Tools to measure and strengthen jobsite safety climate

Linda M. Goldenhar, PhD
Director, Research and Evaluation
lgoldenhar@cpwr.com
This afternoon’s agenda

2:30 - 3:20 Safety Climate Workbook and Assessment Tools

BREAK

3:30 - 4:30 Foundations for Safety Leadership (FSL) training
Learning Objectives

At the end of the safety climate session, participants will be able to:

• List & explain the 8 leading indicators of jobsite safety climate in construction

• Describe CPWR’s tools for measuring & strengthening jobsite safety climate
CPWR – The Center for Construction Research and Training

- Non-profit established in 1990 by North America’s Building Trades Unions (NABTU)
- Government funding via cooperative agreements with NIOSH, NIEHS, DOE
- Mission: To conduct service, training, and research and to develop resources based on research findings to help improve the safety conditions for America’s construction workforce.
- Recently awarded the Turner Prize for Innovation and Excellence from the Turner Construction Company
Safety Climate & Safety Culture
What we learned
Airline

Oil/Gas

Nuclear

Healthcare
Safety Culture and Safety Climate in Construction: Bridging the Gap between Research and Practice

June 10-11, 2013

Report available at www.cpwr.com
Definitions

Safety Culture

- Unspoken beliefs, attitudes, and values
- Norms about how safety is done in an organization

Safety Climate

- Employee perceptions of the consistency between espoused and practiced policies and procedures
- Integration of safety climates from different entities
- Local conditions
- Better opportunity for improvement
8 Leading Indicators of Jobsite Safety Climate

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Demonstrate management commitment</td>
</tr>
<tr>
<td>2</td>
<td>Align and integrate safety as a value</td>
</tr>
<tr>
<td>3</td>
<td>Ensure accountability at all levels</td>
</tr>
<tr>
<td>4</td>
<td>Improve supervisory leadership</td>
</tr>
<tr>
<td>5</td>
<td>Empower and involve employees</td>
</tr>
<tr>
<td>6</td>
<td>Improve communication</td>
</tr>
<tr>
<td>7</td>
<td>Train at all levels</td>
</tr>
<tr>
<td>8</td>
<td>Encourage owner/client involvement</td>
</tr>
</tbody>
</table>
Management shows commitment to creating a positive safety climate through both their words and actions.
Safety is integrated into all company activities and is valued as much as all other business functions.
Ensure Accountability At All Levels

Everyone involved in a construction project is held accountable for safety including safety personnel, supervisors, foremen, workers, owners and clients.
Supervisors have the skills to lead by example and consistently communicate and demonstrate their vision for creating and maintaining a strong positive jobsite safety climate.
Empower and Involve Employees

Employees are involved in safety-related planning and decision-making and encouraged to discuss potential hazards.
The company formally and informally communicates about safety through words and actions, talking as well as listening.
Everyone is trained on safety and training is tailored to specific roles and responsibilities.
Encourage Owner & Client Involvement

Project owners/clients keep safety in mind when they are developing and issuing project policies, shaping bid practices, and approving budgets.
Worksheets and a Rating Tool to Help You Strengthen Jobsite Safety Climate
Worksheet for each safety climate indicator

Demonstrating Management Commitment

How to become exemplary

Ideas/Interventions

Prioritize

Rubric Scale
The S-CAT was developed by researchers at CPWR – The Center for Construction Research and Training and Washington State University to help a company gain a more detailed understanding of their safety climate. On the next few pages, you will be asked to answer questions that measure the eight leading indicators covered in the workbook:

- Demonstrating Management Commitment
- Aligning and Integrating Safety as a Value
- Ensuring Accountability at All Levels
- Improving Supervisory Leadership
- Empowering and Involving Employees
- Improving Communication
- Training at All Levels
- Encouraging Owner/Client Involvement
### Safety Climate Assessment Tool (S-CAT)

**Demonstrating Management Commitment**

Management demonstrates commitment by engaging in the following activities:

1. Being present and visible on the job site.
2. Always using safety behaviors and safety practices on the job site.
3. Identifying and reducing job hazards.
4. Having processes for corrective action following a safety incident.
5. Compassionately raising to employee injuries.
6. Reviewing and analyzing safety policies, procedures, and trends.

For each item, carefully read the descriptions in each box going from inattentive all the way to exemplary. Circle the one that best describes management’s commitment to that activity.

