

# Transitioning from Lagging to Leading Indicators

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# From Lagging to Leading Indicators

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## Goals of Presentation

- Understanding leading and lagging Indicators
- Selection and use of leading and lagging safety metrics
- Overcoming management resistance to the use of leading indicators for incentive pay
- Lessons learned by Company in making the transition

# What Are Lagging & Leading Indicators?

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- Lagging Indicators
  - Measures of a system taken after events to assess outcomes and occurrences.
- Leading Indicators
  - Conditions, events or measures that precede an undesirable event, and have some value in predicting the arrival of the event. (Toellner, 2001)

# Examples of Lagging Indicators

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- Typical Lagging Safety Indicators
  - Total Recordable Incidence Rate (TRIR)
  - Lost Time Case Rate
  - Severity Rate
  - Days Away, Restricted or Transferred (DART) Rate
  - Financial Cost
  - Experience Modification Rating (EMR)

# Examples of Leading Indicators

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- Typical Leading Safety Indicators
  - Safety Programs
  - Training
  - Site Safety Plans
  - Job Safety Analyses (JSAs)
  - Operating Procedures
  - Audits / Observations
  - Leadership Support
  - Timeliness of Incident Investigations / Corrective Actions

# Why Change to Leading Indicators?

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- Disadvantages of Lagging Safety Indicators
  - Small Sample Size
  - Difficult / impossible to measure results of improvement efforts
  - Cannot predict the future
  - May not detect “weak signals”, resulting in false sense of security for:
    - Low probability / high consequence events
  - Under-reporting concern

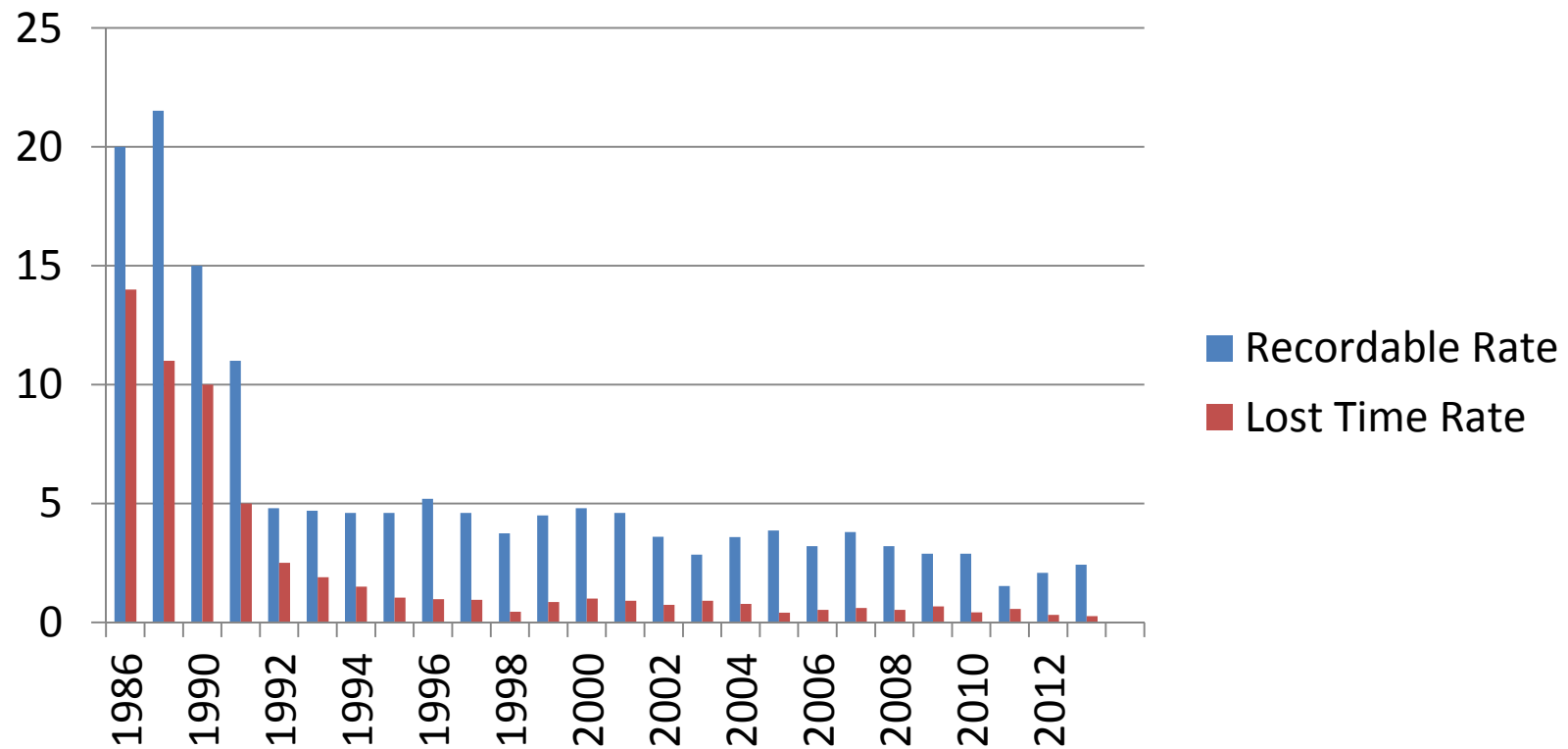
# Why Change to Leading Indicators?

