HSE Performance Metrics

Jeff Ruebesam
Vice President - HSE
Fluor Corp

Fluor Corporation

- One of the world’s leading publicly traded engineering, procurement, construction, maintenance, and project management companies

- 43,000 employees executing over 1,000 projects annually, serving more than 600 clients in 66 different countries

- Celebrating 100 years in 2012
Fluor’s Business Lines

- Energy & Chemicals
  - Chemicals
  - Upstream
  - Downstream
  - Offshore Solutions

- Industrial & Infrastructure
  - Mining & Metals
  - Transportation
  - Alternative Power
  - Commercial & Institutional
  - Healthcare
  - Life Sciences
  - Manufacturing
  - Telecommunications
  - Water

- Government
  - Department of Defense
  - Department of Energy
  - Department of Homeland Security
  - Department of Labor
  - NASA
  - UK Nuclear Decommissioning Authority

- Power
  - Power Services
  - Gas-Fueled/IGCC
  - Solid-Fueled
  - Renewable Energy
  - Nuclear
  - Environmental Compliance

- Global Services
  - Operations & Maintenance
  - Construction Equipment & Tools
  - Staffing

Fluor’s HSE Commitment

- Fluor has pledged to protect the health and safety of employees, clients, and communities, and to protect the environment during all business operations.
- Fluor is committed to providing the necessary resources to implement this pledge.

“I strongly believe in and support our corporate values of safety, integrity, teamwork and excellence. These values along with sales selectivity and execution excellence, IN MY MIND, are the true definition of the “One Fluor” approach and what sets us apart from our competition. I know that for many of us, these core concepts are an innate part of who we are and how we go about our business.”

– David Seaton
Fluor Chief Executive Officer/Chairman
Fluor’s Core Values

<table>
<thead>
<tr>
<th>Safety</th>
<th>Integrity</th>
<th>Teamwork</th>
<th>Excellence</th>
</tr>
</thead>
<tbody>
<tr>
<td>We hold sacred</td>
<td>We live by the highest</td>
<td>We treat all</td>
<td>We strive to deliver</td>
</tr>
</tbody>
</table>
| the current     | ethical standards. Our     | people with        | quality fit-for-
| and future      | actions are                | dignity, respect   | purpose solutions   |
| well-being of  | consistent with our        | each other’s       | at unmatched value.  |
| people –       | values and principles      | perspective, and   |                     |
| employees,     |                            | share knowledge    |                     |
| customers, and |                            | and resources to   |                     |
| communities    |                            | achieve excellence,|                     |
| in which we    |                            | deliver value, and |                     |
| work and live. |                            | grow individually  |                     |
|                 |                            | and collectively.  |                     |

HSE Objectives

♦ Drive Global Consistency
  – We strive to effectively apply our HSE policies, practices, and procedures consistently across all operations.

♦ Ensure Safe & Compliant Projects
  – We are dedicated to achieving the highest levels of safety and safety compliance on all of our projects.

♦ Promote Positive Safety Culture
  – We will seize every opportunity to promote, enhance, and improve a positive safety culture
Incorporation of HSE

♦ All meetings of 4 or more begin with an HSE Topic
♦ All employees are measured annually on HSE performance
♦ All executives have specific HSE compensation metrics
♦ All projects and service activities align with Fluor’s ZERO Incidents Program

Historical HSE Performance Indicators

♦ Injury & Illness Rates (Recordable, Lost Time, etc.)
♦ Experience Modification Rates (EMR)
♦ Environmental
  – Agency inspection outcome
  – Permit non-compliance events
  – Spills & releases
Safety Performance Over Time

Sources: Construction Industry Institute (CII), Injury and Illness Rates, Bureau of Labor Statistics (BLS)

So how do we improve from here?

A. Keep doing the same things?

According to Albert Einstein, “Doing the same thing over and over again and expecting different results” is the definition of insanity.

B. Make a fundamental change.
Fluor’s Fundamental Change: Focus on Leading Indicators

♦ Our goal is simple: to learn more faster, spot problem areas, and take action before someone gets hurt, non-compliance results, a client is disappointed, or our HSE culture/reputation is negatively impacted.

