

改善

***Kaizen:
Or, How We Beat
Our Own System***

Iowa Department of Natural Resources

1

Meeting Resource Challenges

- Iowa state government reinventing *how* it conducts business to become more efficient
- Improving customer service

2

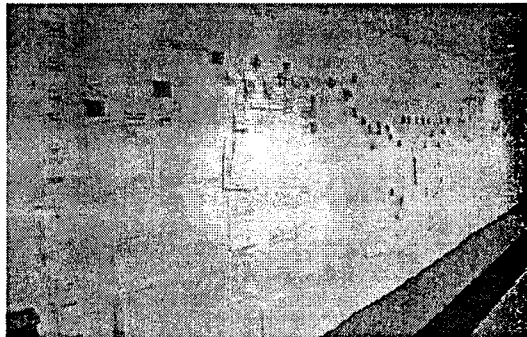
Assistance From ICIG

- The Iowa Coalition for Innovation and Growth offered to sponsor a *business process improvement* project (BPI) using Japanese inspired “kaizen” process
- *First time* the kaizen process was used in a government setting

3

What is Kaizen?

- Highly focused
- Action-oriented
- 2-5 day event
- Empowered team takes immediate action to improve a specific process
- New process starts *that same week*



Process Map

4

Why Kaizen at the DNR?

- **Efficiency - doing more with existing resources**
- **Support and partnership with business**
- **Commitment to world-class government**

5

Why Start with Air Construction Permits?

- **When Choosing a BPI target:**
 - **High volume process**
 - **Process defined, mapped**
 - **Goals clearly defined, very specific**
 - **Core business function**
- **Input from the coalition**
 - **Many members are AQ permitted**

6

Important Factors to DNR

- **Improve customer service *without* sacrificing environmental protection**
- **Improve efficiency**
- **Better customer service**
- **Immediate change in process**
- **Measurable decrease in time/steps**

7

Kaizen Focuses On...

- **Eliminating non-value adding time and steps**
- **Breaking barriers**
- **Eliminating roadblocks**
- **Eliminating variability**
- **Typically yields a 20-50% improvement**

8

Does Not...

- **Affect regulatory stringency**
- **Force hasty, inadequate permit review**
- **Cut corners**
- **Work against our agency mission**
- **Seek to fault staff**

9

AQ Kaizen Objectives

- **Removing unnecessary steps**
- **Eliminating a backlog of 600 permits**
- **Reducing the need to obtain additional information from applicants**
- **Streamlining the permit application**
- **Reducing time for application processing and permit issuance**

10

Week of June 23-27, 2003

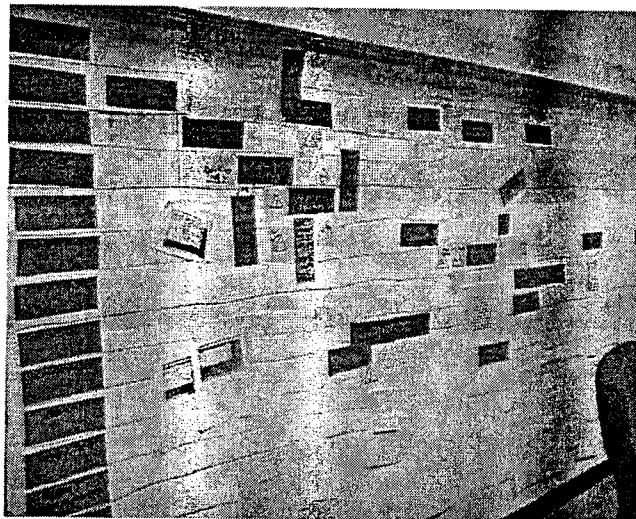
- **20 Participants include**
 - **DNR staff and customers**
 - **Consultant was Stephen Smith of North Carolina-based TBM Consulting Group**



11

Know Thyself

- **Developed process flow maps**
- **Team analyzed flow through every step**



12

Clocking All The Steps

- mail processing
- permit routing
- completeness reviews
- senior engineer reviews
- discussions with clients
- final approvals and outgoing mail



13

Eureka Moments



- About one day of *actual work* content needed to issue a typical permit
- Yet, turnaround time was 45-80 days

14

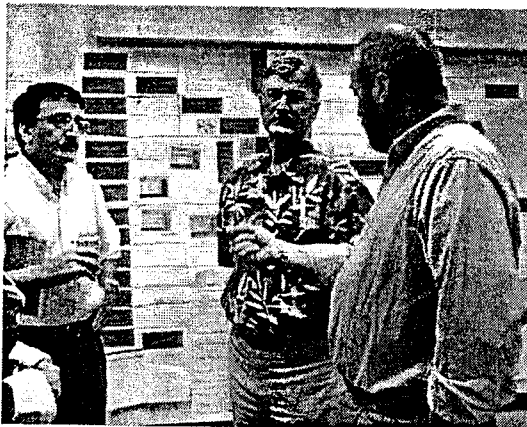
Identifying Culprits



- Delays due to:
 - permit backlog
 - idle time waiting for info from clients
 - internal routing

15

The Mission

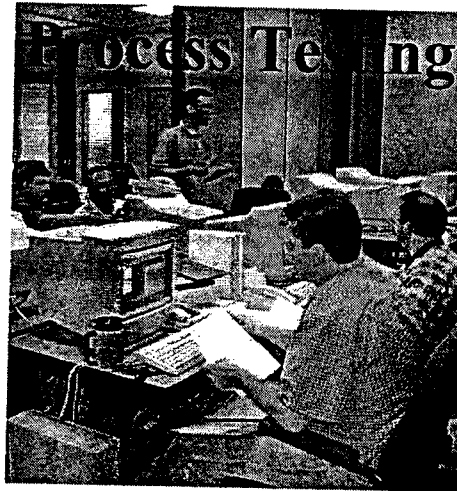


- Push the turnaround time closer to actual work time
- Eliminate unproductive, idle time

