

# MCIEF

Motor Carrier Insurance  
Education Foundation

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# **ELD'S – THERE'S A LOT OF DATA THERE, USE IT!**

**Presented by:**

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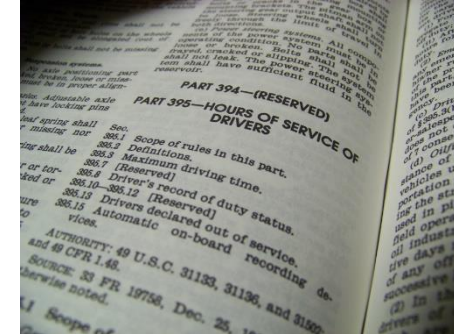
**and**

**Tommy Ruke, CIC, TRS**

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# Rule overview: Hours of service

- Hours of Service is covered in Part 395 of the FMCSA safety regulations
- Sections covering:
  - Limits
  - Recordkeeping
  - Exemptions/exceptions
- Applicable to any driver that is operating a “commercial vehicle” on a “highway/roadway”
  - Definition of a “CMV” and “highway/roadway” found in § 390.5
  - For intrastate-only drivers in the state’s safety regulations
    - Example: WI Trans 327



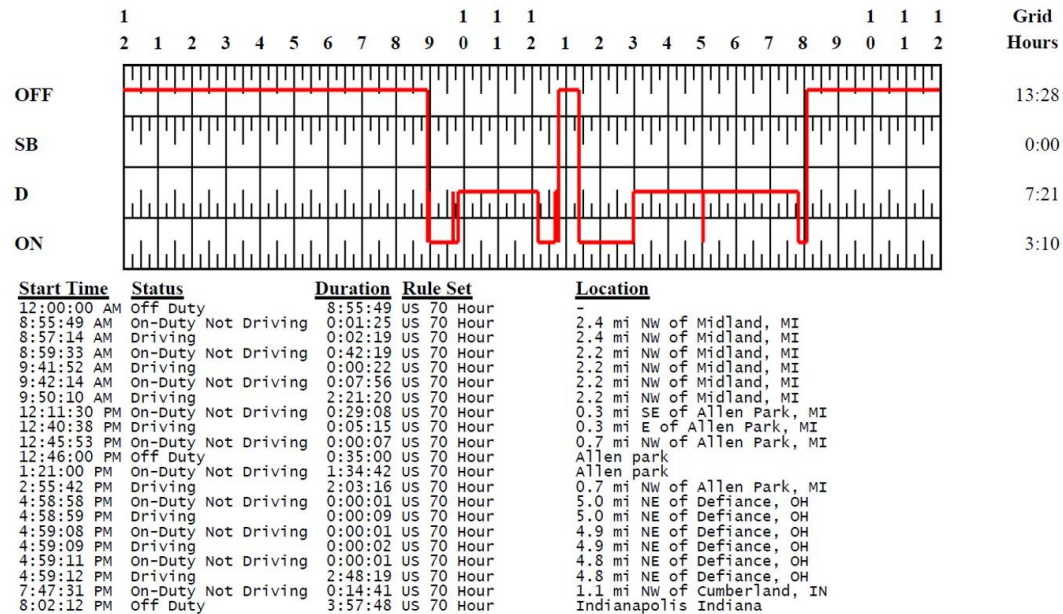
# Rule overview recordkeeping

Driver/carrier must keep records proving that the driver complied with the hours-of-service limits

- Records involve tracking drivers' off-duty and work time
  - Three main ways time can be tracked:
    - ELDs
    - Paper logs, if an exemption to electronic logs apply
    - Time records, if logging exemption applies

# Electronic logging mandate

- A driver can only be using paper logs or time records if an exemption applies!
  - If carrier claims he/she is not required to use an ELD, investigate
    - Which logging or ELD exemption are you using?



