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1 of 4

Service Date: April 12, 1996
Comment Due Date: May 3, 1996

ENVIRONMENTAL ASSESSMENT

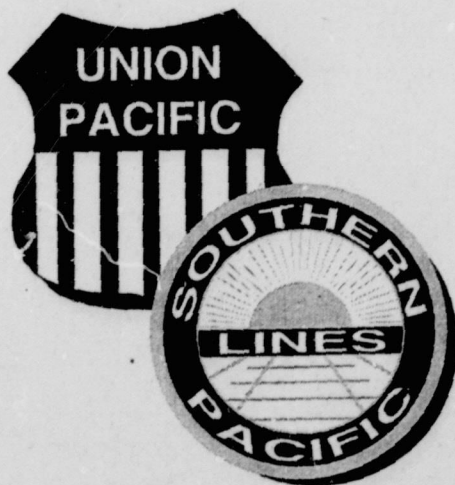
FINANCE DOCKET NO. 32760

UNION PACIFIC CORPORATION, UNION PACIFIC RAILROAD COMPANY,
AND MISSOURI PACIFIC RAILROAD COMPANY

-CONTROL AND MERGER-

SOUTHERN PACIFIC RAIL CORPORATION,
SOUTHERN PACIFIC TRANSPORTATION COMPANY,
ST. LOUIS SOUTHWESTERN RAILWAY COMPANY,
SPCSL CORPORATION, AND
THE DENVER & RIO GRANDE WESTERN RAILROAD COMPANY

VOLUME 1 OF 5 ENVIRONMENTAL OVERVIEW OF THE PROPOSED MERGER



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Environmental Assessment

Finance Docket No. 32760

**Union Pacific Corporation, Union Pacific Railroad Company, and
Missouri Pacific Railroad Company**

--Control and Merger--

**Southern Pacific Rail Corporation, Southern Pacific Transportation
Company, St. Louis Southwestern Railway Company, SPCSL
Corporation, and the Denver & Rio Grande Western Railroad
Company**

**Volume 1:
Environmental Overview of the Proposed Merger**

*Surface Transportation Board
Washington, D.C. 20423-0001*

Section of Environmental Analysis

April 12, 1996

To: Interested Parties

The attached Environmental Assessment (EA) prepared by the Surface Transportation Board's Section of Environmental Analysis (SEA) addresses potential environmental impacts associated with the proposed merger of the Union Pacific Railroad Company and the Southern Pacific Transportation Company and their subsidiaries in the Finance Docket No. 32760.

The EA addresses potential areas of environmental impact such as safety, transportation, air quality, noise, historic and cultural resources, water quality, biological resources, land use and hazardous materials. The EA also recommends mitigation measures to address potential environmental impacts.

The EA incorporates early input received from many Federal, state and local agencies. We recognize that each community has its own local issues and interests. At this time, we welcome any additional comments on specific areas of environmental impact that may affect or be important to your community as a result of the proposed merger. Also, we invite you to submit specific and reasonable mitigation measures and your basis for recommending this particular mitigation.

Your written comments must be submitted to SEA by May 3, 1996, which is the close of the public comment period on the EA. SEA will review all comments received in response to the EA in making its final recommendations to the Surface Transportation Board. The Board will consider SEA's recommendations and the environmental comments in making its final decision on the proposed Union Pacific/Southern Pacific merger.

SURFACE TRANSPORTATION BOARD
Finance Docket No. 32760

Union Pacific Railroad Company
--Control and Merger--
Southern Pacific Transportation Company

GUIDE TO THE ENVIRONMENTAL ASSESSMENT

This Environmental Assessment (EA) evaluates the potential environmental impacts that could result from the proposed merger of the Union Pacific Railroad Company and the Southern Pacific Transportation Company. The EA has been prepared in accordance with the requirements of the National Environmental Policy Act (NEPA), as amended (42 USC 4321), the Surface Transportation Board's environmental rules (49 CFR Part 1105) and other applicable environmental statutes and regulations.

The Environmental Assessment includes five volumes:

Volume 1: Environmental Overview of the Proposed Merger provides an Executive Summary, an overview of the proposed merger, and a summary of the potential environmental impacts which could result if the proposed merger were approved. This volume also summarizes recommended mitigation measures.

Volume 2: Rail Line Segments, Rail Yards and Intermodal Facilities provides detailed analysis and mitigation of the potential environmental impacts related to proposed changes in traffic and other merger-related activities on specific rail line segments, at rail yards, or at intermodal facilities.

Volume 3: Proposed Abandonments provides detailed analysis and mitigation of potential environmental impacts associated with the proposed abandonment of rail line segments and related salvage activities.

Volume 4: Proposed Construction Projects provides detailed analysis and mitigation of the potential environmental impacts related to the proposed construction and operation of new rail lines requiring new rights-of-way.

Volume 5: Appendices contains additional documentation related to the preparation of the Environmental Assessment including: copies of agency correspondence, public comments on the proposed action, and descriptions of analytical methodologies.

To assist you in the review of this EA, a Glossary and List of Abbreviations and Acronyms is included in the front of each of the five volumes.

Based on an analysis of all available information, and subject to the recommended mitigation measures, the Surface Transportation Board's Section of Environmental Analysis concludes that the proposed merger of the Union Pacific and Southern Pacific railroads would not significantly affect the quality of the human environment.

CONCLUSION

This Environmental Assessment (EA) evaluates the potential environmental impacts that could result from the proposed merger of the Union Pacific Rail Road Company (UP) and the Southern Pacific Transportation Company (SP) and related abandonments and constructions. The Surface Transportation Board's Section of Environmental Analysis (SEA) prepared the EA pursuant to the National Environmental Policy Act (NEPA). SEA concludes that, based on its independent analysis of available information, and subject to the recommended mitigation measures, the proposed merger of the Union Pacific and Southern Pacific Railroads, if approved, would not significantly affect the quality of the human environment. Therefore, the preparation of an environmental impact statement is not necessary.

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PROPOSED MERGER OF
UNION PACIFIC AND SOUTHERN PACIFIC RAILROADS

VOLUME 1. ENVIRONMENTAL
OVERVIEW OF PROPOSED MERGER

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LIST OF ACRONYMS AND ABBREVIATIONS

A&S	Alton & Southern Railway Company
ACHP	Advisory Council on Historic Preservation
ADT	Average Daily Traffic
AHPP	Arkansas Historic Preservation Program
AQCR(s)	Air Quality Control Region(s)
BIA	Bureau of Indian Affairs
BMPs	Best Management Practices
BN	Burlington Northern Railroad Company
BN/SF	The new railroad system created by the merger of the holding companies of BN and Santa Fe.
BRGI	Brownsville and Rio Grande International Railroad
CAAA	Clean Air Act and Amendments
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (the "Superfund" Act)
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CFR	Code of Federal Regulations
CMTA	Capital Metropolitan Transportation Authority
CNW	Chicago and Northwestern Railway Company
CO	Carbon Monoxide
COE	United States Army Corps of Engineers
CTC	Centralized Traffic Control
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
db	Decibel
dBA	Decibels (of sound) A range
DNL	Day-night equivalent level
DOT	United States Department of Transportation
DRGW	Denver and Rio Grande Western Railroad Company
EA	Environmental Assessment
EPA	Environmental Protection Agency
ER	Environmental Report
ERNS	Emergency Response Notification System
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Maps
FRA	Federal Railroad Administration
GWWR	Gateway Western Railway Company
HC	Hydrocarbons (in air)
IBP	Iowa Beef Producers
HBT	Houston Belt Terminal
IC	Illinois Central

ICC	Interstate Commerce Commission (former licensing agency for the proposed merger; merger approval authority now with the Surface Transportation Board)
IHPA	Illinois Historic Preservation Agency
KCS	Kansas City Southern Railway Company
KSHS	Kansas State Historical Society
L_{dn}	Day-night equivalent sound level
L_{max}	Maximum sound level during train passby, dBA
LUST	State Inventory of Leaking Underground Storage Tanks
MOU	Memorandum of Understanding
MP	Mile Post or Missouri Pacific
MPH	Miles per Hour
MPRR	Missouri Pacific Railroad Company
MRL	Montana Rail Link, Inc.
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Preservation Act of 1966
NO_2	Nitrogen dioxide
NO_x	Nitrogen oxides
NPDES	National Pollution Discharge Elimination System
NPL	National Priorities List
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
O_3	Ozone
OBS	Office of Biological Services/United States Fish and Wildlife Service
OKT	Oklahoma-Kansas-Texas (operating division of UP)
OSHA	Occupational Safety and Health Administration
Pb	Lead
PDEA	Preliminary Draft Environmental Assessment
PM_{10}	Particulate Matter (under 10 microns in diameter)
PSD	Prevention of Significant Deterioration
RCRA	Resource Conservation and Recovery Act
ROW	Right of Way
SEA	Section of Environmental Analysis
SCS	Soil Conservation Service (currently named Natural Resources Conservation Service, Division of United States Department of Agriculture)
SEL	Source sound exposure level at 100 feet, dBA
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SO_2	Sulfur dioxide
SO_x	Sulfur oxides
SP	Southern Pacific Rail Corporation--includes SPT, SSW, SPCSL Corp., and DRGW
SPT	Southern Pacific Transportation Company
SSW	St. Louis Southwestern Railway Company
SPL	State Priority List

STATSGO	State Soil Geographic Database
STB	Surface Transportation Board
SWLF	State Inventory of Solid Waste Facilities
TRAA	Terminal Railroad Association of St. Louis
TSD	Treatment, Storage, or Disposal Sites
TSP	Total Suspended Particulates (particulate matter)
UP	Union Pacific Railroad, MPRR, and CNW
UP/SP	The new railroad system to be created by the merger of the holding companies of UP and SP if the merger proposal is approved
USC	United States Code
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VISTA	VISTA Environmental Information, Inc.
VOCs	Volatile organic compounds
WCL	Wisconsin Central Ltd.
WEPCO	Wisconsin Electric Power Company
WSC	Western Shipper's Coalition

GLOSSARY

ballast	Top surface of rail bed, usually composed of aggregate (i.e., small rocks and gravel).
Best Management Practices (BMPs)	Techniques recognized as very effective in providing environmental protection.
Board	Surface Transportation Board, the licensing agency for the proposed merger.
borrow material	Earthern material used to fill depressions to create a level right-of-way.
bulk train	Also known as unit train. A solid consist of a single non-breakable commodity (such as coal, grain, semi-finished steel, sulfur, potash, or orange juice) being transported at a trainload rate.
consist	The make-up of a train, usually referring to the number of cars.
construction footprint	The area at a construction site subject to both permanent and temporary disturbances by equipment and personnel.
criteria pollutant	Any of six substances (lead, carbon dioxide, sulfur dioxide, nitrogen dioxide, ozone and particulate matter) regulated under the Clean Air Act, for which areas must meet national air quality standards.
dBA	Adjusted decibel level. A sound measurement that adjusts noise by filtering out certain frequencies to make it analogous to that perceived by the human ear.
decibel	A logarithmic scale that comprises over one million sound pressures audible to the human ear over a range from 0 to

140, where zero decibels represents a reference sound level necessary for a minimum sensation of hearing and 140 represents the level at which pain occurs.

deciduous

Any plant whose leaves are shed or fall off during certain seasons; usually used in reference to tree types.

emergent

An aquatic plant with vegetative growth mostly above the water.

endangered

A species that is in danger of extinction throughout all or a significant portion of its range and is protected by state and/or federal laws.

fill

The term used by the United States Army Corps of Engineers that refers to the placement of suitable materials (e.g., soils, aggregates, formed concrete structures, sidecast material, etc.) within water resources under Corps jurisdiction.

flat yard

A system of relatively level tracks within defined limits provided for making up trains, storing cars, and other purposes which requires a locomotive to move cars (switch cars) from one track to another.

Flood Insurance Rate Maps

Maps available from the Federal Emergency Management Agency that delimit the land surface area of 100-year and 500-year flooding events.

floodplain

The lowlands adjoining inland and coastal waters and relatively flat areas and flood prone areas of offshore islands, including, at a minimum, that area inundated by a one percent (also known as a 100-year or Zone A floodplain) or greater chance of flood in any given year.

frog

A track structure used where two running rails intersect that provides flangeways to permit wheels and wheel flanges on either rail to cross the other.

habitat

The place(s) where plant or animal species generally occur(s) including specific vegetation types, geologic features, and hydrologic features. The continued survival of that species depends upon the intrinsic resources of the habitat. Wildlife habitats are often further defined as places where species derive sustenance (foraging habitat) and reproduce (breeding habitat).

haulage right

The limited right of one railroad to operate trains over the designated lines of another railroad.

hump yard

A railroad classification yard in which the classification of cars is accomplished by pushing them over a summit, known as a "hump," beyond which they run by gravity.

interlocking

An arrangement of switch, lock, and signal appliances interconnected so that their movements succeed each other in a predetermined order, enabling a moving train to switch onto adjacent rails. It may be operated manually or automatically.

intermodal facility

A site or hub consisting of tracks, lifting equipment, paved areas, and a control point for the transfer (receiving, loading, unloading, and dispatching) of intermodal trailers and containers between rail and highway or rail and marine modes of transport.

intermodal train

A train consisting or partially consisting of highway trailers and containers or marine containers being transported for the rail portion of a multi-modal movement on a time-sensitive schedule. Also referred to as piggyback, TOFC (Trailer on Flat Car), COFC (Container on Flat Car), and double stacks (for containers only).

 L_d

Level of noise (measured in decibels) averaged over the "daytime" period (7 a.m.-10 p.m.).

 L_{dn}

Nighttime noise level (L_n) adjusted to account for the perception that a noise level at night is more bothersome than the same noise level would be during the day.

lift

A lift is defined as an intermodal trailer or container lifted onto or off a rail car. For calculations, lifts were used to determine the number of trucks using intermodal facilities.

locomotive, road

One or more locomotives (or engines) designed to move trains between yards or other designated points.

locomotive, switching

Locomotive (or engine) used to switch cars in a yard, industrial, or other area where cars are sorted, spotted (placed at a shipper's facility), pulled (removed from a shipper's facility), and moved within a local area.

merchandise train

A train consisting of single and/or multiple car shipments of various commodities.

mitigation

Actions to prevent or lessen negative effects.

National Wetlands Inventory

An inventory of wetland types in the United States compiled by the United States Fish and Wildlife Service.

nonattainment

An area that does not meet NAAQS specified under the Clean Air Act.

non-point source discharge

Pollution not associated with a specific outfall location, such as a sewer pipe.

palustrine wetland

Non-tidal wetland dominated by trees, shrubs or persistent emergent vegetation. Includes wetlands traditionally classified as marshes, swamps, or bogs.

passby

The passing of a train past a specific reference point.

pick up

To add one or more cars to a train from an intermediate (non-yard) track designated for the storage of cars.

rail spur	A track that diverges from a main line, also known as a spur track or rail siding, which typically serves one or more industries.
railbanking	A set-aside of abandoned rail corridor for recreational and/or transportation uses, including reuse for rail.
receptor/receiver	A land use or facility where sensitivity to noise or vibration is considered.
right-of-way	The right held by one person over the lands of another for a specific use; rights of tenants are excluded. The strip of land for which permission has been granted to build and maintain a linear structure, such as a road, railroad, or pipeline.
riparian	Relating to, living, or located on, or having access to, the bank of a natural water course, sometimes also a lake or tidewater.
riprap	A loose pile or layer of broken stones erected in water or on soft ground as a guard against erosion.
riverine wetland	All wetlands and deepwater habitats contained within a channel, either naturally or artificially created.
ruderal	An introduced plant community dominated by weed species, typically adapted to disturbed areas.
scrub-shrub	Areas dominated by woody vegetation less than 6 meters (20 feet) tall, which includes true shrubs and young trees.
set out	To remove one or more cars from a train at an intermediate (non-yard) location such as a siding, interchange track, spur track, or other track designated for the storage of cars.
take	Loss of individuals of a plant or wildlife species and/or any direct or indirect action that results in mortality and/or injury.