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- Company has emphasized OSHA Recordable Rates for many years
- The safety component company's incentive program has been based on meeting goals for:
  - Recordable Rate
  - Lost Time Rate
  - Severity Rate
- OSHA rates have consistently improved over the years, but . . .

# The Rates of Improvement Had Slowed

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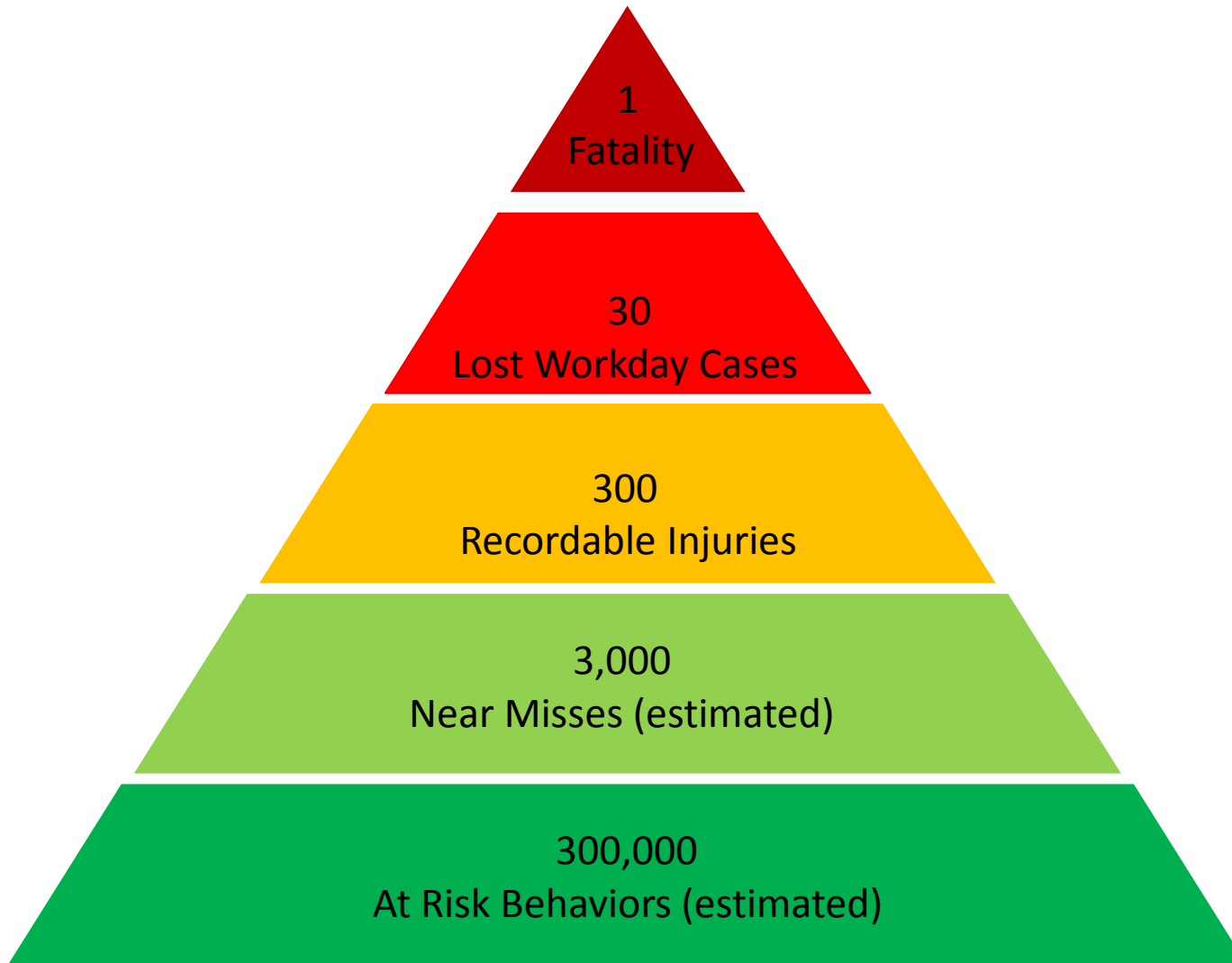
# Limited Opportunities for Learning

