



# What Asphalt Plants Need to Know About the BaP POI Standard

## OAPC Spring Operations Seminar

April 6, 2017



BCX

# Overview

1. BaP POI Standards as of July 1, 2016
2. BaP Modelling Assessments
3. Reporting Exceedance & Preparing Abatement Plan
4. Technical Standard Update – Proposed Requirements & Timing
5. Questions

# BaP POI Standards Now In Effect

- In 2011, the MOECC announced that new POI Standards would come into force on July 1, 2016
- The list included Benzo(a)pyrene (as a surrogate for all PAHs), as well as Benzene
- Since BaP is a carcinogen, the POI Standard is very low (to be conservative of potential health impacts)



# BaP POI Standard

- BaP POI Standards came into effect on July 1, 2016
- Schedule 2 half-hour Standard is 0.00015  $\mu\text{g}/\text{m}^3$
- Schedule 3 annual Standard is 0.00001  $\mu\text{g}/\text{m}^3$

# BaP Modelling Assessments

- All HMA plants (including portable plants) should have completed an assessment of their BaP emissions using dispersion modelling. This should have included:
  - ✓ Calculating BaP emissions
  - ✓ Performing dispersion modelling
  - ✓ Comparing the modelled POI concentration to the POI Standard in an EST
  - ✓ Preparing a documented summary of the assessment (part of the ESDM report)

# BaP Emission Sources at an Asphalt Plant

- BaP is a natural ingredient of asphalt cement (AC).
- At asphalt plants, BaP emissions are released from four sources:
  - AC storage tanks
  - Asphalt mixing process
  - Transfer of HMA to storage silos
  - HMA loadout into trucks

# If the HMA Meets the BaP Standard

- If the modelling assessment shows the HMA plant meets the POI Standard then no further action is required.
- Note, the plant is NOT required to submit the modelling assessment to the MOECC or notify them of the result.
- However, the MOECC District Officer may request to see the results during a site inspection so the documentation should be kept on file.

# If the HMA Plant Does Not Meet the BaP Standard

- If the modelling assessment indicates the HMA plant does not meet the POI Standard then the plant:
  - ✓ Should refine the modelling assessment to confirm the POI Standard cannot be met
  - ✓ Must notify the MOECC District Officer of the predicted exceedance and enter into an Abatement Action Plan (**within 30 days**).



# Abatement Action Plan

OAPC developed an Abatement Action Plan template for those member plants who do not meet the BaP POI Standard because the Technical Standard is not yet available for registration.



# Abatement Action Plan

The action plan includes:

- ✓ Recording the temperature of each AC storage tank at least once per day
- ✓ Recording the HMA temperature every 5 minutes as it is transferred to the drag slat conveyor, or for every load if it is loaded directly into trucks (i.e. if no silos)

# Abatement Action Plan

The action plan includes:

- ✓ Keeping copies of all Mix Designs
- ✓ Preparing a report on temperatures (details still under discussion)
- ✓ Registering for BaP under the HMA Technical Standard (once it becomes available)

# What is a Technical Standard?

- For a Technical Standard there needs to be at least two facilities of the same type (same NAICS code) that cannot meet the same POI Standard
- The MOECC Minister must approve the development of a Technical Standard

# Identifying the Need for a Technical Standard

- In 2013, OAPC recognized that some HMA plants may not be able to meet the 2016 BaP POI Standard.
- OAPC , along with BCX, conducted a preliminary assessment and confirmed that not all plants can meet the BaP POI Standard
- OAPC, therefore, requested that the MOECC Minister develop a technical standard, and this request was granted.

# How Does a Technical Standard Work?

- A facility registers for specific contaminants under a Technical Standard
- Those contaminants no longer need to meet POI limits or be included in the ESDM report.
- Instead, the facility needs to meet all of the requirements of the Technical Standard

# Technical Standard Registration

- The facility completes forms and applies to the MOECC SDB for Technical Standard registration
- Once registration is approved, the facility is included on the Technical Standard registry. This list is available to the public on the MOECC website

# Technical Standard Registration

- A facility does not have to show non-compliance with a contaminant to register to a Technical Standard for it.
- A facility can opt out of Technical Standard registration later, however, their ECA would need to be amended to permit the applicable emissions.
- The MOECC can also de-register a facility under certain circumstances



# Technical Standard Under Development

- OAPC formed a sub-committee in 2013 to work with the MOECC in developing the Technical Standard.
- The sub-committee consists of producers, AC suppliers, OAPC staff and BCX.

# Technical Standard Under Development

- The sub-committee has been regularly meeting as a team and with the MOECC to:
  - ✓ develop the Rationale Document
  - ✓ identify and discuss practical monitoring and abatement strategies that could be considered in the Technical Standard
  - ✓ develop practical abatement plan actions which can be consistently applied

# Proposed Technical Standard Requirements

- ✓ Average temperature per annual production less than 163°C
- ✓ Normal HMA mixing temperature less than 170°C
- ✓ Recording temperature of HMA product every 5 minutes or per load

# Proposed Technical Standard Requirements

- ✓ Operating a scavenger system (capturing air from drag slat conveyors, transfer conveyors and silo batchers, and ducting air to baghouse or dryer)
- ✓ Enclosing and sealing transfer points and drag slat conveyor
- ✓ Exhausting emissions from the mixing process through a baghouse or wet scrubber

# Proposed Technical Standard Requirements

- ✓ Recording temperature from each AC storage tank at least once per day
- ✓ Maintaining AC storage tanks below the upper temperature limit specified by the supplier for a specific AC grade
- ✓ For every type of HMA produced, obtaining a Mix Design from a Certified lab and recording the temperature at which the particular HMA type was mixed

# Proposed Technical Standard Requirements

- ✓ Dryer burner calibration and leak check annually
- ✓ Thermocouple inspection daily and perform maintenance as required
- ✓ Thermocouple calibration annually

# Technical Standard Timing

- The Technical Standard is not expected to be available for at least a year.
- Prior to issuance a draft of the Technical Standard will be posted on the EBR for public comment
- Until the Technical Standard becomes available, BaP Abatement Action Plans will remain in effect

Questions?

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