Further defined to include actions that disrupt normal patterns of wildlife species behavior; specifically those that reduce the survival and reproductive potential of an individual. Also refers to loss and/or degradation of species' habitat.

threatened

A species that is likely to become an endangered species within the foreseeable future throughout all or part of its range, and is protected by state and/or federal law.

trackage rights

The right or combination of rights of one railroad to operate over the designated trackage of another railroad including, in some cases, the right to operate trains over the designated trackage; the right to interchange with all carriers at all junctions; the right to build connections or additional tracks in order to access other shippers or carriers.

turnout

A track arrangement consisting of a switch and frog with connecting and operating parts, extending from the point of the switch to the frog, which enables engines and cars to pass from one track to another.

unit train

A train consisting of cars carrying a single commodity, e.g., a coal train.

water resources

All-inclusive term that refers to many types of permanent and seasonally wet/dry surface water features including springs, creeks, streams, rivers, ponds, lakes, wetlands, canals, harbors, bays, sloughs, mudflats, and sewage-treatment and industrial waste ponds.

wetland

As defined by 40 CFR Part 230.3, wetlands are "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Wetlands generally include swamps, marshes, bogs and similar areas.

wye track

A principal track and two connecting tracks arranged like the

letter "Y" on which locomotives, cars and trains may be turned.

EXECUTIVE SUMMARY

The Executive Summary provides an overview of the proposed merger, the environmental review process, the Surface Transportation Board's public outreach process, potential areas of impact, anticipated environmental impacts, alternatives to the proposed action, and the proposed mitigation.

ES.1 Overview

On November 30, 1995, the Union Pacific Railroad Company and the Southern Pacific Transportation Company applied to the Interstate Commerce Commission (ICC)¹ for authority to consolidate their operation into a single Union Pacific Railroad Company (UP/SP). The UP/SP state that the proposed merger is intended to improve service capabilities and operating efficiencies. The proposed merger of the two railroads would create a single railroad company with more than 34,000 miles of track operating in 25 states. The proposed merger would also result in rerouting of train traffic within the combined system, consolidation of yard and terminal facilities, changes in activities at rail yards and intermodal facilities, abandonment of certain rail line segments, and construction of new rail connections. (See Figure ES-1 for the proposed merged UP/SP system.)

As part of the proposed merger, UP/SP have entered into settlement agreements with three railroads: the BN/Santa Fe, the Utah Railway Company, and the Illinois Central Railroad Company. These agreements are intended to preserve the competitive position of the railroads involved, and, in some cases, preserve competition for shippers where service by two railroads would be lost.

In other actions related to the proposed merger, six parties (three railroads, two utilities, and one transit agency) filed responsive applications seeking the Board's authority for trackage rights and/or acquisition of specific UP/SP rail lines. This EA does not analyze the potential environmental impacts of these responsive applications because it appears, based upon verified statements submitted by the six parties, that the Board's environmental thresholds will not be met or exceeded, and no substantial increase in trains or other activities are expected as a result of these proposals.

¹The ICC Termination Act of 1995 (P.L. 104-88, 109 Stat. 803), which was enacted on December 29, 1995 and took effect on January 1, 1996, abolished the Interstate Commerce Commission and transferred its railroad merger approval functions to the Surface Transportation Board.

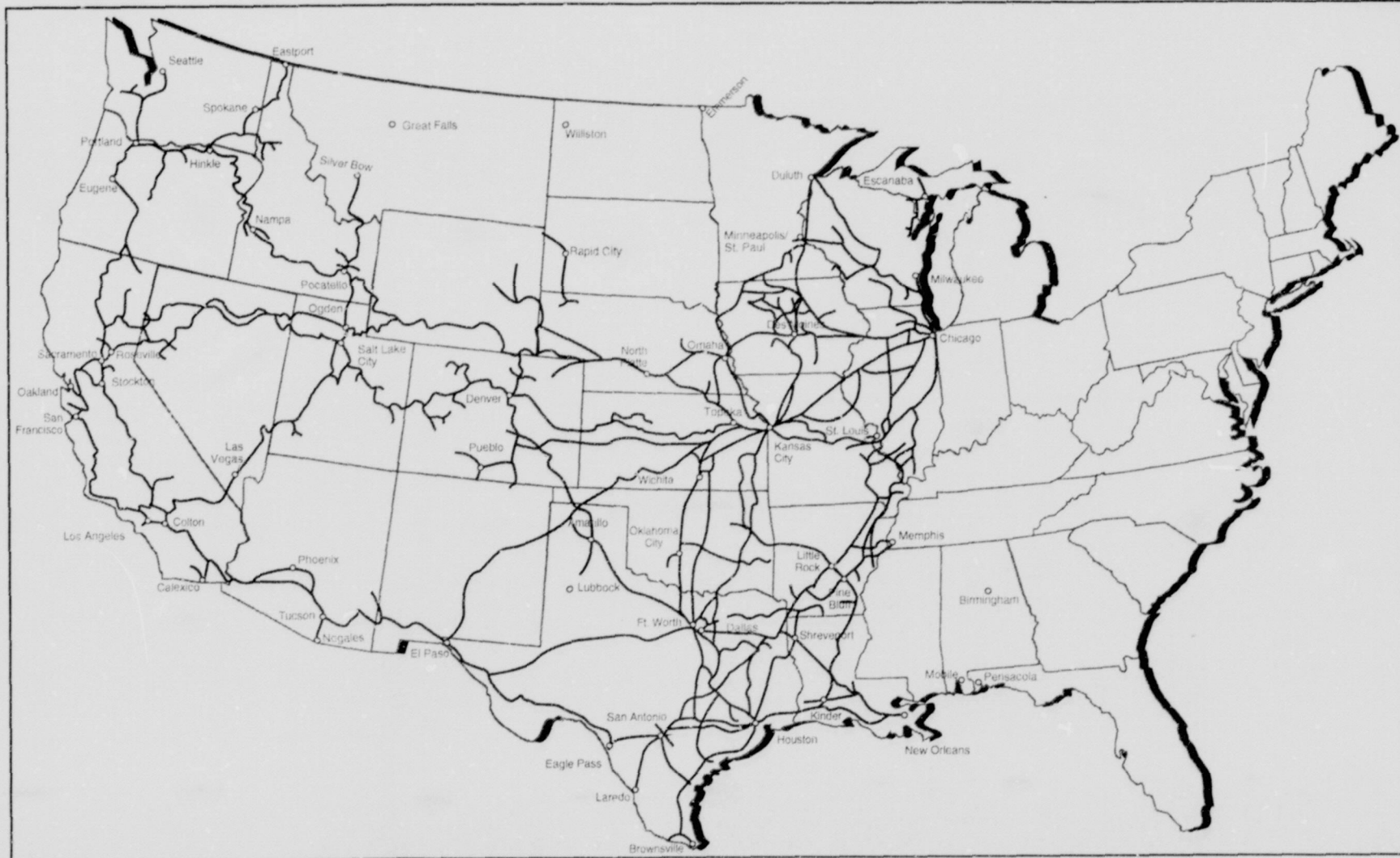
ES.2 Environmental Review Process

The Surface Transportation Board's decision to grant or deny the proposed UP/SP merger is a major Federal action requiring environmental review under NEPA. NEPA requires the completion of this environmental review process before the Board can issue a final decision either granting or denying the proposed merger. The Board's Section of Environmental Analysis (SEA) is responsible for conducting the NEPA environmental review. The Board has adopted the former ICC environmental regulations (49 CFR Part 1105) which govern the environmental review process and outline procedures for preparing environmental documents.

De Leuw, Cather & Company was retained by UP/SP, after SEA selected and approved De Leuw, Cather to act as the Board's independent third party consultant, to assist SEA in conducting the NEPA environmental analysis and in preparing the EA. (See 49 CFR 1105.10(d).) The independent third party consultant is working solely under the direction and supervision of SEA in conducting all environmental analyses related to the proposed merger.

In preparing the EA, SEA identified issues and areas of potential environmental impact; analyzed the potential environmental impacts of the proposed merger; considered alternatives to the proposed merger and the related rail line construction and abandonment projects; reviewed public comments; and developed mitigation measures to avoid or reduce anticipated impacts on the environment. SEA sent consultation letters to various Federal, state and local agencies seeking their comments on the proposed merger and related construction and abandonment proposals. (See **Volume 5** Appendices D and E for SEA's consultation letters and agency response letters). In addition, SEA and/or its independent third party consultant, conducted consultations with UP/SP and their environmental consultants and made site visits to certain proposed rail line construction and abandonment sites, rail yards, intermodal facilities and line segments to assess the potential impacts on the environment.

SEA analyzed UP/SP's Environmental Report and operating plan that accompanied their application as well as the technical studies conducted by their environmental consultants. In addition, SEA conducted its own independent analysis, which included verifying the projected rail operations; verifying and estimating noise level impacts; estimating air emission increases; performing land use, habitat, surface water, and wetland surveys; conducting ground water analyses; and performing archaeological and historic resource surveys. These studies, including details of methodologies used, are discussed in the EA.



UP/SP RAILROAD MERGER
PROPOSED UP/SP RAILROAD SYSTEM
ENVIRONMENTAL ASSESSMENT

SEA also assessed potential safety impacts to numerous communities. These safety impacts may arise when line segments experience substantial increases in rail traffic as a result of the proposed merger. Safety concerns include potential environmental impacts associated with grade crossing accidents, movements of hazardous materials, derailments, and increased traffic congestion.

ES.3 Public Outreach

SEA conducted several public outreach activities to inform the public that an EA was being prepared for the proposed merger and to facilitate public participation in the environmental review process. SEA prepared a Fact Sheet that described the proposed merger and related abandonments and constructions, highlighted SEA's environmental review process, and provided information for submitting written comments or questions. SEA distributed the Fact Sheet to cities and counties potentially affected by the proposed merger for placement in public buildings and libraries. (See **Volume 5**, Appendix C for a copy of the Fact Sheet and a list of the cities and counties served.) SEA established a toll-free environmental hotline (800/448-7246) to provide information and assistance to the public concerning the proposed merger. SEA placed public advertisements in 43 newspapers in 19 effected states to provide notice of the proposed merger, preparation of the EA, availability of the Fact Sheet, and the toll-free environmental hotline (see **Volume 5**, Appendix C). In addition, the Board issued a press release announcing the preparation of an EA for the proposed merger.

To further facilitate public participation and comments on the EA, SEA served copies of the EA to all parties of record; appropriate Federal, state, and local agencies; and any parties requesting a copy of the EA. Also, SEA announced the availability of the EA to the public through a Notice of Availability in the Federal Register.

Based on available information, independent environmental analysis, and the recommended mitigation, SEA concludes that the potential environmental impacts of the proposed merger and related rail line constructions and abandonments should not be significant. The public will have 20 days from the EA's date of service to submit comments on the EA. SEA will consider all comments received in response to the EA in making its final environmental recommendations to the Board. The Board will consider SEA's final recommendations and the environmental record in making its decision in this proceeding.

ES.4 Areas of Potential Environmental Impacts

The proposed merger would result in a rerouting of train traffic within the consolidated system. This rerouting would generate increased traffic densities on some line segments, decreases on other segments, and overall efficiencies within the system. Also, there would be increased activity on certain line segments and rail yards as a result of diversions from rail and non-

rail carriers. These changes would result in increased local truck traffic in and around intermodal facilities, and corresponding decreased levels of long-haul truck traffic. Further, certain rail yards would experience increased activity from the consolidation of yard activities at a single location in areas where each railroad now maintains its own yard. These rerouting and consolidation activities would require some new construction at specific sites to maximize effectiveness and efficiencies. In some instances the construction of common point connections between UP and SP mainlines and some stub-end (or storage) sidings would require acquisition of additional right-of-way. As part of the proposed merger, UP/SP also propose discontinuance of rail service and abandonments of certain rail lines. Applicants state that rail traffic currently using these lines would be rerouted to other UP/SP lines.

The potential environmental impacts associated with rail and intermodal operations are mainly related to air quality and noise. SEA identified rail line segments, rail yards, and intermodal facilities that would have an increase in rail or truck traffic sufficient to trigger the environmental analysis thresholds for air and noise as specified in 49 CFR 1105.7 (e)(5)(i) and (ii) for ambient air quality and 49 CFR 1105.7 (e)(6) for noise.

The Board's thresholds for areas of the country that are in attainment with National Air Quality Standards and those areas of the country that are in nonattainment with the National Air Quality Standards are presented in Table ES-1. For rail line segments, rail yards and intermodal facilities that trigger the Board's thresholds for air quality, SEA conducted an analysis of the potential environmental impacts of those actions.

In applying the Board's air thresholds to rail line segments, which are described in Table ES-1, SEA conducted an analysis of the potential environmental impacts if the rail line segments would experience an increase of eight or more trains per day or a 100 percent increase in train traffic as measured in gross ton miles annually in an attainment area.

To determine whether to analyze the impacts of rail yard activity on air quality in an attainment area, SEA looked for an increase in yard activity of 100 percent or more as measured in carload activity (the movement of rail cars around the yard). SEA determined whether to conduct an air quality analysis of the potential impacts from an intermodal facility by identifying whether there would be either an increase in truck traffic that would be greater than 10 percent of the average daily traffic on the surrounding roads or if the facility would increase the number of trucks handled by 50 or more.

SEA applied the threshold for areas that are in nonattainment with National Air Quality Standards in a similar way, but the thresholds were triggered by a lower level of activity as described in Table ES-1.

The same level of activity that triggers the Board's threshold for air quality impact analysis

in attainment areas also triggers the Board's noise analysis threshold, as described in Table ES-2. For example, an increase of eight trains per day on a rail line segment or an increase of 100 percent as measured in gross ton miles annually requires a noise analysis.

**TABLE ES-1
SURFACE TRANSPORTATION BOARD'S
AIR QUALITY THRESHOLDS FOR IMPACT ANALYSIS**

Activity Site	Threshold
Attainment Areas: (49 CFR 1105.7(e)(5)(i))	
Rail Line Segments	Increase of 8 trains per day or 100% increase in annual gross ton miles.
Rail Yards	Increase of 100% in carload activity per day.
Intermodal Facilities	Increase of 50 trucks per day or 10% increase in average daily traffic volume on any effected road segment.
Nonattainment Areas: (49 CFR 1105.7(e)(5)(ii))	
Rail Line Segments	Increase of 3 trains per day or 50% increase in annual gross ton miles.
Rail Yards	Increase of 20% in carload activity per day.
Intermodal Facilities	Increase of 50 trucks per day or 10% increase in average daily traffic volume on any effected road segment.

**TABLE ES-2
SURFACE TRANSPORTATION BOARD'S
NOISE THRESHOLDS FOR IMPACT ANALYSIS**

Activity Site	Threshold (49 CFR 1105.7(e)(6))
Rail Line Segments	Increase of 8 trains per day or 100% increase in annual gross ton miles.
Rail Yards	Increase of 100% in carload activity per day.
Intermodal Facilities	Increase of 50 trucks per day or 10% increase in average daily traffic volume on any effected road segment.

Rail Line Segments

SEA examined 389 rail line segments that would experience a change in rail traffic as a result of the proposed merger. SEA examined the 1994 baseline traffic contained in the UP/SP operating plan and the BN/Santa Fe settlement agreement to verify changes in rail traffic. SEA identified a total of 72 rail segments in 19 states that met or exceeded the Board's air and noise thresholds for environmental analysis. The rail segments, their related train traffic characteristics, and the thresholds that they exceed are described in Table ES-3.

Rail Yards

SEA reviewed the 60 rail yards that would experience a change in activity as a result of the proposed merger. Based on the 1994 traffic contained in the UP/SP operating plan, SEA identified 26 yards in 10 states that met or exceeded the Board's air and noise thresholds for environmental analysis. Table ES-4 summarizes the locations of these rail yards, anticipated increases in traffic, and the type of analysis (air quality and/or noise) conducted.

Intermodal Facilities

UP/SP identified 48 intermodal facilities that would experience a change in activity as a result of the proposed merger. Of these, SEA identified 16 intermodal facilities in 8 states that met or exceeded the Board's air quality or noise analysis thresholds. Table ES-5 summarizes the locations of these facilities, anticipated increases in truck traffic, and the type of analysis (air quality and/or noise) conducted by SEA.