**Rubric Scale For Each Activity**

<table>
<thead>
<tr>
<th>Inattentive</th>
<th>Reactive</th>
<th>Compliant</th>
<th>Proactive</th>
<th>Exemplary</th>
</tr>
</thead>
</table>
| 1. In my company, management...
- Rarely comes to the actual job site.
- Only comes to the job site when an incident has occurred.
- Makes infrequent visits to the job site, when necessary.
- Visits the job site infrequently, if at all.
- Visits the job site frequently and interacts with employees.
2. When management is present on the job site, they...
- Actively participates in internal safety audits and uses the information for management performance evaluations.
- Investigates incidents but not in a “roll-up-the-sleeves” manner. Initiates corrective actions that comply with current or regulatory directives.
- Includes employees in both root cause audits and helping to come up with solutions to prevent future incidents and foster continued improvements.
- Relies on a formalized process for conducting root cause audits that ensures both process and behavior. Findings are discussed with everyone and progressive solutions are implemented.
3. In my company, management...
- Does not participate in safety audits.
- Only participates in safety audits on an ad hoc or ad hoc safety event.
- Participates in safety audits only when required.
- Actively participates in internal safety audits and uses the information for management performance evaluations.
4. In my company, management...
- Does not ensure there is a safety climate or culture that is continually changing.
- Reacts to incidents to correct or prevent future incidents.
- Reacts to incidents to correct or prevent future incidents.
- Reacts to incidents to correct or prevent future incidents.
- Reacts to incidents to correct or prevent future incidents.
5. When employees are injured, management...
- Immediately blames and punishes the employee (e.g., fired).
- Only holds employees accountable for injuries according to organizational guidelines.
- Demonstrates appropriate organizational support for the employee involved in an incident.
- Proactively provides support to injured employees to facilitate return to work and assist them from employee injuries.
6. In my company...
- There is no formal safety management system, and safety trends are not analyzed.
- The safety management system is in place and safety trends are only analyzed in response to an employee injury or an adverse safety event.
- The safety management system is in place and safety trends are analyzed from time to time.
- The safety management system is in place and safety trends are analyzed continuously and systematically, ensuring effectiveness and relevance.
## Demonstrating Management Commitment

1. **Presence and visibility at the job site**
   2. Enactment of safety behaviors and safety practices on the jobsite
   3. Identification and reduction of job hazards
   4. Processes for corrective action following a safety incident
   5. Reaction to worker injuries
   6. Review and analysis of safety policies, procedures and trends

<table>
<thead>
<tr>
<th>Inattentive</th>
<th>Reactive</th>
<th>Compliant</th>
<th>Proactive</th>
<th>Exemplary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. In my company, management...</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rarely comes to the actual jobsite.</td>
<td>Only comes to the jobsite after an incident has occurred.</td>
<td>Only comes to the jobsite when required or makes infrequent visits.</td>
<td>Makes regular visits to the jobsite. Interacts mostly with management.</td>
<td>Frequently visits the jobsite; seeks out interactions with workers.</td>
</tr>
<tr>
<td><strong>2. When management is present on the jobsite, they...</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Typically act as poor safety role models by breaking regulatory and organizational safety policies and procedures.</td>
<td>Are only concerned with adhering to OSHA regulations and organizational policies and procedures after a worker injury has occurred.</td>
<td>Strictly conform to required OSHA regulations and organizational safety policies and procedures, never more or less.</td>
<td>Demonstrate safety behaviors above and beyond what is required.</td>
<td>Consistently model safety behaviors above and beyond what is required and recognize workers who do the same.</td>
</tr>
</tbody>
</table>

**3. In my company, management...**
S-CAT Website

Safety Climate Assessment Tool (S-CAT)

The Safety Climate Assessment Tool (S-CAT) is a free tool available to any construction contractor or safety and health professional who wants tailored and actionable information to improve the safety of every worker at every job-site. The S-CAT allows a company to obtain information regarding employee safety perceptions. These safety perceptions provide a snapshot view of the company’s jobsite safety climate. A strong jobsite safety climate has a positive impact on a company’s overall safety culture, just as a strong safety culture positively affects jobsite safety climate.

Feedback is provided on 8 leading indicators of safety climate that have been shown to be predictive of employee injury rates. With just a few clicks, company employees or an individual can answer questions about each indicator and then receive a personalized feedback report with benchmarking and comparative information indicating their current areas of success and ideas for making improvements. Companies can have their employees take the S-CAT periodically to track their progress at improving their jobsite safety climate.

www.safetyclimateassessment.org
Congratulations

The fact that you’re on the S-CAT website means you’re already taking action to improve your company’s jobsite safety climate and are ready to take the next step by using this free confidential tool. The S-CAT can be used by individuals or companies:

- **All individuals** who complete the S-CAT will receive a report containing their responses compared to aggregated averaged responses from others in the S-CAT database. The report also identifies areas of strength and potential growth. All data entered are completely anonymous. No personal identifiers or contact information is collected.