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- Company has averaged 50 recordable injuries per year over the last five years, which provide:
- 50 opportunities to learn from our mistakes
  - Incident Investigations
  - Corrective and Preventive Actions
  - Safety Alerts
- Although 50 is 50 too many, we need more than 50 opportunities to learn from our mistakes.

# Why Change to Leading Indicators?

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Modified Heinrich's Triangle

# Increased Opportunities for Improvement

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- If the modified Heinrich ratios apply:
  - Near-miss events should provide an additional 500 learning opportunities per year, and
  - At-risk behaviors should provide an even greater number of additional learning opportunities (there won't be 50,000 unique at-risk behaviors)
- Improving the Safety Culture
  - Should reduce the number of unsafe behaviors
- We recognized need to select objective leading metrics that would encourage desired behavior

# Selection of Leading Indicators

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- Leading Indicator Challenge:
  - Objective metrics are needed, particularly if compensation will be tied to one or more of them
  - Metrics for most leading indicators are subjective

# First Proposal to Management

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- Leading Indicators proposed to management:
  - Near miss / unsafe behaviors / unsafe conditions
  - Safety Leadership Training for individuals who supervise facility, field service and/or on-site services employees involved in material handling
- Proposed 2013 Goals:
  - Total reports to equal three times the number of branch employees
  - 100% of applicable supervisors to complete Safety Leadership training by the end of 2013

# First Proposal to Management

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- Management's Response . . .
- **Didn't Like It**
  - Concerns that a percentage of reports could be “pencil whipped”
  - No direct connection between reports and improvement activities (Corrective Actions)
  - Costs related to additional Safety Leadership Training not in the 2013 budget

# Second Proposal to Management

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- Proposed 2013 Goal:
  - Annual goal equal to 1.0 corrective action multiplied by the number of branch full time equivalents
  - The quarterly goal is equal to the number of hours worked divided by 2,080.
  - 100% of the Safety Bonus will be awarded if the annual goal is met, providing that at least 20% of the goal is met each quarter
  - Unsafe condition reports must be reviewed by local management within 24 hours

# Second Proposal to Management

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- Proposed 2013 Goal (continued):
  - The Branch EHS Committee must review all reports to determine if the corrective action taken was appropriate, and recommend additional actions, as needed
  - The number of corrective actions taken must be reported by the Branch EHS Committee no later than 30 days following the end of each quarter
  - The effectiveness of the Branch EHS Committee must be reviewed at least annually by corporate personnel
  - OSHA rate goals will continue, but with no tie to financial rewards



# Overcoming Management's Concerns

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- Management's Response . . .
- **Approved with 1/1/2013 Start Date**
- Questions / Concerns at the time:
  - The goal will not be known at the beginning of the quarter, because the full time equivalent calculation includes overtime and temporary hours
  - Is one corrective action per FTE too few or too many?
  - Is the corrective action metric truly objective?
  - Will OSHA incidence rates increase?
  - How will we know if the program is successful?