Rail Line Abandonments

UP/SP proposes to abandon 17 rail line segments in 8 states, involving approximately 600 miles of track. Approval of each abandonment proposal would result in a discontinuance of service on the segments and the salvaging (or removal) of railroad facilities for reuse, sale, and/or disposal. Each abandonment proposal and its location, operator and length is provided in Table ES-6.

Rail Line Constructions

The proposed merger would involve 25 new rail line construction projects in 8 states that would require construction activity outside existing rights-of-way. These new rail lines would generally facilitate access between UP and SP rail lines that are in relatively close proximity and/or promote efficiencies in rail car handling. Each rail line construction and its length, and purpose is summarized in Table ES-7.

TABLE ES-3

RAIL LINE SEGMENTS THAT MEET OR EXCEED ENVIRONMENTAL ANALYSIS THRESHOLDS

State ⁶	Location	Operator	Length (mi.)	TRAINS PER DAY: ⁵			% Change in Gross Ton-Miles/Year	Threshold Exceedances
				Pre-Merger	Post-Merger	Change		
Arizona	Yuma to Picacho	SP	203.0	25.8	39.2	13.4	23.0%	Air Quality, Noise
	Picacho to Tucson	SP	50.0	25.7	41.4	15.7	38.6%	Air Quality, Noise
	Tucson to Cochise	SP	78.0	29.6	44.7	15.1	27.3%	Air Quality, Noise
	Cochise to Lordsburg, NM	SP	85.0	30.3	44.9	14.6	24.2%	Air Quality, Noise
Arkansas	Paragould to Dexter Junction, MO	SP	69.0	16.0	22.3	6.3	43.0%	Air Quality
	Fair Oaks to Paragould	SP	69.0	11.4	19.7	8.3	68.9%	Air Quality, Noise
	Brinkley to Fair Oaks	SP	26.0	11.4	21.7	10.3	97.5%	Air Quality, Noise
	Pine Bluff to Brinkley	SP	71.0	22.6	31.6	9.0	91.3%	Air Quality, Noise
California	Dunsmuir to Klamath Falls, OR	SP	106.0	16.5	21.7	5.2	9.6%	Air Quality
	Marysville to Dunsmuir	SP	174.0	16.7	21.9	5.2	10.4%	Air Quality
	Keddie to Bieber	UP	112.0	1.0	4.0	3.0	60.5%	Air Quality
	Roseville to Marysville	SP	34.0	16.7	20.2	3.5	7.3%	Air Quality
	Roseville to Sparks, NV	SP	139.0	13.8	25.1	11.3	78.7%	Air Quality, Noise
	Sacramento to Roseville	SP	18.0	29.1	36.1	7.0	48.6%	Air Quality
	Stockton (Lathrop) to Sacramento	UP	46.0	13.3	23.0	9.7	56.4%	Air Quality, Noise
	Martinez to Stockton (Lathrop)	SP	48.0	0.0	4.0	4.0	>100.0%	Air Quality, Noise
	Oakland to Martinez	SP	32.0	25.2	32.1	6.9	48.2%	Air Quality
	Niles Junction to Oakland	UP	25.0	24.4	29.8	5.4	5.8%	Air Quality
	West Colton to Yuma, AZ	SP	195.0	27.2	38.8	11.1	24.1%	Air Quality, Noise
	Palmdale to West Colton	SP	80.0	9.2	13.1	3.9	49.1%	Air Quality
	Long Beach to Slauson Junction	SP	14.0	22.0	25.6	3.6	-19.0%	Air Quality
	Slauson Junction to Los Angeles	SP	6.0	19.4	25.6	6.2	-5.1%	Air Quality

⁵Reflects revised traffic density data attributed to BN/SF settlement agreement as presented in BN/SF's comments (1/31/96) on the primary application.

⁶Segments are listed by the state in which the majority of track occurs. Segments in two states are not duplicated in the list.

TABLE ES-3 (continued)

RAIL LINE SEGMENTS THAT MEET OR EXCEED ENVIRONMENTAL ANALYSIS THRESHOLDS

State	Location	Operator	Length (mi.)	TRAINS PER DAY:			% Change in Gross Ton-Miles/Year	Threshold Exceedances
				Pre-Merger	Post-Merger	Change		
Colorado	Denver to Cheyenne, WY	UP	105.0	9.6	14.5	4.9	78.5%	Air Quality
	Denver to Oakley, KS	UP	262.0	1.8	8.7	6.9	443.6%	Air Quality, Noise
	Bond to Denver	SP	127.0	11.0	19.6	8.6	87.8%	Air Quality, Noise
	Dotsero to Bond	SP	38.0	6.0	14.0	8.0	202.2%	Air Quality, Noise
Illinois	Nelson to Clinton, IA	UP	34.0	43.8	47.8	4.0	7.5%	Air Quality
	Nelson to Geneva	UP	69.0	43.8	57.9	14.1	23.1%	Air Quality, Noise
	Geneva to West Chicago	UP	6.0	78.6	92.7	14.1	22.7%	Air Quality, Noise
	West Chicago to Chicago (Proviso)	UP	15.0	92.7	106.8	14.1	22.4%	Air Quality, Noise
	Galesburg to Buda	BN/SF	43.0	17.1	23.5	6.4	17.1%	Air Quality
	Buda to Nelson	UP	34.0	6.1	16.2	10.1	97.2%	Air Quality, Noise
	Villa Grove to Chicago	UP	127.0	16.2	19.2	3.0	24.0%	Air Quality
Iowa ⁷	Vinton to Clinton	UP	81.0	42.8	47.9	5.1	8.0%	Air Quality
	California Jct. to Missouri Valley	UP	6.0	28.9	37.4	8.5	28.0%	Air Quality, Noise
	California Jct. to Fremont, NE	UP	31.0	22.6	31.1	8.5	33.7%	Air Quality, Noise
Kansas	Salina to Oakley	UP	191.0	2.2	8.2	6.0	388.0%	Air Quality, Noise
	Lost Springs to Wichita	UP	64.3	1.9	11.9	10.0	362.4%	Air Quality, Noise
	Herington to Lost Springs	UP	6.5	0.1	10.4	10.3	17005.4%	Air Quality, Noise
Louisiana	Avondale to Lafayette	SP	123.0	12.2	17.7	5.5	-19.8%	Air Quality
	Livonia to Kinder	UP	76.4	6.8	8.4	1.5	59.0%	Air Quality
	Lafayette to Iowa Junction	SP	58.0	11.2	16.7	5.5	-21.7%	Air Quality
	Iowa Jct. to Beaumont, TX	SP	75.0	15.5	30.8	15.3	73.9%	Air Quality, Noise
Nebraska	Valley to Marysville, KS	UP	134.0	0.9	2.9	2.0	133.6%	Air Quality, Noise
Nevada	Sparks to Winnemucca	SP	175.0	13.8	26.2	12.4	74.1%	Air Quality, Noise

⁷This rail line segment was designated as Beverly to Clinton in the Applicants' Environmental Report.

TABLE ES-3 (continued)

RAIL LINE SEGMENTS THAT MEET OR EXCEED ENVIRONMENTAL ANALYSIS THRESHOLDS

State	Location	Operator	Length (mi.)	TRAINS PER DAY:			% Change in Gross Ton-Miles/Year	Threshold Exceedances
				Pre-Merger	Post-Merger	Change		
Nevada	Alazon to Winnemucca	UP	182.0	31.3	35.3	4.0	19.7%	Air Quality
New Mexico	Lordsburg to El Paso, TX	SP	148.0	29.3	44.7	15.4	29.4%	Air Quality, Noise
Oklahoma	Chickasha to Wichita, KS	UP	192.0	4.4	11.8	7.4	129.3%	Air Quality, Noise
Oregon	Klamath Falls to Chemult	SP	74.0	22.1	30.2	8.1	15.5%	Air Quality, Noise
	Chemult to Eugene	SP	124.0	17.4	22.6	5.2	11.2%	Air Quality
	Eugene to Portland	SP	124.0	12.3	17.5	5.2	47.4%	Air Quality
	Portland to Oregon Trunk Jct.	UP	84.8	24.9	27.9	3.0	7.3%	Air Quality
Texas	Dallas to Big Sandy	UP	98.0	27.7	34.9	7.2	50.2%	Air Quality
	Fort Worth to Chickasha, OK	UP	177.7	7.6	14.2	6.6	113.2%	Air Quality, Noise
	Lufkin to Shreveport, LA	SP	116.0	8.3	11.8	3.5	2.6%	Air Quality
	Big Sandy to Texarkana	UP	108.0	11.7	18.3	6.6	119.2%	Air Quality, Noise
	El Paso to Sierra Blanca	SP	88.0	20.6	26.4	5.8	21.4%	Air Quality
	Fort Worth to Dallas	UP	31.5	23.5	33.7	10.1	45.3%	Air Quality, Noise
	Big Spring to Fort Worth	UP	267.5	2.5	11.5	9.0	260.9%	Air Quality, Noise
	Toyah to Big Spring	UP	152.0	2.3	12.1	9.9	345.7%	Air Quality, Noise
	Sierra Blanca to Toyah	UP	109.7	2.1	11.9	9.9	430.6%	Air Quality, Noise
	Stratford to Hutchison, KS	SP	274.0	11.3	20.1	8.8	24.3%	Air Quality, Noise
	Dalhart to Stratford	SP	31.0	13.3	21.9	8.6	34.4%	Air Quality, Noise
	El Paso to Dalhart	SP	425.0	12.0	19.6	7.6	20.7%	Air Quality
Utah	Provo to Lynndyl	UP	87.0	8.7	11.7	3.0	39.1%	Air Quality
	Ogden to Alazon, NV	SP	178.0	12.7	23.0	10.3	77.2%	Air Quality, Noise
Washington	Seattle to Portland, OR	UP	186.0	46.5	50.1	3.6	5.7%	Air Quality
Wisconsin	Oak Creek to St. Francis	UP	7.0	4.0	3.2	(0.9)	153.3%	Air Quality, Noise
Wyoming	Granger to Ogden, UT	UP	145.2	34.3	38.2	3.9	12.7%	Air Quality
	Granger to Green River	UP	29.9	57.9	64.7	6.7	11.0%	Air Quality
	Green River to Rawlins	UP	134.2	57.5	64.2	6.7	11.4%	Air Quality
	Rawlins to Cheyenne	UP	172.0	59.2	66.2	7.0	11.2%	Air Quality

TABLE ES-4

RAIL YARDS THAT MEET OR EXCEED ENVIRONMENTAL ANALYSIS THRESHOLDS

State	Location	RAILCARS HANDLED PER DAY:					Threshold Exceedances
		Operator	Pre-Merger	Post-Merger	Change	% Change	
Arizona	Yuma	SP	27.3	43.3	16.0	58.6%	Air Quality
	Phoenix	SP	325.4	407.8	82.4	25.3%	Air Quality
	Nogales	SP	100.6	123.3	22.7	22.6%	Air Quality
California	Montclair	UP	99.0	129.9	30.9	31.2%	Air Quality
	Niland	SP	118.6	142.8	24.2	20.4%	Air Quality
	Martinez	SP	154.2	199.0	44.8	29.1%	Air Quality
	Lathrop	SP	147.6	245.1	97.5	66.1%	Air Quality
	Roseville	SP	1,023.3	1,608.2	584.9	57.2%	Air Quality
Colorado	Grand Junction	SP	77.0	94.0	17.0	22.1%	Air Quality
	Rolla	UP	68.4	105.2	36.8	53.8%	Air Quality
	La Salle	UP	125.0	160.4	35.4	28.3%	Air Quality
Illinois	Canal Street	UP	320.6	519.4	198.8	62.0%	Air Quality
	Salem	UP	64.0	133.2	69.2	108.1%	Air Quality, Noise
Kansas	Herington	SP	150.0	549.7	399.7	266.5%	Air Quality, Noise
Louisiana	De Quincy	UP	21.6	37.6	16.0	74.1%	Air Quality
	Lake Charles	SP	118.7	220.7	102.0	85.9%	Air Quality
	Livonia	UP	1,058.2	1,375.1	316.9	29.9%	Air Quality
Missouri	Poplar Bluff	SP	30.1	38.6	8.5	28.2%	Air Quality
Oregon	Salem	SP	16.9	26.0	9.1	53.8%	Air Quality
	Hinkle	UP	793.7	1,130.9	337.2	42.5%	Air Quality
	Bend	UP	5.6	7.6	2.0	35.7%	Air Quality
Texas	El Paso	SP	440.5	590.6	150.1	34.1%	Air Quality
	Amarillo	SP	40.0	117.2	77.2	193.0%	Air Quality, Noise
	Bellmead	SP	45.7	145.9	100.2	219.3%	Air Quality, Noise
	Fort Worth	UP	1,460.5	1,755.3	294.8	20.2%	Air Quality
Washington	Seattle	UP	508.4	649.9	141.5	27.8%	Air Quality

TABLE ES-5

INTERMODAL FACILITIES THAT MEET OR EXCEED ENVIRONMENTAL ANALYSIS THRESHOLDS

State	Location	Operator	Change in Trucks/Day	% Increase in Daily Traffic	Impacts Analyzed
Arizona	Phoenix	SP	50	0.4%	Air Quality, Noise
California	East Los Angeles	UP	587	4.2%	Air Quality, Noise
	Oakland	UP	79	4.7%	Air Quality, Noise
	Oakland	SP	68	2.0%	Air Quality, Noise
	Lathrop	UP	103	n/a	Air Quality, Noise
	Roseville	SP	103	0.8%	Air Quality, Noise
Colorado	Denver	UP	61	0.7%	Air Quality, Noise
Illinois	Dupo (E. St. Louis)	UP	178	2.6%	Air Quality, Noise
	Global II	UP	425	2.2%	Air Quality, Noise
	Canal Street	UP	186	1.8%	Air Quality, Noise
	Dolton	UP	85	0.3%	Air Quality, Noise
Kansas	Kansas City	SP	173	1.1%	Air Quality, Noise
Oregon	Portland (Albina)	UP	274	5.3%	Air Quality, Noise
Texas	San Antonio	UP	116	1.3%	Air Quality, Noise
	Dallas	SP	101	1.3%	Air Quality, Noise
Washington	Seattle	UP	59	0.8%	Air Quality, Noise

TABLE ES-6

RAIL LINE SEGMENTS PROPOSED FOR ABANDONMENT

State	Location	Operator	From Milepost	To Milepost	Length (mi.)
Arkansas	Gurdon to Camden	UP	428.3	457.0	28.7
California	Whittier Jct. to Colima Jct.	UP	0	5.2	5.2
	Magnolia Tower to Melrose	UP	5.8	10.7	4.9
	Alturas to Wendel	SP	445.6	360.1	85.5
Colorado	Sage to Leadville	SP	335.0	276.1	69.1
	Malta to Canon City	SP	271.0	162.0	109
	Towner to NA Jct.	UP	747.0	869.4	122.4
Illinois	Barr to Girard	UP	51.0	89.4	38.4
	Edwardsville to Madison	UP	133.8	148.8	15
	DeCamp to Edwardsville	UP	119.2	133.8	14.6
Kansas	Whitewater to Newton	UP	476	485.0	9
	Hope to Bridgeport	UP	459.2	491.2	31.2
Louisiana	Iowa Jct. to Manchester	UP	680	688.5	8.5
Texas	Seabrook to San Leon	SP	30.0	40.5	10.5
	Suman to Benchley	SP	105.07	117.6	13.1
	Troup to Whitehouse	UP	0.5	8.0	7.5
Utah	Little Mtn. Jct. to Little Mountain	UP	0.0	12.0	12.0

TABLE ES-7
RAIL LINE CONSTRUCTION ON NEW RIGHTS-OF-WAY

State	Location	Description of Proposed Construction
Arkansas	Texarkana	New connection between UP and SP tracks to permit operation of trains between Pine Bluff (SP) and Longview, TX (UP); approximately 2,500 feet of new track.
	Camden	New connection between UP and SP tracks to permit operation of trains between Pine Bluff to El Dorado; approximately 1,100 feet of new track construction.
	Pine Bluff (West)	New connection to permit operation of trains from UP Monroe subdivision north to Little Rock; approximately 900 feet of new track construction.
	Pine Bluff (East)	New connection to permit operation of trains between SP Pine Bluff Yard and UP mainline south to Monroe, LA; approximately 650 feet of new track construction.
	Fair Oaks	Upgrade existing connection between UP and SP tracks in southeast quadrant to 30 mph standards; approximately 1,100 feet of new track construction.
California	West Colton (UP to SP)	Connection to allow trains off UP tracks from Los Angeles to operate east on SP tracks towards Yuma; approximately 1,150 feet of new track construction.
	West Colton (SP to UP)	Connection to allow eastbound trains off SP tracks at West Colton to operate west on UP tracks; approximately 6,000 feet of new track construction.
	Lathrop	New connection between UP and SP tracks; approximately 3,000 feet of new track construction.
	Stockton	New connection from SP mainline to El Pinal and UP Stockton Yard; approximately 1,500 feet of new track construction.
Colorado	Denver	New connection between SP Moffat mainline and SP Belt Line at North Yard; approximately 3,650 feet of new track construction.
	Denver (Pulman)	New connection between UP Greeley mainline and SP Belt Line, and siding extension; approximately 5,000 feet of new track construction.
Illinois	Girard	New connection between UP Madison subdivision and the SP Springfield subdivision; approximately 3,100 feet of new track construction and relocation of approximately 1,500 feet of existing track.
	Salem	New connection between UP Chicago subdivision mainline and CSX mainline; approximately 4,600 feet of new track construction.

