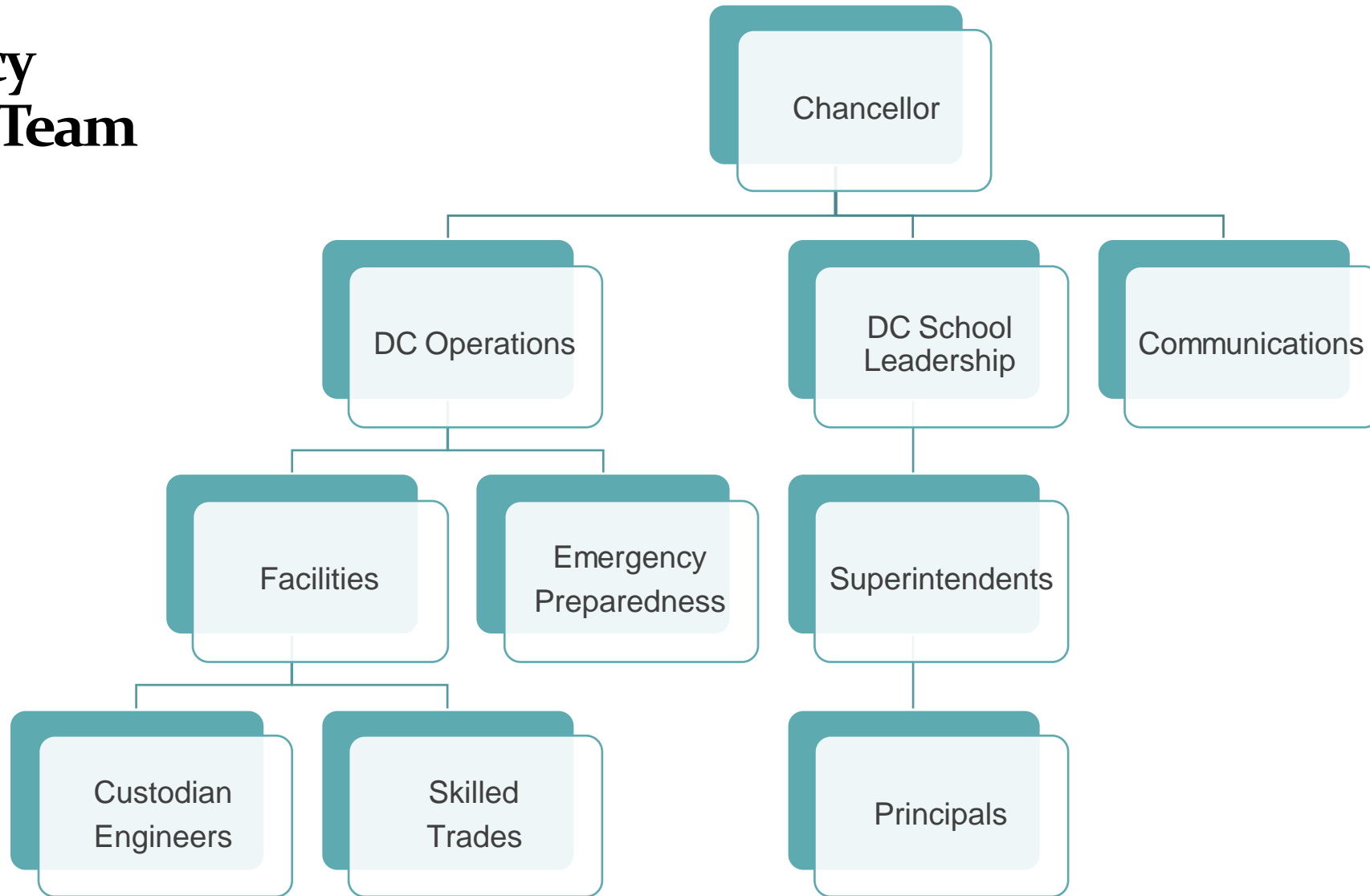
DOHMH:

