Developing an effective fleet safety strategy – Z15 can help

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Stephanie Pratt, NIOSH
Peggy Ross, Baxter Healthcare
Brian Hammer, Nationwide Agribusiness

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Agenda – Don Cooper

- Each presenter will provide a brief presentation
  - NIOSH perspective
  - Non-regulated fleet perspective
  - Regulated fleet perspective
- Panel discussion
- Questions and answer session
INTRODUCTION

Bill Hinderks, CSP, CPCU, ARM, ALCM
Artex Risk Solutions / Z15 Committee Chair
History

- ASSE as Secretariat
- Committee assembled in 2001
  - 35 member organizations
  - 82 individuals representing the organizations
  - Cross section of industries
- Initially published in 2006
- Revision published in 2012
Scope of ANSI/ASSE Z15.1-2012

- Safe practices for the operation of motor vehicles
- Definition of motor vehicles
- Template for a program
Program Content

- Comprehensive guidance
- Measurement
- Moderate revision
- Non-prescriptive
- Program audit
Basic Outline

- Purpose
- Definitions
- Program leadership
- Operational issues
- Driver
- Vehicle
- Reporting and analysis
- Appendices
A SYSTEMS APPROACH TO Z15.1 IMPLEMENTATION

Stephanie Pratt, PhD
Coordinator, NIOSH Center for Motor Vehicle Safety
National Institute for Occupational Safety and Health

The findings and conclusions in this presentation are those of the author and do not necessarily represent the views of the National Institute for Occupational Safety and Health.
Goals for this Presentation

- Explain how Z15.1 is consistent with a “safe-system” approach to road safety
- Show how Z15.1 can be combined with other tools to identify program gaps and interventions and monitor implementation
- Describe fleet safety metrics recommended by Z15.1
The “Safe-System” Approach

- Fundamental change in philosophy starting with Sweden’s *Vision Zero* model:
  - Goal is to eliminate deaths and serious injuries, despite human errors
  - More responsibility for designers of roads and vehicles – not just road user behaviors
  - In the workplace, employers share responsibility with drivers
How is ANSI/ASSE Z15.1 consistent with a “safe-system” approach?

- Assumes that company/organization bears responsibility for managing road risk
- Addresses risks related to driver, vehicle, and operating environment
- Advocates ongoing measurement and review to document successes and identify areas for improvement
The basic Haddon Matrix combines temporal ‘phases’ with ‘factors’ where crash risks and injury prevention opportunities are present.
How can the Haddon Matrix be applied to occupational road safety?

- **For initial risk assessment:**
  - Where are the risks?
  - Which of these risks are we addressing now?
  - Where are policies and procedures needed?

- **For program development:**
  - What interventions can we put in place to reduce or eliminate these risks?

- **For program monitoring:**
  - How successful are we in implementing our chosen interventions?
  - How well does our program align with ANSI/ASSE Z15.1?
# Modified Haddon Matrix

<table>
<thead>
<tr>
<th>Pre-crash</th>
<th>Crash</th>
<th>Post-crash</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Human</strong></td>
<td><strong>Vehicle</strong></td>
<td><strong>Environment</strong></td>
</tr>
<tr>
<td>Formal criteria for driver qualification and selection (3.2.1.3, 5.1.1, 5.1.2)</td>
<td>Formal criteria for vehicle selection and specification (3.2.1.8, 6.1)</td>
<td>Formal policy on distracted driving (4.3, Appendix E)</td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td><strong>Management</strong></td>
<td><strong>Management</strong></td>
</tr>
<tr>
<td>Interest, involvement, and commitment from senior management (3.1)</td>
<td>Policies for interaction with law enforcement and third parties at the scene (Appendix A)</td>
<td>Process to report and record incidents (7.1, 7.1.1)</td>
</tr>
<tr>
<td><strong>Journey</strong></td>
<td><strong>Journey</strong></td>
<td><strong>Journey</strong></td>
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<tr>
<td>Risk assessment covering need to travel for specific purposes (4.5, 4.6)</td>
<td>Policies for managing crash scene (Appendix F)</td>
<td>Review of factors and circumstances related to journey management (7.2, Appendix G)</td>
</tr>
</tbody>
</table>

**Note:** Numbers in parentheses refer to relevant sections of ANSI/ASSE Z15.1-2012.
Data Collection: Rules of Thumb

- Organizational reporting requirements vs. meaningful goals for your program: not always one and the same
- Develop clear definitions and apply them across your organization
- Carefully consider new data items
- Combine “process” and “outcome” measures:
  - Outcomes: end points program wants to achieve
  - Processes: milestones along the path to those outcomes
Defining “Incidents” Using ANSI/ASSE Z15.1-2012

- **Incident:** An undesired event that did or could have resulted in personal harm or property damage, or in any undesirable loss of resources
  - Z15 requires identification and reporting of “major incidents” to top managers (Section 3.2.1.6)

- **Crash:** An incident involving one or more motor vehicles in motion.