- A **Company** can ask their employees to complete the S-CAT anonymously. The report generated describes the company’s overall safety climate maturity, identifies areas of strength and potential growth, and compares their data to benchmark data. Companies can use the first report as an internal benchmark of their safety climate maturity, and have employees re-take the S-CAT periodically to track their company’s progress.

If you are interested in a company-level report all you have to do is:

1. Contact Dr. Tahira Probst at probst@wsu.edu. She will need the name of the company, approximate number of people who will be asked to complete the S-CAT, and the start and end dates for employees to complete the survey.

2. She will give you the S-CAT link and a randomly generated unique company code (used to compile the company-level report).

3. You will send an email to your employees containing the S-CAT link, the unique code they need to select, and the date by when they need to complete the S-CAT.

Once the end-date deadline is reached, we will send you or your designee the company-level report that you can share with your employees. Employees completing the S-CAT will also receive an individualized report when they submit their answers.

Your employees’ entries will be anonymous. Your company-level report will be completely confidential. Your company’s name will NOT be included in the database.

[Start the S-CAT]  [Click here to print hard copies of the S-CAT]
Individual Level

Safety Climate CAT Assessment Tool

Date of Report: Mon Oct 03 2016 11:39:20 GMT-0400 (Eastern Daylight Time)

INDIVIDUAL FEEDBACK REPORT

BACKGROUND

Thank you for completing your assessment. The Safety Climate Assessment Tool (S-CAT) is designed to help companies measure their jobsite safety climate.

You reported your:

- Current position as: Safety Manager/Director
- Organization as: Sub-Contractor
- Your company is a: Combination
- Number of hours worked last year: Between 151,000 – 400,000 hours
- Organization’s Recordable Injury Rate as: 4.30 (averaged response)
- Company Type: Residential Construction

SAFETY CLIMATE LEADING INDICATOR MEAN SCORES

The numbers 1–8 in the chart and table below pertain to the following 8 leading indicators:

1. Demonstrating Management Commitment
2. Aligning and Integrating Safety as a Value
3. Accountability
4. Supervisory Leadership
5. Empowering and Involving Employees
6. Improving Communication
7. Training at all Levels
8. Owner/Client Involvement

Each bar shows where your responses fall on the safety climate trajectory from inattentive (1) to exemplary (5) for the 8 safety climate leading indicators based on your S-CAT data. The small horizontal black lines represent the benchmark comparison average for all other companies in the S-CAT database for that leading indicator.

Your responses indicate that your organization’s highest overall level of safety climate maturity is in the area of 5. Empowering Employees, followed by 5. Empowering Employees. The lowest area was 8. Owner Involvement. Click on the ‘How To Improve’ tab on the S-CAT website for ideas to strengthen these indicators.

Safety Climate Maturity Average Scores

<table>
<thead>
<tr>
<th>The 8 Leading Indicators</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Your Level of Safety Climate Maturity</td>
<td>3.17</td>
<td>3.83</td>
<td>3.75</td>
<td>3.00</td>
<td>4.00</td>
<td>4.00</td>
<td>3.50</td>
<td>2.00</td>
<td>3.41</td>
</tr>
<tr>
<td>Benchmark Comparison</td>
<td>3.91</td>
<td>4.17</td>
<td>3.72</td>
<td>3.80</td>
<td>3.63</td>
<td>4.01</td>
<td>3.79</td>
<td>3.64</td>
<td>3.83</td>
</tr>
</tbody>
</table>
Initial contact

• Unique company code, email text, S-CAT link

Report

• Background

• Indicator and overall safety climate maturity, benchmark

• Average safety climate maturity by indicator

• Respondent and company demographic profile

• Frequencies & averages across activities for each indicator
S - Safety Climate CAT Assessment Tool

Generic Company Level Report

BACKGROUND

The Safety Climate Assessment Tool is designed to help companies measure their jobsite safety climate. This report summarizes your company’s S-CAT answers. The first chart and table shows your overall averaged data across all the indicators compared to others in the database (N = 3943).

All the other charts and tables contain data from only your company. The eight charts display the number of responses across the 5 levels of maturity for each indicator. The tables contain your data used to generate these charts.

