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# Evaluating Changes at HON/MON Facilities

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# Presenter

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# HON Impacts of Process Changes

# Process Change

- > Re-evaluate determination for process change that could alter group 2 process vent status
  - ❖ e.g., if OHAP < 50 ppm, changes that could increase OHAP concentration
  - ❖ includes changes in production capacity/rate, feedstock or catalyst type, or recovery equipment
  - ❖ excludes process upsets; unintentional, temporary process changes; and changes within the original TRE calculation
  
- > Don't forget about NSPS
  - ❖ Similar process change triggers
  - ❖ Modification triggers is not already subject

# HON Records/Compliance

- > Keep readily available, up-to-date records of process changes at Group 2 process vents
- > For deliberate operation process changes, comply upon implementing the change if switching from Group 2 to Group 1

# HON Reporting

> Report due in 180 days after process vent process changes

- ❖ Group 2 to Group 1
- ❖  $TRE > 4.0$  to  $TRE \leq 4.0^*$
- ❖ Flow  $< 0.005$  scm/m to flow  $\geq 0.005$  scm/m but  $TRE \leq 4.0^*$
- ❖ OHAP  $< 50$  ppm to OHAP  $\geq 50$  ppm but  $TRE \leq 4.0^*$

\* May be submitted in next periodic report

# HON Reporting

- > Include for each process change
  - ❖ Description of process change
  - ❖ Results of the updated OHAP concentration, flow, or TRE determination
  - ❖ Statement that will comply with applicable control (Group 1 only), monitoring, and recordkeeping

# HON Reporting

- > Compliance report - any change from Group 2 to Group 1
  - ❖ could apply to transfer racks, storage tanks, wastewater streams
  - ❖ Implied recordkeeping requirement?



# Process Changes

> How to avoid process changes?

# **MON Operating Scenario Changes**

# MON NOCS

## > Include

- ❖ Results of applicability determinations, emission calculations, or analyses use to identify and quantify HAP
- ❖ Results of emission profiles, engineering analyses, calculations used to demonstrate initial compliance
- ❖ All operating scenarios
- ❖ Predominant use for shared storage tanks

# Operating Scenarios

- > *Operating scenario* means, for the purposes of reporting and recordkeeping, any specific operation of an MCPU as described by records specified in [§63.2525\(b\)](#)

# Operating Scenarios

## > MON Final Rule Preamble

*...Our position is that submitting operating scenarios is critical to enforcement of the final rule, as they provide much of the information required to demonstrate compliance.*

*Information in operating scenarios also is the cornerstone of the management of change strategy that was developed to address the constantly changing processing environment associated with batch processors.*

*Although this management of change flexibility is optional at the discretion of the regulatory authority, 40 CFR part 63, subpart FFFF, provides the framework for implementing the strategy.*

# Operating Scenario

## > Comply by

- ❖ date of change from Group 2 to Group 1
- ❖ date of change from small control device to large
- ❖ date emissions exceed thresholds for 1,000 lb/yr hydrogen halide and halogen HAP or 150 lb/yr metal HAP

## > Compliance demonstration within 150 days of change

# Operating Scenario Records

- > For each operating scenario
  - ❖ Process/equipment description
  - ❖ IDs for process vents, WW POD, storage tanks, transfer racks
    - ◆ Required control levels
  - ❖ Calculations and engineering analysis required for compliance

# Operating Scenario Records

- > For each operating scenario
  - ❖ Control device
    - ◆ IDs
    - ◆ Operating/testing conditions
    - ◆ IDs for controlled operations
    - ◆ Monitoring requirements



# MON Reporting

- > Report each new operating scenario
- > Verification that
  - ❖ Operating conditions for control devices have not been exceeded
  - ❖ Required calculations and engineering analysis have been completed
- > “Revised” = “New”

# MON Reporting

- > Notification of process change
  - ❖ Include with compliance report
    - ◆ Description
    - ◆ Revisions to any NOCS info
    - ◆ New equipment - all info required in the NOCS

# MON Reporting

## > Notification of Process Change

### ❖ Report within 60 days

- ◆ Changes from precompliance report
- ◆ Control device from small to large
- ◆ Change from Group 2 to Group 1

# MON Reporting

- > What is a process change
  - ❖ Not Defined
  - ❖ “...change any of the information submitted in the notification of compliance status report or a previous compliance report.”
  - ❖ Excludes
    - ◆ Changes within the scope of an existing operating scenario
    - ◆ Moving within a range of conditions identified in the standard batch
    - ◆ Nonstandard batch

# Operating Scenarios

- > How to avoid reporting changes for operating scenarios?

