



The Dow Chemical Company

EH&S Management Commitment

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Global Manufacturing Director, Site Operations Director
The Dow Chemical Company, Pittsburg CA

October 3rd 2013

Who we are

Vision

To be the most profitable and respected science-driven chemical company in the world

Mission


To passionately innovate what is essential to human progress by providing sustainable solutions to our customers

1897 Founded by Herbert H. Dow in Midland, Michigan

~160 Countries in which we serve customers

More than **5,000** products are manufactured at **188** sites in **36** countries

54,000 Approximate Employees worldwide

- 
- R&D Centers
 - Service Centers
 - PU Systems
 - Hub Centers
 - Headquarters
 - Manufacturing
 - Dow Facilities
 - Sales Office

DOW

Dow's Diverse and Integrated Portfolio

ELECTRONIC & FUNCTIONAL MATERIALS

- Dow Electronic Materials
 - Semiconductor Tech
 - Interconnect Tech
 - Display Technologies
 - Growth Technologies
- Functional Materials
 - Dow Wolff Cellulosics
 - Dow Consumer & Industrial Solutions
 - Dow Microbial Control
- JV: Dow Corning Corporation

COATINGS AND INFRASTRUCTURE SOLUTIONS

- Dow Building & Construction
- Dow Coating Materials
- Dow Water & Process Solutions
- Performance Monomers
- JV: Dow Corning Corporation

AGRICULTURAL SCIENCES

- Dow AgroSciences
 - Agricultural Chemicals
 - Seeds, Traits & Oils
 - Crop Protection

PERFORMANCE MATERIALS

- Amines
- Chlorinated Organics
- Dow Automotive Systems
- Dow Formulated Systems
- Dow Oil & Gas
- Dow Plastics Additives
- Epoxy
- Oxygenated Solvents
- Polyglycols, Surfactants & Fluids
- Polyurethanes
- Propylene Oxide/Propylene Glycol
- JV: Map Ta Phut
- JV: MEGLOBAL
- JV: Sadara Chemical Company

PERFORMANCE PLASTICS

- Dow Elastomers
- Dow Electrical & Telecommunications
- Dow Hygiene & Medical
- Dow Performance Packaging
- JV: EQUATE Petrochemical Company K.S.C
- JV: The Kuwait Olefins Company K.S.C.
- JV: The SCG-Dow Group
- JV: Sadara Chemical Company

FEEDSTOCKS AND ENERGY

- Chlor-Alkali/Chlor-Vinyl
- Energy
- Ethylene Oxide/Ethylene Glycol
- Hydrocarbons
- JV: EQUATE Petrochemical Company K.S.C
- JV: The SCG-Dow Group
- JV: The Kuwait Olefins Company K.S.C



Sustainability

Dow's focus on sustainability is embedded in everything we do – our operations, strategy, innovation agenda and daily actions. Our 2015 Sustainability Goals reflect our commitment to use science and technology to address social and environmental challenges and reduce our global footprint as we profitably grow.

Recent recognitions illustrate our commitments

- Dow Jones Sustainability World Index
- A+ rating on the Global Reporting Initiative
- Green Cross for Safety Medal
- ACC Responsible Care® Awards
- CK Prahalad Award
- S&P 500 Clean Capitalism Ranking