TABLE ES-7, continued
RAIL LINE CONSTRUCTION ON NEW RIGHTS-OF-WAY

State	Location	Description of Proposed Construction
Kansas	Hope	New connection between the UP Hoisington subdivision mainline and BN/Santa Fe mainline; approximately 22000 feet of new track construction and two new turnouts.
Louisiana	Kinder	New connection between the UP Lake Charles subdivision mainline and the UP Beaumont subdivision mainline; approximately 1,750 feet of new track construction and two new turnouts.
	Shreveport	New connection between the UP Reisor subdivision mainline and the SP Lufkin subdivision mainline; approximately 1,560 feet of new track construction, acquisition of approximately 3 acres of right-of-way, and relocation of US Hwy. 171 overpass pier.
Missouri	Dexter	8,900 foot extension to existing siding at MP 189.9.
	Paront	8,600 foot extension to existing siding at MP 47.1.
Texas	Carrollton	Construction of two new tracks and one track extension; approximately 3,660 feet of new track construction.
	Fort Worth	New connections between UP Fort Worth subdivision mainline and SP Ennis subdivision, Fort Worth branch: approximately 800 feet of new track construction and two new turnouts in northeast quadrant.
	Fort Worth	New connections between UP Fort Worth subdivision mainline and SP Ennis subdivision, Fort Worth branch: approximately 1,180 feet of new track construction and two new turnouts in southwest quadrant.
	Houston	New connection between the SP mainline and the HB&T line at Tower 26; approximately 1,400 feet of new track construction and two new turnouts.
	Houston	New connection between the SP mainline and the HB&T line at Tower 87; approximately 1,000 feet of new track construction and two new turnouts.
	Houston	New connection between the SP Lufkin subdivision and the UP Settegast yard; approximately 1,650 of new track construction and two new turnouts.
	West Point	New connection between the UP Houston subdivision mainline and the SP Ennis subdivision Flatonia line; approximately 1,900 feet of new track construction and two new turnouts.

ES.5 Summary of Potential Environmental Impacts

In conducting its environmental analysis, SEA identified environmental impacts that could result from the proposed merger. This effort included consultations with Federal, state, and local agencies, data collection, site visits, consultations with UP/SP and their environmental consultants,

and independent analyses. The potential impacts are related to anticipated changes in traffic and other merger-related activities with regard to: (1) rail line segments, (2) rail yards, (3) intermodal facilities, (4) abandonments, and (5) rail line constructions. Specifically, rail lines, rail yards, and intermodal facilities have the potential to cause environmental impacts because of increased train or truck activity resulting from the proposed merger. Potential impacts due to abandonments include physical disruption of the right-of-way due to salvaging operations and increases in truck activity due to discontinuance of rail service. Rail line constructions have the potential to cause impacts because of construction-related activities and the subsequent operation of trains over the new connections.

Highlighted below is a summary of the potential environmental impacts associated with the proposed merger according to the following five categories: (1) rail line segments, (2) rail yards, (3) intermodal facilities, (4) abandonments, and (5) rail line constructions.

Rail Line Segments

SEA identified 72 out of 389 rail segments that have the potential to cause environmental impacts in the areas of air quality and noise. These 72 rail segments may adversely effect air quality in 19 states, portions of many of which are designated as nonattainment. The increased emissions from the locomotives on these segments could potentially contribute to increased levels of pollution. A detailed analysis of these impacts is presented in **Volume 2**, Chapters 2 through 20.

SEA identified 38 rail segments of the 72 noted above that may have adverse impacts on noise in 16 states. The projected increase in train volume and/or gross ton-miles over a majority of these segments would cause less than a 2 dBA increase in the L_{dn} ; therefore no adverse noise impacts would be expected. Some of the 38 rail segments, however, would experience an increase in train volume and/or gross ton-miles sufficient to increase the number of sensitive receptors (i.e., residences, schools, and churches). Most of the noise impacts would occur at or near grade crossings, where train horns are sounded as a warning to motorists or pedestrians. The increase in the number of sensitive receptors would be only incremental, as trains are already the dominant source of noise in these areas.

Rail Yards

SEA analyzed 26 rail yards in 10 states that would meet or exceed the Board's air quality and/or noise analysis thresholds. None of the rail yards would experience increases in pollutant emissions that would exceed the EPA definition of significance (as defined in Prevention of Significant Deterioration at 40 CFR 51.166), either individually or in combination with other rail yards within a

particular Air Quality Control Region (AQCR). When analyzed in combination with other proposed merger activities, however, emissions from these rail yards could contribute to increased levels of pollutants in their respective AQCRs. Only four of these rail yards would exceed the Board's thresholds for noise analysis; operations at three of these yards would cause adverse noise impacts slightly above the 2 dBA level in L_{dn} . A detailed analysis of these impacts is presented in **Volume 2**, Chapters 2 through 20.

Intermodal Facilities

SEA analyzed 16 intermodal facilities in 8 states that would meet or exceed the Board's air quality analysis thresholds. Individually, the East Los Angeles intermodal facility in California and the Global II intermodal facility in Illinois would experience increases in pollutant emissions that would exceed the EPA definition of significance (as defined in Prevention of Significant Deterioration at 40 CFR 51.166) for nitrogen dioxide (NO_2). Within their respective AQCRs, these two facilities also would contribute to increases in particulate matter (PM-10) emissions that would exceed the EPA definition of significance (as defined in Prevention of Significant Deterioration at 40 CFR 51.166). A detailed analysis of these impacts is presented in **Volume 2**, Chapters 2 through 20.

Each of the 16 intermodal facilities noted above also would meet or exceed the Board's thresholds for noise analysis. Noise sources at intermodal facilities include track traffic in and out of the facility, locomotives moving the rail cars, and the cranes or fork lifts used for loading and unloading flat cars. For most of the facilities, the projected increase in noise exposure would be relatively modest, indicating that increased noise impacts would not be expected except in localized areas. The modest increase, along with the few sensitive receptors near most of the facilities, indicates that the potential for noise impacts from increased operations at these intermodal facilities would be limited. A detailed analysis of these impacts is presented in **Volume 2**, Chapters 2 through 20.

Abandonments

SEA assessed the potential effects of each of the 17 rail line abandonments and associated salvage operations. Most of the salvage operations generally involve removal of rail, ties and ballast and would be completed primarily within the right-of-way. SEA concludes that these activities should not result in any significant impacts to the environment if the recommended mitigation measures are implemented. Two proposed abandonments in Colorado involve US EPA-designated Superfund sites. Remediation and mitigation plans may be required by US EPA before any salvage activities occur.

Rail Line Constructions

SEA identified 25 new rail line constructions which would be located in new rights-of-way (See Table ES-6). SEA analyzed each rail line construction project, conducted site visits, and consulted with various Federal, state, and local agencies to ascertain potential environmental impacts and develop appropriate mitigation. (See **Volume 5**, Appendices D and E for consultation letters and agency responses). SEA considered the potential environmental impacts associated with each project. Potential impacts pertained to the following: (1) land use, (2) transportation and safety, (3) water resources, (4) biological resources, (5) air quality, (6) noise, and (7) historic and cultural resources. SEA concludes that these construction proposals and their operation should not result in significant impacts to the environment if the mitigation measures in this EA are implemented. A detailed description of each rail line construction proposal, potential environmental impacts, comments of Federal, state, and local agencies, and SEA's recommended mitigation measures are provided in **Volume 4** of this EA.

ES.6 Alternatives

SEA considered the "no action" or "no merger" alternatives to the proposed merger. Under this alternative, the two railroads would forego the expected improved service capabilities and increased operating efficiencies. Also, none of the anticipated environmental impacts would occur. Generally, with respect to rail line segments, rail yards, and intermodal facilities, potential air quality, noise, or transportation impacts would not occur. With respect to abandonments, there would not be any potential impacts associated with salvage activities. Relative to the rail line construction, there would be no potential impacts associated with land use, transportation, water resources, biological resources, air quality, noise, and historic and cultural resources. SEA also considered alternative actions (including the "no action" alternative) for each of the proposed abandonments and construction projects. These alternatives are discussed in **Volumes 3 and 4**.

ES.7 Section of Environmental Analysis Recommendations for Mitigation

Based on its independent analysis of the project, review of available information, and the comments and mitigation suggested by various Federal, state and local agencies, SEA recommends that any final decision of the Board approving the proposed merger and related abandonments and construction projects be subject to the mitigation measures set forth in this EA. Specifically, **Volume 2** presents SEA's recommended mitigation for rail line segments, rail yards, and intermodal facilities; **Volume 3** contains mitigation recommended for abandonments, and; **Volume 4** sets forth the recommended mitigations for construction projects.

With respect to increased activity on rail line segments, rail yards, and intermodal facilities,

these mitigation measures address potential air quality, noise, transportation and safety impacts. They include, but are not limited to, the following types of mitigation:

- UP/SP shall consult with appropriate Federal, state and local agencies responsible for regulating air quality, concerning any possible mitigation measures to reduce adverse emissions in nonattainment areas.
- To reduce potential noise level impacts to sensitive receptors, UP/SP shall consult with appropriate state and local agencies to develop noise abatement plans.
- UP/SP shall consult with communities concerned about safety and potential effects of additional rail traffic on vehicular traffic to develop mutually agreeable mitigation plans.
- UP/SP shall maintain all rail lines and grade crossing warning devices according to Federal Railroad Administration standards.
- UP/SP shall transport all hazardous materials in compliance with U.S. Department of Transportation regulations. In the case of a hazardous material spill, UP/SP shall follow appropriate emergency response procedures contained in their Emergency Response Plans.

The recommended mitigation measures for the proposed rail line abandonment and construction projects address potential impacts to land use, safety, transportation, water resources, biological resources, air quality, noise, and historic and cultural resources. The recommendations include, but are not limited to, the following types of mitigation:

- UP/SP shall observe all applicable Federal, state, and local regulations regarding handling and disposal of any waste materials, including hazardous wastes.
- UP/SP shall use appropriate signs and barricades to control traffic disruptions during construction or salvage operations, and shall restore roads disturbed during construction to conditions as required by state and local regulations.
- UP/SP shall use Best Management Practices to control erosion and run-off.
- UP/SP shall restrict mechanized equipment to upland areas to complete salvage and construction activities. For any activities within wetlands or waterways, UP/SP shall obtain and comply with all permits required under Sections 402 and 404 of the Clean Water Act.

- UP/SP shall use only EPA-approved herbicides and qualified contractors for right-of-way maintenance.
- In those cases where historic resources would be adversely affected, UP/SP shall not undertake construction or salvage activities until the Section 106 review process is completed. If previously undiscovered archaeological remains are found during construction, UP/SP shall cease work and immediately contact the SHPO.
- UP/SP shall comply with applicable Federal, state and local regulations regarding the control of fugitive dust.
- UP/SP shall control temporary noise from construction equipment through the use of work hour controls and maintenance of muffler systems on machinery.

ES.8 Conclusion

Based on its independent analysis, review of available information, and the recommended mitigation measures, SEA concludes that, as currently proposed, the proposed merger and related construction and abandonment proposals would not significantly affect the quality of the human environment. Accordingly, SEA recommends that the Board impose these mitigation measures as conditions to any final decision approving the proposed merger and related abandonments and construction projects. Therefore, the environmental impact statement process is unnecessary in this proceeding.

ES.9 Request for Comments

The EA reflects early input received from many Federal, state, and local agencies. SEA recognizes that each community has its own local issues and interests. At this time, SEA welcomes any additional comments on specific areas of environmental impact that may affect or be important to a community as a result of the proposed merger. Also, SEA invites communities and any other interested parties to submit specific and reasonable mitigation measures together with their basis for recommending particular mitigation.

Written comments must be submitted to SEA by May 3, 1996, which is the close of the public comment period on the EA. SEA will review all comments received in response to the EA in making its final environmental recommendations to the Surface Transportation Board. The Board will consider SEA's final recommendations and the environmental record in making its final decision on the proposed Union Pacific/Southern Pacific merger.

If you wish to file comments regarding this EA, send an original and ten copies to the Board's Section of Environmental Analysis, Room 3219, Surface Transportation Board, 1201 Constitution Avenue, NW, Washington, D.C. 20423, to the attention of Elaine K. Kaiser, Chief, Section of Environmental Analysis. Comments should refer to the docket number of this proceeding: Finance Docket No. 32760.

Date made available to the public:	April 12, 1996
Comment due date:	May 3, 1996

CHAPTER 1.0

DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

1.1 Overview

On November 30, 1995, the Union Pacific Railroad Company (UP) and the Southern Pacific Transportation Company (SP) applied to the Interstate Commerce Commission (ICC)¹ for authority to consolidate their operations into a single Union Pacific Railroad Company (UP/SP or the Applicant). The UP/SP state that the proposed merger is intended to improve service capabilities and operating efficiencies. The proposed merger of the two railroads would create a single railroad company with more than 34,000 miles of track operating in 25 states. The proposed merger would also result in rerouting of train traffic within the combined system, consolidation of yard and terminal facilities, changes in activities at rail yards and intermodal facilities, abandonment of certain rail line segments, and construction of new rail connections. (See Figure 1-1 for a map of the proposed merged UP/SP system.)

As part of the proposed merger, UP/SP have entered into settlement agreements with three railroads: the BN/Santa Fe, the Utah Railway Company (Utah), and the Illinois Central Railroad Company (IC). These agreements are intended to preserve the competitive position of the railroads involved, and, in some cases, preserve competition for shippers where service by two railroads would be lost.

The settlement agreement with the BN/Santa Fe includes trackage rights and rail line purchases involving extended corridors (see Figure 1- 2). These include:

- Trackage rights over a route between Denver and the San Francisco/Oakland, California area, with access to UP/SP's multi-route network through central and western Nevada, and to California. Principal cities to be served include Salt Lake City-Ogden, Utah; Reno, Nevada; and Sacramento, Stockton, Oakland, and San Jose in California.
- BN/Santa Fe's acquisition of the UP route between Keddie and Bieber, California, solidifying BN/Santa Fe's position for providing north-south service between California, Oregon, and Washington points.

¹The ICC Termination Act of 1995 (P.L. 104-88, 109 Stat. 803), which was enacted on December 29, 1995 and took effect on January 1, 1996, abolished the Interstate Commerce Commission and transferred its railroad merger approval functions to the Surface Transportation Board.

- Trackage rights and/or acquisition of network of routes radiating from Houston, Texas, to serve Memphis, Tennessee; New Orleans, Louisiana; and Brownsville, San Antonio, and Waco, Texas.