# E-logs are Not just about compliance

- E-logs can provide a lot of data
  - Two general “buckets”
    - Compliance (required)
    - Safety and operations: Can be aggregated to show trends
      - Hard braking
      - Excessive speed or RPMs
      - Out of route
      - Fuel mileage/idling
      - Customer delays



# Data that must be captured

- ELD required to capture at specific times/intervals
  - Date and time
  - Location (accurate to 1 mile)
  - Vehicle miles
  - Engine hours
  - Driver and carrier information
  - Driver duty status
  - Vehicle identification

Record Date	USDOT #	Driver License Number	Driver License State	ELD ID	Trailer ID
20-Nov-14	123456789	D000368210361	IL	987654	Unit #
Time Zone	Driver Name	Co-Driver Name	ELD Manufacturer	Shipping ID	Data Diagnostic Indicators
CST	Smith, Richard	Jones, David	Acme ELDs	BL1234567890	Yes
24-Period Starting Time	Driver ID	Co-Driver ID	Truck Tractor ID	Unidentified Driver Records	ELD Malfunction Indicators
Midnight	1234567	8910111	Unit #	No	Yes
Carrier	Start-End Odometer	Truck Tractor VIN	Exempt Driver Status	Start-End engine hours	
Acme Trucking	39564-40044	1M2P267Y5AM022445	No	758.2-766.7	
Current Location	File Comment	Print/Display Date			
Truckee, CA				20-Nov-14	

Time	Location	Odometer	Eng Hours	Event Type/Status	Origin
19-Nov-14					
22:00	49 mi NNE Fallon, NV	39564	758.2	Off duty	Driver
20-Nov-14					
10:00	49 mi NNE Fallon, NV	39564	758.2	Login	Driver
10:00	49 mi NNE Fallon, NV	39564	758.2	ODND	Driver
11:52	49 mi NNE Fallon, NV	39564	758.2	PowerUp	Auto
11:52	49 mi NNE Fallon, NV	39564	758.2	Power Compliance	Auto
11:52	49 mi NNE Fallon, NV	39564	758.2	Engine Sync	Auto
12:00	49 mi NNE Fallon, NV	39564	758.3	Driving	Driver
13:00	2 mi E Fernley, NV	39624	759.3	Int Location	Auto
14:00	7 mi NNE Truckee, CA	39684	760.3	Int Location	Auto
15:00	6 mi SSE Meadow Vista, CA	39744	761.3	Int Location	Auto
16:00	3.5 mi SW Davis, CA	39804	762.3	Off duty	Driver
16:45	3.5 mi SW Davis, CA	39804	762.3	On duty	Driver
17:00	3.5 mi SW Davis, CA	39804	762.4	Driving	Auto

# Captures Required

- Startup
- Shutdown
- Log in
- Log out
- Every duty change
- Once per hours when in operation

# Where You Been?

- Required raw ELD data provides:
  - Proof of compliance
  - Daily breadcrumb trail of movements
  - Drivers used

Time	Location	Odometer	Eng Hours	Event Type/Status	Origin
19-Nov-14					
22:00	49 mi NNE Fallon, NV	39564	758.2	Off duty	Driver
20-Nov-14					
10:00	49 mi NNE Fallon, NV	39564	758.2	Login	Driver
10:00	49 mi NNE Fallon, NV	39564	758.2	ODND	Driver
11:52	49 mi NNE Fallon, NV	39564	758.2	PowerUp	Auto
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17:00	3.5 mi SW Davis, CA	39804	762.4	Driving	Auto

# Where You Been?

- Required ELD data provides:
  - Areas of operation – Review location data over time
  - Hours of operation – Review times on multiple records
  - Miles per unit – Check mileages monthly/annually
    - Some systems can provide a report

Time	Location	Odometer	Eng Hours	Event Type/Status	Origin
19-Nov-14					
22:00	49 mi NNE Fallon, NV	39564	758.2	Off duty	Driver
20-Nov-14					
10:00	49 mi NNE Fallon, NV	39564	758.2	Login	Driver
10:00	49 mi NNE Fallon, NV	39564	758.2	ODND	Driver
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# Using the available data

- Can the carrier locate the important data and do they acting on it
  - “Exception” reports show where problems are
    - HOS violation reports
    - Unassigned driving report
    - Edit reports
    - Hard braking reports
    - Speed/RPM alerts/reports
    - Fuel mileage alerts/reports
- Carrier needs to be acting on it quickly
  - The system acts quickly, so should they

