



Best Practice Conference XIX

Safety Performance Improvement

May 18th, 2011



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- Critical Factors
- HSE Indicators
- Responsibilities
- Education and Training - Orientation
- Auditing & Ongoing Program Review
- Implementation
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- Supporting Best Practices
- Discussion





Best Practice – Team Members

- Winston Fynn (co chair)
- Tim Gondek (co chair)
- Phil Wilson
- Dave Hagen
- Doug Batke
- Sean Evans
- Robert Gould
- Dave Ferro
- Ryan Heinish
- Hardy Lange



Introduction and Mandate

- Develop an industry best practice to stimulate continuous Health Safety Environmental (HSE) Performance
- Focus to balance “Leading Indicators” with “Lagging Indicators”
- Encourage use & adoption of leading indicators to drive HSE continuous improvement in order to overcome the traditional focus on lagging indicators .
- Key is to track compliance with Industry Best Practices. Define responsibilities and develop user friendly HSE Performance Reporting tools.
- Provide range of improvement initiatives and related tools and / or provide links to a wider range of tools and reference materials



Scope – HSE Indicators

Two characteristics are used to describe HSE Performance Measurement (& Related Reporting) :

➤ “Leading HSE Indicators”:

- Defines HSE activities which, if used to respond to potential negative or unwanted outcomes, could mitigate “Lagging Indicator” metrics if performed to a level considered to be “Best Practice

➤ “Lagging HSE Indicators”:

- Defines post incident, reactive HSE Metrics traditionally used to measure HSE performance – often in isolation of consideration to their relevance to “Leading HSE Indicators” and their associated potential positive influence on such “Lagging HSE Indicators”



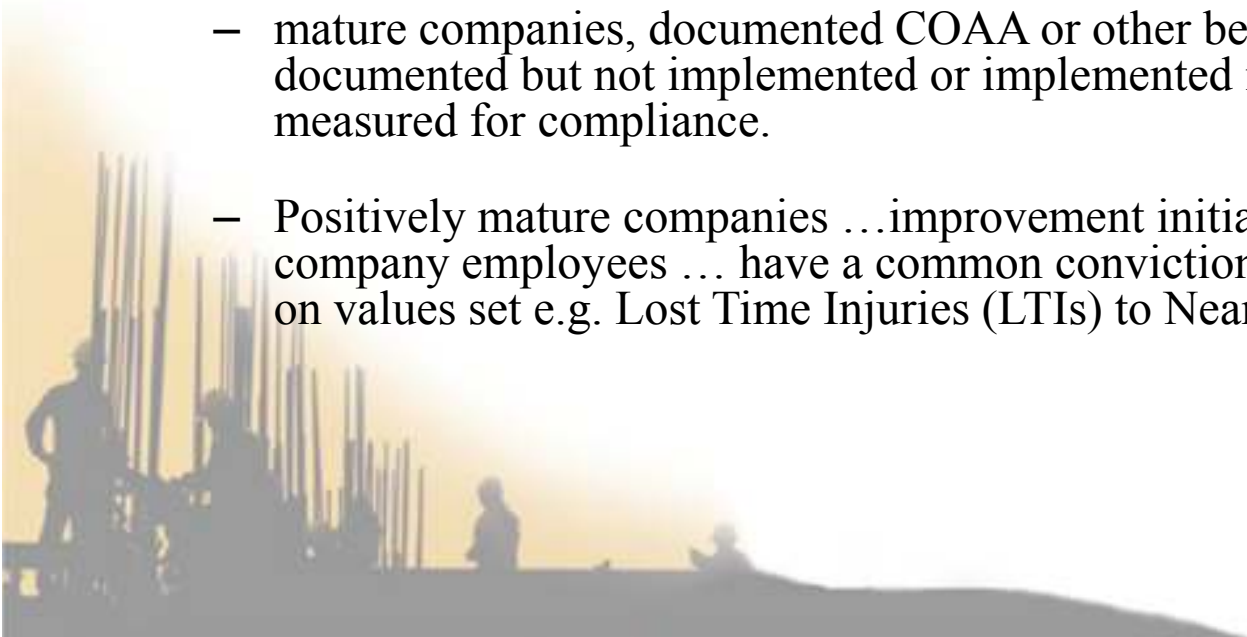
Critical Factors – Setting Goals for Improvement