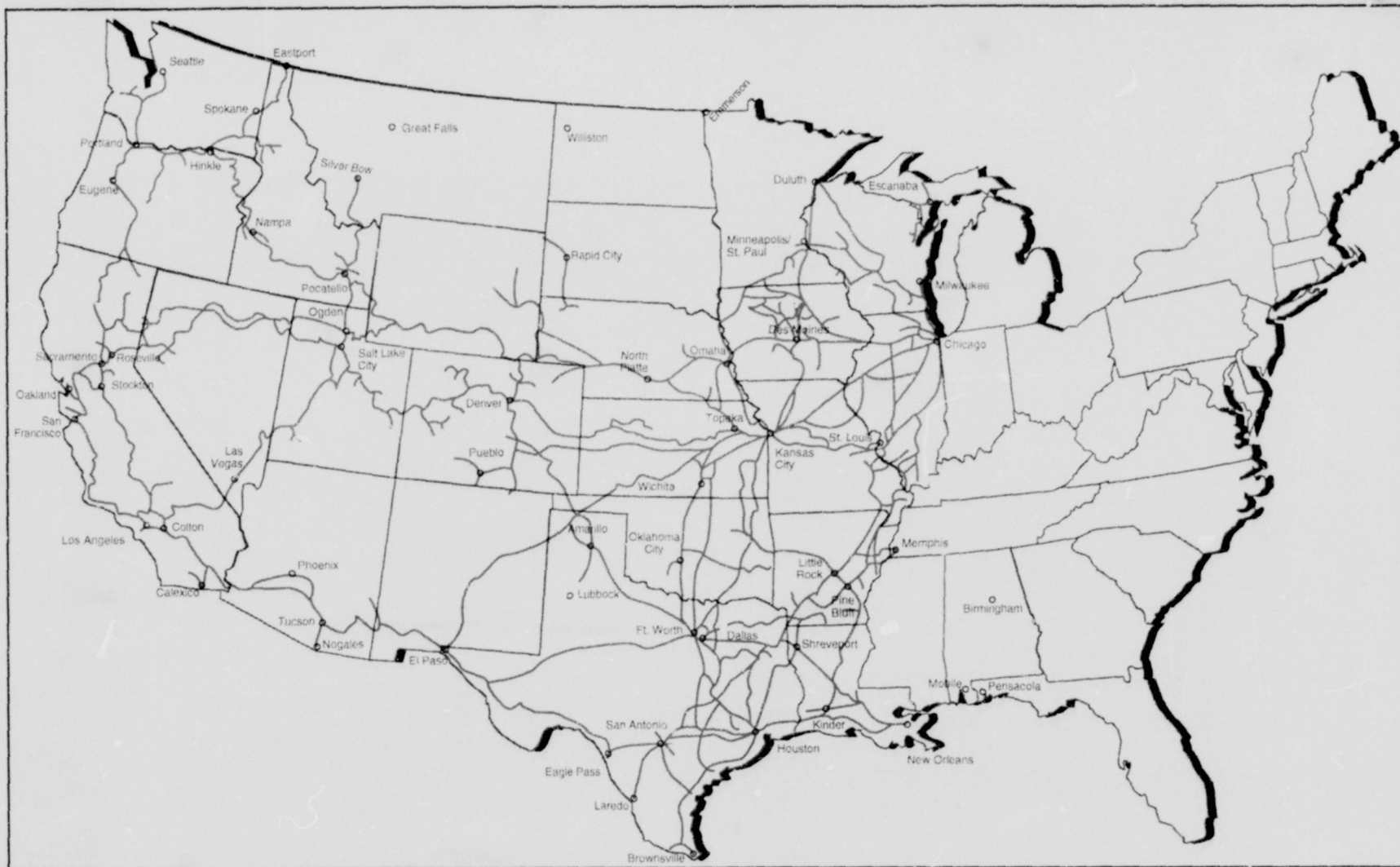
These routes would serve as a spine or connection with other BN/Santa Fe routes. The BN/Santa Fe states that it intends to use these new route combinations to establish service in direct competition with UP/SP. On most new through routes, the BN/Santa Fe intends to use its own locomotives and crew. On other routes, UP/SP locomotives and/or crews would be used under contract arrangements. At larger terminals and yards, BN/Santa Fe would do its own switching, while at smaller yards, switching might be handled by UP/SP through reciprocal switch arrangements or by a third party contractor. The BN/Santa Fe settlement agreement also would provide access for UP/SP to some BN/Santa Fe line segments in Oregon, California, Texas and Louisiana to preserve two-line competition or to optimize train routing.

Settlement agreements with the Illinois Central and the Utah railroads are not as extensive as those with the BN/Santa Fe. The Illinois Central settlement addresses joint marketing and operational issues. The operating portion focuses on the clarification of interchange service and construction of certain rail connections in the Chicago area, use of the Illinois Central-BN/Santa Fe tracks between Chicago and Joliet, Illinois, and rebuilding of certain facilities in the New Orleans area. The settlement agreement with the Utah Railway would provide access to certain coal loading facilities in Utah and trackage rights from Utah Junction to Grand Junction, Colorado.

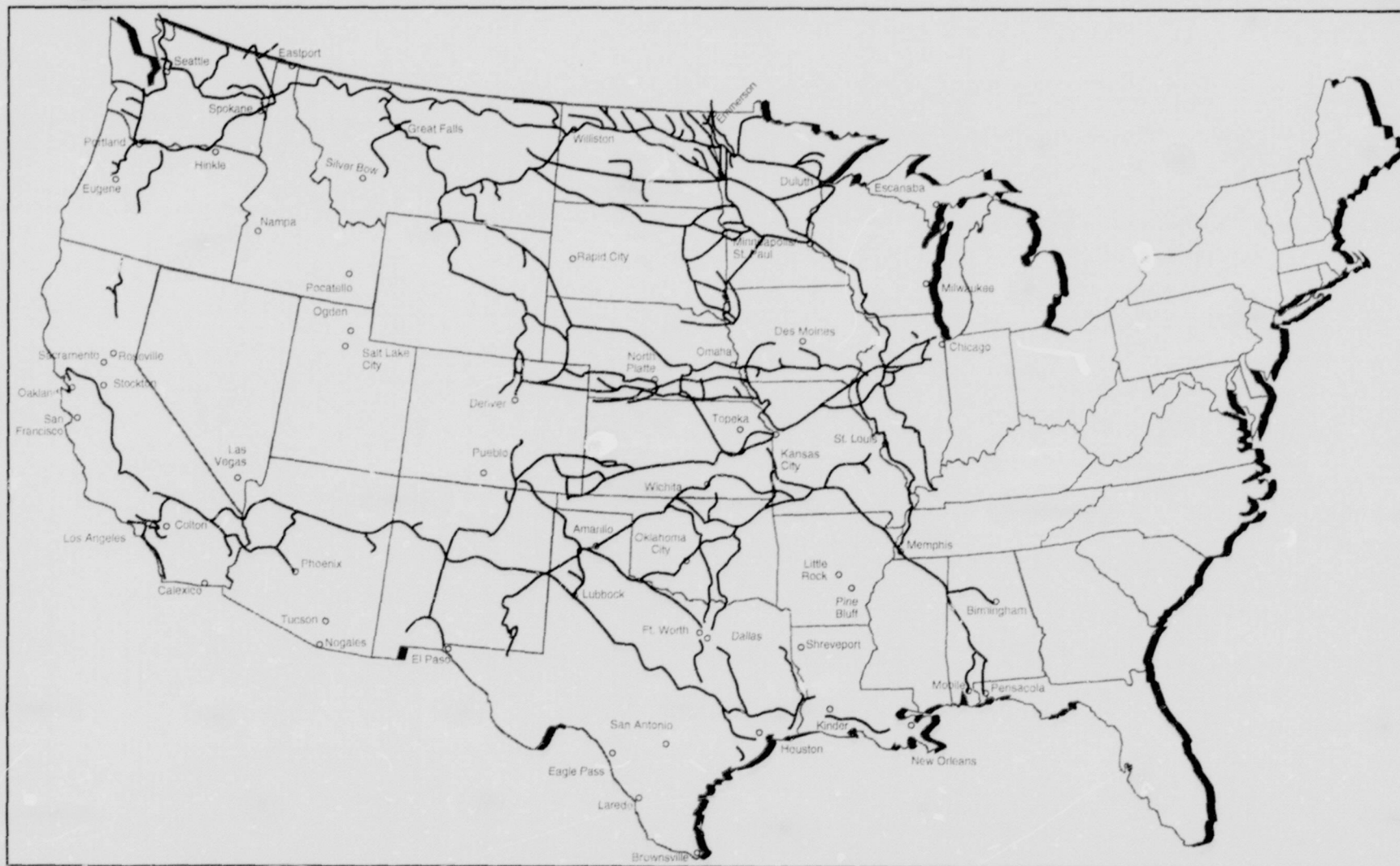
In other actions related to the proposed merger, six parties (three railroads, two utilities, and one transit agency) filed responsive applications seeking the Board's authority for trackage rights and/or acquisition of specific UP/SP rail lines (see Section 1.4 below). This EA does not analyze the potential environmental impacts of these responsive applications because it appears, based upon verified statements submitted by the six parties, that the Board's environmental thresholds will not be met or exceeded, and no substantial increase in trains or other activities are expected as a result of these proposals.

The proposed railroad merger must now be approved by the Surface Transportation Board (the Board). The Board retains the former ICC's merger review authority. Because the Board's merger review authority constitutes a major federal action, the proposed merger's potential environmental impacts must be assessed, consistent with requirements of the National Environmental Policy Act (NEPA), as amended (42 USC 4321), and other applicable Federal and state environmental statutes. This environmental review must be completed before the Board can issue a final decision either granting or denying the proposed merger.

The Board's Section of Environmental Analysis (SEA) is responsible for conducting the environmental review for this proposed merger. The Board has adopted the former ICC environmental regulations (49 CFR Part 1105) which govern the environmental review process and



UP/SP RAILROAD MERGER
PROPOSED UP/SP RAILROAD SYSTEM
 ENVIRONMENTAL ASSESSMENT



UP/SP RAILROAD MERGER
 UP/SP AND BN/SANTA FE RAILROAD SYSTEMS
 ENVIRONMENTAL ASSESSMENT

outline procedures for preparing environmental documents. These regulations have been retained by the Board and were used by the SEA in determining potential environmental impacts associated with the proposed UP/SP merger.

The environmental rules at 49 CFR 1105.6(a) and 1105.6(b) set forth the criteria that identify those types of actions for which an EA or an Environmental Impact Statement (EIS) generally are prepared. SEA reviewed the proposed merger and determined that it met the criteria of 49 CFR 1105.6(b)(4). This section normally calls for the preparation of an EA, rather than an EIS, in proposed merger cases where: (1) substantive operational changes or (2) proposed rail line constructions or abandonments are not expected to result in significant environmental impacts. However, should the EA disclose unanticipated environmental impacts that are significant, SEA reserves the right to require the preparation of an EIS.

De Leuw, Cather & Company was retained by UP/SP, after SEA selected and approved De Leuw, Cather to act as the Board's independent third party consultant, to assist SEA in conducting the NEPA environmental analysis and in preparing the EA (see 49 CFR 1105.10(d)). The independent third party consultant is working solely under the direction and supervision of SEA in conducting all environmental analyses related to the proposed merger. **Volume 5**, Appendix B contains the list of preparers.

In preparing the EA, SEA identified issues and areas of potential environmental impact; analyzed the potential environmental impacts of the proposed merger; considered alternatives to the proposed merger and the related rail line construction and abandonment projects; reviewed public comments; and developed mitigation measures to avoid or reduce anticipated impacts on the environment. SEA sent consultation letters to various Federal, state and local agencies seeking their comments on the proposed merger and related construction and abandonment proposals. (See **Volume 5**, Appendices D and E for SEA's consultation letters and agency response letters). Also, SEA and/or its independent third party consultant, conducted consultations with the Applicants and their environmental consultants and made site visits to certain proposed rail line construction and abandonment sites, rail yards, intermodal facilities and line segments proposed for increased activities to assess the potential impacts on the environment.

As part of its environmental review, SEA analyzed the Applicants' Environmental Report (ER) and operating plan accompanying their application as well as the technical studies conducted by their environmental consultants. The Applicants' simultaneously filed their Environmental Report with their merger application. The Applicants' environmental consultant, Dames & Moore, Inc., prepared the ER in accordance with the Board's environmental rules at 49 CFR Part 1105.7. This ER assesses the impacts of the proposed merger on transportation, safety, air quality, energy consumption, noise levels, land use, biological resources, water resources and wetlands, and historic and cultural resources. The ER contains analyses of these impacts as they relate to systemwide operational changes resulting from the proposed merger (Part 1 of the ER), rail line

segments (Part 2), rail yards and intermodal and automotive facilities (Part 3), proposed abandonments (Part 4), and proposed construction projects (Part 5). The ER identified potential adverse impacts associated with each of these areas, along with proposed mitigation measures.

SEA conducted its own independent analysis of the ER, which included verifying the projected rail operations; verifying and estimating noise level impacts; estimating air emission increases; performing land use, habitat, surface water, and wetland surveys; conducting ground water analyses; and performing archaeological and historic resource surveys. These studies are discussed in the EA and details of the methodologies used are contained in **Volume 5**, Appendices G - L.

This EA represents analyses based upon information available as of mid-March, 1996 and supersedes data presented in the Applicant's ER and other documents previously distributed by SEA (i.e., Fact Sheets, consultation letters). In particular, this EA reflects the revised traffic data presented by BN/Santa Fe for lines for which it would acquire or obtain trackage rights under the BN/Santa Fe settlement agreement noted above. These figures were submitted by BN/Santa Fe in its comments on the primary application dated December 29, 1995 (BN/Santa Fe-1). The BN/Santa Fe train density data are somewhat higher with respect to certain line segments than UP/SP's original estimates in their application. BN/Santa Fe's traffic data reflect its projection as to the likely internal rerouting of BN/Santa Fe traffic under the terms of the settlement agreement. Accordingly, SEA used the BN/Santa Fe figures in lieu of those submitted by UP/SP. UP/SP concur with the use of BN/Santa Fe's figures for this environmental analysis pursuant to their letter of March 21, 1996. (See **Volume 5**, Appendix A, Part Two, Exhibit A-12.)

SEA has incorporated the BN/Santa Fe data to determine likely traffic changes by rail line segment, and related potential environmental impacts under the settlement agreement. With respect to BN/Santa Fe traffic impacts on rail yards, intermodal facilities, and track construction projects, SEA will analyze all further information received, together with the comments to the EA, in assessing any environmental impacts associated with these activities. This analysis, as well as any additional environmental analysis of affected rail line segments, will be reflected in SEA's final recommendations to the Board.

To ensure that public concerns were considered during the environmental review process, SEA conducted several activities to involve the general public in the preparation of the EA. SEA prepared a Fact Sheet that described the proposed merger and related abandonments and constructions, highlighted SEA's environmental review process, and provided information for submitting written comments or questions. SEA distributed the Fact Sheet to cities and counties potentially affected by the proposed merger for placement in public buildings and libraries. (See **Volume 5**, Appendix C for a copy of the Fact Sheet and a list of the cities and counties served.) SEA established a toll-free environmental hotline (800/448-7246) to provide information and assistance to the public concerning the proposed merger. SEA placed public advertisements in

43 newspapers in 19 affected states to provide notice of the proposed merger, preparation of the EA, availability of the Fact Sheet, and the toll-free environmental hotline (see **Volume 5**, Appendix C). In addition, the Board issued a press release announcing the preparation of an EA for the proposed merger.

To further facilitate public participation and comments on the EA, SEA served copies of the EA to all parties of record; appropriate Federal, state, and local agencies; and any parties requesting a copy of the EA. Also, SEA announced the availability of the EA to the public through a Notice of Availability in the Federal Register.

Executive Order 12898 (EO), entitled "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," directs Federal agencies to analyze the environmental effects of their actions on minority and low-income communities. Significant and adverse effects should then be addressed by mitigation measures in the environmental document. In addition, Federal agencies should provide the opportunity for community input, including identifying potential effects and mitigation measures, throughout the NEPA process.

In this EA, SEA has considered the impacts of the proposed merger, which include changes in rail operations, rail constructions, and rail abandonments, on minority and low-income communities. Also, SEA has solicited comments from agencies and communities in order to identify potential impacts and devise mitigation measures, where necessary. In response to comments submitted by the Bureau of Indian Affairs, SEA is recommending that the Applicants consult with American Indian Tribes near construction and abandonment sites. SEA specifically requests comments on environmental justice issues and recommended mitigation measures.