- Health impacts:
 - Fine particulate matter is the pollution to be most concerned about. That can get into the bloodstream as well as lungs and create other health problems.
 - Focus for DOHMH is to reach populations at greatest risk. People w/ asthma, respiratory issues, heart conditions, children and teens, and older adults.
 - Recommending for everybody to minimize outdoor activity, particularly for sensitive groups. For those who want to reduce further exposure, a high-quality mask can help.
- Not seeing any increases of asthma or respiratory issues in syndromic surveillance but could expect to see increases tomorrow.
- Tracking real-time air quality via the [Environment and Health Data Portal](#).
- Responding to a lot of calls to environmental health hotline, reiterating messaging to avoid outdoors to the extent possible.
- KN95 masks are being made available to staff who spend a significant amount of time outside.
- Continuing to review real-time updates to smoke status and forecast.
- Issued notification to childcare providers and recommended minimizing outdoor time.
- Issued work suspension for carriage horses.
- Office of School Health has been in communication with DOE.
- Engaging with Citywide Events regarding, for instance, Puerto Rico day parade and Gov Ball.

NYCEM Interagency Call Notes

DCAS	<ul style="list-style-type: none">• Work-related guidance was distributed to agency heads this morning (6/7). That guidance is appended at the bottom of these notes
DEP	<ul style="list-style-type: none">• Normal operations, taking health guidance into consideration• Amplifying messaging
DOE	<ul style="list-style-type: none">• Health advisory banner posted to homepage last night (6/6)• Messaged to all school principals• Canceled all outdoor activities• Working with custodians on HVAC systems• 162,000 indoor air purifiers are operational, air conditioners are set to recycle, bus vendors messaged to keep windows closed• No students will be in tomorrow (6/8)
DPR	<ul style="list-style-type: none">• Canceling scheduled outdoor events and/or attempting to move events indoors• Re-amplifying advisories• Providing messaging to staff
FDNY	<ul style="list-style-type: none">• No change to operations
NYPD	<ul style="list-style-type: none">• No change to operations