- **Collision:** An incident in which the first harmful event involves a motor vehicle in motion coming in contact with another vehicle, other property, person(s), or animal(s).
Incident vs. Crash vs. Collision

**Incident**

Was vehicle in motion?

- **YES** leads to **Crash**
- **NO** leads to **Non-crash incident**

**Crash**

Did vehicle strike a vehicle, person, or object?

- **YES** leads to **Collision**
- **NO** leads to **Non-collision crash**
Injury Definitions

- ANSI/ASSE Z15.1-2012: Physical harm or damage to a person resulting in the marring of appearance, personal discomfort and/or bodily harm, impairment, or death
- OSHA recordable cases: Death, loss of consciousness, days away from work, restricted work activity or job transfer, medical treatment (beyond first aid), injury diagnosis by physician or other health care professional
- DOT recordable crashes:
  - GWVR or GCWR of >10,000 lbs OR designed to transport >8 people OR with HazMat placard AND
  - Any fatality within 30 days of crash OR any person injured who requires medical treatment away from crash scene
Rate Calculation Example #1

- Incident rate based on number of vehicles operated:
  \[
  \frac{\text{Number of incidents}}{\text{Number of vehicles}} \times 100
  \]

- Useful for:
  - Assessing proportion of the vehicle fleet out of service at any given time
  - Determining frequency of vehicle replacement
Rate Calculation Example #2

• Incident rate based on vehicle mileage:
  
  \[
  \text{Number of incidents} \times 1,000,000
  \]
  
  Vehicle miles traveled (VMT)

• Useful for comparing rates of incidents by:
  
  o Types or models of vehicles
  o Categories of drivers
  o Business units
Rate Calculation Example #3

• Injury incident rate:
  \[
  \text{Number of incidents with injury} \times \frac{1,000,000}{\text{Vehicle miles traveled}}
  \]

• Can be adapted to analyze injuries:
  o To employees only
  o To third parties only
  o Within business units, or by vehicle type
Key Performance Indicator Example: “Formal policy on distracted driving”

Sample KPI: % of ‘at-fault’ incidents in which organization’s driver was distracted

Relevant data elements:
- Number of distracted-driving incidents
- Number of ‘at-fault’ incidents
- Total number of incidents (optional)

‘Process’ measures to support this KPI:
- Does organization have a cell-phone policy or a more general distracted-driving policy?
- What % of the organization’s drivers has signed an acknowledgment of this policy?
- How well do supervisors reinforce importance of the policy?
- Are other organizational practices and policies consistent with workers abiding by this policy?
- Are there results from employee surveys on safety climate or safety attitudes that suggest how communications strategies can be adjusted to increase compliance?
Summary and Conclusions

- ANSI/ASSE Z15.1 is a “systems” approach consistent with widely-accepted frameworks to improve road safety.
- Consistent definitions and careful planning are critical for designing the data systems needed to meet reporting requirements and determine program effectiveness.
- The Haddon Matrix, combined with Z15.1, can help organizations conduct risk assessments, identify interventions, and monitor progress.
ANSI/ASSE Z15.1-2012 AND NON-REGULATED FLEETS: ONE COMPANY’S EXPERIENCE

Peggy Ross, RN, COHN-S, CSP, CPE
Baxter Healthcare
Baxter Healthcare

- A diversified healthcare company focused on medical devices, pharmaceuticals and biotechnology
- Approximately 50,000 employees; over 60 manufacturing sites in over 20 countries; presence in over 100 countries
Our Journey

- **Where we started. Our strengths:**
  - Robust U.S. regulated fleet program
  - Data-driven / risk based culture / strong EHS policies
  - Robust safety system approach (OHSAS 18001) to drive continuous improvement