Based on its independent analysis, review of available information, and the recommended mitigation measures, SEA concludes that the potential environmental impacts of the proposed merger and related rail line constructions and abandonments would not significantly affect the quality of the human environment. The public will have 20 days from the EA's date of service to submit comments on the EA. SEA will consider all comments received in response to the EA in making its final environmental recommendations to the Board. The Board will consider SEA's final recommendations and the environmental record in making its decision in this proceeding.

1.2 Proposed Action

1.2.1 Background

The proposed merger of the Union Pacific Railroad Company and the Southern Pacific Transportation Company into a single Union Pacific Railroad Company would create a single railroad company with more than 34,000 miles of track operating in 25 states: Arizona, Arkansas, California, Colorado, Idaho, Illinois, Iowa, Kansas, Louisiana, Michigan, Minnesota, Missouri,

Montana, Nebraska, Nevada, New Mexico, Oklahoma, Oregon, South Dakota, Tennessee, Texas, Utah, Washington, Wisconsin, and Wyoming. The UP/SP state that the proposed merger would consolidate the operations of the two rail carriers and improve both service capabilities and operating efficiencies. At present, the UP operates 18,181 route miles of rail line in 23 states. Its system extends from west coast terminals in Seattle, Portland, Oakland and Los Angeles to terminals in Chicago, St. Louis, Memphis, and New Orleans. SP currently operates 16,700 miles of rail line in 15 states, extending from Portland, Oakland, and Los Angeles in the west to Chicago, St. Louis, Memphis, and New Orleans in the east.

If approved, the proposed merger would result in the rerouting of train traffic within the consolidated system. This rerouting would cause increased traffic on some rail segments and decreased traffic on other segments. It would also result in increased activity on certain rail segments due to truck-to-rail diversions and diversions from other rail carriers. In addition, local truck traffic volumes on area roadways may change as a result of consolidating rail yards and intermodal facilities.

Rail line abandonments are planned as a part of the proposed action. Seventeen rail lines in eight states (Arkansas, California, Colorado, Illinois, Kansas, Louisiana, Texas, and Utah), involving approximately 600 miles of track, would be abandoned. The proposed merger would involve 25 new rail line construction projects in eight states (Arkansas, California, Colorado, Illinois, Kansas, Louisiana, Missouri, and Texas) that would require construction activity outside existing rights-of-way. Additional construction within existing railroad rights-of-way and consolidation or phaseout of rail yards and intermodal facilities are also expected to occur as a result of the proposed merger. Finally, through responsive applications and settlement agreements, other railroads and/or other parties are seeking trackage rights, rail line acquisitions, and new rail line connections as a part of this proposed merger.

For purposes of this environmental analysis, SEA assessed the potential environmental impacts which could result from three types of merger-related actions:

- Traffic changes on rail line segments, at rail yards and at intermodal facilities.
- Rail line segment abandonment.
- Rail line construction on new rights-of-way.

Provided below is a summary of the potential environmental impacts generally associated with these actions.

1.2.2 Rail Line Segments, Yards, and Intermodal Operations

The potential environmental impacts associated with rail line segment, yard, and intermodal operations are primarily related to air quality, noise levels and safety. SEA identified rail line

segments, rail yards, and intermodal facilities that would have an increase in rail or truck traffic sufficient to trigger the Board's environmental analysis thresholds for air quality and noise levels as specified in 49 CFR 1105.7(e)(5)(i) and (ii) for ambient air quality and 49 CFR 1105.7 (e)(6) for noise levels.

The Board's environmental thresholds that trigger air quality and noise impact analyses are presented in Table 1-1 and Table 1-2, respectively. These thresholds identify minimum increases in activities related to rail operations that generally warrant air quality and noise impact analyses.²

Safety impacts generally associated with these activities include:

- Grade crossing safety.
- Traffic congestion and delays.
- Changes in the frequency of accidents.
- Transport of hazardous materials.
- Hazardous waste sites.

Rail Line Segments

The consolidation of the UP/SP rail system would result in many operational changes, producing increases and decreases in the amount of train traffic on rail segments throughout the system. Based on operational data developed by UP/SP, the ER listed 70 rail line segments (out of 389 evaluated systemwide) that are projected to experience traffic increases in excess of the Board's thresholds requiring analysis of air quality and/or noise. SEA examined the 1994 baseline traffic contained in the UP/SP operating plan to verify the findings in the ER. In addition, SEA reviewed changes in operations associated with the BN/Santa Fe settlement agreements, as well as the PDEA submitted by the Applicants for this agreement (see **Volume 5**, Appendix A). SEA then identified a total of 72 segments in 19 states (Arizona, Arkansas, California, Colorado, Illinois, Iowa, Kansas, Louisiana, Missouri, Nebraska, Nevada, New Mexico, Oklahoma, Oregon, Texas, Utah, Washington, Wisconsin, and Wyoming) that would experience increases in traffic that would meet or exceed the Board's air quality and/or noise thresholds. Table 1-3 identifies the locations of these segments, projected changes in rail traffic volumes, and the type of analysis (air quality and/or noise) conducted by SEA.

²In air quality analysis, the potential environmental impacts of the emissions of five pollutants--hydrocarbons (HC), carbon monoxide (CO), sulfur dioxide (SO₂), nitrogen oxide (NO_x), and particulate matter (PM-10)--are analyzed.

TABLE 1-1
SURFACE TRANSPORTATION BOARD'S
AIR QUALITY THRESHOLDS FOR IMPACT ANALYSIS

Activity Site	Threshold
Attainment Areas: (49 CFR 1105.7(e)(5)(i))	
Rail Line Segments	Increase of 8 trains per day or 100% increase in annual gross ton miles.
Rail Yards	Increase of 100% in carload activity per day.
Intermodal Facilities	Increase of 50 trucks per day or 10% increase in average daily traffic volume on any affected road segment.
Nonattainment Areas: (49 CFR 1105.7(e)(5)(ii))	
Rail Line Segments	Increase of 3 trains per day or 50% increase in annual gross ton miles.
Rail Yards	Increase of 20% in carload activity per day.
Intermodal Facilities	Increase of 50 trucks per day or 10% increase in average daily traffic volume on any affected road segment.

TABLE 1-2
SURFACE TRANSPORTATION BOARD'S
NOISE THRESHOLDS FOR IMPACT ANALYSIS

Activity Site	Threshold (49 CFR 1105.7(e)(6))
Rail Line Segments	Increase of 8 trains per day or 100% increase in annual gross ton miles.
Rail Yards	Increase of 100% in carload activity per day.
Intermodal Facilities	Increase of 50 trucks per day or 10% increase in average daily traffic volume on any affected road segment.

TABLE 1-3

RAIL LINE SEGMENTS THAT MEET OR EXCEED ENVIRONMENTAL ANALYSIS THRESHOLDS

State ⁴	Location	Operator	Length (mi.)	TRAINS PER DAY: ³			% Change in Gross Ton-Miles/Year	Threshold Exceedances
				Pre-Merger	Post-Merger	Change		
Arizona	Yuma to Picacho	SP	203.0	25.8	39.2	13.4	23.0%	Air Quality, Noise
	Picacho to Tucson	SP	50.0	25.7	41.4	15.7	38.6%	Air Quality, Noise
	Tucson to Cochise	SP	78.0	29.6	44.7	15.1	27.3%	Air Quality, Noise
	Cochise to Lordsburg, NM	SP	85.0	30.3	44.9	14.6	24.2%	Air Quality, Noise
Arkansas	Paragould to Dexter Junction, MO	SP	69.0	16.0	22.3	6.3	43.0%	Air Quality
	Fair Oaks to Paragould	SP	69.0	11.4	19.7	8.3	68.9%	Air Quality, Noise
	Brinkley to Fair Oaks	SP	26.0	11.4	21.7	10.3	97.5%	Air Quality, Noise
	Pine Bluff to Brinkley	SP	71.0	22.6	31.6	9.0	91.3%	Air Quality, Noise
California	Dunsmuir to Klamath Falls, OR	SP	106.0	16.5	21.7	5.2	9.6%	Air Quality
	Marysville to Dunsmuir	SP	174.0	16.7	21.9	5.2	10.4%	Air Quality
	Keddie to Bieber	UP	112.0	1.0	4.0	3.0	60.5%	Air Quality
	Roseville to Marysville	SP	34.0	16.7	20.2	3.5	7.3%	Air Quality
	Roseville to Sparks, NV	SP	139.0	13.8	25.1	11.3	78.7%	Air Quality, Noise
	Sacramento to Roseville	SP	18.0	29.1	36.1	7.0	48.6%	Air Quality
	Stockton (Lathrop) to Sacramento	UP	46.0	13.3	23.0	9.7	56.4%	Air Quality, Noise
	Martinez to Stockton (Lathrop)	SP	48.0	0.0	4.0	4.0	>100.0%	Air Quality, Noise
	Oakland to Martinez	SP	32.0	25.2	32.1	6.9	48.2%	Air Quality
	Niles Junction to Oakland	UP	25.0	24.4	29.8	5.4	5.8%	Air Quality
	West Colton to Yuma, AZ	SP	195.0	27.2	38.8	11.1	24.1%	Air Quality, Noise
	Palmdale to West Colton	SP	80.0	9.2	13.1	3.9	49.1%	Air Quality
	Long Beach to Slauson Junction	SP	14.0	22.0	25.6	3.6	-19.0%	Air Quality
	Slauson Junction to Los Angeles	SP	6.0	19.4	25.6	6.2	-5.1%	Air Quality

³Reflects revised traffic density data attributed to BN/Santa Fe settlement agreement as presented in BN/Santa Fe's comments (1/31/96) on the primary application.

⁴Segments are listed by the state in which the majority of track occurs. Segments in two states are not duplicated in the list.

TABLE 1-3 (continued)
RAIL LINE SEGMENTS THAT MEET OR EXCEED ENVIRONMENTAL ANALYSIS THRESHOLDS

State	Location	Operator	Length (mi.)	TRAINS PER DAY:			% Change in Gross Ton-Miles/Year	Threshold Exceedances
				Pre-Merger	Post-Merger	Change		
Colorado	Denver to Cheyenne, WY	UP	105.0	9.6	14.5	4.9	78.5%	Air Quality
	Denver to Oakley, KS	UP	262.0	1.8	8.7	6.9	443.6%	Air Quality, Noise
	Bond to Denver	SP	127.0	11.0	19.6	8.6	87.8%	Air Quality, Noise
	Dotsero to Bond	SP	38.0	6.0	14.0	8.0	202.2%	Air Quality, Noise
Illinois	Nelson to Clinton, IA	UP	34.0	43.8	47.8	4.0	7.5%	Air Quality
	Nelson to Geneva	UP	69.0	43.8	57.9	14.1	23.1%	Air Quality, Noise
	Geneva to West Chicago	UP	6.0	78.6	92.7	14.1	22.7%	Air Quality, Noise
	West Chicago to Chicago (Proviso)	UP	15.0	92.7	106.8	14.1	22.4%	Air Quality, Noise
	Galesburg to Buda	BN/Santa Fe	43.0	17.1	23.5	6.4	17.1%	Air Quality
	Buda to Nelson	UP	34.0	6.1	16.2	10.1	97.2%	Air Quality, Noise
	Villa Grove to Chicago	UP	127.0	16.2	19.2	3.0	24.0%	Air Quality
Iowa	Vinton to Clinton ⁵	UP	81.0	42.8	47.9	5.1	8.0%	Air Quality
	California Jct. to Missouri Valley	UP	6.0	28.9	37.4	8.5	28.0%	Air Quality, Noise
	California Jct. to Fremont, NE	UP	31.0	22.6	31.1	8.5	33.7%	Air Quality, Noise
Kansas	Salina to Oakley	UP	191.0	2.2	8.2	6.0	388.0%	Air Quality, Noise
	Lost Springs to Wichita	UP	64.3	1.9	11.9	10.0	362.4%	Air Quality, Noise
	Herington to Lost Springs	UP	6.5	0.1	10.4	10.3	17005.4%	Air Quality, Noise
Louisiana	Avondale to Lafayette	SP	123.0	12.2	17.7	5.5	-19.8%	Air Quality
	Livonia to Kinder	UP	76.4	6.8	8.4	1.6	59.0%	Air Quality
	Lafayette to Iowa Junction	SP	58.0	11.2	16.7	5.5	-21.7%	Air Quality
	Iowa Jct. to Beaumont, TX	SP	75.0	15.5	30.8	15.3	73.9%	Air Quality, Noise
Nebraska	Valley to Marysville, KS	UP	134.0	0.9	2.9	2.0	133.6%	Air Quality, Noise
Nevada	Sparks to Winnemucca	SP	175.0	13.8	26.2	12.4	74.1%	Air Quality, Noise

⁵This rail line segment was designated as Beverly to Clinton in the Applicants' Environmental Report.

TABLE 1-3 (continued)

RAIL LINE SEGMENTS THAT MEET OR EXCEED ENVIRONMENTAL ANALYSIS THRESHOLDS

State	Location	Operator	Length (mi.)	TRAINS PER DAY:			% Change in Gross Ton-Miles/Year	Threshold Exceedances
				Pre-Merger	Post-Merger	Change		
Nevada	Alazon to Winnemucca	UP	182.0	31.3	35.3	4.0	19.7%	Air Quality
New Mexico	Lordsburg to El Paso, TX	SP	148.0	29.3	44.7	15.4	29.4%	Air Quality, Noise
Oklahoma	Chickasha to Wichita, KS	UP	192.0	4.4	11.8	7.4	129.3%	Air Quality, Noise
Oregon	Klamath Falls to Chemult	SP	74.0	22.1	30.2	8.1	15.5%	Air Quality, Noise
	Chemult to Eugene	SP	124.0	17.4	22.6	5.2	11.2%	Air Quality
	Eugene to Portland	SP	124.0	12.3	17.5	5.2	47.4%	Air Quality
	Portland to Oregon Trunk Jct.	UP	84.8	24.9	27.9	3.0	7.3%	Air Quality
Texas	Dallas to Big Sandy	UP	98.0	27.7	34.9	7.2	50.2%	Air Quality
	Fort Worth to Chickasha, OK	UP	177.7	7.6	14.2	6.6	113.2%	Air Quality, Noise
	Lufkin to Shreveport, LA	SP	116.0	8.3	11.8	3.5	2.6%	Air Quality
	Big Sandy to Texarkana	UP	108.0	11.7	18.3	6.6	119.2%	Air Quality, Noise
	El Paso to Sierra Blanca	SP	88.0	20.6	26.4	5.8	21.4%	Air Quality
	Fort Worth to Dallas	UP	31.5	23.5	33.7	10.2	45.3%	Air Quality, Noise
	Big Spring to Fort Worth	UP	267.5	2.5	11.5	9.0	260.9%	Air Quality, Noise
	Toyah to Big Spring	UP	152.0	2.3	12.1	9.9	345.7%	Air Quality, Noise
	Sierra Blanca to Toyah	UP	109.7	2.1	11.9	9.9	430.6%	Air Quality, Noise
	Stratford to Hutchinson, KS	SP	274.0	11.3	20.1	8.8	24.3%	Air Quality, Noise
	Dalhart to Stratford	SP	31.0	13.3	21.9	8.6	34.4%	Air Quality, Noise
Utah	El Paso to Dalhart	SP	425.0	12.0	19.6	7.6	20.7%	Air Quality
	Provo to Lynndyl	UP	87.0	8.7	11.7	3.0	39.1%	Air Quality
Washington	Ogden to Alazon, NV	SP	178.0	12.7	23.0	10.3	77.2%	Air Quality, Noise
	Seattle to Portland, OR	UP	186.0	46.5	50.1	3.6	5.7%	Air Quality
Wisconsin	Oak Creek to St. Francis	UP	7.0	4.0	3.2	(0.9)	153.3%	Air Quality, Noise
Wyoming	Granger to Ogden, UT	UP	145.2	34.3	38.2	3.9	12.7%	Air Quality
	Granger to Green River	UP	29.9	57.9	64.7	6.7	11.0%	Air Quality
	Green River to Rawlins	UP	134.2	57.5	64.2	6.7	11.4%	Air Quality
	Rawlins to Cheyenne	UP	172.0	59.2	66.2	7.0	11.2%	Air Quality

