

# REGFORM Air Seminar 2008

## Odor Compliance Solutions



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# What this Talk Is Not

- Not more than 30 minutes long
- Not an in depth technology discussion
- Not the last talk of the day



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- Do a short activity
- Discuss some odor parameters
- Share Experiences
- Discuss Odor Monitoring Program



# Exercise

What was the most memorable “pleasant smell” you can remember?

What was the worst smell that you can recall?

Take 5 minutes to select yours. Discuss with your neighbor.

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# Odor Common Measures

- **Odor Threshold Value (OTV)**--- Odor Strength (higher number needs higher dilution)
- **Odor Intensity** –Relative Strength to a known reference such as butanol
- **Odor Persistency** – Rate at which the intensity decreases when diluted
- **Odor Characterization** – “smells like...”
- **Hedonic Tone** –scale of pleasantness

# Odor Descriptors



Some odor descriptors such as the hedonic tone (pleasantness, unpleasantness) are subjective. We use our personal experiences and our memories as a referencing scale.

There are some common odor descriptors—can you name a few?

# What happens when You Just Stink



There are times we just admit that the plant does smell. There is something you can do...

# A Bad Situation

- Odor complaints were frequent
- Plant odor situations were hard to pinpoint
- Surrounding communities were quick to attribute any unpleasant odor to the plant

# Truths

Things we knew:

1. Citizen complaints can trigger odor violations when made to MDNR
2. Our odors were leaving the plant property
3. Odor abatement equipment was not feasible

# Odor Monitoring Program



## Odor Patrol Team Selection

- Members had been Plant Operators before and can recognize smells
- They were available 24/7

# Odor Monitoring Program Elements

## Odor Descriptors were custom

- **Odor Patrol** focused on odor characterization, odor persistency (duration), and hedonic tone (unpleasant, neutral, pleasant)

## Patrol used a company truck

- **An Odor Patrol Route** was established and mapped. Routes occurred in the same time windows every day. Additional runs were made when an event happened at the plant.

# Odor Monitoring Program (cont'd)

**Data was consistent and was subjective per person**

- **Forms** were created, which included person's name, observation location, descriptors and comments, time/day, and wind direction. Corrective actions were recorded, even if "none".

**We took Action and recorded the Action Taken to absolve odors**

- When something was noted that was not "normal", **immediate action was taken** to find the source of the odor.
- Our presence in the community was dependable and consistent.

**What do you think the Outcomes were??**

# Odor Monitoring Program a Success!!

- Data was kept for many years
- Historical data proved useful for management when tracking community call-ins Office personnel would call the Odor Patrol when smells intensified in the office
- The Plant began to know what key areas were the common causes (i.e., product and raw ingredient transfer areas) and they would fix leaks
- Plant would proactively call the Odor Patrol when they were having problems. Odor Patrol could rapidly mobilize into the community

# The Extras

- Community called the plant before MDNR
- Community, even when calling the local enforcement, the local enforcement would call the plant first thing
- Community trusted us and occasionally called to help track other issues not related to the plant (such as propane leaks, dumping, etc.)

# An Odor Monitoring Program

Let's name some key elements...

(yes, there are PRIZES!!!)

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What is this dog doing?

