



ORSANCO ODS/Emergency Response Program

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WHAT IS ORSANCO?

- Interstate Compact Water Pollution Control Agency
 - Created in 1948
 - Monitor and Abate Water Pollution in Compact “District”
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ORGANIZATION

- COMMISSION – 27 Members
 - Standing Committees
 - Technical Committee
 - Subcommittees
 - Advisory Committees
 - Industry Action Committees
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ORGANIZATION

- COMMISSION / Technical Committee
 - Meets 3 times per year
 - Oversees general direction of organization, administrative and technical programs
 - Funding provided by States
 - USEPA 106 Funds, Grants, outside funding sources
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PROGRAMS

- Water Quality Monitoring
 - Water Quality Assessment
 - WQ Monitor, 305(b), TMDL, PCS
 - SWP
 - Public Information
 - Wet weather/CSO Impacts studies
 - GT. Lakes/Baltic Sea Partnership
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PROGRAMS

- Monitoring
 - ODS - Spills
 - Manual Sampling
 - Metals/Nutrients
 - Recreational Season
 - Bacteria, D.O., Algae
 - Biological
 - Biocriteria, Fish Contaminants
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OHIO RIVER USES

- Water Intakes
 - 33 Municipal
 - 144 Industrial
 - 41 Power Generation
 - total withdrawal -15,070MGD
 - 6 Hydropower
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OHIO RIVER USES

- Potable Water Supply - 3,000,000
 - 25,000,000 in 220,000 mi² basin
 - Commercial Navigation
 - >260,000,000 tons annually
 - Discharges
 - >600 NPDES discharges
 - 1350 CSO discharges
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ODS BACKGROUND

- Established 1978 after carbon tetrachloride released into the Kanawha River contaminated water supply systems in Huntington, Portsmouth, Cincinnati, and Louisville.
 - Initial assistance from U.S.EPA and water utilities established seven stations.
 - By 1985 13 ODS stations were operational
 - Presently 15 active operational stations spanning over 1000 miles of navigable waters from Pittsburgh to Paducah.
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COMPOUNDS DETECTED BY THE ORGANICS DETECTION SYSTEM