2015 Sustainability Goals

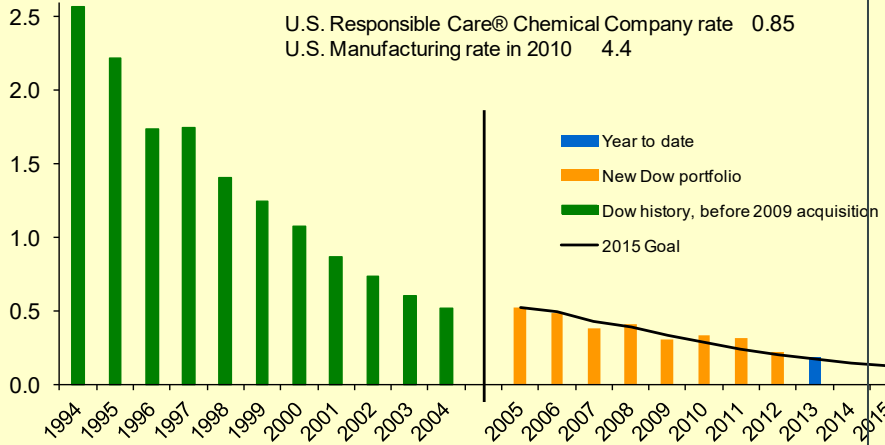
Local Protection of Human Health & the Environment

- By 2015, Dow will achieve on average a 75% improvement of key indicators for EH&S operating excellence from 2005 baseline.

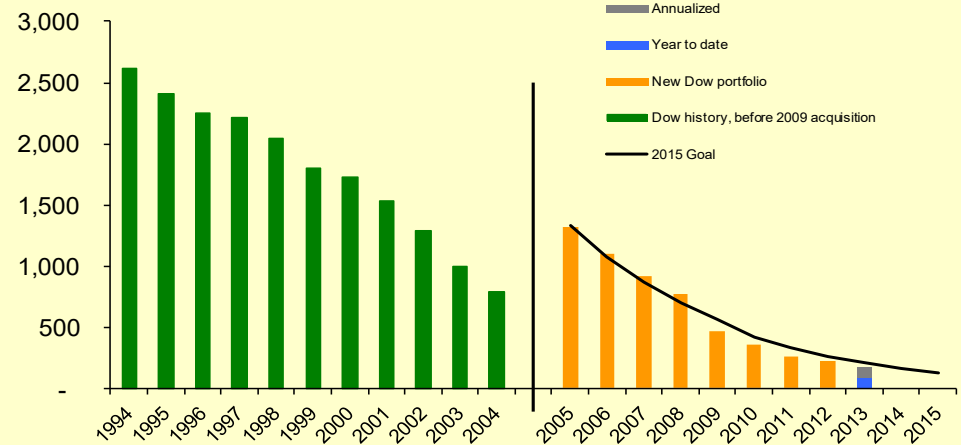


We are proud of our accomplishments in EHS...

Injury and Illness Rate

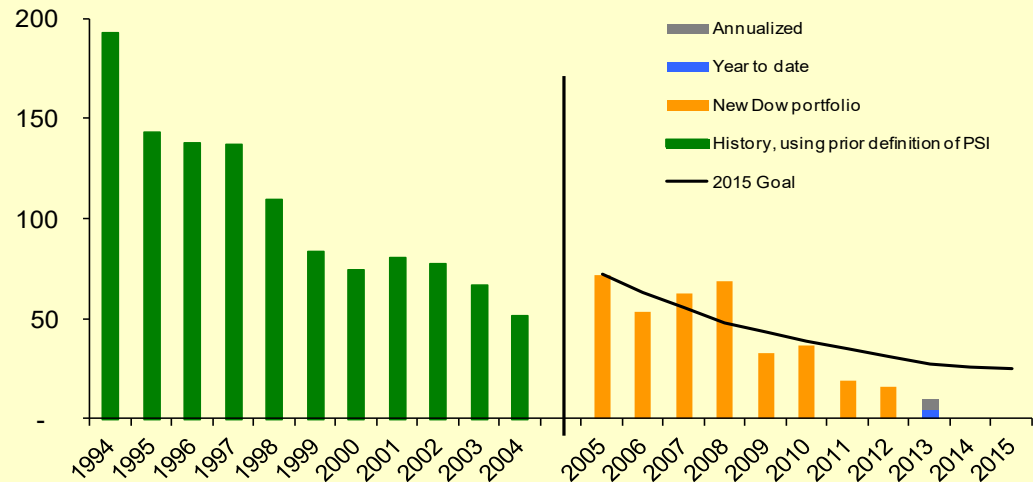


Loss of Primary Containment Incidents



**Working at Dow is
15 times safer than
working at a
grocery store!**

Process Safety Incidents



...yet it is not about the numbers.