- Effective performance measurement metric must be measurable, fit for purpose, add value and be achievable across the organization, facility or site
- Performance Improvement Initiatives will vary based on individual company, facility or work site safety maturity levels
- Companies trying to reduce fatalities ... different improvement strategy than one with a best in class recordable injury rate
- Some company improvement starting point may be trying to implement or improve COAA or other industry best practice
- Measure their current performance (base line)
- Set goals for expected improvement & attainable targets



Critical Factors – Establish Baseline

- Baseline and improvements fashioned on internal (company) benchmarks of what is considered to be achievable
 - Injury frequency statistics (among other things)
 - May be basic non-compliance of documented safety program or local legislation requirements
 - mature companies, documented COAA or other best practices may be documented but not implemented or implemented in a manner that is not measured for compliance.
 - Positively mature companies ...improvement initiatives set with all levels of company employees ... have a common conviction for Zero Incidents ...based on values set e.g. Lost Time Injuries (LTIs) to Near Miss) is achievable





Critical Factors – Setting Monitoring Criteria

- Set monitoring criteria / tools to ensure sustained continual HSE Performance improvement.

Consider:

- Focus on appropriate selection of metrics specific to work stage and work dynamic
- Lagging Indicators are already well established.
- Leading Indicators must be selected early in a project / activity
- Focus should be on implementation, visible management / supervision leadership and participation by all employees
- Whenever possible, all key stakeholders should be involved in selecting the leading Indicators
- Method for tracking and reporting must be crystal clear
- Have time and people allocated to execute on measures chosen
- Measure performance using exposure hours to gauge overall performance re: leading and lagging indicators.



HSE Indicators - Leading

- Management / Supervision Visibility & Active Participation: (e.g. Snr. Management orientation introductions; management / supervision inspections; attendance at FLHA's / Weekly HSE ("Toolbox") Meetings; schedule work area inspections; etc. Measure actual attendance in matrix format, by individual name)
- HSE & Line Management Team Focus Audits and / or Inspections: (e.g. scheduled inspections or focus audits based on project experience – cranes, excavations, work permits, etc. Measure actual completed inspections by individual name carried out per week in matrix format)
- Behaviour Based Safety Initiatives (Workers – Behaviour Based Observations: "BBO" / "BBS" / "BEST" / "PBS" / etc): program in place and working: Ensure program is well established, management support is in place, training is in place, owned by workers, etc. Measure general implementation at first, e.g. number of participants, number of trained persons (workers & management), workers allocated time, management participation in joint meetings only, etc.)



HSE Indicators – Leading

(continued)

- Training: Compliance to critical training requirements, Number of critical activity training (AWP, Fall Protection, Work Permits, Excavation, Work Face Planning; etc.). Measure actual completed training in matrix format by individual name carried out per week – relative to workforce
- Track Outstanding Action Items: Measure actual incomplete action items, Investigations & Inspections / Audits, by line management individual name. Report on % complete & number outstanding (Weekly and / or monthly)
- Contractor Management: Pre-Qual & Selection process mandatory & tracked. Track Prequalification percentage complete and meeting company standard for entry (red / yellow / green); Measure number of HSE Kick-off Meetings - cover Best Practices to be implemented & Measure Number of Mobilization Audits (100% compliance both); include contractors in Leading Indicator metrics mentioned here & track as defined



HSE Indicators – Leading

(continued)

- Pre-Screening of employees (A&D) is taking place: Mandatory and rigorously tracked & documented for all types (Pre-access, Post Incident, “For Cause”, etc. Training of Supervision tracked. Measure pre-access compliance. Strive towards implementing the Rapid Site Access Program (RSAP) and measuring its compliance. Some Owners are striving towards measures to reduce non-occupational occurrences re: medical screening and this initiative will need to be measured as a leading indicator
- Supervisor Safety Activities Clearly defined & Evaluated At Regular (Defined) Intervals: Measure actual participation in defined activities (min 80% compliance); measure incomplete action items from such activities e.g. Investigations & Inspections / Audits ... by line management individual name % complete & outstanding. Follow COAA best practice in this respect. Screen supervisors to establish and address gaps. Provide **Soft skill training** similar to HSE Leadership Training provided by some Owners in the Oil Sands. Measure type of training and number (of people) completed vs. number outstanding