- **Opportunity**
  - We had approximately 1,000 U.S. non-regulated fleet vehicles (sales force & technical services) not fully integrated into existing EHS management systems
<table>
<thead>
<tr>
<th>U.S. Fleet Management Audit</th>
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<tbody>
<tr>
<td>External and Internal Expert Auditors</td>
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<tr>
<td>The current process for managing fleet</td>
</tr>
<tr>
<td>Identification of key stakeholders</td>
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<tr>
<td>Types and number of vehicles</td>
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<tr>
<td>Selection and acquisition of vehicles</td>
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<tr>
<td>Vehicle use (e.g. carrying items, miles per year, type of driving…)</td>
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<tr>
<td>Inspections, repair and maintenance</td>
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<tr>
<td>Incident reporting and investigation</td>
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<tr>
<td>Driver qualification</td>
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<tr>
<td>Policies and procedures</td>
</tr>
<tr>
<td>Performance evaluation (success metrics)</td>
</tr>
<tr>
<td>Training and communication</td>
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</tbody>
</table>
Our Journey (cont…)

• December 2008 – audit
• January 2009
  ◦ Transitional leadership style partnerships
  ◦ Strategic approach
    • Corrective and preventive actions for audit findings
    • Tactical plans (with timelines) developed
    • Fleet management policy strengthened and procedural guidelines improved

Unregulated Fleet

Fully integrated program

Vehicle selection: Qualify vehicles – consider safety features and how the vehicle will be used (miles driven, part of country, carrying requirements…)

Management commitment and resources

Written policy and program

Drivers

All authorized drivers have a valid license: No history of DUI or license suspension (MVR Checks)

Policy and program supported by management; demonstrates commitment to safe driving culture

Drivers behaviors: Inspect vehicle, focus on driving, avoid distractions, report accidents promptly

Written policy and program

Vehicle maintenance

Vehicle emergency equipment and procedures: spare tire, first aid kit, flashlight, details on how to report MVA or injury

Wheels reminder notices

Selection of individual vehicle takes into consideration ergonomic fit and use of vehicle

Process to ensure scheduled and unscheduled maintenance is complete

Defensive driving courses or coaching/ride-alongs may be used to promote appropriate reactions to circumstances

On-line training pamphlets & other training materials provide awareness (e.g., failure to use turn signals yields high accident rate)
ANSI/ASSE Z15.1-2012 AND COMMERCIAL FLEETS

Brian S. Hammer, MPA, CDS
Nationwide Agribusiness
Most people thought that the ANSI/ASSE Z15.1-2012 standard was only applicable to non-commercial fleets.

Commercial fleets are regulated by State and Federal Agencies, therefore ANSI/ASSE Z15.1-2012 does not apply.
What is the reality of the FMCS Regs?

- OSHA has many requirements for written rules and procedures, such as:
  - Lock out/tag out
  - Haz Com
  - Confined Space Entry
  - PPE
  - Etc!
What is the reality of the FMCS Regs?

- OSHA has many requirements for documented training:
  - Hazard Communication
  - Personal Protective Equipment (PPE)
  - Fire Extinguishers
  - Emergency Egress
  - Annual grain standard training (I work for an agriculture company)

We are all aware of the many requirements.
What is the reality of the FMCS Regs?

- What are the FMCSA required training?
  - Entry level
  - LCV
  - Drugs and alcohol
  - Haz Mat

- What are the FMCSA required written procedures and polices?
  - Drug and alcohol (if you have CDL drivers)
  - Security plan (Haz Mat)
FMCSA Requirements

- For the most part, the Federal Motor Carrier Safety Administration does not require much in the way of written procedures and policies by statute nor do they require documented training except in very few cases.
- By using Z-15 as a guideline, a company can meet the need.
CSA- Compliance, Safety and Accountability has been Evolving

- CSA, while introduced in December of 2012, has been changing since the day it was implemented.
- It was programmed to be issued in stages.
- Legal challenges have forced some changes.
- Recognition by Feds that they had made faulty assumptions have changed other sections.
The Final Piece of the Puzzle is Just Around the Corner
SFD!

