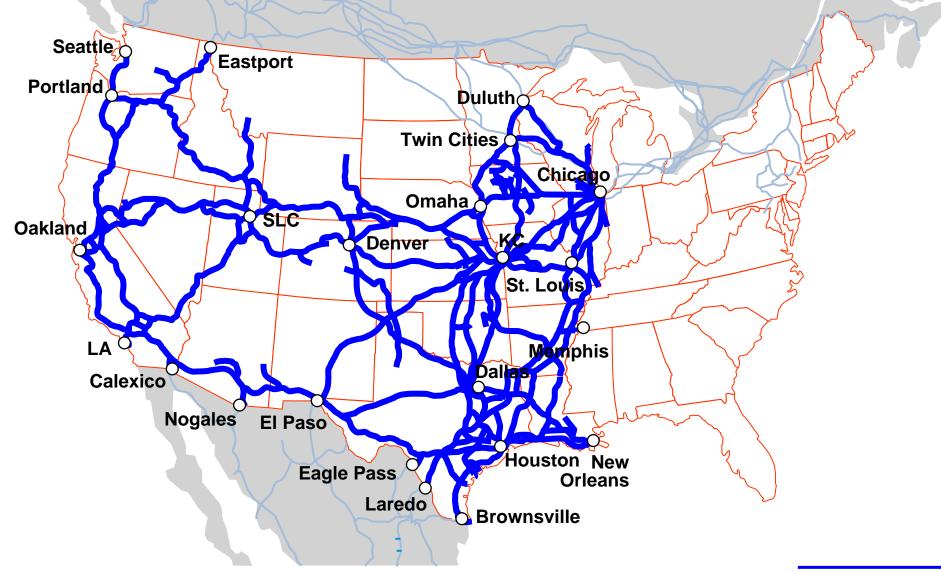


# Proposed Rule 515 - UPRR Comments October 9, 2008 Lanny Schmid - Union Pacific Railroad

# The Union Pacific System





### **Terminology**

→ ALECS Advanced Locomotive Emissions Control System

**⇒** ECS Emissions Collector System

→ ERCs Emissions Reduction Credits

**⇒** ETS Emissions Treatment System

→ CARB California Air Resources Board

→ CO<sub>2</sub> Carbon Dioxide, a greenhouse gas ("GHG")

➡ EPA U.S. Environmental Protection Agency

NOx
→ Nox
Oxides of Nitrogen

→ DPM Diesel Particulate Matter

UPRR Union Pacific Railroad

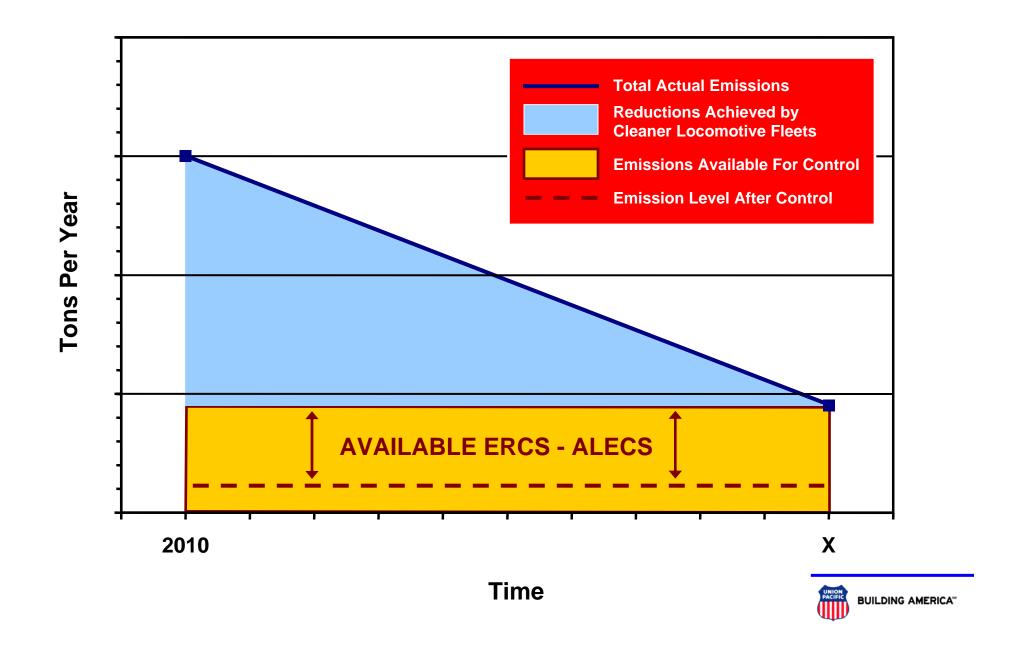


## UPRR's Support of the ALEC's Phase I R&D

- → Fully supported the Phase I demo (ETS) in 2006
  - ✓ Cash contribution of > \$125K for electricity, fuel & misc
  - ✓ Additional 'soft' inputs of > \$250K for locomotives, labor, etc.
- → Agree with APCO's requirement for 'seamless' operation
- → Technology may have applicability for some industries sooner that rail facilities
- → Rule appears to be the ERC blueprint for many operations, i.e.-distribution centers, magnet sources, etc.
- Cooperating with Phase II demo (ECS) at Roseville
  - Increased 'soft' costs compared to Phase I