SAFETY CLIMATE LEADING INDICATOR MEAN SCORES

The numbers 1-8 in the chart and table below pertain to the following 8 leading indicators:
1. Demonstrating Management Commitment
2. Empowering and Empowering
3. Aligning and Integrating Safety as a Value
4. Accountability
5. Improving Commitment
6. Supervisory Leadership
7. Training at all Levels
8. Owner/Client Involvement

Each bar shows where your responses fall on the safety climate trajectory from inattentive (1) to exemplary (8). S-CAT data. The small horizontal black lines represent the benchmark comparison average for all other companies.

Your responses indicate that your organization’s highest overall level of safety climate maturity is in the area of owner/client involvement, followed by the next highest. The lowest area was training. Click on the ‘How To Improve’ tab on the S-CAT website for more information on how to improve your safety climate.

### Safety Climate Maturity Average Scores

<table>
<thead>
<tr>
<th>The 8 Leading Indicators</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Your Level of Safety Climate Maturity</td>
<td>4.07</td>
<td>4.37</td>
<td>4.11</td>
<td>3.75</td>
<td>3.70</td>
<td>4.15</td>
<td>3.51</td>
<td>3.73</td>
<td>3.92</td>
</tr>
<tr>
<td>Benchmark Comparison</td>
<td>4.00</td>
<td>4.25</td>
<td>3.83</td>
<td>3.94</td>
<td>3.85</td>
<td>4.10</td>
<td>3.80</td>
<td>3.62</td>
<td>3.92</td>
</tr>
</tbody>
</table>
Aligning and integrating safety as a value

Training at all levels
Aligning and integrating safety as a value

<table>
<thead>
<tr>
<th>Safety Climate Maturity Levels</th>
<th>Inattentive</th>
<th>Reactive</th>
<th>Compliant</th>
<th>Proactive</th>
<th>Exemplary</th>
<th>Item Safety Climate Maturity Level (Scale 1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Safety is viewed by all as a core value</td>
<td>0</td>
<td>0</td>
<td>11</td>
<td>7</td>
<td></td>
<td>4.39</td>
</tr>
<tr>
<td>2. Discussion of safety at all regularly scheduled meetings</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>15</td>
<td>4.67</td>
</tr>
<tr>
<td>3. Aligning safety values with other values such as productivity and cost reduction</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>10</td>
<td>5</td>
<td>4.11</td>
</tr>
<tr>
<td>4. Integration of safety into organizational policies and procedures</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>5</td>
<td>11</td>
<td>4.50</td>
</tr>
<tr>
<td>5. Use leading safety indicators to improve jobsite safety climate</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>4</td>
<td>13</td>
<td>4.61</td>
</tr>
<tr>
<td>6. Support for safety programs and allocation of resources to implement safety activities</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>13</td>
<td>3</td>
<td>3.94</td>
</tr>
<tr>
<td>Safety Climate Maturity Level for Aligning and Integrating Safety as a Value (Percent)</td>
<td>0.00%</td>
<td>2.78%</td>
<td>7.41%</td>
<td>39.83%</td>
<td>50.00%</td>
<td>4.37</td>
</tr>
</tbody>
</table>

Training at all levels

<table>
<thead>
<tr>
<th>Safety Climate Maturity Levels</th>
<th>Inattentive</th>
<th>Reactive</th>
<th>Compliant</th>
<th>Proactive</th>
<th>Exemplary</th>
<th>Item Safety Climate Maturity Level (Scale 1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Provision of formal safety trainings for employees, supervisors, and managers</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>10</td>
<td>5</td>
<td>4.06</td>
</tr>
<tr>
<td>2. Requirements for OSHA certification for employees and supervisors; as well as STS certification for supervisors</td>
<td>8</td>
<td>3</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>1.93</td>
</tr>
<tr>
<td>3. Development of a training curriculum tailored to the specific roles and responsibilities at each level of the organization</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>10</td>
<td>3</td>
<td>3.76</td>
</tr>
<tr>
<td>4. Reliance on formal and informal training needs assessments</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>8</td>
<td>4</td>
<td>3.99</td>
</tr>
<tr>
<td>5. Verification of training knowledge and certificates for all employees and contractors</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>8</td>
<td>6</td>
<td>4.11</td>
</tr>
<tr>
<td>6. Delivery of safety training and curriculum by highly qualified content experts</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td>6</td>
<td>3</td>
<td>3.33</td>
</tr>
<tr>
<td>Safety Climate Maturity Level for Training at All Levels (Percent)</td>
<td>10.68%</td>
<td>6.80%</td>
<td>18.45%</td>
<td>42.72%</td>
<td>21.36%</td>
<td>3.51</td>
</tr>
</tbody>
</table>
To Date

