



NCore Network Implementation Training

Where we started

Where we are now

How we get to the finish line





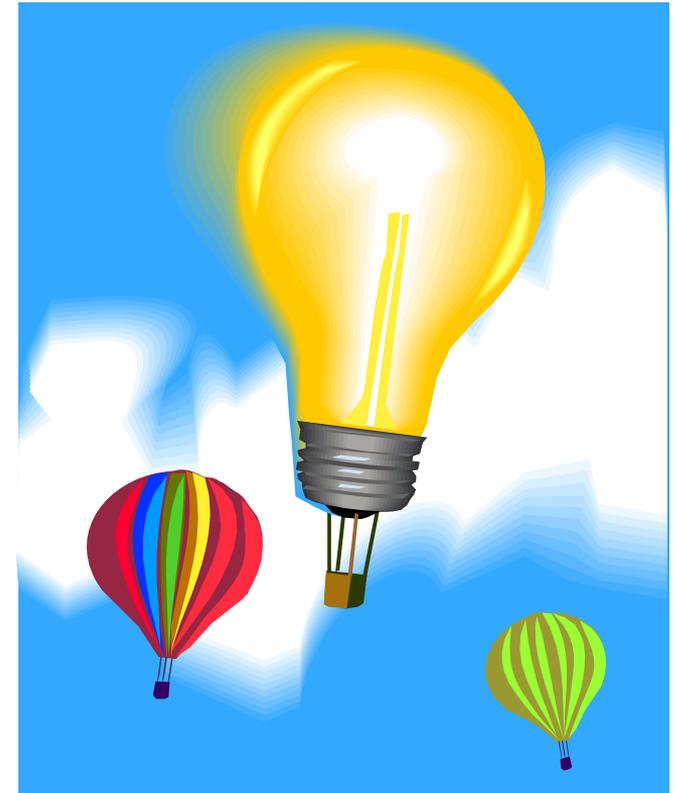
Workshop Agenda

Topic	Time	Presenter
Review of NCore rule requirements and objectives	1:30 – 1:45 pm	Lewis Weinstock
Implementation progress and the self-assessment tool	1:45 – 2:15 pm	Lewis Weinstock
Network approval status	2:15 – 2:45 pm	David Shelow Tim Hanley
Selected technical issues – detailed discussion	2:45 – 3:15 pm	Lewis Weinstock Dirk Felton (NY)
BREAK	3:15 – 3:30 pm	
Post-approval actions	3:30 – 4:00 pm	Lewis Weinstock
Monitoring Agency and Regional Office experiences with NCore implementation	4:00 – 4:45 pm	Yousaf Hameed (Clark County NV) Robert Judge (EPA Region 1) David Krask (Maryland)
Open Q&A session for NCore related questions	4:45 – 5:30 pm	All presenters



Key Concepts for the Workshop

- Why the NCore program is important to EPA and your agency
- Understanding if your agency is on track for success
- What EPA is doing to approve stations
- Some remaining technical issues
- Important post approval steps for you to know
- Hearing from your s/l/t colleagues
- Getting your questions answered





The Genesis of NCore

Monitoring Strategy Fact Sheet - 2002

- EPA worked closely with representatives from the State and Territorial Air Pollution Program Administrators /Association of Local Air Pollution Control Officials (STAPPA/ALAPCO – now NACAA) and Tribal environmental officials to develop a comprehensive strategy to meet current and future air monitoring needs.
 - Ensure that state, local and tribal governments are monitoring for and using the best analytical technology for the pollutants of greatest concern according to the latest science
 - Accelerate real-time reporting of air quality information to the public.
 - Expand the use of new technology to better analyze air pollution.
 - Phase down parts of the network and track pollutants that are no longer a concern.
 - Establish a new national “core” network (NCore) to monitor multi-pollutant conditions in major metropolitan areas as well as rural areas.



Why go Multi-pollutant in the monitoring world?

- Single pollutant sites are inefficient and expensive to establish and maintain
- Efficiencies with multi-pollutant sites include:
 - Reduced number of physical sites to visit and maintain
 - Leveraging calibration systems, standards, and data systems
- Collocated measurements reduce uncertainties, support interpretation of air pollution episodes and long-term trends
- Multi-pollutant sites can support many types of objectives although NAAQS compliance may not be highest on the list
- Concept applicable to other areas of air quality management – e.g., SIP planning



Review of NCore requirements

- Finalized in October 2006 revisions to monitoring requirements (71 FR 61236)
- Key Elements
 - Network design
 - Timelines
 - Required measurements
 - Methods



NCore Network Design

- Need sites that are representative of ambient concentrations over an extensive area.
 - Neighborhood, urban, regional scales are appropriate
 - Do not want to be influenced by local emission sources that are not generally impacting the entire urban or rural area
 - Prefer sites that are generally in the dominant downwind sector of urban areas
 - Unlike NAAQS compliance sites, not necessarily looking for maximum impact locations; representativeness is most important factor



NCore Timeline

- Your July 1, 2009 Annual Monitoring Network Plan (that was submitted to the EPA Regional Office) should have referenced your candidate NCore site
 - OAQPS is reviewing these plans
 - more later on this topic
- Regulation requires network-wide implementation no later than January 1, 2011
 - Earlier would be fantastic!