- **Mission:** No one is injured, our plants operate safely and we preserve our planet for future generations
- **Vision:** To be incident free – always striving for ZERO.
- **Path:** Create a culture where safety is a value, not an initiative.



Pittsburg Operations

- Great Western Electro Chemical Company in 1917
 - The site was purchased by Dow in 1938
 - First Dow manufacturing facility outside Midland , Michigan
 - On delta of Sacramento and San Joaquin rivers
 - Site size ~1000 acres
 - 513 active & 500 wetlands preserve & buffer zone
 - Largest West Coast Chemical facility
 - 350 Dow employees +200 Contractors
 - Industry Park
- 
- An aerial photograph of the Dow Pittsburg Operations facility. The facility is a large industrial complex with numerous buildings, parking lots, and infrastructure. It is situated on a delta area where the Sacramento and San Joaquin rivers meet. The surrounding landscape is a mix of industrial areas, green spaces, and hills in the background.

CAL VPP-STAR certified



January 2013

Our Products



Dow Microbial Control



Dow AgroSciences



Dow Consumer & Industrial Solutions



The Dow Wetlands

472 acres

Dozens of prestigious awards including

- Corporate Habitat of the Year (Wildlife Habitat Council)
- Corporate Lands for Learning (WHC)
- EPA Five Star Award

Strategic Partnerships

- LMC
- UC Berkeley
- Lindsay Wildlife Museum
- EarthTeam



2013 Site Strategy *Pittsburg Operations*



MISSION: We deliver competitive products in a safe, sustainable and reliable manner to enable business success and improve the quality of life.

EH&S

- Zero OSHA recordable injuries
- 4 LOPCs
- Zero Process Safety Incidents
- 6 regulatory deviations

I-PARK

- Create integrated site map and I-Park documents
- Define services offerings, structure and support needs under I-Park
- Define audience and establish marketing plan
- Create overall strategy and capital plan for site infrastructure

PEOPLE

- At least 65% of the people are satisfied with the recognition they receive. (2011 baseline=54%)
- At least 65% of the people are satisfied with being able to grow and develop in Dow. (2011 baseline=56%)
- At least 65% of the people are satisfied with being able to share their ideas openly. (2011 baseline=55%)
- At least 80% of the people are satisfied with being able to improve their skills at Dow. (2011 baseline=67%)
- At least 80% of Pittsburg employees participate in the GEOAS survey. (2011 baseline=69%)

RELIABILITY

- Increase Asset Capability (AC) to 80.2%
- Reduce unplanned AC loss events to 273
- Reduce Turnaround AC loss to 3.8%
- Reduce % of E and P1 work orders to 35% of repairs
- Define Post Project Performance Metrics and develop baseline