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Log Edit Report

Selection: Entire Company  
Range of Log Date: 1/1/2018 - 3/23/2018

Employee Name	Employee Code	Company	Log Date	Field Edited	Current Value	Previous Value	Current Event Start Time	Previous Event Start Time	Current Event End Time	Previous Event End Time	Edit Date	User	Notes/Annotations
Ray, Tom	TVB0899	Arizona	1/4/2018	Event Duration	45	474	12:50AM	12:50AM	12:42AM	07:54AM	01/04/2018 09:21AM	Ray, Tom	Driver called into work and worked away from device
Ray, Tom	TVB0899	Arizona	1/4/2018	Event Start Time	12:45 AM	None	12:45AM	None	07:54AM	07:54AM	01/04/2018 09:21AM	Ray, Tom	Driver called into work and worked away from device
Ray, Tom	TVB0899	Arizona	1/4/2018	Event Duration	429	None	12:45AM	12:45AM	07:54AM	None	01/04/2018 09:21AM	Ray, Tom	Driver called into work and worked away from device
Ray, Tom	TVB0899	Arizona	1/4/2018	Event Duration	Off Duty	None	12:45AM	12:45AM	07:54AM	07:54AM	01/04/2018 09:21AM	Ray, Tom	Driver called into work and worked away from device
Ray, Tom	TVB0899	Arizona	1/4/2018	Event Location	Andover, UT	None	12:45AM	12:45AM	07:54AM	07:54AM	01/04/2018 09:21AM	Ray, Tom	Driver called into work and worked away from device
Ray, Tom	TVB0899	Arizona	1/4/2018	Event Rule set	US 70	None	12:45AM	12:45AM	07:54AM	07:54AM	01/04/2018 09:21AM	Ray, Tom	Driver called into work and worked away from device
Ray, Tom	TVB0899	Arizona	1/2/2018	Total Distance	100.0000	100.3000	12:00AM	12:00AM	11:59PM	11:59PM	01/04/2018 09:21AM	Ray, Tom	Driver log in error
Ray, Tom	TVB0899	Arizona	1/2/2018	Event Duration	On Duty	Off Duty	08:35AM	08:35AM	04:42PM	04:42PM	01/04/2018 09:21AM	Ray, Tom	Driver log in error
Ray, Tom	TVB0899	Arizona	1/2/2018	Event Duration	Not Driving	Off Duty	05:40PM	05:40PM	06:34PM	06:34PM	01/04/2018 09:21AM	Ray, Tom	Driver log in error
Ray, Tom	TVB0899	Arizona	1/1/2018	Event Duration	427	547	12:00AM	12:00AM	07:07AM	09:07AM	01/04/2018 09:21AM	Ray, Tom	Driver called into work away from device
Ray, Tom	TVB0899	Arizona	1/1/2018	Event Start Time	7:07 AM	9:07 AM	07:07AM	09:07AM	09:08AM	09:08AM	01/04/2018 09:21AM	Ray, Tom	Driver called into work away from device

\* Marks employees which are inactive.      \* Marks employees which are terminated.

# Using the data: Compliance

- Unassigned driving time (ask for the report)
  - Reasons it happens:
    - Drivers forgetting to log in
    - Vehicle being moved by non-drivers
    - **Driver attempting to falsify to operate past a limit**
  - Carrier is responsible for investigating and either:
    - Assigning the time to the correct driver
    - Attaching an explanation on why it could not be assigned
  - Reviewing the unassigned driving report and dealing with unassigned driving must be an assigned daily chore at a carrier!
    - Is the carrier doing it?