♦ Leading Indicator Programs
  – Sites
  – Corporate

Site Program: Typical Leading Indicators

♦ Training
♦ STAs
♦ Hazard Recognition & Elimination
♦ Management Participation
♦ Weekly Inspections
♦ Near Miss Reporting
♦ Trending and Tracking
Keys to a Successful Site Leading Indicator Program

♦ With Craft
  – Build trust
  – Raise awareness
  – Engage everyone

♦ With Programs
  – Effective data collection
  – Analysis
  – Corrective measures

♦ With Leadership
  – Buy-in
  – Active program participation
  – Consistent actions that support messages

Corporate Program Leading Indicator Categories

♦ Program Development & Coordination
♦ Management in Action
♦ Training, Communication & HSE Culture Initiatives
♦ Field Execution
Program Development & Coordination

♦ Site Specific HSE Plans
   – Aligns with local codes & standards and client expectations
♦ Emergency Response Plan
♦ Pre-task Planning (JSAs, STAs) Process
♦ Weekly HSE Site Review Process
♦ Medical Provisions/Claims Management
♦ Substance Abuse Program
♦ Incident Investigation/Reporting
♦ Injury/Illness Recordkeeping
♦ Recognition/Rewards & Disciplinary Programs
♦ Coordination of the above with contractors & client

Management in Action

♦ Participation in orientation
♦ Participation in STAs
♦ Participation in weekly site HSE reviews
♦ Participation in investigations
♦ Lessons learned shared
♦ Action Plans in place for audit/assessment findings
♦ Contractor Coordination
♦ Effective implementation of Disciplinary Program
♦ Effective implementation of Recognitions & Rewards Program

FLUOR
Training, Communication & HSE Culture Initiatives

♦ Site Induction Training
♦ Regulatory Training
♦ HSE Leadership Training
♦ Toolbox Meetings
♦ HSE Visibility (signs, posters, electronic marquee)
♦ Craft involvement (JSAs, STAs, Audits)
♦ Safety Perception Surveys
♦ Hazard Observation & Elimination Program
♦ Emergency Awareness

Field Execution

♦ PPE
♦ Housekeeping
♦ Permit-to-work System
♦ Task-specific HSE Standards
  – Examples:
    • Fall Protection
    • Energy Isolation
    • Industrial Hygiene
    • Excavation & Trenching
    • Tool/Equipment Inspection
    • Welding
    • Lifting & Rigging
    • Chemical Management
Benefits

♦ Lower injury and illness rates
♦ Increased compliance
♦ Greater customer satisfaction
♦ Heightened HSE awareness (Laborers to Site Senior Management)
♦ Improved morale and trust
♦ Increased productivity
  – Productivity Increase by craft/trade*
    • Electrical 30.1%
    • Mechanical 38.6%
    • Concrete 54.5%
    • Steel 61.3%

*Source: Construction Industry Institute (CII) Research Team 252

Summary

♦ Focusing only on lagging indicators is like driving a car while looking only in the rearview mirror.

Make leading indicators a key component of your safety metrics.
### Safety Practices Identified for Each Craft

<table>
<thead>
<tr>
<th>Safety Practice</th>
<th>Mechanical</th>
<th>Electrical</th>
<th>Concrete</th>
<th>Steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-employment substance abuse tests</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Post-accident substance abuse tests</td>
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<td>X</td>
<td>X</td>
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<tr>
<td>Safety audits conducted by corporate safety personnel</td>
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<td></td>
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<tr>
<td>Random screening of contractor employees for alcohol and drugs</td>
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<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Maintaining adequate ratios of craft workers to safety personnel on site</td>
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<td>X</td>
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<tr>
<td>Safety performance utilized as criterion for contractor/sub-contractor selection</td>
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<td>X</td>
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<tr>
<td>Priority of safety at pre-construction and construction meetings</td>
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<td></td>
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<td>Safety preconstruction and construction meetings</td>
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<tr>
<td>Substance abuse testing for reasonable cause</td>
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<tr>
<td>Safety Incentives</td>
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<td></td>
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<tr>
<td>Formal investigation of near misses</td>
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<tr>
<td>Implementation of project safety plan</td>
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</tbody>
</table>

Source: Construction Industry Institute (CII) Research Team 252

### Productivity Increase for Work with High Implementation of Safety Practices

- Electrical: 30.1%
- Concrete: 36.6%
- Mechanical: 54.5%
- Steel: 61.3%

Craft / Trade

Source: Construction Industry Institute (CII) Research Team 252