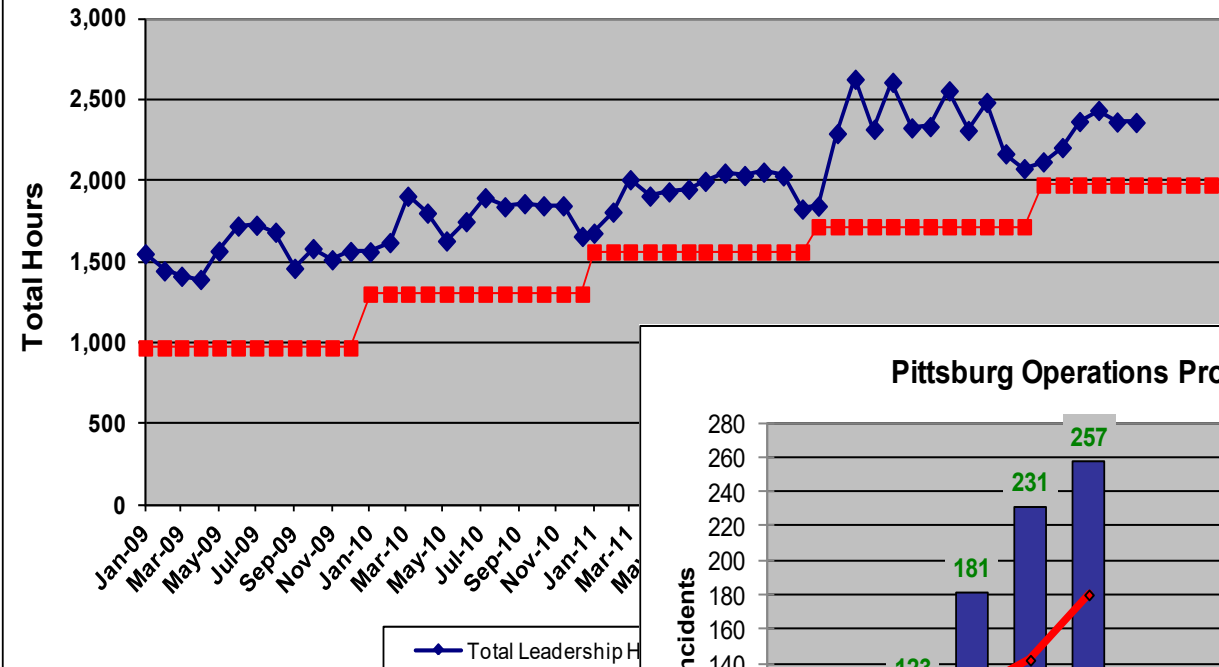
COMMUNITY

- Develop and implement Dow brand strategy in the community
- Implement STEM strategy
- Increase engagement with key influencers, including elected officials in region