# Types of Changes

- > Adding MON/HON affected equipment to an existing MCPU/CMPU
- > Manufacturing new product
- > Changing raw materials/product mix under MON
- > Storage vessel service changes
- > Changes in loading service

# Rules of Thumb

- > Applicability of HON/MON regulations is based on the chemical product manufactured by the equipment
- > Applicability of requirements for new or existing is based on the date construction of reconstruction is commenced for the equipment
  - ❖ Per EPA guidance, “A source does not lose its regulatory status under the 40 CFR Part 63 rules if it shuts down, permanently or otherwise, and then starts back up.” 40 CFR Part 63 does not incorporate the provisions for "permanent shut-down" that apply for PSD/NSR evaluations.

# Adding Affected Equipment

- > Determine if new or existing requirements apply
- > For MON/HON, the affected facility is the collection of all CMPU/MCPU
- > Evaluate reconstruction for changes to existing HON CMPU or MCPU
- > If adding a new CMPU/MCPU to an existing MON/HON source
  - ❖ If new CMPU/MCPU is major in itself, treat as new
  - ❖ Otherwise, designation based on that of the entire affected facility



# Manufacturing New Product

- > Is new product included within existing operating scenarios
- > If subject, re-evaluate group determinations for producing the new product
- > Also re-evaluate affects on existing shared tank and loading rack designations
- > Typically, compliance with new requirements for the CMCPU/MCPU due at implementation
- > Determine what notifications are required before and after startup
- > Similar review may be needed for raw material or solvent changes

# Process Changes

- > HON - Affect the group 2 determining criteria (OHAP conc., flowrate, etc.)?
- > HON - within the scenario represented by the TRE determination?
- > MON - Change from operating scenario in NOCS?
- > Also re-evaluate affects on tank and loading rack designations
- > Will change affect operation of control device or require updates to monitored parameters?

# Storage Vessels and Loading Rack

- > Must evaluate changes to group determinations when changing the service of storage vessels and loading racks
  - ❖ MON Group 1 storage tank - > 10,000 gal, MTVP t-HAP > 6.9kPa at existing source or 0.69 kPa at new source
  - ❖ MON Group 1 transfer rack - > 0.65 million liter/yr liquids containing organic HAP with rack weighted average total HAP VP > 1.5 psia
- > If previously voluntarily routed Group 2 units to control device, switch to Group 1 may still require additional recordkeeping/reporting

# Example: MCPU Restart

- > An existing MCPU was shutdown in 2008
- > In 2012
  - ❖ Restart process
  - ❖ Utilize same general equipment setup, process flow, and TO control, but some changes to process steps and operating conditions
  - ❖ Shift product mix 50/50 split of HAP/non-HAP solvent polymer mixtures

# Example: MCPU Restart

- > What parts of the previous MON applicability should we re-evaluate?
- > What questions should we be asking?

# Example: New or Existing

- > Relevant Facts
  - ❖ Minor capital expenditure - not reconstruction
  - ❖ Length of shutdown (3 years) is not an issue for MACT determinations; Facility maintains its status under the MON
  - ❖ MCPU, after the restart, is not major in itself
  - ❖ Prior to shutdown, the MCPU was an existing source
- > After startup, the MCPU will continue as an existing source
- > Requirements avoided by not being new
  - ❖ Only allowed MACT UU LDAR
  - ❖ Lower group determination thresholds for storage tanks

# Example: Changes to Product Mix

- > Shift to 50/50 split of products with HAP/non-HAP solvent base
  - ❖ Similar products using other HAP solvents were produced prior
  - ❖ Increase in overall HAP emissions due to higher vapor pressures, but mitigated by TO control (< 1 tpy increase organic HAP)
  - ❖ Non-HAP solvent products produced in a pressurized reaction; Not expected to increase emissions
  - ❖ Final product polymer will have same basic functional groups as previously produced product

# Example: Changes to Equipment

- > No change to Family of Materials
  - ❖ Similar HAP emissions, same function of final product
- > No changes to equipment service
- > Increase in emissions is low due to TO, but Group determinations must be re-evaluated
- > Previously designated process vents as Group 1, so no change
- > Transfer Rack - HAP solvent product is loaded at elevated temperatures with high vapor pressure, so Transfer Rack is now designated Group 1



# Example: Changes to Equipment

## > Storage Vessels -

- ❖ Similar to transfer rack, product stored at elevated temperatures
- ❖ Product vessels now Group 1
- ❖ All other storage vessels remain Group 2

## > Wastewater -

- ❖ No longer have process wastewater generated in the reactor
- ❖ Non-HAP product requires increases utilization of vacuum distillation system and an associated increase in wastewater, so continues to be Group 1

# Example: Changes to Equipment

- > Heat Exchange - previously exempt by pressure difference
  - ❖ No longer applies during pressurized reaction
  - ❖ Reactor contain negligible HAP during this step
- > Other potential issues to address
  - ❖ Changes to worst-case operating scenario for the TO
  - ❖ Uncontrolled process vent emissions during filter changes
  - ❖ Control of emissions from newly assigned Group 1 storage vessels and loading racks during TO downtimes (previously not connected to backup carbon filter controls)

# Questions?

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