TABLE 1-4
RAIL YARDS THAT MEET OR EXCEED ENVIRONMENTAL ANALYSIS THRESHOLDS

State	Location	RAILCARS HANDLED PER DAY:					Threshold Exceedances
		Operator	Pre-Merger	Post-Merger	Change	% Change	
Arizona	Yuma	SP	27.3	43.3	16.0	58.6%	Air Quality
	Phoenix	SP	325.4	407.8	82.4	25.3%	Air Quality
	Nogales	SP	100.6	123.3	22.7	22.6%	Air Quality
California	Montclair	UP	99.0	129.9	30.9	31.2%	Air Quality
	Niland	SP	118.6	142.8	24.2	20.4%	Air Quality
	Martinez	SP	154.2	199.0	44.8	29.1%	Air Quality
	Lathrop	SP	147.6	245.1	97.5	66.1%	Air Quality
	Roseville	SP	1,023.3	1,608.2	584.9	57.2%	Air Quality
Colorado	Grand Junction	SP	77.0	94.0	17.0	22.1%	Air Quality
	Rolla	UP	68.4	105.2	36.8	53.8%	Air Quality
	La Salle	UP	125.0	160.4	35.4	28.3%	Air Quality
Illinois	Canal Street	UP	320.6	519.4	198.8	62.0%	Air Quality
	Salem	UP	64.0	133.2	69.2	108.1%	Air Quality, Noise
Kansas	Herington	SP	150.0	549.7	399.7	266.5%	Air Quality, Noise
Louisiana	De Quincy	UP	21.6	37.6	16.0	74.1%	Air Quality
	Lake Charles	SP	118.7	220.7	102.0	85.9%	Air Quality
	Livonia	UP	1,058.2	1,375.1	316.9	29.9%	Air Quality
Missouri	Poplar Bluff	SP	30.1	38.6	8.5	28.2%	Air Quality
Oregon	Salem	SP	16.9	26.0	9.1	53.8%	Air Quality
	Hinkle	UP	793.7	1,130.9	337.2	42.5%	Air Quality
	Bend	UP	5.6	7.6	2.0	35.7%	Air Quality
Texas	El Paso	SP	440.5	590.6	150.1	34.1%	Air Quality
	Amarillo	SP	40.0	117.2	77.2	193.0%	Air Quality, Noise
	Bellmead	SP	45.7	145.9	100.2	219.3%	Air Quality, Noise
	Fort Worth	UP	1,460.5	1,755.3	294.8	20.2%	Air Quality
Washington	Seattle	UP	508.4	649.9	141.5	27.8%	Air Quality

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A number of communities and agencies have raised safety concerns in connection with increased rail line traffic as a result of the proposed merger. Their concerns include grade crossing safety, accidents and derailments, shipments of hazardous materials, traffic congestion, and emergency vehicle response. **Volume 2** includes a more detailed discussion of safety as well as SEA's recommended mitigation.

With respect to the rail line segments between New Orleans to Houston and Houston-Memphis, SEA notes that the Applicants have proposed operating and ownership changes. These segments are heavily used for the transport of chemicals and other hazardous materials. The proposed changes are:

- The implementation of directional operations between Chicago to St. Louis and Texas to gain maximum utilization of two parallel lines. Trains would move in one direction on one line and the opposite direction on the other. This would necessitate some counter-flow trains (trains moving opposite of the designated flow on a track). These would be local switching and some manifest trains.
- Changes in ownership on SP line between Houston to New Orleans would result in a change in operational control. The SP line between Iowa Jct. and Avondale would be purchased by BN/Santa Fe, and UP/SP would retain trackage rights. While single operational control is best, there are many situations existing today where rail routes are controlled by more than one railroad.

SEA has reviewed these proposals and they appear to be within the parameters of normal and safe railroad operating practices. For more detailed discussion, see Chapter 2 of this volume.

Rail Yards

In their ER, the Applicants identified 60 rail yards that would experience a change in activity as a result of the proposed merger and implementation of the BN/Santa Fe settlement agreement. SEA examined the 1994 traffic levels for these yards to determine which ones would experience increases in rail traffic resulting from the proposed merger. SEA then identified 26 rail yards in 10 states (Arizona, California, Colorado, Illinois, Kansas, Louisiana, Missouri, Oregon, Texas and Washington) that would meet or exceed the Board's air quality and/or noise analysis thresholds. Table 1-4 summarizes the locations of these rail yards, anticipated increases in traffic (railcars) per day, and the type of analysis (air quality and/or noise) conducted by SEA.

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A summary of potential environmental impacts associated with increased activity at rail yards is provided in Chapter 2 of this volume. Detailed analysis of these impacts, by location, is contained in **Volume 2** of this Environmental Assessment.

Intermodal Facilities

In their ER, the Applicants identified 48 intermodal facilities that would experience a change in activity as a result of the proposed merger and implementation of the BN/Santa Fe settlement agreement. SEA examined the baseline traffic for these intermodal facilities to determine which ones would experience increases in rail traffic resulting from the proposed merger. SEA then identified 16 intermodal facilities in eight states (Arizona, California, Colorado, Illinois, Kansas, Oregon, Texas and Washington) which would meet or exceed the Board's air quality or noise analysis thresholds as a result of the proposed merger. Table 1-5 summarizes the locations of these intermodal facilities, anticipated increases in traffic (trucks) per day, and the type of analysis (air quality and/or noise) conducted by SEA.

A summary of potential environmental impacts associated with increased activity at intermodal facilities is provided in Chapter 2 of this volume. Detailed analysis of these impacts, by location, is contained in **Volume 2** of this Environmental Assessment.

1.2.3 Abandonments

In the case of proposed abandonments, potential impacts to adjacent land uses, transportation, safety, water resources, wetlands, biological resources, air, noise, and historic and archaeological resources were evaluated as a part of the SEA's environmental review. A total of 17 rail line segments in eight states (Arkansas, California, Colorado, Illinois, Kansas, Louisiana, Texas and Utah), totaling nearly 600 miles of track, are proposed to be abandoned as a result of the proposed merger. Table 1-6 summarizes the location and length of these proposed abandonments. Potential environmental impacts resulting from abandonments are discussed in Chapter 3 of this volume. Detailed analysis of these impacts, by location, is contained in **Volume 3** of this Environmental Assessment.

TABLE 1-5
INTERMODAL FACILITIES THAT MEET OR EXCEED ANALYSIS THRESHOLDS

State	Location	Operator	Change in Trucks/Day	% Increase in Daily Traffic	Impacts Analyzed
Arizona	Phoenix	SP	50	0.4%	Air Quality, Noise
California	East Los Angeles	UP	587	4.2%	Air Quality, Noise
	Oakland	UP	79	4.7%	Air Quality, Noise
	Oakland	SP	68	2.0%	Air Quality, Noise
	Lathrop	UP	103	n/a	Air Quality, Noise
	Roseville	SP	103	0.8%	Air Quality, Noise
Colorado	Denver	UP	61	0.7%	Air Quality, Noise
Illinois	Dupo (E. St. Louis)	UP	178	2.6%	Air Quality, Noise
	Global II	UP	425	2.2%	Air Quality, Noise
	Canal Street	UP	186	1.8%	Air Quality, Noise
	Dolton	UP	85	0.3%	Air Quality, Noise
Kansas	Kansas City	SP	173	1.1%	Air Quality, Noise
Oregon	Portland (Albina)	UP	274	5.3%	Air Quality, Noise
Texas	San Antonio	UP	116	1.3%	Air Quality, Noise
	Dallas	SP	101	1.3%	Air Quality, Noise
Washington	Seattle	UP	59	0.8%	Air Quality, Noise

TABLE 1-6
RAIL LINE SEGMENTS PROPOSED FOR ABANDONMENT

State	Location	Operator	From Milepost	To Milepost	Length (mi.)
Arkansas	Gurdon to Camden	UP	428.3	457.0	28.7
California	Whittier Jct. to Colima Jct.	UP	0	5.2	5.2
	Magnolia Tower to Melrose	UP	5.8	10.7	4.9
	Alturas to Wendel	SP	445.6	360.1	85.5
Colorado	Sage to Leadville	SP	335.0	276.1	69.1
	Malta to Canon City	SP	271.0	162.0	109.0
	Towner to NA Jct.	UP	747.0	869.4	122.4
Illinois	Barr to Girard	UP	51.0	89.4	38.4
	Edwardsville to Madison	UP	133.8	148.8	15.0
	DeCamp to Edwardsville	UP	119.2	133.8	14.6
Kansas	Whitewater to Newton	UP	476	485.0	9.0
	Hope to Bridgeport	UP	459.2	491.2	31.2
Louisiana	Iowa Jct. to Manchester	UP	680	688.5	8.5
Texas	Seabrook to San Leon	SP	30.0	40.5	10.5
	Suman to Benchley	SP	105.07	117.6	13.1
	Troup to Whitehouse	UP	0.5	8.0	7.5
Utah	Little Mtn. Jct. to Little Mountain	UP	0.0	12.0	12.0

1.2.4 Rail Line Construction Projects in New Rights-of-Way

In its evaluation of new rail line construction, SEA identified and analyzed potential impacts to adjacent land uses, safety, water resources, wetlands, biological resources, and historic and archaeological resources in and around the proposed construction sites. The proposed merger would involve 25 new rail line construction projects on new rights-of-way in eight states (Arkansas, California, Colorado, Illinois, Kansas, Louisiana, Missouri, and Texas). The location and scope of these construction projects are summarized in Table 1-7. SEA conducted an environmental review of these construction projects because rail line construction on new rights-of-way could result in environmental impacts. A complete description of these construction projects and a summary of the potential environmental impacts of construction and operation are provided in Chapter 4 of this volume. Detailed analysis of these impacts, by location, is contained in **Volume 4** of this Environmental Assessment.

1.3 Alternative Actions

SEA considered the "no action" or "no merger" alternative to the proposed merger. Under this alternative, the two railroads would forego the expected improved service capabilities and increased operating efficiencies. Also, none of the anticipated environmental impacts would occur. Generally, with respect to rail line segments, rail yards, and intermodal facilities, potential air quality, noise level, safety, or transportation impacts would not occur. With respect to the proposed rail line constructions and abandonments, there would not be the potential impacts associated with land use, transportation, safety, water resources, biological resources, air quality, noise level, and historic and archaeological resources. SEA also considered alternative actions (including the "no action" alternative) for each of the proposed abandonments and rail line construction projects. Each proposed rail line abandonment and construction project is an independent action with its own alternatives. These alternatives are discussed in **Volumes 3 and 4** of this EA.

1.4 Settlement Agreements

An integral part of the UP/SP merger proceedings are the settlement agreements negotiated with the BN/Santa Fe, Illinois Central Railroad Company, and the Utah Railway Company. These settlement agreements are designed to satisfy the competitive concerns raised by the proposed UP/SP merger for each of these three railroads. In particular, an extensive route network would be provided to the BN/Santa Fe through trackage rights and line segment purchases. UP/SP states that this network is intended to enable the BN/Santa Fe to implement competitive services to the UP/SP and to access those shippers who would lose two railroad services as a result of the proposed merger. The following sections describe the major components of the three settlement agreements.

TABLE 1-7
RAIL LINE CONSTRUCTION ON NEW RIGHTS-OF-WAY

State	Location	Description of Proposed Construction
Arkansas	Texarkana	New connection between UP and SP tracks to permit operation of trains between Pine Bluff (SP) and Longview, TX (UP); approximately 2,500 feet of new track.
	Camden	New connection between UP and SP tracks to permit operation of trains between Pine Bluff to El Dorado; approximately 1,100 feet of new track construction.
	Pine Bluff (West)	New connection to permit operation of trains from UP Monroe subdivision north to Little Rock; approximately 900 feet of new track construction.
	Pine Bluff (East)	New connection to permit operation of trains between SP Pine Bluff Yard and UP mainline south to Monroe, LA; approximately 650 feet of new track construction.
	Fair Oaks	Upgrade existing connection between UP and SP tracks in southeast quadrant to 30 mph standards; approximately 1,100 feet of new track construction.
California	West Colton (East to SP)	Connection to allow trains off UP tracks from Los Angeles to operate east on SP tracks towards Yuma; approximately 1,150 feet of new track construction.
	West Colton (West to UP)	Connection to allow eastbound trains off SP tracks at West Colton to operate west on UP tracks; approximately 6,000 feet of new track construction.
	Lathrop	New connection between UP and SP tracks; approximately 3,000 feet of new track construction.
	Stockton	New connection from SP mainline to El Pinal and UP Stockton Yard; approximately 1,500 feet of new track construction.
Colorado	Denver	New connection between SP Moffat mainline and SP Belt Line at North Yard; approximately 3,650 feet of new track construction.
	Denver (Pullman)	New connection between UP Greeley mainline and SP Belt Line, and siding extension; approximately 5,000 feet of new track construction.
Illinois	Girard	New connection between UP Madison subdivision and the SP Springfield subdivision; approximately 3,100 feet of new track construction and relocation of approximately 1,500 feet of existing track.
	Salem	New connection between UP Chicago subdivision mainline and CSX mainline; approximately 4,600 feet of new track construction.
Kansas	Hope	New connection between the UP Hoisington subdivision mainline and BN/Santa Fe mainline; approximately 2,200 feet of new track construction and two new turnouts.

TABLE 1-7, continued
RAIL LINE CONSTRUCTION ON NEW RIGHTS-OF-WAY

State	Location	Description of Proposed Construction
Louisiana	Kinder	New connection between the UP Lake Charles subdivision mainline and the UP Beaumont subdivision mainline; approximately 1,750 feet of new track construction and two new turnouts.
	Shreveport	New connection between the UP Reisor subdivision mainline and the SP Lufkin subdivision mainline; approximately 1,560 feet of new track construction, acquisition of approximately 3 acres of right-of-way, and relocation of US Hwy. 171 overpass pier.
Missouri	Dexter	8,900 foot extension to existing siding at MP 189.9.
	Paront	8,600 foot extension to existing siding at MP 47.1.
Texas	Carrollton	Construction of two new tracks and one track extension; approximately 3,660 feet of new track construction.
	Fort Worth	New connections between UP Fort Worth subdivision mainline and SP Ennis subdivision, Fort Worth branch: approximately 800 feet of new track construction and two new turnouts in northeast quadrant.
	Fort Worth	New connections between UP Fort Worth subdivision mainline and SP Ennis subdivision, Fort Worth branch: approximately 1,180 feet of new track construction and two new turnouts in southwest quadrant.
	Houston	New connection between the SP mainline and the HB&T line at Tower 26; approximately 1,400 feet of new track construction and two new turnouts.
	Houston	New connection between the SP mainline and the HB&T line at Tower 87; approximately 1,000 feet of new track construction and two new turnouts.
	Houston	New connection between the SP Lufkin subdivision and the UP Settegast yard; approximately 1,650 of new track construction and two new turnouts.
	West Point	New connection between the UP Houston subdivision mainline and the SP Ennis subdivision Flatonia line; approximately 1,900 feet of new track construction and two new turnouts.

1.4.1 BN/Santa Fe Settlement Agreement

The principal component of the BN/Santa Fe Settlement Agreement is the extent of the trackage rights and line segment purchases agreed to by the UP/SP. The following provides a detailed description:

Central Corridor, Denver to Oakland and Bay Area

The BN/Santa Fe trackage rights use a combination of routes between Denver and Oakland. From Denver to Salt Lake City, the Southern Pacific route via Grand Junction, Colorado would be used. This was formally the Denver & Rio Grand Western Railroad's "Moffat Tunnel Route" through Colorado and Utah. Between Salt Lake City and Sacramento-Stockton, the Union Pacific route would be used. This line use to be the Western Pacific Railroad's "Feather River Route". This route serves Keddie, California, a junction point for the BN/Santa Fe's north-south route serving California, Oregon and Washington.