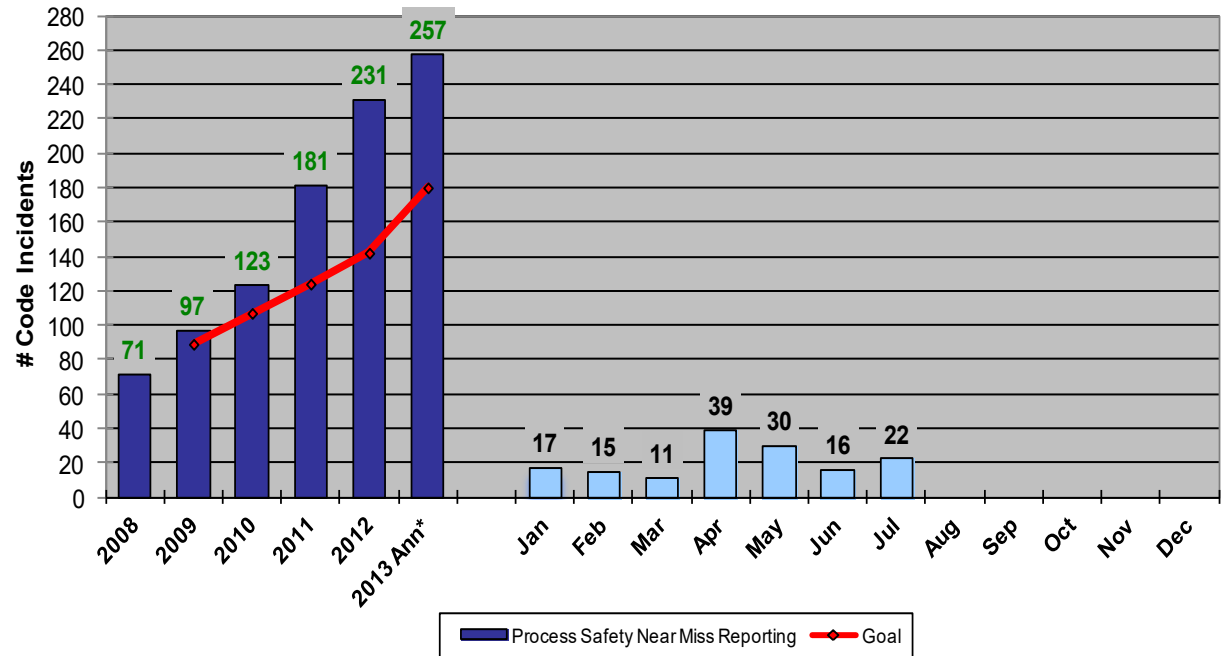
What we measure to drive the success

Pittsburg Operations Visible Leadership Safety Interactions

Leading indicators



Pittsburg Operations Process Safety Near Miss Reporting

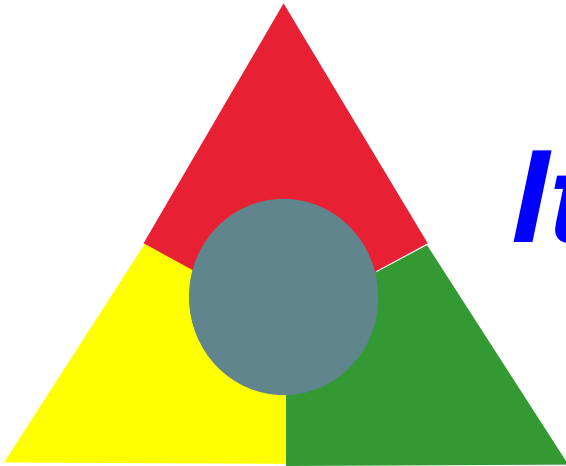




At Dow We Expect:

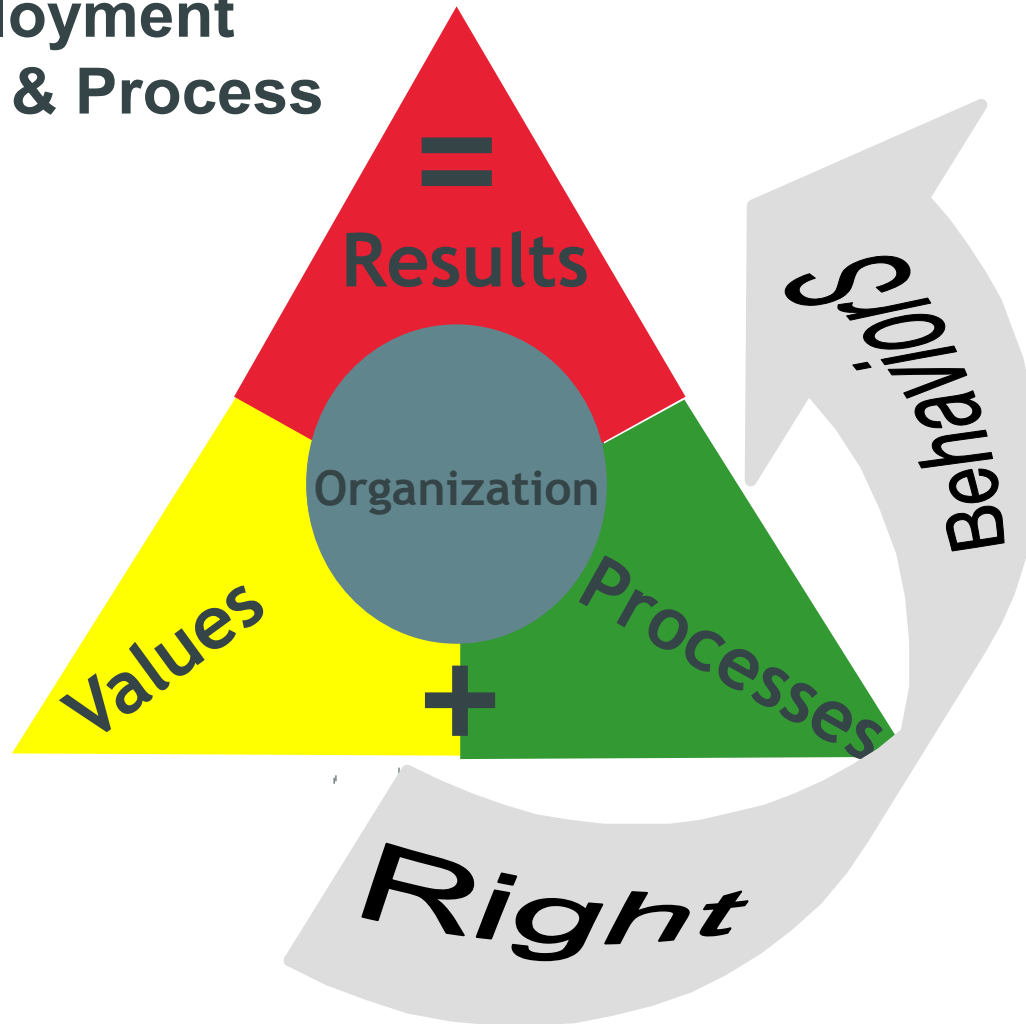
EH&S Leadership At All Levels -

It Starts With You!!!



Drive for results

Effective deployment
of our Values & Process
enablers...





Value Enablers

At Dow, protecting the people and the environment will be part of everything we do and every decision we make. Each employee has a responsibility in ensuring that our products and operations meet applicable government or Dow standards, whichever is more stringent.

Our goal is to eliminate all injuries, prevent adverse environmental and health impacts, reduce wastes and emissions and promote resource conservation at every stage of the life cycle of our products. We will report our progress and be responsive to the public.

Process Enablers

What Processes (Management Systems) do we have to enable EH&S success?

- Work Process Examples
 - Operate Plant
 - Maintain Facility
 - Behavior Based Performance
 - Business Risk Review
 - Management of Change
 - Corrective and Preventive Actions
 - Root Cause Investigation
 - Self-Assessment
 - Procedure Use
 - Training
 - And....Many, Many More!!

Right Behaviors

- The expectation is that we will see leadership behaviors from every employee at Dow.

Leadership roles set the example by meeting the standards of excellence.

They are the key architects of the work environment and have the responsibility to create a climate that reflects Dow's values.

How Does a Leader Establish Culture?

- Using these Culture-Embedding Mechanisms
 - What you regularly pay attention to, measure, and control
 - How you react to critical incidents and organizational crises
 - Observed criteria by you, allocate resources & rewards
 - Deliberate role modeling, teaching, and coaching
 - Who you recruit, select, promote, retire, and excommunicate

 - Organizational design and structure
 - Design of physical space, facades, and buildings
 - Organizational systems and procedures
 - Organizational rites and rituals
 - Stories, legends, and myths about people and events.
 - Formal statements of philosophy, values, and creed.

from Organizational Culture and Leadership by Edgar H. Schein

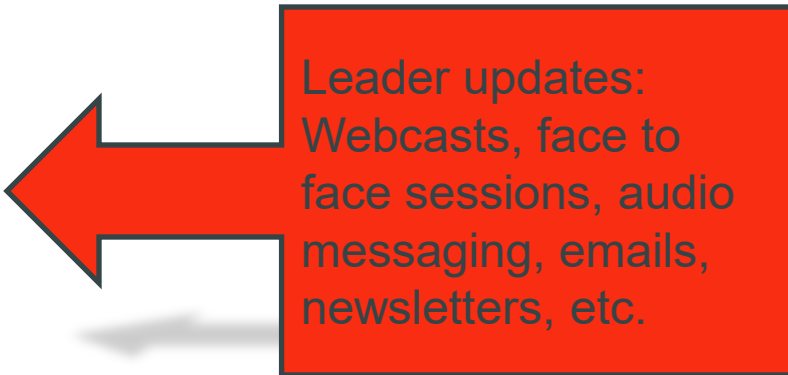
Set the tone from the top...