16

By Week's End

- Implemented new permitting process
 - simplified workflow
 - eliminated non-value steps
 - reduced permit issuance time



17

Results

	Pre-event	Goal (prior to event)	Planned Outcome (because of event)
Project Lead Time	62 days	45 days (25%)	11 days (75%)
Permit Output per day	8	10 (25%)	10 (25%)
Information Requests per permit	1.06	0.53 (50%)	0.27 (75%)

18

Ideas To Move the Work

- **SWAT Team**
 - **Special team created to focus solely on backlogged permits**
- **Welcome Call**
 - **Expedite information requests, gives certainty on issuance dates**
 - **Facility on notice that application under review and is a priority**

19

New Process

- **Permitting time decreased 81%**
 - **62 days to 11 days**
 - **Now at *6 days***
- **Cut steps by 70%**
- **Cut handoffs (permit moving from person to person) from 18 to 4**
- **70% issued within 2 weeks**

20

Worth Remembering...

- The time engineers actively spend reviewing permit is *unchanged*
- All permits receive same scrutiny and attention as they did prior to the event
- Focus was eliminating unproductive and idle time
- Changing expectations for staff and clients

21

Success Breeds Success

Kaizen expands throughout DNR

Clean Water SRF

Landfill Permitting

Underground Storage Tanks

NPDES

Complex Air Construction Permitting

Sovereign Lands Permits

Manure Management Plans

22

Clean Water State Revolving Fund (SRF)

- **Focus on wastewater permitting**
- **Maintained by DNR and Iowa Finance Authority to provide low interest loans to cities for wastewater treatment**
- **Event funding from the Public Strategies Group (PSG)**

23

SRF Kaizen Results

- **Reduced approval time from *28 months to 4.5 months***
- **Issue construction permits within 30 days after receiving final plans**
- **Cut handoffs from 43 to 19**
- **Reduced the review steps by nearly 50%**
- **Planned one year to eliminate backlog, on schedule**

24

Landfill Permitting

- **Reduced process steps from 52 to 15**
- **Reduced handoffs from 19 to 4**
- **Reduced permitting time from 187 days to 30 days**

25

Leaking Underground Storage Tanks

- **Can take a decade to initiate clean-up**
- **Reducing decision on corrective action to 90 days**
- **Working on 90% first-time acceptance of corrective action design reports**
- **Moving 100 high risk sites into clean-up within one year**

26

UST Kaizen Results

- **Total steps reduced 72%**
- **Completely eliminated loops, delays, and black holes**
- **Reduced decisions points by 80%**
- **Reduced handoffs by 80%**

27

NPDES Permits

- **Reduced permitting time from 425 *days to 15 days***
- **Steps and hand-offs: 61% and 43% improvement**
- **Backlog elimination: projected at 8 months**

28

Air Quality Complex Permits

- **Reduced PSD permitting time from an average of *214 days to no more than 180 days***
- **Other complex permits issued within 90 days**

29

Sovereign Lands Permits, Environmental Reviews, 404 Permits

- **Reduced permitting time from as high as *163 days to as low as 7 days***
- **Steps and hand-offs: 61% and 56% improvement**

30

Manure Management Plans

- **Addressed process for field inspections, new unpermitted sites (310 in 2004) , and updates (3,215 annually)**
- **Steps: 67% improvement**
- **Hand-offs: 37% - 55% improvement**
- **Delays: 80% - 93% improvement**

31

State Historic Preservation Office Review (Cultural Affairs)

- **Section 106 requires agencies to take into account the effect of their actions on historic properties**
- **Reduced total steps by 48%**
- **Reduced number of delays by 78%**
- **Reduced handoffs by 62%**
- **Improved database tracking, developed new program manual**

32

Government Efficiency and Economic Growth

- **Expressed in business terms**
- **Savings, or cost avoidance**
 - **It would have taken one and 1/2 additional engineers to process the equivalent number of landfill permits, for a cost avoidance of \$150,000.**

33

Government Efficiency and Economic Growth

- **Growth, or revenue-to-economy**
 - **An additional \$98 million dollars in clean water SRF projects are being moved into the Iowa economy over a twelve month period.**

34

Government Efficiency and Economic Growth

- **Productivity**
 - **Air Quality engineering staff have increased productivity on standard permits by 85%.**

35

Commitment to Continuous Improvement

- **Building internal capacity to conduct kaizen events**
- **Hired internal kaizen coordinator**
- **Conducted three “mini” kaizen events without external consultants in last two months**

36

Commitment to Continuous Improvement

- **Additional FY '05 events in DNR:**
 - **Legal Services (Administrative Orders)**
 - **Land Acquisition**
 - **Leaking Underground Storage Tanks**
- **Re-assigned another staff person to be continuous improvement manager**
- *Focusing on mission critical work*

37

Future Plans

- **DNR taking the lead to bring process improvement to other executive branch agencies**
- **Other agencies holding events in FY '05: Economic Development, Public Safety, Corrections, Human Services, Veterans Home, Workforce Development**
- **FY '06 budget offer for 12 events in DNR and 15 in other agencies**

38

Thank You

www.iowadnr.com

39