



# WORKING SMART WORKING LEAN

Teresa Hay McMahon

Iowa Department of Natural Resources

# 2003 THE JOURNEY BEGINS

- ❑ Approached by the Iowa Coalition for Innovation & Growth
  - ❑ *Hot Team* on Business Development Processes
    - ❑ Improve key business development processes that are viewed as barriers to a business's ability to develop and/or grow in Iowa
  
- ❑ Public-private partnership proposed
  
- ❑ Facilitator offered to run event

# THE PROBLEM

- ❑ Air Quality new source construction permits
  - ❑ Issue ~ 2,000 permits per year
  - ❑ Average lead time: 62 days
- ❑ 62 days was one of the fastest permit times in the country so what was the problem?

# THE SOLUTION

## □ KAIZEN

- A highly focused, action oriented event
  - Clear objectives,
  - Measurement focused,
  - Data driven and fact based,
  - Uses creativity before capital
- Two to five days in length
- Empowered team takes action to improve a specific process
- The new process is implemented immediately

# THE RESULTS

- ❑ Lead time reduced to 12 days
- ❑ Steps cut by 70%
- ❑ Handoffs (permit moving from person to person) cut from 18 to 4
- ❑ 600 permit application backlog eliminated in six months
- ❑ Process became more customer friendly
  - ❑ 800 number installed for questions

# WHAT DID WE LEARN?

- ❑ We could improve customer service without sacrificing the environment
- ❑ We could sustain the gains and continue to improve: Lead time down to **six** days within six months
- ❑ Change could occur in one week - unheard of speed in government

# LEAN & SIX SIGMA

## □ Lean

- A production approach and set of methods
- Systematically identifies and eliminates non-value-added activity (waste)
- Tools include kaizen and value stream mapping

## □ Six Sigma

- A rigorous methodology to eliminate process variation and improve quality
- Uses statistical analysis to measure and improve an organization's performance and practices

# WHY TRY LEAN?

- ❑ Eliminate or dramatically reduce permit application backlogs
- ❑ Reduce lead times for permit reviews by more than 50%
- ❑ Decrease the complexity of permit processes
- ❑ Improve the quality of permit applications and the consistency of permit reviews
- ❑ Allocate more staff time to “mission critical” work
- ❑ Improve staff morale and process transparency

# LEAN FOCUS

- ❑ Lean Six Sigma eliminates unnecessary process steps that have built up over time
  - ❑ Methods improve understanding of how processes really work on the ground
  - ❑ Focus is on optimizing desired outcomes
- ❑ Waste is most prevalent in information flows
- ❑ Process improvements enable agency staff to work on higher value activities more directly linked to environmental protection
  - ❑ Agencies work smarter, not just faster

# TYPICAL WASTE

- ❑ Defects: Data errors; missing information
- ❑ Over production: Unneeded reports
- ❑ Waiting: Approval cycle
- ❑ Moving items: Report routing
- ❑ Over processing: Obsolete data on shared drives
- ❑ Inventory: Excess material/information
- ❑ Excess motion: Trips to remote printer

# WILL LEAN WORK FOR ME?

- ❑ More and more States are using Lean and/or Six Sigma methods to improve agency processes
- ❑ Process-improvement projects have included:
  - ❑ Air construction permitting
  - ❑ NPDES wastewater permitting
  - ❑ Leaking underground storage tank (LUST) corrective action
  - ❑ Landfill and floodplain permits
  - ❑ Feedlot inspections and construction permits for animal feeding operations
  - ❑ Agency administrative processes

# WHAT DOES IT TAKE?

- ❑ Successful process improvement requires organizational commitment over the long term
  - ❑ You must DRIVE change from the top down
- ❑ Communication
  - ❑ Proactive
  - ❑ Frequent
  - ❑ Consistent
- ❑ External stakeholders at the table

# OVERCOMING HISTORY

- ❑ Every other “flavor-of-the-month” that didn’t meet expectations
  - ❑ TQM
  - ❑ CQI
  - ❑ MBWA
- ❑ Nothing speaks louder than results
- ❑ Don’t feed the CAVE people

# LEAN PRIMER

- ❑ Experiences of five States using Lean and Six Sigma to improve agency processes
  - ❑ Delaware – Department of Natural Resources and Environmental Control
  - ❑ Iowa – Department of Natural Resources
  - ❑ Michigan – Department of Environmental Quality
  - ❑ Minnesota – Pollution Control Agency
  - ❑ Nebraska – Department of Environmental Quality
- ❑ Includes background, results, & lessons learned
- ❑ [www.epa.gov/lean/primer.pdf](http://www.epa.gov/lean/primer.pdf)

# MOVING FORWARD

- DNR sets the example, state government follows
  - Over 50 events in sixteen agencies to date
- Governor's Management agency establishes *Office of Lean Enterprise*
  - Full-time, permanent position to institutionalize effort
- DNR renews commitment with full-time staff
- Continuing partnership with the private sector
  - Training opportunities to build internal expertise
  - Support through the transition to a new administration

# EVENT RESULTS

- ❖ **Air Quality New Source Construction Permits**
  - *Steps reduced by 70%; Lead-time reduced by 85%*
- **Construction permits funded by Clean Water State Revolving Fund (SRF)**
  - *Steps reduced by 52%; improved communication*
- **Landfill permits**
  - *Permitting time reduced from 187 days to 30 days (83%)*
- **Sovereign land permits, environmental review and 401 certifications**
  - *Steps reduced by 60%; better permit sort process*
- **Leaking Underground Storage Tanks: Corrective Action Design Report**
  - *Steps reduced by 72%; streamlined strategy approval*
- **NPDES permits**
  - *Steps reduced by 61%; created communication plan*
- **Complex air construction permits**
  - *Reduced lead time from 214 days to 180*
- **SRF/IFA Financial Management (DNR/Iowa Finance Authority)**
  - *Established new process for more efficient financial management*

# EVENT RESULTS CON'T

- **Manure Management Plans**
  - *Steps reduced by 67%; prioritized inspection resources*
- **Legal Services**
  - *Delays reduced by 56%; developed compliance priorities*
- **Land Acquisition**
  - *Steps reduced by 44%*
- **Confined Animal Feeding Operation permits**
  - *Delays reduced by 92%; Lead time reduced by 45%*
- **Iowa Conservationist**
  - *Designed new product in three days*
- **Small Business Air Emissions Assistance (UNI/IWRC)**
  - *Steps reduced by 12%; Hand-offs reduced by 15%*
- **Magazine Production**
  - *Hand-offs reduced by 46%; Developed advance planning schedule*
- **SRF Cross-cutters**
  - *Delays reduced by 40%; steps reduced by 32%; hand-offs reduced 30%*