## **Concept Diagram for Certifiable ERCs**

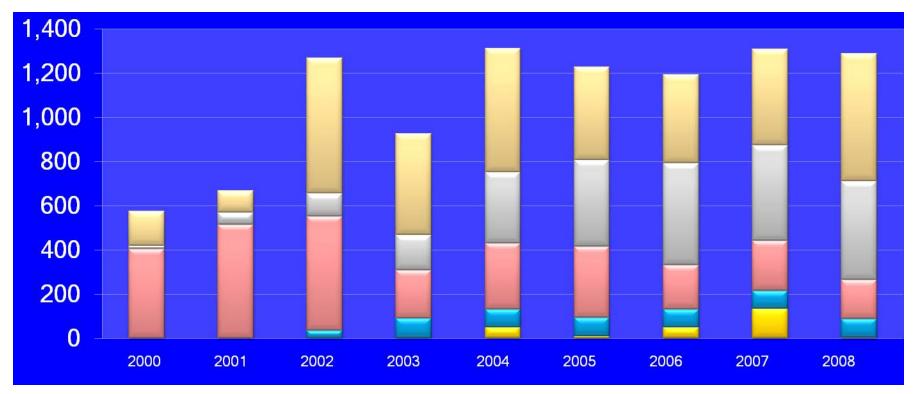


#### **Basic Concerns re ALECS**

- Functionality and durability of the collection system
- → Numerous influences on shop/yard throughput
  - ★ Business levels & labor availability
  - ✓ UPRR's aggressive acquisition of new locomotives
  - ★ Servicing operations/volumes
- Continued decline of locomotive emissions, thus declining opportunity and availability at one location
  - ★ EPA's Tier 3/4 standards and timing of rebuilds
- → Locomotive/emissions flow rate
  - ✓ quantity & evenness of availability (96% utilization assumption)



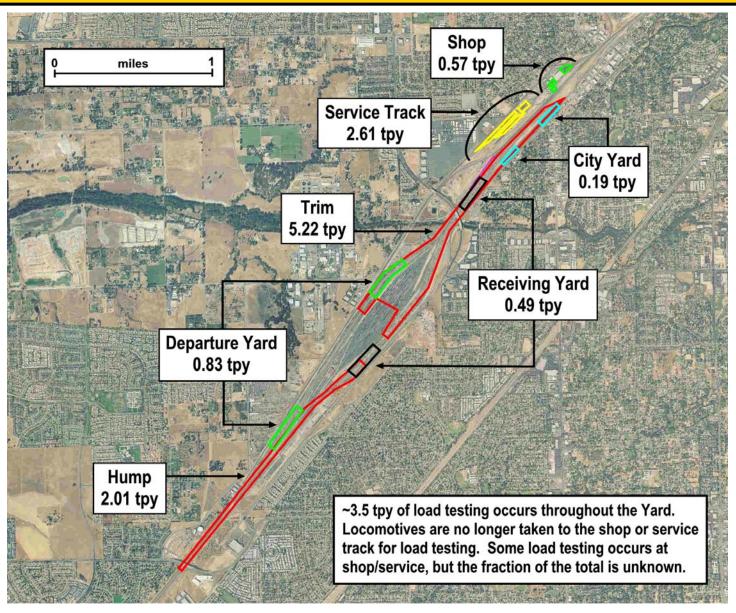
# New Locomotive Acquisitions by Union Pacific



Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	Total
New Switchers	0	0	0	0	50	11	52	136	4	253
Switch Overhauls	0	0	35	90	81	84	80	79	85	534
New Road Units	405	515	516	218	300	321	200	228	175	2,878
Road Overhauls	13	55	104	159	320	390	460	430	448	2,379
Idle Controls	156	98	612	459	561	422	400	434	575	3,717



# **Opportunity and Availability**





#### **Basic Concerns re Rule 515**

- Selection of years for 'permanent'
- Can/will not guarantee number of locomotives, nor rate or mass of emissions available for capture
- → Program Structure
- → Inclusion of 3<sup>rd</sup> party lawsuits unacceptable; generally vague enforcement provisions
- → Testing requirements for CEMS
- → CEQA considerations & requirements; unknown & undefined GHG implications



## **UPRR's Approach re ALECS and Rule 515**

- ⇒ Safety remains our #1 priority for all operations
- → ALECS & ERCs are not a core rail business function
- → UPRR very familiar w/ 1 for 1 locomotive replacements
- → Have the ability to control individual locomotives
- → UPRR will not be the permittee; will work with 3<sup>rd</sup> parties
- → Owner/operator (3<sup>rd</sup> party) required to obtain a ROE
- → If UPRR were required to be permittee, would require
  - ✓ very significant liquidated damages, or
  - ✓ performance bond from the 3<sup>rd</sup> party operator



#### Recommendations re Rule 515

- → UPRR will support & monitor developments/progress
- Complete ALECS Phase II first before adopting any rule
- → Pursue required approvals from EPA and others
- Proceed with caution thoroughly evaluate all aspects and cost-effectiveness of any proposed installation

ENSURE ANY COMMUNICATIONS ARE PREFACED WITH NOTATION THAT INDICATES ALECS ARE NOT YET PROVEN AND MUST BE CAREFULLY EVALUATED TO DETERMINE FEASIBILITY AT EACH POTENTIAL SITE