HSE Indicators – Leading

(continued)

- Hazard Identification (ID) / Analysis Process in place prior to start of project : Enforce path of construction hazard analysis, overall project / activity Hazard Ids, Hazard Registers, etc. Measure number completed and / or closure of open action items
- Field Level Hazard Assessment (FLHA) Prior to Start of Work and/or When Conditions Change: Mandatory and rigorously tracked for attendance by management / supervision. Formal process to evaluate by line & HSE management / supervision. Formal process to train and ensure continuous feedback & improvement. FLHA's should also be revisited at reasonable intervals. Tool to measure attendance & trends
- Employee Perception Surveys: (e.g. scheduled perception surveys based on project stage or dynamic. Measure actual completed surveys, outcomes from these surveys documented, analyzed & closed out ... Including any action items Establish videos, evaluation checklists, rosters, etc. Measure number completed and / or closure of open action items



HSE Indicators – Leading

(continued)

- Near Miss Reporting / Near Hit: Number completed & reviewed / closed out / trended. Process to analyze, trend, develop action & close out actions
- Communication Forums: Frequency of Weekly HSE (“Toolbox”) Meetings – formal, consistent message, set day & time across project & worker sign off - Measure actual returned sign off divided by attendance sheets based on project manpower e.g. 1x Foreman per 10-12 workers
- Compliance: Construction Absolutes / Life Saving Rules: Establish procedure for investigation, committee, etc. Measure number completed and / or closure of open action items. Ensure by tracking mechanism that all have read and provided commitment to comply



HSE Indicators – Lagging

- Fatalities: Self Explanatory - measure actual number(s)
- LTI's: Part of TRIC but measured separately. Measured in frequencies based on 200 000 hour base – common across industry. Most Owners measure at 1 000 000 hour base
- Total Recordable Injuries Frequency (TRIF): Medical Treatment Cases (MTC's); Restricted Workday Cases (RWC's); & Lost Time Injury Incidents (LTI's). Measured in frequencies based on 200 000 hour base – common across industry
- Total Injury Frequency (TIF): First Aids, MTCs, RWCs and LTIs measured in a frequency based upon 200 000 hours. Note: This lagging indicator is primarily used by organizations that have their reporting structure, culture and performance at a level considered to be “best in class” and also have several leading indicator practices in place and working well



Responsibilities - Owner

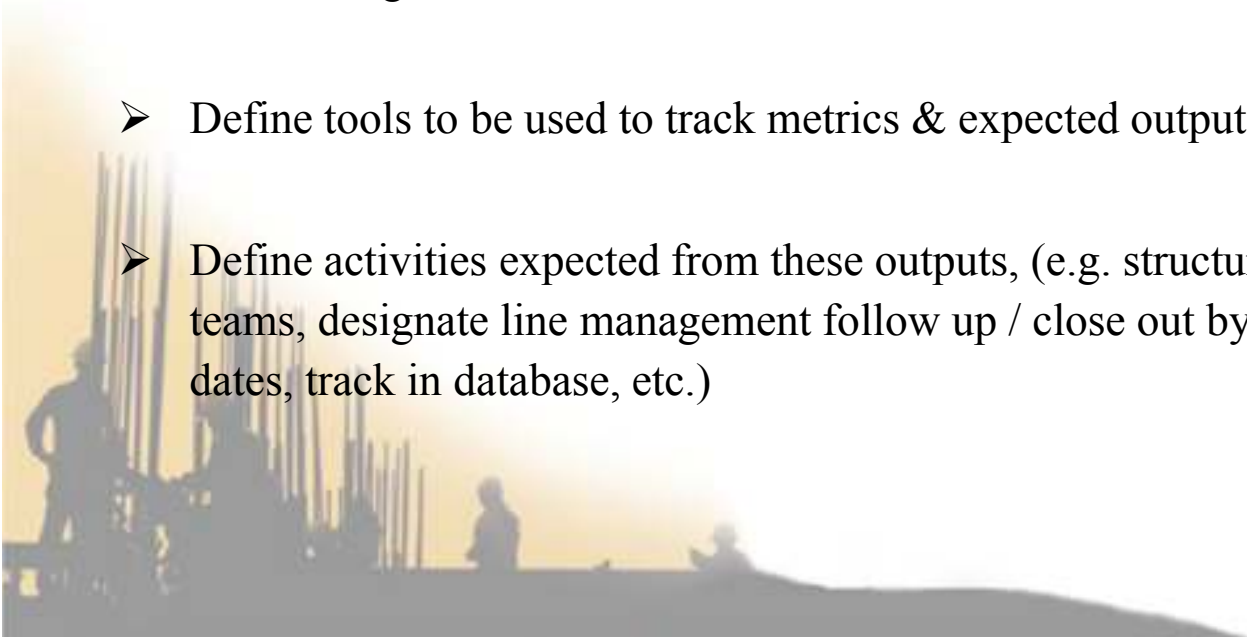
- Accountable to establish HSE Performance targets as part of yearly HSE plans (**Plan**); communicate and establish programs or initiatives to meet or exceed those targets (**Do**); have systems and practices in place to monitor and check performance (**Check**) and upon reviewing outcomes revise or realign activities and establish new targets (**Act**)
- Define the HSE **Performance Improvement Expectations and / or program** within contract documents & HSE Site Specific minimum requirements – scope / **leading & / or lagging** metrics to be measured / responsibilities / accountabilities / audit program to verify compliance, etc.