Log Checker

Add New Employee

Select View: Unassigned ELD Log Events Go Customize.. Print Process Selected Events Process as Personal Time Process as Yard Move Clear Alert

Unit	Converted Event Start	Converted Event End	Converted Distance	Time Zone	Event Type	Company Level	Uploaded By	Employee Name	UTC Start Time	UTC Stop Time	Record Originator
<input type="checkbox"/> 1464	2/14/2018 10:07 AM	2/14/2018 10:12 AM	2.0	Central	Driving	Arizona	Brodsho, Brady		2/14/2018 4:07:47 PM	2/14/2018 4:12:10 PM	Unidentified Driver
<input type="checkbox"/> 1972	1/18/2018 06:11 PM	1/18/2018 06:38 PM	14.0	Central	Driving	Arizona	Giombetti, Tony		1/19/2018 12:11:42 AM	1/19/2018 12:38:17 AM	Unidentified Driver
<input type="checkbox"/> 1972	3/22/2018 12:33 PM	3/22/2018 12:33 PM	0.0	Central	Driving	Arizona	Giombetti, Tony		3/22/2018 5:33:28 PM	3/22/2018 5:33:28 PM	Unidentified Driver
<input type="checkbox"/> 860	3/10/2018 04:08 PM	3/10/2018 04:08 PM	1.0	Central	Driving	Arizona	Bray, Tom		3/10/2018 10:08:05 PM	3/10/2018 10:08:40 PM	Unidentified Driver

1 - 4

Select Column

Select Qualifier

Enter Value  Apply Filter



# Using the data: Compliance

- Edits
  - Ask for edit report
  - Look for specific pattern
    - On duty switched to off duty
    - How often and how much?
  - Was it due to a common error?
    - **Could be an attempt to falsify**
  - Ask about carrier process for validating

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**Log Edits Report**

Selection: Entire Company  
Range of Log Dates: 1/1/2018 - 3/23/2018

Employee Name	Employee Code	Company Level	Log Date	Field Edited	Current Value	Previous Value	Current Event Start Time	Previous Event Start Time	Current Event End Time	Previous Event End Time	Edit Date	User Performing Edit	Notes/Annotations
Bray, Tom	TVB9809	Arizona	1/4/2018	Event Duration	45	474	12:00AM	12:00AM	12:45AM	07:54AM	01/04/2018 09:21AM	Bray, Tom	Driver called into work and worked away from device
Bray, Tom	TVB9809	Arizona	1/4/2018	Event Start Time	12:45 AM	None	12:45AM	None	07:54AM	07:54AM	01/04/2018 09:21AM	Bray, Tom	Driver called into work and worked away from device
Bray, Tom	TVB9809	Arizona	1/4/2018	Event Duration	429	None	12:45AM	12:45AM	07:54AM	None	01/04/2018 09:21AM	Bray, Tom	Driver called into work and worked away from device
Bray, Tom	TVB9809	Arizona	1/4/2018	Event Duty status	Off Duty	None	12:45AM	12:45AM	07:54AM	07:54AM	01/04/2018 09:21AM	Bray, Tom	Driver called into work and worked away from device
Bray, Tom	TVB9809	Arizona	1/4/2018	Event Location	Amherst, VT	None	12:45AM	12:45AM	07:54AM	07:54AM	01/04/2018 09:21AM	Bray, Tom	Driver called into work and worked away from device
Bray, Tom	TVB9809	Arizona	1/4/2018	Event Rule set	US 70 Hour	None	12:45AM	12:45AM	07:54AM	07:54AM	01/04/2018 09:21AM	Bray, Tom	Driver called into work and worked away from device
Bray, Tom	TVB9809	Arizona	1/2/2018	Total Distance	100.0000	100.3000	12:00AM	12:00AM	11:59PM	11:59PM	01/04/2018 09:24AM	Bray, Tom	Driver log in error
Bray, Tom	TVB9809	Arizona	1/2/2018	Event Duty status	On-Duty Not Driving	Off Duty	08:35AM	08:35AM	04:42PM	04:42PM	01/04/2018 09:24AM	Bray, Tom	Driver log in error
Bray, Tom	TVB9809	Arizona	1/2/2018	Event Duty status	Off Duty	On-Duty Not Driving	05:44PM	05:44PM	06:34PM	06:34PM	01/04/2018 09:24AM	Bray, Tom	Driver log in error
Bray, Tom	TVB9809	Arizona	1/1/2018	Event Duration	427	547	12:00AM	12:00AM	07:07AM	09:07AM	01/04/2018 09:27AM	Bray, Tom	Driver called into work away from device
Bray, Tom	TVB9809	Arizona	1/1/2018	Event Start Time	7:07 AM	9:07 AM	07:07AM	09:07AM	09:08AM	09:08AM	01/04/2018 09:27AM	Bray, Tom	Driver called into work away from device

\* Marks employees which are inactive.      + Marks employees which are terminated.



