



Locomotive Visible Emissions Reduction Program Training UPRR Basic for Key Employees

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Locomotive Visible Emissions Training UPRR Basic for Key Employees

- **Purpose**

- This training is required as part of the Memorandum of Understanding (MOU) signed by UPRR, the BNSF, and the California Air Resources Board in June, 2005.
- This training will be delivered at employee safety meetings and job briefings across California to ensure we are complying with the provisions of the MOU.
- At the end of this short presentation, there will be a 10 question test.
- Results will be logged into PINS so a record can be maintained to demonstrate compliance.



Locomotive Visible Emissions Training UPRR Basic for Key Employees

- **Training Goals**

- Detection of locomotives with suspected excessive visible emissions
- Reporting locomotives with suspected excessive visible emissions

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Locomotive Visible Emissions Training UPRR Basic for Key Employees

- **Overview**

- Operating and keeping the Railroad's equipment in good working order can:
 - Reduce potentially harmful pollutants,
 - Produce "Real" benefits.
- So, who is responsible?



WE ALL ARE...

- Shop Personnel repair and enter information into the MTC System.
- Transportation Managers train the Train and Engine Crews.
- Train Dispatchers and Locomotive Managers report to RMCC locomotive with suspected excessive visible emissions.



KEY AIR QUALITY ISSUES

- **Clean Air Act**
 - Looks at Stationary Sources - Shops
 - Mobile Sources - Locomotives
- **Memorandum of Understanding (MOU)** signed by UPRR, the BNSF, and the California Air Resources Board in June, 2005.



MEMORANDUM OF UNDERSTANDING

- Requires
 - Screening for locomotives exceeding 20% opacity;
 - Locomotives with excessive visible emissions operating in California to nearest repair facility within 96 hrs;
 - Locomotives with excessive visible emissions prohibited from returning to operation in California without demonstrating compliance;
 - Training for key employees at covered yards.



COVERED YARDS



- Anaheim
- Fresno
- Martinez
- Milpitas
- Montclair
- Portola
- Yermo
- Designated Yards
(not pictured)



VISIBLE EMISSION REDUCTION PROGRAM

UPRR Basic for Key Employees

- **Union Pacific Basic (Key Employees)**
 - **Detection of locomotives with suspect excessive visible emissions, and**
 - **Reporting locomotives with suspect excessive visible emissions.**

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VISIBLE EMISSION REDUCTION PROGRAM

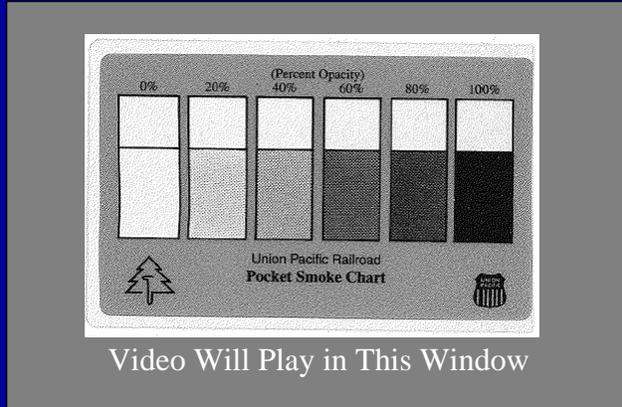
UPRR Basic for Key Employees

- **Detection**
 - **Understanding what “Opacity” means in relation to locomotive emissions,**
 - **Understanding what “Excessive” means in relation to locomotive emissions, and**
 - **using the naked eye, are able to determine whether an observed locomotive emission is suspect.**



OPACITY MEASUREMENT (example only)

Opacity is the measure of density or thickness of the locomotive's emissions (smoke).



UPRR STANDARDS

- **“Excessive”**
 - When it is equal to or exceeds 20 % opacity
and
 - Last longer than 20 seconds.



Causes of Excessive Emissions

- **Operating Problems**
 - “Wiping the Throttle”
 - Running a Cold Unit
- **Mechanical Problems**
 - Worn Injectors
 - Governors
 - Excitation Settings
 - Engine Timing Setting
 - Turbo Design and Defects
 - Plugged Air Filters
 - Fuel Rack Settings

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REPORTING

- To report an excessively smoking locomotive, contact:



**Response Management
Communications Center**

(888) UPRR-COP

or

HDC Locomotive Desk

8-636-7509

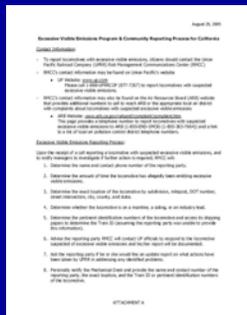


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REPORTING

Excessive Visible Emissions Program & Community Reporting Process For California



- RMCC receives call and gathers
 1. Caller's name, phone number, etc.
 2. Locomotive information
 3. Location information
- RMCC notifies Mechanical Desk
- Mechanical Desk provides information for electronic Visible Emissions Incident Report



THE ROAD TO THE FUTURE ISN'T A ROAD AT ALL.