Responsibilities - Owner

- Define methods, scope and accountabilities – all stakeholders
- Include Leading Indicator questions in pre-qualification questionnaires in order to establish this mindset
- Discuss performance improvement details in contract Kick-Off, Monitoring and Close out meetings.
- Define tools to be used to track metrics & expected outputs
- Define activities expected from these outputs, (e.g. structured reviews by management teams, designate line management follow up / close out by name with expected close out dates, track in database, etc.)





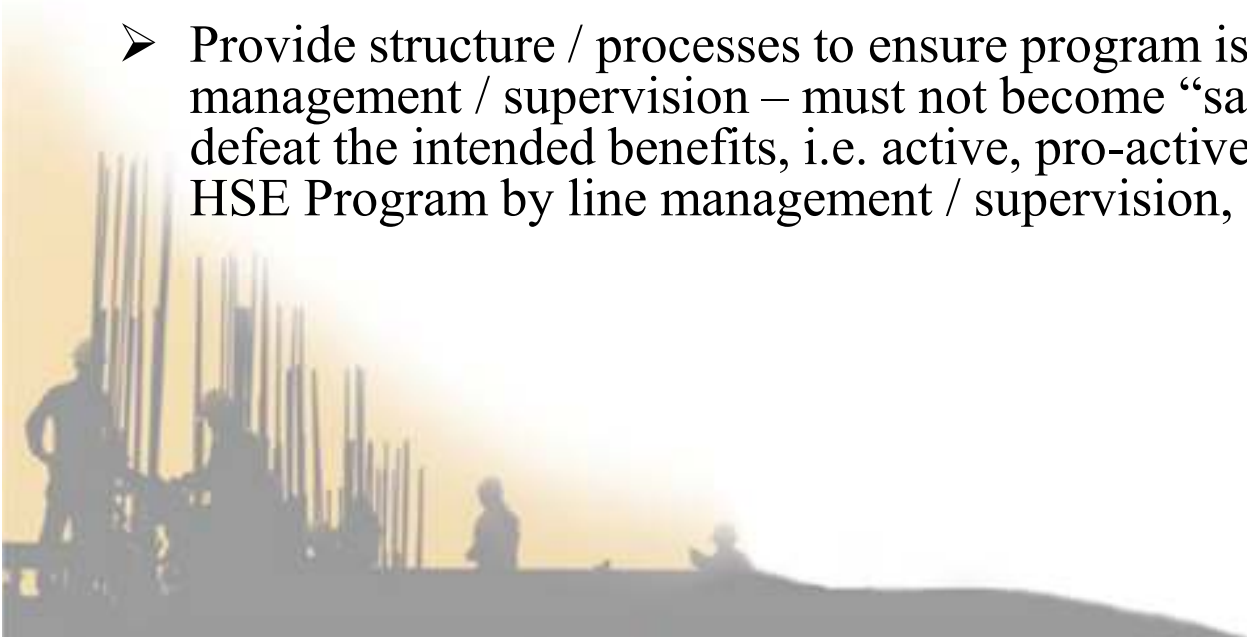
Responsibilities - Contractor

- Communicate contract requirements (i.e. scope / expectations) to all contractor employees and sub-contractor employees
- Put agreed tools in place to track / trend / report out or comply with requirements.
- Have processes in place to manage gaps in a structured, transparent manner with active participation by line management / supervision
