



# **VEEP WORKSHOP**

## **VIRGINIA SCIENCE MUSEUM**

**August 22, 2017**

# Being Good – Getting P2 Done – Notes to Self

- 🌐 Getting P2 and EMS done is not easy!  
You need to be ready!
- 🌐 Know your subject matter – you will be tested constantly.
- 🌐 It takes hard work and commitment!

# Being Good – Getting P2 Done – Notes to Self

- 🌐 You are in the change management business!
- 🌐 Few people like change...

# Being Good – Getting P2 Done – Notes to Self

-  Know your organization's structure!
-  Know your organization's culture!
-  It is unbelievably FUN!

# Pollution Prevention

## ISO14001:2015

“prevention of pollution – use of processes, practices, material, products, services or energy to avoid, reduce or control (separately or in combination ) the creation, emission or discharge or any type of pollutant or waste, in order to reduce adverse environmental impacts.”

# Prevention of Pollution

-  NOTE: “Note 1 to entry: Prevention of pollution can include source reduction or elimination; process, product or service changes, efficient use of resources; material and energy substitution; reuse; recovery; recycling, reclamation; or treatment.

# **POLLUTION PREVENTION PROGRAM**

-  **Description of the facility's pollution prevention program including a comprehensive list of P2 projects and accomplishments, not limited to those which address its significant impacts and aspects, and any environmental results and cost savings achieved from past projects if available.**

**(Source: VEEP E4)**

# STRATEGIES

- 🌐 **FOCUS** on aspects and significant aspects: first based on compliance or otherwise required, then on those aspects that have potential and finally low hanging fruit.
- 🌐 **TARGET COST** (Capital Cost and Savings and ROI) in measuring pollution prevention potential... the benefits associated with reducing the impact on the environment follows!
- 🌐 **RELY ON KNOWLEDGE OF EMPLOYEES** – they are close to the issues and solutions.
- 🌐 **REALITY CHECK** don't overlook the obvious because you may not actually be doing that.
  - 🌐 “How does he know that?” you say.

# WHAT HAS BEEN DONE

- 🌐 **FOOTHILL TRANSIT – WEST COVINA CALIFORNIA  
(FTA ESMS INSTITUTE, VIRGINIA TECH)**
- 🌐 **Reduce CNG (natural gas) leaks and spills during fueling by 50%**
- 🌐 **Tactics: retrained fuelers, posted SOPs, installed new leak detection system.**
- 🌐 **Outcome: During first year: Zero spills and releases.**
- 🌐 **Requirement: Constant monitoring and refresher training**

# WHAT HAS BEEN DONE

- 🌐 **FOOTHILL TRANSIT – WEST COVINA CALIFORNIA  
(FTA ESMS INSTITUTE, VIRGINIA TECH)**
- 🌐 **Reduce idling time by 10%**
- 🌐 **Tactics: Agency-wide idle reduction policy (5 minutes)**
- 🌐 **Outcome: Reduced bus idling by 19%; reduced CO<sub>2</sub> emissions by 170,000 tons.**
- 🌐 **Requirement: Training and constant monitoring**

# WHAT HAS BEEN DONE

- 🌐 **INTERCITY TRANSIT OLYMPIA WASHINGTON  
(FTA ESMS INSTITUTE, VIRGINIA TECH)**
- 🌐 **Reduce fuel consumption during operation.**
- 🌐 **Tactics: Agency-wide driver retraining**
- 🌐 **Outcome: Actual 6 months savings in fuel – \$82,000.**
- 🌐 **Requirement: Training and constant monitoring**

# WHAT HAS BEEN DONE

-  MARTA – ATLANTA GEORGIA (FTA ESMS INSTITUTE, VIRGINIA TECH)
-  Compliance with Ozone Standards
-  Tactics: Training of operators and technicians to the regulation.
-  Outcome: Cost saving \$12,420 and \$27,500 cost avoidance.
-  Requirement: Training and constant monitoring

# TYPICAL OBJECTIVES

-  LIGHTING: REPLACE WITH LED – ENERGY OPERATING COST REDUCTION
-  VEHICLE WASHING – COST SAVINGS. WATER USE REDUCTION/RESOURCE CONSERVATION
-  SOLAR PANELS – ENERGY SAVINGS, SHADE FOR VEHICLES
-  FUEL CHANGE: COAL/OIL TO GAS - COST SAVINGS, EMISSIONS REDUCTION
-  EQUIPMENT IDLE TIME : FUEL REDUCTION/COST SAVINGS

# MEASURING UP

- 🌐 **LINK YOUR ACCOMPLISHMENTS**
- 🌐 **Reducing idle time results in:**
  - 🌐 **Fuel cost savings**
  - 🌐 **Reduced air emissions – carbon footprint**
  - 🌐 **Change Management – improves understanding**
  - 🌐 **Improved employee buy-in**
  - 🌐 **Management Review agenda – positive accomplishments**
  - 🌐 **Improve customer relations**

# FOLLOWING UP?

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