- **Business Leader EH&S Review with EH&S Leadership**
 - **Within 90 days and/or every 3 years**
- **New production/facility leader reviews**
 - **Within 90 days**
 - **Facility Leader EH&S Review**
 - **Reactive Chemicals/Process Hazard Assessment**
- **New Responsible Care Leader/Business EH&S Improvement Leader reviews**
 - **Within 120 days**
- **Employee Training and Learning Certifications**
 - **Variable and Ongoing**

Set the tone from the top...

EH&S First, Pounds Second

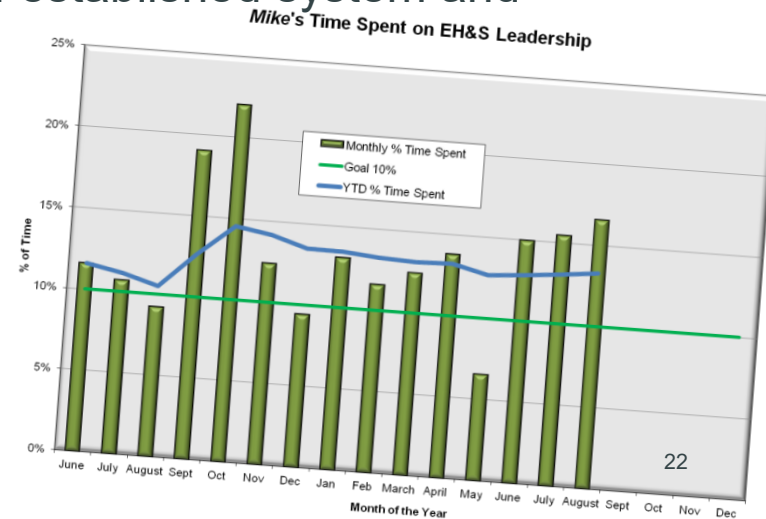
- Every meeting begins with a “safety moment”
- EH&S metrics have same priority as financials
- EH&S performance is updated regularly
 - Internal updates
 - Dow World News
 - Geographic Updates
 - Site Updates
 - Business Updates
 - Facility Updates
 - External Updates
 - Quarterly sustainability reports
 - Responsible Care Metric reporting
 - Annual Reports
- Transparency, consistency are key



Leader updates:
Webcasts, face to
face sessions, audio
messaging, emails,
newsletters, etc.

My Management Commitment

- Clear expectations
- Site Strategy
- Walk the talk
- Minimum 10% visible leadership (track it)
- Be in the field: Safety inspection
 - Continuously management system review
 - Involvement of: Site Operation Director, EH&S manager, Facility leader, delivery, shop floor people
 - BOC with a 4:1 (plus:delta) approach, summary at the end
 - Win - Win situation (commitment – identify well established system and improvement opportunities)
- Measurements drives behaviors



Sustain through local dialogue...

- “PACE” principles
 - Make it **Personal**
 - **Ask** open ended questions
 - **Create** an environment where people are free to ask questions
 - **Escalate** issues

Share learning's!

- Root Cause Investigations
- Management System Improvement Assessments
- Learning Experience Reports

Recognize success!

- Say “**Thank you**” and be available (listen)
- Team events
- EH&S Milestone Achievement Awards
- Recognition @Dow for Individuals/Teams
- Reward leading indicator performances
- Responsible Care® Awards
 - Internal and External
- External awards and nominations
 - National Safety Council, etc.
- Leader Performance Management





Questions?