- Embed “Leading & Lagging Indicator” awareness in management / supervision training and provide feedback loops to all stakeholders including workers
- Set clear expectations and Key Performance Indicators (KPI’s) for workers and line management to participate in performance improvement programs and have methods or processes to monitor such participation



Responsibilities – HSE Professionals

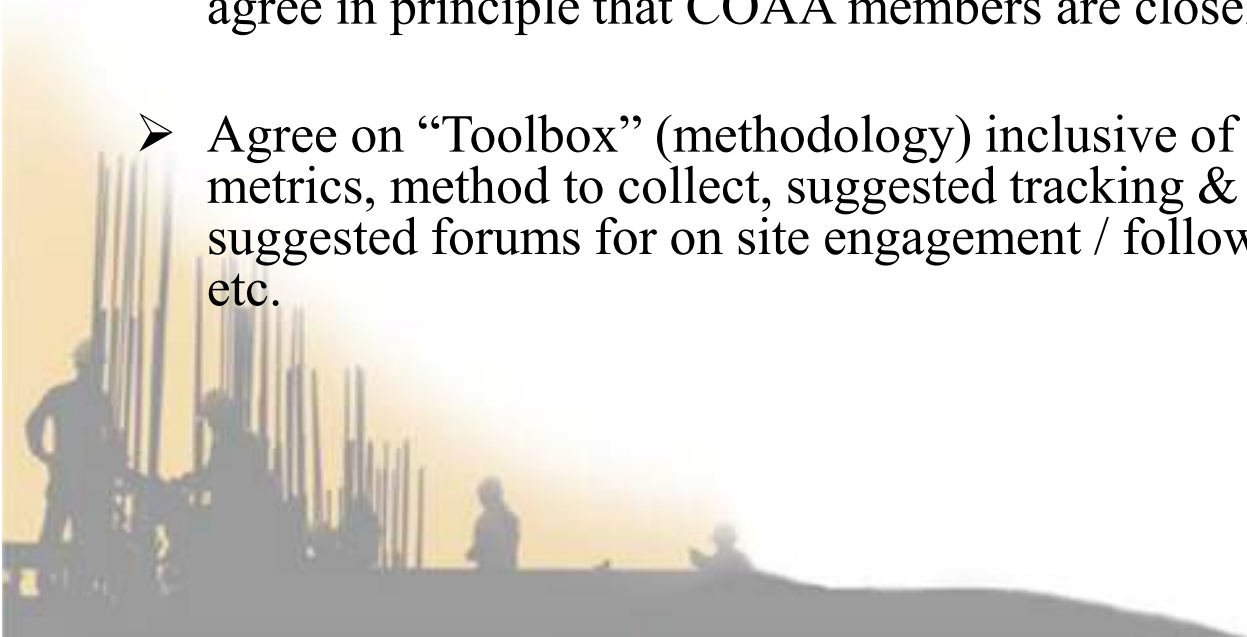
- Establish appropriate tools to be used to track Leading and Lagging Indicators
- Ensure quality administration of HSE databases is used for tracking / trending / reporting of HSE Performance data – Exposure Hours, Leading Indicators, Lagging Indicators, etc.
- Provide structure / processes to ensure program is owned by line management / supervision – must not become “safety's job” as this will defeat the intended benefits, i.e. active, pro-active, visible ownership of the HSE Program by line management / supervision, etc.