NYCPS Emergency Planning Team



Response To the Conditions

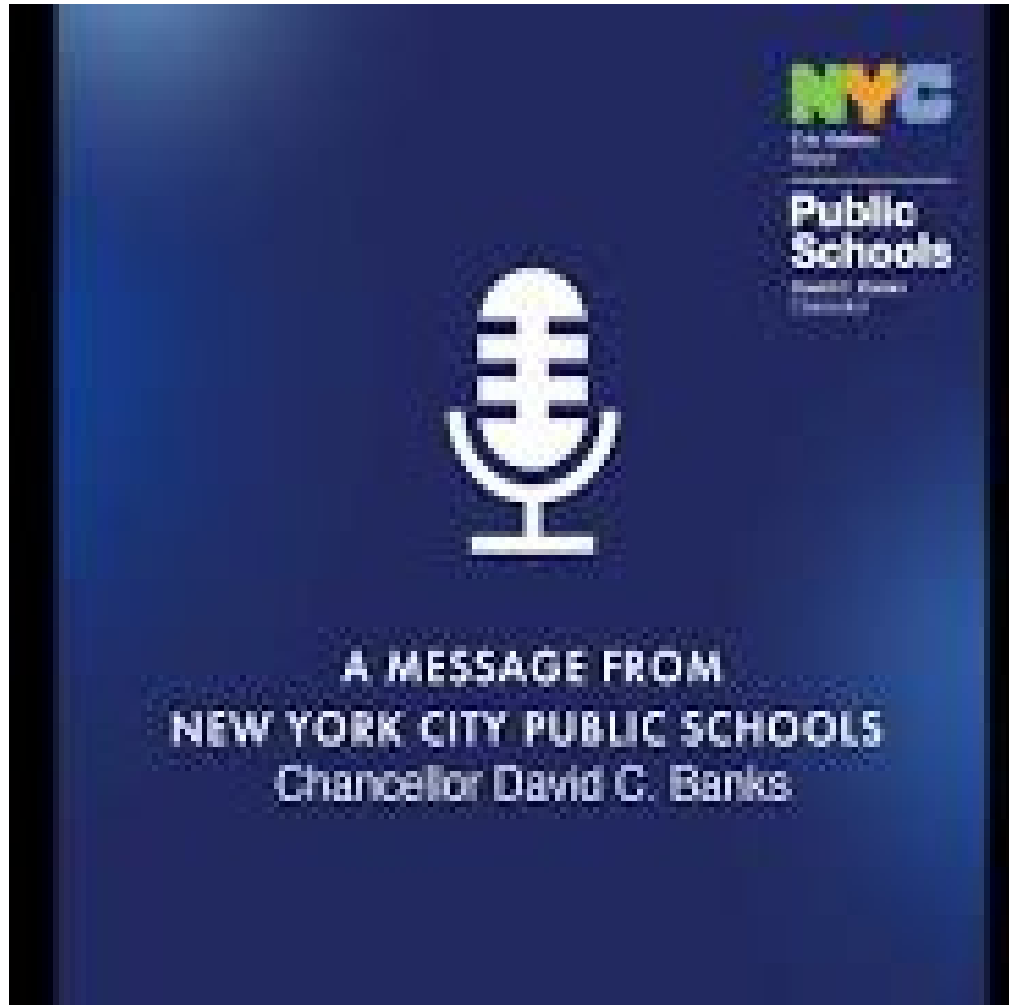
Technical Guidance



- Shut down HVAC Outside Air (OA) dampers as much as practical in buildings with central systems.
- Ensure air purifiers are deployed.
- Close windows and run a/c units.
- Replace filters as required.
- Support school administration with relocating students (to rooms with a/c, moving physical education activities indoors, etc.).
- Stock distribution sites with supplies and materials.

Response To the Conditions

Schools Guidance



- NYCPS suspended outdoor activities starting June 7th.
- Schools pivoted to remote instruction on Friday, June 9th.
- Communications – direct messages to Principals, information posted on the NYCPS website, distributed through social media.
- School nurses advised to assess students with asthma and other respiratory conditions.
- Provide masks if requested.

Message from the Chancellor

Dear NYC Public Schools Staff:

I hope you and your families are doing well in coping with the air-quality event in our city. Thank you for continuing your focus on our students and families as we shift to remote work today.

Tomorrow will be a remote-instruction day for students scheduled to be in-person, and it will be another remote-work day for staff — including school-based, district, and central staff.

For schools serving 3K, Pre-K, K-5, 6-8, K-12, and D75: *As previously planned, tomorrow is a Clerical Day. For staff in these schools, all scheduled clerical work for June 9 can be done remotely.*

For schools serving grades 9-12 and 6-12 in Districts 1-32 and 79: *Students and staff in these schools were scheduled to attend school in-person on June 9; we are instead shifting to remote instruction. Additional guidance will be forthcoming to principals from the Division of School Leadership.*

Outdoor activities are still prohibited. And please remember that as long as the Air Quality Health Advisory remains in effect, all New Yorkers should limit outdoor activities and stay inside when possible.

David C. Banks
Chancellor



CalEPA

California Environmental
Protection Agency



California EPA Wildfire Guidance

- Reduce outdoor activity
- Improve Indoor Air Quality
- Consider school closure
- Special considerations for sensitive students
- Preparing for reopening
- Cleanup
- Additional resources

Technical



Lessons
Learned

- IAQ events are similar in nature (wildfires, building fires, airborne pathogens, chemical releases, etc.).
- Need to maintain Healthy Building IAQ standards, not just cfm/pp (at least 5 ACH – more is better).
- If outside air is not an option, air must be filtered (central HVAC systems on 100% recirculation, portable air purifiers).
- No solution is perfect – do the best with what you have.

Schools



Lessons
Learned

- School buildings are places of refuge and should accommodate the educational process in spite of the challenges.
- A strong central message must be developed, and individual school administrators must keep everyone informed (parents trust their school leaders, not the bureaucracy). Central messaging (website, social media, traditional media) should also be updated in real time.
- Schools face additional demands in crises. Students should be supported with supplies (masks), health checks, counseling, etc.

Does your District Have?



- An Emergency Preparedness Team?
- Regularly scheduled tabletop exercises?
- Incident management plans and templates for different types of situations?
- Stockpiles of supplies and equipment (masks, sump pumps, generators, portable lighting, air conditioners, etc.)?
- Disaster recovery contracts in place?
- Flood barriers/tiger dams?
- Relationships with state and local government (SED, NYS DOH, Emergency Management)?
- What else?



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**Contact
Info**