Safety Fitness Determination
Motor Carrier Compliance Activities & Crash Reports

SAFETY DATA

MEASUREMENT
On-road Safety Performance (BASICs)
- Unsafe Driving
- Fatigue
- Driver Fitness
- Drugs and Alcohol
- Vehicle Maintenance
- Loading/Cargo
- Securement
- Crash History

SAFETY MANAGEMENT PROBLEMS
Intervention Process

SAFETY EVALUATION

INTERVENTION
Investigative
- Targeted Roadside Inspections
- Off-site Investigation
- On-site Investigation
Corrective
- Warning Letter
- Cooperative Safety Plan
- Notice of Violation
- Notice of Claim
- Settlement Agreement

UNFIT SUSPENSION
- Suspend Operations
- Continue to Operate

Source: http://csa.fmcsa.dot.gov/about/csa_how.aspx
Intervention

**Early Contact**
- Warning Letter
- Carrier Access to Safety Data and Measurement
- Targeted Roadside Inspection

**Investigation**
- Offsite
- Onsite – Focused
- Onsite – Comprehensive

**Follow-on**
- Cooperative Safety Plan
- Notice of Violation
- Notice of Claim
- Operations Out-of-Service Order

Source: CSA interventions for improving safety performance are progressive in nature.
Cooperative Safety Plans

- Will be a device used by the FMCSA for corrective action prior to or in lieu of a Notice of Violation.

- One only needs to look at the Safety Management Cycle (SMC) and the Safety Management Processes (SMP) to understand that this avenue will only be made available to those that have adequate Policies and Procedures.

- That's where ANZI/ASSE 15.1-2012 comes in!
Safety Management Cycle

1. Policies and Procedures
2. Roles and Responsibilities
3. Qualification and Hiring
4. Training and Communication
5. Monitoring and Tracking
6. Meaningful Action

Source: CSA interventions for improving safety performance are progressive in nature.
What Is the Safety Management Cycle (SMC)?

The SMC is a tool used by the Federal Motor Carrier Safety Administration (FMCSA) to help identify and address motor carrier safety and compliance issues. Motor carriers can also use the SMC within their own businesses to determine which of the Safety Management Processes (SMPs) they may need to improve by looking at the processes, management and controls associated with each SMP.

This document identifies tools motor carriers can use to establish and improve appropriate safety management controls, thereby reducing or eliminating violations. Motor carriers and drivers are reminded, however, that they are ultimately responsible for ensuring compliance with all applicable regulations. For information about the regulations related to the HOS Compliance Behavior Analysis and Safety Improvement Category (BASIC), see the HOS Compliance BASIC fact sheet at http://esas.fmcsa.dot.gov/Documents/FMC_CSA_13_004_BASICS_HOS_Compliance.pdf.

The SMC is used to systematically assess SMPs in six areas: 1. Policies and Procedures, 2. Roles and Responsibilities, 3. Qualification and Hiring, 4. Training and Communication, 5. Monitoring and Tracking, and 6. Meaningful Action. By periodically reviewing each process, there is an opportunity to identify and correct breakdowns in SMPs before safety and compliance issues are identified or crashes occur. The SMC can also be used after safety and compliance issues or crashes have taken place to assist in determining which SMPs need attention.

The SMCs for each BASIC can be found in the Information Center on the SMS Website at http://esas.fmcsa.dot.gov/sms.

Policies and Procedures

- Develop a policy and procedure describing how management will monitor and track logs for falsification.
- Establish a policy that prohibits dispatchers from assigning a load to drivers without hours available to complete the load on time.
- Develop a policy stating that drivers should not violate their HOS Out-of-Service (OOS) order under any circumstances, and immediately contact the carrier when a driver is placed OOS.
- Develop a policy requiring drivers to report their available hours to dispatch during “check-in” calls.
- Develop policies and procedures for ensuring proper retention of Records of Duty Status (RODS) according to regulations.
- Establish a policy requiring drivers to submit copies of all roadside inspections to carrier management within 24 hours.

Continued on page 2
What Will be Required

- It is clear to see that the FMCSA will require a sophisticated system of procedures and policies that:
  - Define roles and responsibilities
  - Defines hiring standards
  - Require training when and as needed
  - Requiring audit of actions
  - Resulting in meaningful actions

Are you ready?
Develop a written and progressive disciplinary policy focused on taking corrective action to ensure drivers comply with regulations and policies.

A progressive disciplinary policy could include, among other things, written warnings, suspensions, or work restrictions, monetary penalties, and termination.

This policy should also specify consequences for any carrier official who knowingly and willfully allows Hours of Service Violations.
DISCUSSION
QUESTIONS AND ANSWERS