Responsibilities – Industry

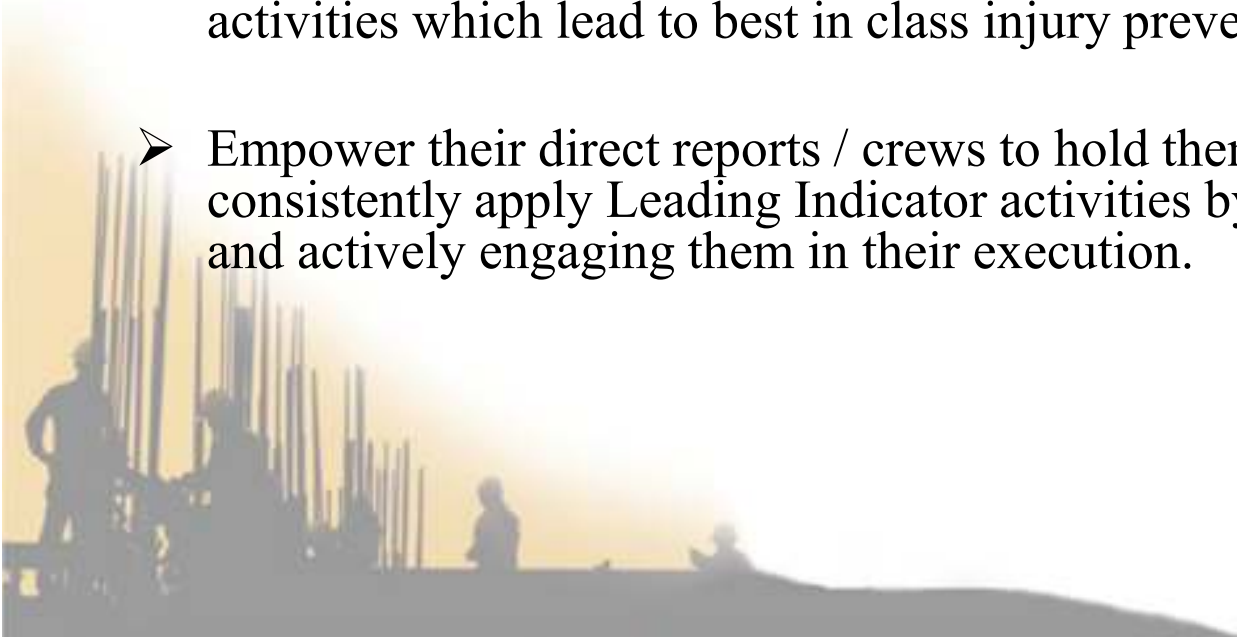
- Align and agree on the power of measuring, actively tracking and reporting key Leading Indicators – focus on ones that make a difference & understand that these are aimed at ensuring compliance with key industry Best Practices and Lessons Learned out of historic incidents. Lagging Indicators already well established
- Not focus on splitting hairs on Recordability (Lagging Indicator) issues – agree in principle that COAA members are closely aligned in definitions
- Agree on “Toolbox” (methodology) inclusive of key Leading Indicator metrics, method to collect, suggested tracking & measuring tools, suggested forums for on site engagement / follow up / report out / trending, etc.