# Using the data: Compliance

- Use of “special categories”
  - Ask for report
    - Yard move: On property with no public access
    - Personal conveyance
    - How often and how much
      - **Could be an attempt to hide hours (falsify)**
  - Ask about carrier’s process for validating

Keller Mobile Sales Inc  
Ft Lauderdale, FL 33309

02/23/18  
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Personal Conveyance Summary List

Entire Company  
Range of Dates: 2/1/2018 - 2/28/2018

Employee	Tractor	Date	Distance	Start Time	End Time	Total Time
Halambeck, John	Alpha	02/02/2018	44	9:38 am	10:21 am	0h 43m
Halambeck, John	Alpha	02/02/2018	8	11:02 am	11:14 am	0h 12m
Halambeck, John	Alpha	02/02/2018	1	11:34 am	11:36 am	0h 02m
Halambeck, John	Alpha	02/02/2018	8	3:48 pm	4:02 pm	0h 14m
Halambeck, John	Alpha	02/02/2018	8	4:20 pm	4:43 pm	0h 23m
Halambeck, John	Alpha	02/02/2018	12	5:29 pm	5:50 pm	0h 21m
Bray, Tom	860	02/14/2018	2	7:06 pm	10:03 pm	2h 57m
Bray, Tom	860	02/14/2018	2	9:25 pm	10:03 pm	0h 38m
Bray, Tom	860	02/14/2018	2	9:30 pm	10:03 pm	0h 33m
Totals			87	6h 03m		

# Using the data: Compliance

- Malfunctions
  - Ask for report
  - Part of a driver trend?
    - How often and how much?
  - Does carrier have policy of audited paper logs submitted during a malfunction using ***all possible*** supporting documents

# Risk of not auditing

- Can the carrier:
  - Provide the required data?
  - Provide the requested reports?
  - Explain how the data and reports are used

# Risk of not auditing

- Does carrier audit their data:
  - If not auditing:
    - Drivers will figure it out and falsification and incidents of driving over hours will increase
    - False logs and over hours violations will cause problems during roadside inspections and audits
      - Officers and investigators know the methods drivers use to falsify electronic logs!
    - Investigators/auditors will be able to show carrier does not have adequate safety management controls in place
    - Plaintiff's attorneys will be able to show that carrier is not doing its due diligence

# Data captured

- Also captured by the ELD is anything on the engine control module (ECM)
- Examples:
  - Hard braking
  - Fuel use/mileage
  - Engine power status/RPMs (current, past, and accumulated)
  - Throttle position
  - Speed (current, past, and accumulated)
  - Engine codes/alerts
  - Last stop data
  - Seatbelt use

PowerSpec - Read Report - Sudden Deceleration  
Date : 7-20-2007

Engine:	ISX 02	ECM Serial#:	26111162	Customer Name:	
Unit Number:	34586	Engine Serial#:	79186531	Last Tool Used:	INSITE
VIN:	4V4N19TG27N407996	Build Date:	61206	ECM Code:	AB10417.21

Record 1

Data Extraction Date	2007-07-20T15:06:05	Total Engine Run Time	5227 Hrs 55 Min 35 Sec
Air Temp at Event	N/A	Occurrence Distance	280982.5 Miles

Time (Seconds)	Vehicle Speed (mph)	Engine Speed (rpm)	Engine Load (%)	Throttle (%)	Brake Status	Clutch Status	Cruise Status	Lamp Status
-59	61	1389	24.0	49.0	-	-	-	-
-58	61	1393	42.0	60.8	-	-	-	-
-57	61	1391	39.4	54.0	-	-	-	-