- Responses in database - 5000+
- Over 100 companies (US, Canada, Oman, India)
- Majority construction
- Variety of other industry sectors: Fire service, DOE, Food service, Health Care
Safety Culture: An Innovative Leadership Approach

Center for Construction Research and Training

APPENDIX 14.5 WORKSHEETS AND A RATING TOOL TO HELP THE STRENGTHEN JOB SITE SAFETY CLIMATE

Appendix 14.5 provides a weblink to a “Worksheets and a Rating Tool to Help You Strengthen Jobsite Safety,” developed by The Center for Construction Research and Training (CPWR) (Worksheets and a rating tool to help you strengthen jobsite safety, 2016).

This workbook is designed to help construction management and safety professionals learn more about how to strengthen and improve their job site safety climate and safety outcomes by focusing on eight leading indicators. It includes the Safety Climate Assessment Tool (S-CAT) and provides the reader with a link to the free online version of the S-CAT (Safety Climate Assessment Tool (S-CAT), 2016).

For more detail, please review the stated sources for Instructions on using the Safety Management System Assessment Worksheet (Safety and Health Program Assessment Worksheet Instructions, 2016); Safety Climate Assessment Tool (S-CAT), 2016; Worksheets and a rating tool to help you strengthen jobsite safety, 2016).

Also, you can review the CPWR Safety Climate web page which has much more information on the Safety Climate/Culture efforts, the eight leading indicators and link to the S-CAT website (Safety Climate Assessment Tool (S-CAT), 2016).

372 PART IV Tools to Enhance Your Safety Management System


The S-CAT survey tool is easily one of the most useful, powerful tools available to safety practitioners today. We were looking for a way to capture the safety climate perceptions of the field, and utilize that data as an industry benchmark. The fact that this tool is free to participating companies is absolutely incredible. (VP Safety, Leopardo Companies)

User Feedback

The S-CAT has been an impressive tool for identifying the key elements and strategies that we must focus on to achieve the safest and healthiest employer of choice places to work in Canada. (VP for EHS, Modern Niagra Group)

The S-CAT survey tool is easily one of the most useful, powerful tools available to safety practitioners today. We were looking for a way to capture the safety climate perceptions of the field, and utilize that data as an industry benchmark. The fact that this tool is free to participating companies is absolutely incredible. (VP Safety, Leopardo Companies)
Safety Climate Assessment Tool for Small Contractors

$S\text{-CAT}^{\text{sc}}$
### S-CAT<sup>SC</sup> Worksheet for Small Contractors

For each of the following statements, please put an X in the column that best describes what your company is currently doing:

<table>
<thead>
<tr>
<th>My Company…</th>
<th>Already does this well</th>
<th>Could do this better</th>
<th>Would need help doing this</th>
<th>Is not able to do this</th>
<th>I don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Has safety policies and procedures and shares them with all employees</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>2. Includes money in project budgets to implement safety measures (such as purchasing or renting safer tools and equipment, and conducting training)</td>
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<td></td>
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<td></td>
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<tr>
<td>3. Frequently visits job sites and interacts with employees about safety</td>
<td></td>
<td></td>
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<tr>
<td>4. Always obeys safety rules and wears proper personal protective equipment (PPE), such as gloves, hard hats, etc., when on the job</td>
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<tr>
<td>5. Provides appropriate PPE for all employees on every job site</td>
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<tr>
<td>6. Recognizes employees for obeying safety rules and wearing proper PPE on the job site</td>
<td></td>
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<tr>
<td>7. Identifies and takes steps to correct hazardous situations</td>
<td></td>
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<tr>
<td>8. Collects information about and follows up on injuries and incidents with managers, supervisors, and employees</td>
<td></td>
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<tr>
<td>9. Helps injured workers so they can return to work</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Holds regular meetings with employees to discuss safety</td>
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</tr>
<tr>
<td>Never compromises safety to increase productivity, meet a schedule, or save money</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uses incident and near miss information to improve safety</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discusses safety with everyone in the company and reinforces expectations daily</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rewards managers, supervisors, and foremen for maintaining and improving safety</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Thank you

Any questions?


S-CAT  www.safetyclimateassessment.org

S-CAT<sup>sc</sup>  https://cpwr.az1.qualtrics.com/jfe/form/SV_3x6RhwceVP6A2z3

CPWR  www.cpwr.com