Responsibilities – Line Management / Supervision

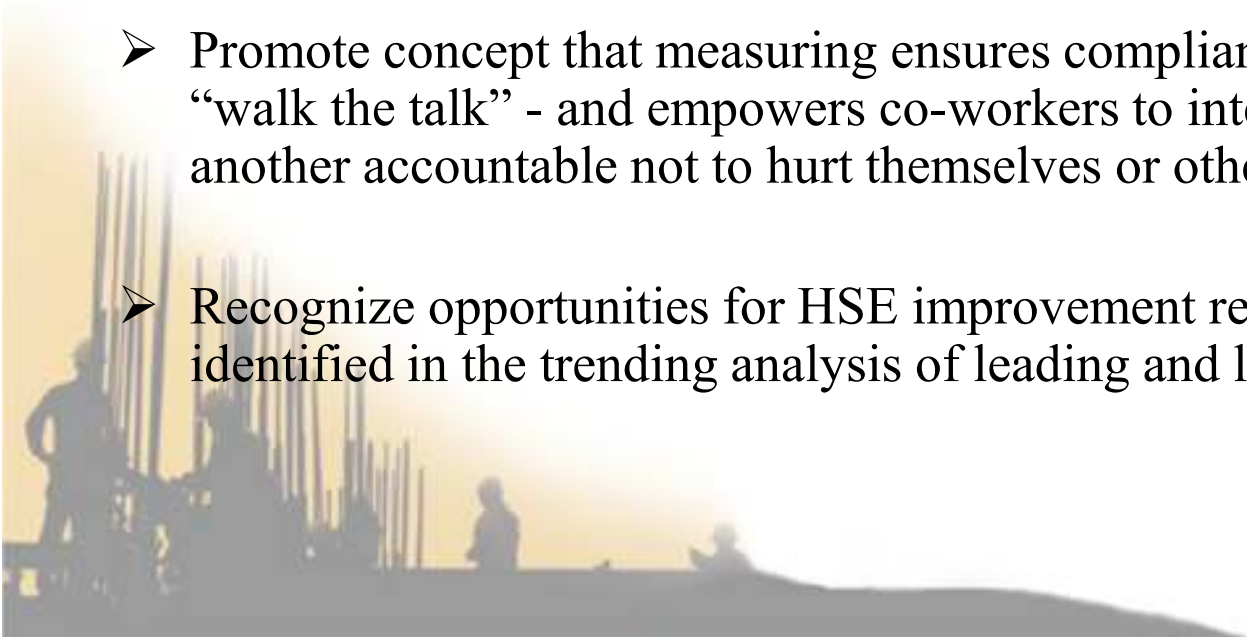
- Understand their role and the importance of all performance measures.
- Actively participate in program as defined by project management.
- Step change in behaviour related to focusing on best in class application of Leading Indicators (i.e. actively & pro-actively embrace the value of key activities which lead to best in class injury prevention.
- Empower their direct reports / crews to hold them accountable to consistently apply Leading Indicator activities by open communication and actively engaging them in their execution.





Education and Training – Orientation

- Ensure communication of Leading Indicators is covered in general site and company specific orientations – awareness of what these are and how they benefit each project employee (e.g. around hazard analysis / awareness; enhanced communication; interactive, visible management, etc)
- Include in Management / Supervision Training Courses
- Promote concept that measuring ensures compliance by management - “walk the talk” - and empowers co-workers to intervene and hold one another accountable not to hurt themselves or others
- Recognize opportunities for HSE improvement resulting from learning’s identified in the trending analysis of leading and lagging indicators





Implementation

- Owners shall contractually or otherwise set the expectations for this best practice to be applied on their facilities and/ or projects.
- Include Leading Indicator activities in behavioral based safety observations, formal and informal worksite inspections and Internal audits (Owner and Contractors).
- Senior construction management of the respective companies shall ensure implementation of this Standard within their areas of accountability
- HSE teams (Owner / EPCM's / sub tier contractors) shall ensure that they establish the procedure and associated tracking mechanisms in conjunction with their management teams



Auditing & Ongoing Program Review

- Include Leading Indicator activities in behavioral based safety observations, formal and informal worksite inspections and Internal audits (Owner and Contractors).

- Monitoring (to cover Leading and/or Lagging targets):
 - Weekly contract progress meetings
 - Performance should be measured at frequencies not exceeding quarterly
 - As part of Close out activities and performance review.

- “Test for Understanding” in the field via questioning, Observing and quarterly Perception Surveys.



Summary

- Identify your areas for improvement
 - Engage stakeholders and decision makers
- Establish stretch but attainable targets
 - Lagging and Leading
- Develop strategies or tactics
- Implement plan
 - Communicate expectations
 - Roles and Responsibilities
- Monitor progress
- Correct if required
- Celebrate Success
- Begin again!