Cummins Sudden Deceleration Report

# Using the data: safety performance

- Hard braking
  - Ask for report
  - Result of vehicle undergoing a rapid deceleration
  - Hard braking normally caused by:
    - Following too close
    - Inattention
    - Driving too fast for conditions (road, traffic, etc.)
    - Aggressive driving
    - Skidding
  - All are due to driving habits that lead to crashes if not corrected

Employee Performance Stats
2 Employees with Idle Time Occurrences < 15 Min, 30 Days
16 Employees with Idle Time Occurrences < 15 Min, 12 Months
1 Employee with Idle Time Occurrences 15 - 90 Min, 30 Days
10 Employees with Idle Time Occurrences 15 - 90 Min, 12 Months
1 Employee with Idle Time Occurrences > 90 Min, 12 Months
2 Employees with Idle Time Occurrences Last 30 Days
16 Employees with Idle Time Occurrences Last 12 Months
2 Employees with Hard Braking in Last 30 Days
3 Employees with Hard Braking in Last 60 Days
5 Employees over Speed Threshold in Last 30 Days
5 Employees over RPM Threshold in Last 30 Days
<a href="#">Customize This Section...</a>

# Using the data: safety performance

- Hard braking
  - Does the carrier have established realistic thresholds?
    - 9 or 11 mph per second?
    - 1, 2, 5 or 10 a month?
  - Does carrier concentrate on the “outliers”
    - Same drivers
      - Did carrier fall pray to “X” type of drivers can’t avoid them
        - » City drivers need to be better at driving in a city
        - » Rural drivers need to watch intersections and closing speeds
        - » Hitting the “pin” or dock hard enough to create a hard-braking event is a problem!
    - Same vehicles
      - Does the carrier check equipment for problems
        - » Brakes
        - » ECM

# Using the data: safety performance

- Speeding
  - Visible in speed reports
  - High average and high incidents
  - Study data to determine norms
    - Company speed limit in place?
  - Does company look for outliers?

Employee Performance Stats
2 Employees with Idle Time Occurrences < 15 Min, 30 Days
16 Employees with Idle Time Occurrences < 15 Min, 12 Months
1 Employee with Idle Time Occurrences 15 - 90 Min, 30 Days
10 Employees with Idle Time Occurrences 15 - 90 Min, 12 Months
1 Employee with Idle Time Occurrences > 90 Min, 12 Months
2 Employees with Idle Time Occurrences Last 30 Days
16 Employees with Idle Time Occurrences Last 12 Months
2 Employees with Hard Braking in Last 30 Days
3 Employees with Hard Braking in Last 60 Days
5 Employees over Speed Threshold in Last 30 Days
5 Employees over RPM Threshold in Last 30 Days
<a href="#">Customize This Section...</a>



# Risks of carrier not using safety data

- If carrier is not using the safety data the system is capturing:
  - Driver bad habits will continue (or worsen)
  - Crashes are more likely
  - Data will show bad habits to anyone that looks
    - Lots of “bad data”
      - Data itself is neither good nor bad, it is what the data shows that is good or bad!
- To sum it up, the carrier will become more of a risk as time goes on

# Risks of carrier not using the data

- Bad data **will** be discovered during investigations, audits, or litigation.
  - Problem: Carrier had the data and chose to do nothing
    - Litigation: Equates to carrier's failure to live up to your "duty to act" and can lead to claims of negligent retention, supervision, etc.
    - Compliance reviews (audits): Lack of "safety management controls" which can lead to fines and possibly an out-of-service order
    - All of the above will create an issue for the insurer

# Risks of carrier not using the data

- The data will show the carrier to be:
- Good carrier
  - Knows its system, can provide the reports, correctly audits logs and takes action
  - Watches safety performance data and takes action
  - Low on-road violation rate
- Other carriers
  - Does none of the above, or worse
    - Allows or encourages unsafe or non-compliant behaviors and has a high on-road violation rate

# Risks of carrier not using the data

- Following a crash the data will either show the carrier to be:
  - A good carrier that had something bad happen to them, or
  - A carrier that finally had their culture and practices catch up with them
- Which one would you rather be standing next to?
  - Ask carrier for reports and data
  - Review it and compare to reality and other carriers you have worked with

# Questions?

- Think of any later...

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