# The Transition to Leading Indicators

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- Running Changes:
  - The headquarter (corporate groups) corrective action goal is equal to the company corrective action goal of one for each full time equivalent
  - Corporate personnel are expected to identify and report near miss, unsafe behavior and unsafe conditions as they conduct business throughout the company. Such observations are reported to the branch for action
  - Distinctions between near miss, unsafe behavior and unsafe condition reports are moot, because the metric is Corrective Actions
  - Within reason, the same corrective action can be counted more than one time

# The Transition to Leading Indicators

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- Running Changes (cont.)
  - We decided to count corrective actions that stem from OSHA recordable injuries, first-aid only injuries and near-miss events
  - Discretion regarding implementation of the program was provided to the branches regarding:
    - EHS Committee members and organization
    - Mechanisms to report near miss events, unsafe behaviors and unsafe conditions
    - Methods to communicate corrective actions within the branch
    - Corrective action goals by department (facility, field service, office, sales)
  - One Safety Leadership Training course required at each branch

# First Half 2013 Results and Learnings

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- The Observation component generates high levels of interest
- The EHS Committees were, at first, overwhelmed by the number of observations and corrective actions to review
- The program has greatly increased the Safety Awareness of our people
- 2013 OSHA Rates are similar to historical rates

# First Half 2013 Lagging / Leading Metrics

| Branch    | Hours Worked | Recordable Cases | Near Miss Events | Unsafe Conditions | Unsafe Behaviors |
|-----------|--------------|------------------|------------------|-------------------|------------------|
| 1         | 32,668       | 1                | 14               | 6                 | 8                |
| 2         | 235,284      | 2                | 520              | -                 | -                |
| 3         | 184,767      | 1                | 13               | 94                | 25               |
| Corporate | 83,196       | 0                | -                | -                 | -                |
| 5         | 230,190      | 4                | 8                | 99                | 38               |
| 6         | 270,014      | 2                | 22               | 157               | 46               |
| 7         | 134,319      | 2                | 162              | 126               | 31               |
| 8         | 192,513      | 4                | 117              | 56                | 100              |
| 9         | 113,772      | 1                | 8                | 69                | 6                |
| 10        | 138,403      | 1                | 85               | 64                | 21               |
| 11        | 192,853      | 0                | 19               | 105               | 40               |
| 12        | 128,582      | 5                | 28               | 43                | 50               |
| Total     | 1,936,561    | 23               | 996              | 819               | 365              |

# First Half 2013 Corrective Action Metric

| Branch    | Hours Worked | Corrective Actions | Corr. Action Goal | % of Goal |
|-----------|--------------|--------------------|-------------------|-----------|
| 1         | 32,668       | 16                 | 16                | 102       |
| 2         | 235,284      | 737                | 113               | 652       |
| 3         | 184,767      | 93                 | 89                | 105       |
| Corporate | 83,196       | -                  | 891               | 209       |
| 5         | 230,190      | 115                | 111               | 104       |
| 6         | 270,014      | 231                | 130               | 178       |
| 7         | 134,319      | 163                | 65                | 252       |
| 8         | 192,513      | 104                | 93                | 112       |
| 9         | 113,772      | 71                 | 55                | 130       |
| 10        | 138,403      | 98                 | 67                | 147       |
| 11        | 192,853      | 126                | 93                | 136       |
| 12        | 128,582      | 106                | 62                | 171       |
| Total     | 1,936,561    | 1860               | 891               | 209       |

# From Lagging to Leading Indicators

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- Lessons Learned
  - Monetary incentives can be based on leading indicators
  - Select leading indicators that incentivize desired behavior (don't incentivize required behavior)
  - Corrective Actions are a relatively objective leading indicator
  - Incentives will change behavior
- **Don't be afraid to make the change**

# From Lagging to Leading Indicators

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Questions?

Thank You!

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