Supporting Best Practices

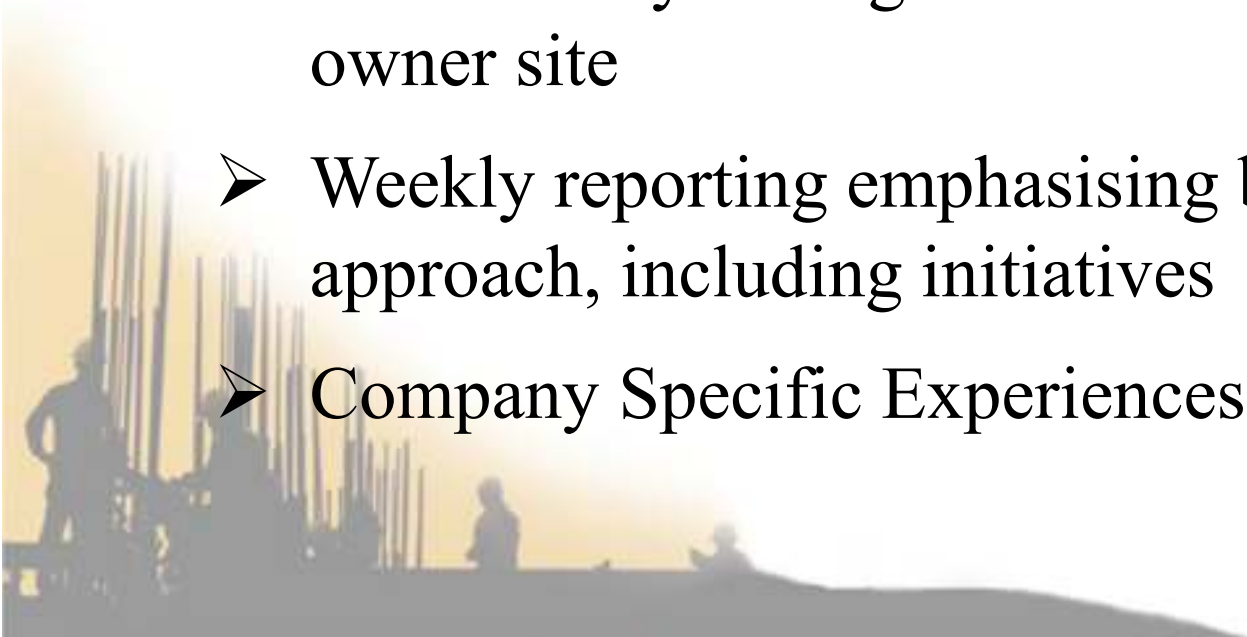
- Owner's Guide to Contractor Health and Safety
- Behavior Based Safety
- Field Level Hazard Assessment
- Workers at Risk – Mentoring
- Contractor EH&S Management
- Leading Indicators





Supporting Materials

- Examples from COAA members as follows:
 - Summary sheet, which reports leading & lagging indicator.
 - Joint weekly management walk-about from an owner site
 - Weekly reporting emphasising balanced approach, including initiatives
 - Company Specific Experiences





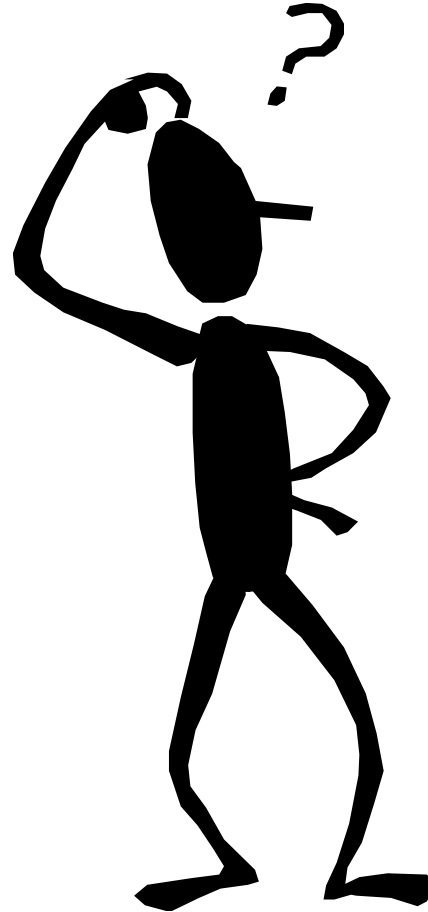
Evaluation Tools, Forms and Attachments

- To be developed and posted on COAA Website.
- Project team would appreciate any feedback or tools
- Information to submit examples will be found on the COAA Website.





Discussion / Questions





Questions

- How many of you use a balance of leading and lagging indicators/measures?
- What other indicators/measures should we include?
- What do you believe to be the most powerful indicator/measure(s)?
- Are there any barriers to including leading indicator/measure(s) as part of our performance monitoring system?
- What do you see as the biggest implementation challenge?