Styrene

Bromoform

Chloroform

1,1 Dichloroethane

1,1 Dichloroethylene

Methylene Chloride

1,1,1 Trichloroethane

Trichlorofluoromethane

Chlorobenzene

1,2 Dichlorobenzene

1,4 Dichlorobenzene

Bromodichloromethane

Carbon Tetrachloride

Dibromochloromethane

1,2 Dichloroethane

1,2 Dichloropropane

Tetrachloroethylene

Trichloroethylene

Benzene

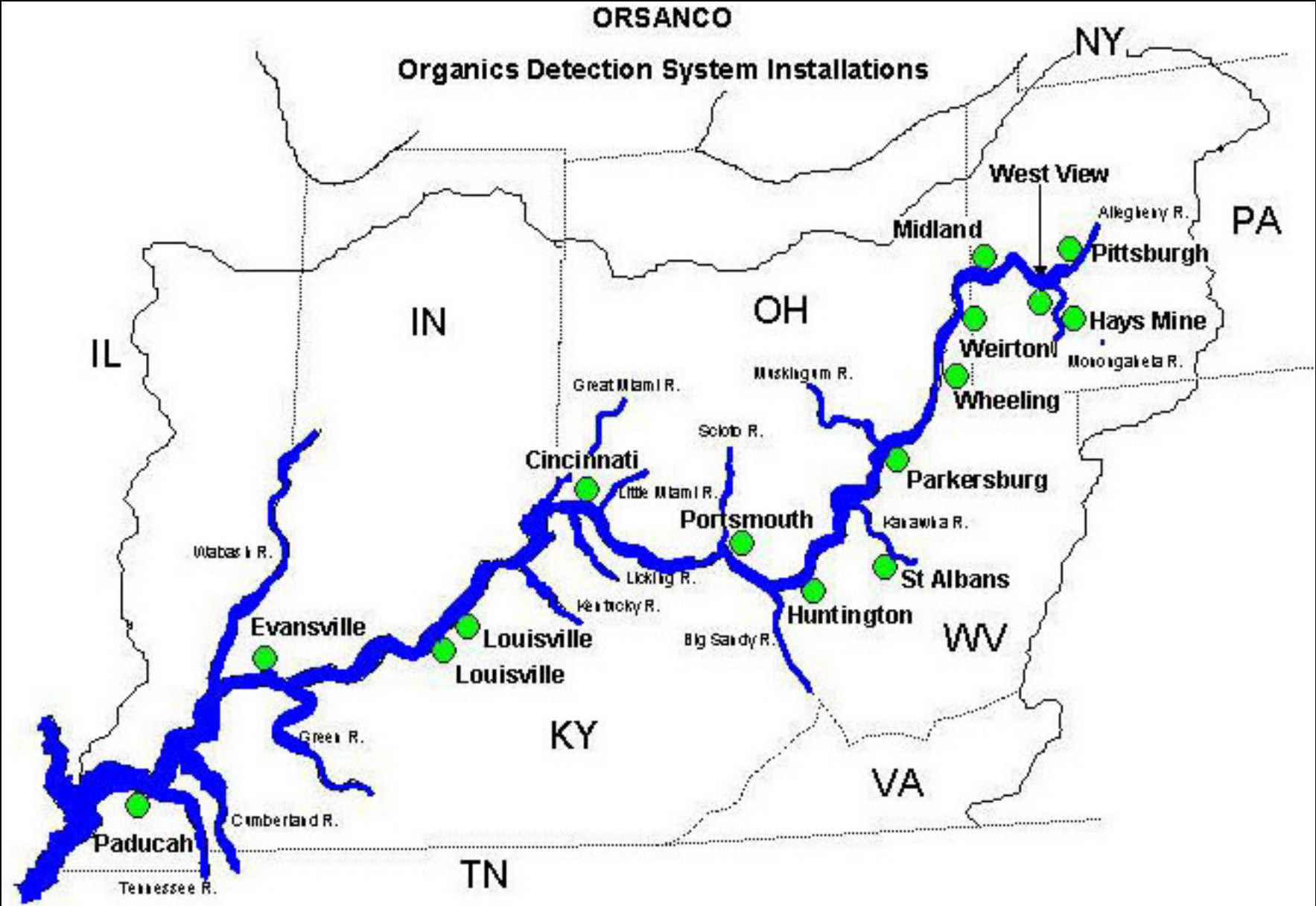
Ethylbenzene

1,3 Dichlorobenzene

Toluene

ORSANCO

Organics Detection System Installations



ANALYTICAL EQUIPMENT

- Gas Chromatograph
 - Purge and Trap Concentrator
 - Flame Ionization Detector
 - Telephone, computer, software

 - Automated Multipoint Sampler
 - Standards Addition Module
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NEW TECHNOLOGY

- Argon Ionization Detector
 - Analysis time 5 minute



ORSANCO ODS

- ORSANCO owns and maintains equipment
 - Purchase of equipment underwritten by Commission
 - Operational lifetime, 10 years
 - Stations provide daily analytical support
 - Personnel, support supplies (gasses)
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OPERATING REQUIREMENTS

- 7-day/week operation (preferred)
 - Process 3 samples daily
 - Blank
 - Standard
 - Raw
 - Evaluate chromatograms
 - Report unusual events
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HOW'S IT WORK?

- Daily review of data by site, weekly by ORSANCO
 - >2ppb, ORSANCO notified by site
 - Validate observation, GCMS if necessary
 - Notifications
 - Downstream water utilities, NRC, States
 - Quantifiable detections < 2%
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ORSANCO's ROLE IN EMERGENCY RESPONSE

- Receive NRC reports 24/7
- Assure interstate notification
- Notify ODS sites
- Notify water utilities
- On-river reconnaissance
 - What, where, when, how long

ORSANCO's ROLE IN EMERGENCY RESPONSE

- Assist in coordination of sampling, analysis and information dissemination
 - Identify location, leading/trailing edges
 - Provide estimates of time of travel
 - Water utilities
 - Provide estimates of in-stream concentration
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ORSANCO's ROLE IN EMERGENCY RESPONSE

- Do not provide recommendations for treatment
 - Facilitate exchange of information between States/utilities
 - Coal slurry spill
 - Provide samples of spilled material for “jar” tests

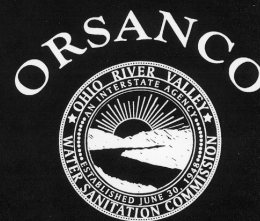
EMERGENCY

RESPONSE

DIRECTORY

December

2001





AMI

**Advanced
Measurement
Initiative**





AMI

- Eight feet wide
 - Twelve feet long
 - Thirty inches deep
 - 3/16" steel
 - 3,800 lbs
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AMI

- Batteries
 - Solar Panels
 - Radio Transmitter / antenna
 - Private Aide to Navigation
 - Painted yellow
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AMI

- YSI
 - Temp, Cond, DO, pH, Turb, Chlorophyll
 - SonTek
 - flow meter
 - Turner Fluorometer
 - Isco sampler pump head
 - Room for four more probes
 - Biologicals to be added next year
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AMI's ROLE

- Mobile Water Quality Monitoring Platform
- Provide real-time information on water quality conditions
 - Ambient, site specific
- AMI-2
 - Spill monitoring downstream of spill sites