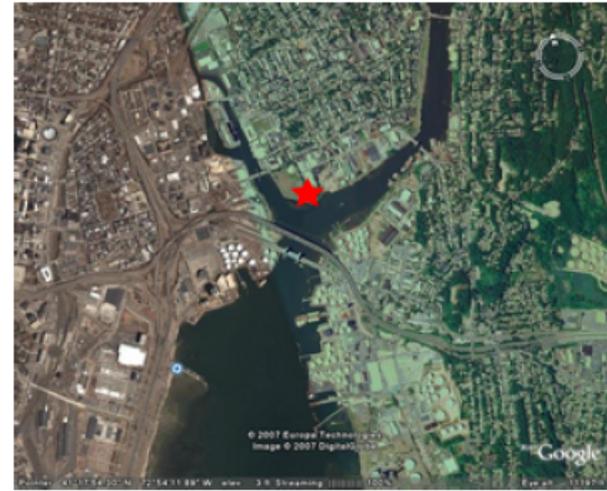
Example of an NCore Annual Network Monitoring Plan

Connecticut 2009 Annual Air Monitoring Network Plan

A-8

This site information is also included in the main body of the Connecticut 2009 Annual Air Monitoring Network Plan. It was extracted and inserted in this Appendix so it could function as a standalone document.

Town – Site: **New Haven – Criscuolo Park**
 County: **New Haven** Latitude: **41.30117°**
 Address: **1 James Street** Longitude: **-72.90288°**
 AQS Site ID: **09-009-0027** Elevation: **3 m (10 ft)**
 Spatial Scale: **Neighborhood** Year Established: **2004**
 Statistical Area: **CSA (New York-Newark-Bridgeport)**



Pollutant and Meteorological Parameters:

PM2.5 FRM	PM2.5 FRM colo	PM2.5 FDMS	PM2.5 BAM	PM2.5 Nephelometer	PM-Coarse FDMS	PM10 FRM (lo-vol)	PM10 FRM colo	PM10 BAM	STN	IMPROVE	Continuous OC/EC	Continuous Sulfate	BC/UVC	Ozone	S02	CO	NOx	NOy	VOCs (PAMS)	Carbonyls (PAMS)	Cont. PAH	Mercury	Dioxins	Wind Speed	Wind Direction	Temperature	Dew Point	Rain Fall	Barometric Pressure	Solar Radiation
1/1	1/6	X	X		X	1/6	1/6	X	X		X	X	X	X	T	T	X	T	X		X	X		X	X	X	X	X	X	X

X=Existing, P =Planned, ■ = Planned to Terminate, T=Trace, 1/1=Everyday sampling, 1/3=1-in-3 day; 1/6=1-in-6 day



NCore Measurement Requirements

Measurements	Comments
PM _{2.5} mass	24 hr. average every 3 rd day
PM _{2.5} speciation	Organic and elemental carbon, major ions and trace metals (24 hour average; every 3 rd day)
PM _{10-2.5} FRM mass (more later)	24 hr. average every 3 rd day
PM _{10-2.5} speciation (more later)	24 hr. average every 3 rd day, Species and analyses to be determined
continuous PM _{2.5} mass	1 hour reporting interval
ozone (O ₃)	all gases through continuous monitors (year-round ozone season)
carbon monoxide (CO)	capable of trace levels (low ppb and below) where needed
sulfur dioxide (SO ₂)	capable of trace levels (low ppb and below) where needed
nitrogen oxide (NO)	capable of trace levels (low ppb and below) where needed
total reactive nitrogen (NO _y) ¹	capable of trace levels (low ppb and below) where needed
surface meteorology ²	wind speed and direction, temperature, relative humidity Not required but desirable: precipitation, solar radiation

Future possibilities – Pb (more later), true NO₂, ammonia

¹ In areas with negligible expected difference between NO_y and NO_x measured concentrations, the Administrator may allow for waivers that permit NO_x monitoring to be substituted for the required NO_y monitoring at applicable NCore sites.

² The requirement for meteorological monitoring can be waived by the Administrator if the NCore site is not suitable for representative meteorological measurements due to the site's physical surroundings and it is possible for nearby meteorological measurements to fulfill this data requirement.



NCore Method Requirements

Measurements	Methods
PM _{2.5} mass	Typical sequential FRM sampler; sequential dichotomous sampler a recent option
PM _{2.5} speciation	Typical speciation sampler + IMPROVE protocol carbon sampler
PM _{10-2.5} mass (more later)	Paired sequential FRM samplers (PM ₁₀ -PM _{2.5}); sequential dichot or paired BAM's are recent FEM options
PM _{10-2.5} speciation (more later)	EPA is re-evaluating this requirement; pilot field study in 2 locations planned for 2010
continuous PM _{2.5} mass	Multiple FEM options
ozone (O ₃)	Typical FEM
carbon monoxide (CO)	Trace level FRM
sulfur dioxide (SO ₂)	Trace level FEM
nitrogen oxide (NO)	Trace level (no FRM/FEM), inlet at 10 meters height
total reactive nitrogen (NO _y) ¹	Trace level (no FRM/FEM), inlet at 10 meters height
surface meteorology ²	wind speed and direction, temperature, relative humidity Not required but desirable: precipitation, solar radiation



Questions