BN/Santa Fe also has trackage rights over the Southern Pacific's "Overland Route" between Alazon, Nevada (a desolate location in north-east Nevada where the Southern Pacific line from Ogden, Utah and the Union Pacific line from Salt Lake City come together) and Oakland. This line serves the intermediate cities of Reno and Sacramento, and crosses Donner Pass.

Central Corridor BN/Santa Fe trackage rights also include routes between Oakland and San Jose, California; and Salt Lake City-Ogden-Little Mountain, Utah.

The I-5 Corridor (California, Oregon, and Washington)

Under the settlement agreement, the BN/Santa Fe would purchase the Union Pacific rail line between Keddie and Bieber, California. This is a vital link in the BN/Santa Fe's Washington to California route. UP/SP intend to route their I-5 Corridor trains on the parallel Southern Pacific line. Purchase of the Keddie to Bieber line by BN/Santa Fe would solidify its ability to provide single line service on the I-5 Corridor. Trackage rights on the Union Pacific between Keddie and Sacramento-Stockton would also be used to provide BN/Santa Fe California-Oregon-Washington service.

South Central Operating Area (Texas, Arkansas, and Louisiana)

The BN/Santa Fe Settlement Agreement affects a number of routes in this region, these include:

Memphis, Tennessee to Houston, Texas. Trackage rights would be used by BN/Santa Fe on the Southern Pacific line via Pine Bluff, Arkansas and Shreveport, Louisiana. Trackage rights

would also be obtained on the Pine Bluff-Little Rock, Arkansas line; and on two routes that access Memphis (one from Brinkley and the other from Fair Oaks, Arkansas).

Houston, Texas to Avondale, Louisiana. This line is a part of the Southern Pacific's "Sunset" route. For the BN/Santa Fe Settlement, the route involves trackage rights and a line purchase. Trackage rights would be used between Houston, Texas and Iowa Junction, Louisiana (the latter point is located about 11 miles east of Lake Charles, Louisiana). BN/Santa Fe would purchase the line between Iowa Junction and Avondale, Louisiana; however, UP/SP would have trackage rights over this segment so that two railroad competition could be provided to shippers. BN/Santa Fe would also have trackage rights between Dayton (on the Sunset Route) and the Mont Belvieu-Eldon-Baytown area. These points are located east of Houston and serve the petrochemical industry.

Houston to Brownsville, Texas. BN/Santa Fe would use trackage rights over the Union Pacific line connecting Houston and Brownsville. This segment includes the cities of Bay City, Bloomington, Odem, Corpus Christi (served by a branch line), Kingsville, and Harlingen.

Houston to San Antonio to Eagle Pass, Texas. BN/Santa Fe would use trackage rights over the Union Pacific line that extends between Sealy (a connection point with BN/Santa Fe tracks west of Houston) and San Antonio, via Smithville and San Marcos. Southern Pacific's Sunset Route would then be used from San Antonio to Spofford, then a branch line to Eagle Pass. BN/Santa Fe would also have trackage rights on a Union Pacific line that extends between Smithville (on the Houston to San Antonio line) and Waco, via Taylor and Temple. In addition, rights would extend on a branch line between Taylor and Round Rock.

Dallas to Waxahachie, Texas. BN/Santa Fe would purchase this rail line segment. BN/Santa Fe currently have overhead trackage rights on this line and they are the predominant user.

Other Line Segments

BN/Santa Fe would have trackage rights on a number of relatively short segments to enable access to shippers that would lose two railroad competitive service as a result of the proposed merger. These lines are Riverside to Ontario, California; Fullerton to LaHabra, California; and El Paso to Sierra Blanca, Texas.

UP/SP Trackage Rights over BN/Santa Fe

UP/SP would have trackage rights over three BN/Santa Fe rail line segments as a result of the BN/Santa Fe Settlement Agreement. These lines would provide UP/SP with more efficient routing

for some trains. These lines are Chemult to Bend, Oregon; Mojave to Barstow, California; and Dallas to Waxahachie, Texas.

Other Important Aspects of the Settlement Agreement

BN/Santa Fe would have the right to serve any other shipper that would lose two railroad competitive service that is not specifically covered in the Settlement Agreement. Further, BN/Santa Fe would have available options to serve all shippers directly, through the UP/SP reciprocally, or a third party contractor. The particular service option selected would depend on site specific conditions, and options could be switched in light of changing circumstances. BN/Santa Fe intends to use its own crews and locomotives on its six primary routes. These are: Denver to Oakland; California to Oregon to Washington; Houston to New Orleans; Houston to Memphis; Houston to Brownsville; and Houston/Temple to SanAntonio/Eagle Pass.

To provide service on the St. Louis to Houston route, and the Houston to New Orleans route, BN/Santa Fe would require terminal trackage rights on short segments of the Kansas City Southern Railroad tracks in Beaumont, Texas and Shreveport, Louisiana. Sub-applications for these terminal trackage rights have been included in the UP/SP primary application.

1.4.2 Illinois Central Railroad Company Settlement Agreement

The Illinois Central Settlement Agreement addresses joint marketing and operational issues. In marketing, both the UP/SP and Illinois Central would jointly work to develop forest products, coal, chemicals, carload and other business. From the operating perspective, the Settlement Agreement would preserve efficient joint-line routings with the Illinois Central. In addition, the Settlement Agreement focuses on the clarification of interchange service and the construction of certain rail connections in the Chicago area; use of the Illinois Central-BN/Santa Fe tracks between Chicago and Joliet, Illinois; and rebuilding of certain facilities in the New Orleans area.

1.4.3 Utah Railway Company Settlement Agreement

The Settlement Agreement would provide trackage rights for the Utah Railway between Utah Junction, Utah and Grand Junction, Colorado. No local service would be permitted between these points, except that the Settlement Agreement would allow access to the Savage Coal facility near Price, Utah; and a coal mine near Castle Gate, Utah.

With regard to the BN/Santa Fe Settlement Agreement, SEA has attached the Applicants' Preliminary Draft Environmental Assessment (PDEA) for public review and comment (see Volume 5, Appendix A, Part Two). Also SEA, as previously discussed, has analyzed the potential environmental impacts associated with BN/Santa Fe proposed operations over those UP/SP rail

line segments where the resulting traffic would exceed the Board's environmental thresholds. This analysis is based on information available as of mid-March, 1996. SEA will conduct on-going analysis of these rail line segments as well as environmental review of affected rail yards, intermodal facilities, and construction projects, as appropriate. This analysis will be based on additional information received and the comments to the EA, and will be reflected in SEA's final recommendations to the Board.

With respect to UP/SP settlement agreements with Utah and IC, Applicants have submitted verified statements. This EA does not analyze the potential environmental impacts of these settlement agreements because it appears, based on the verified statements, that operations resulting from the Utah and IC settlement agreements would not trigger the Board's environmental thresholds. (The Utah and IC verified statements filed by UP/SP are included in **Volume 5**, Appendix A).

1.5 Responsive Applications

In actions related to the proposed merger, six parties (three railroads, two utilities and one transit agency) filed responsive applications seeking the Board's approval of proposed acquisitions and trackage rights over rail line segments of the proposed UP/SP system. This EA does not analyze the potential environmental impacts of these responsive applications because it appears, based on verified statements submitted by the Responsive Applicants, that the Board's environmental review thresholds would not be met or exceeded, and no substantial increase in trains or other activities are expected as a result of these proposals. (Copies of the verified statements submitted regarding the proposed merger are included in **Volume 5**, Appendix A).

1.5.1 Capital Metropolitan Transportation Authority

In Finance Docket No. 32760 (Sub-No. 10), Capital Metropolitan Transportation Authority (CMTA) seeks, on behalf of an unnamed rail carrier unaffiliated with applicants, trackage rights over what will be, if the Board approves the proposed merger, the UP/SP track between McNeil and Kerr, Texas, with interchange rights with the Burlington Northern Railroad Company and The Atchison, Topeka, and Santa Fe Railway Company (collectively, BN/Santa Fe) at either McNeil or Kerr. CMTA further requests that the Board direct the Applicants to cooperate with CMTA to arrive at a mutually acceptable accommodation of CMTA's planned passenger rail through the McNeil interchange, and that the Board retain jurisdiction over this issue in the event CMTA and the merged railroad are unable to reach agreement.

1.5.2 Montana Rail Link, Inc.

In Finance Docket No. 32760 (Sub-No. 11), Montana Rail Link, Inc. (MRL) seeks authority to acquire rail lines, incidental trackage rights, interchange access, and proportional ratemaking authority to SP stations in California and Oregon to mitigate alleged loss of competition in the central route from Northern California to Kansas City, Missouri, resulting from the proposed merger.

MRL seeks to have a yet-to-be-formed entity (the "Acquisition Company") purchase the following lines: (1) the UP lines in California from Stockton to Marysville, along with the contiguous branch lines to Read and Sutter, north through Keddie to Flanigan, Nevada, including the UP branch line from Reno Junction south to Reno, Nevada, and the branch south from Hawley to Loyalton, California; (2) the SP line running north from Flanigan to Alturas, California, then northwest to Klamath Falls, Oregon (the "Modoc Line"); (3) the line from Flanigan east via the UP route to Winnemucca, Nevada, then east to Wells, Nevada, and Ogden, Utah, via the SP route; (4) from Ogden, all of the D&RGW lines, and their contiguous branches to Salt Lake City, Utah, and down to Provo, Utah, and east on the D&RGW to Denver, Colorado, including the branches to Potash, Sunnyside, Clear Creek, Copperton, and Garfield, Utah; (5) all of the D&RGW lines in Colorado, from the Utah border east to Dotsero, including the branches to Montrose, Oliver, and Woody Creek, and at Dotsero, the lines northeast to Denver and southeast to Pueblo (the "Tennessee Pass"), including branches to Craig and Energy Fuels via Steamboat Springs; (6) the D&RGW line between Denver and Pueblo, extending south of Pueblo to Antonio, Colorado, including the branch line to Creede, Colorado, and the D&RGW's rights, if any, to Trinidad, Colorado; (7) east of Pueblo, the rights and ownership of the former MPRR line between Pueblo and Herington, Kansas; (8) SP's ownership in and access to the Kansas City terminal; and (9) the UP line from Silver Bow, Montana, to Pocatello, Idaho, and the contiguous branches to Arco, Aberdeen, and Gay, Idaho.

MRL seeks approval for the Acquisition Company to acquire all the railroad rolling stock and equipment and leased by UP/SP, including locomotives, cars, cabooses and equipment, roadway maintenance equipment and other vehicles currently used to perform service on the subject line.

MRL seeks approval for the Acquisition Company to acquire trackage rights over the following lines: (1) overhead rights on the UP line from Pocatello to Ogden; (2) overhead rights on the UP from Lindsborg to Salina, Kansas, and from Salina to Solomon, Kansas, with access to a direct interchange with Kyle Railways at Solomon; (3) local trackage rights on the SSW between Herington, Kansas, and Topeka, Kansas; (4) overhead trackage rights on UP between Topeka and Kansas City; (5) SP's rights on BN/Santa Fe between Topeka and Kansas City.

1.5.3 Entergy Services

In Finance Docket No. 32760 (Sub-No. 12), Entergy Services, Inc. (ESI), Arkansas Power & Light Co. (AP&L), and Gulf States Utilities Co. (GSU) (collectively, Entergy) seeks the following trackage rights: (1) overhead trackage rights on behalf of BN/Santa Fe or some other rail carrier unaffiliated with applicants over SSW's lines between Pine Bluff, Arkansas, and Memphis, Tennessee, with the right to transport loaded and empty trains of coal to and from AP&L's coal-fired, electric generating facilities known as the White Bluff Steam Electric Station near Redfield, Arkansas, (White Bluff) upon construction of a spur build-out from the White Bluff power plant to a connection with SP at Pine Bluff; and (2) overhead trackage rights on behalf of BN/Santa Fe or some other rail carrier unaffiliated with applicants over SP's line between Beaumont, Texas, and a point of connection with the southern Gulf Railway Company (SGR) near Lake Charles, Louisiana, with the right to transport loaded and empty trains of coal to and from GSU's coal-fired, electric generating facilities known as the Roy S. Nelson Generating Station near Mossville, Louisiana, upon completion of construction of SGR's rail line between the connection with SP and the Nelson power plant.

1.5.4 Texas Mexican Railway Company

In Finance Docket No. 32760 (Sub-No. 13), The Texas Mexican Railway Company (Tex Mex) seeks trackage rights over lines from Robstown and Corpus Christi, Texas, to Houston, Texas, to a connection with the Kansas City Southern Railway Company (KCS) at Beaumont, Texas. Tex Mex seeks rights over those lines to permit it to carry overhead traffic and to serve all local shippers currently capable of receiving service from both UP, SP, directly or through reciprocal switching, with full rights to interchange traffic with UP, SP, and any other railroad at any interchange point on such lines.

Tex Mex request trackage rights over the following main lines: (1) the UP line between Robstown and Placedo, Texas; (2) the UP line between Corpus Christi and Odem, Texas, via Savage Lane to Viola yard on the UP; (3) the SP line from Placedo to Victoria, Texas; (4) the SP line between Victoria and Flatonia, Texas; (5) the SP line between Flatonia and West Junction, Texas; (6) in the alternative, the UP line from Gulf Coast Junction, Texas, through Settegast Junction to Amelia, Texas (UP main line option), or the SP line from Tower 87 to Amelia, Texas (SP main line option); and (7) the joint UP/SP line from Amelia to Beaumont, Texas, and the connection with KCS at the Neches River Draw Bridge in Beaumont.

Tex Mex requests trackage rights in Houston over the following SP lines: (1) the line from West Junction through Bellaire Junction to Eureka at milepost 5.37 (Chaney Junction, Texas); (2) the SP line from milepost 5.37 to milepost 360.7 near tower 26 via the Houston Passenger station; (3) the SP line from milepost 5.37 to milepost 360.7 near Tower 26 via the Hardy Street yard; (4) if the UP

main line option is used, the SP line from milepost 360.7 near Tower 26 to the connection with the Houston Belt & Terminal Railway Company (HB&T) at Quitman Street near milepost 1.5; (5) if the SP main line option is used, the SP line from Tower 26 through Tower 87 to the SP main line to Amelia; and (6) the SP line from West Junction to the connection with the Port Terminal Railway Association (PTRA) at Katy Neck, Texas, by way of Pierce Junction.

Tex Mex requests the right to use the following yard and other terminal facilities of SP, UP, and HB&T: (1) SP's Glidden (Texas) Yard; (2) interchanges with PRTA at the North Yard, Manchester Yard, and Pasadena yard in Houston, Texas, and (3) interchanges with HB&T at HB&T's New South Yard. Tex Mex also seeks the right to construct two improved connections, at Robstown and Flatonia.

Tex Mex requests the Board to condition any approval of the merger on granting Tex Mex the trackage rights at the same compensation provided for in the settlement agreement applicants reached with BN/Santa Fe, except that Tex Mex requests that the compensation level for its trackage rights operations be subject to quarterly adjustments for changes in railroad productivity.

1.5.5 Texas Mexican Railway Company

In Finance Docket No. 32760 (Sub-No. 14), Tex Mex seeks certain terminal trackage rights, contingent upon the grant of the conditions sought in Finance Docket No. 32760 (Sub-No. 13). It requests an order pursuant to 49 U.S.C. 11103 permitting Tex Mex to use the following segments of the Houston Belt & Terminal Railway Co. (HB&T) terminal trackage in Houston, Texas: (1) the HB&T line from the Quitman Street connection with SP to the HB&T's connection with UP at Gulf Coast Junction; and (2) the HB&T line from its connection with the SP at T&N.O. Junction (Tower 81) to HB&T's connection with UP at Settegast Junction.

1.5.6 Wisconsin Electric Power Company

In Finance Docket No. 32760 (Sub-No. 16) Wisconsin Electric Power Company (WEPCO) seeks a grant of overhead trackage rights on behalf of Wisconsin Central (WC) or Canadian Pacific-Soo Line (CP/Soo) over the following UP rail lines: (1) between Chicago, Illinois, Milwaukee, Wisconsin, and Cleveland, Wisconsin, on the one hand, and on the other, WEPCO's Oak Creek Power Plant at Oak Creek, Wisconsin; (2) between the Oak Creek Power Plant and Cudahy Shop, Inc., a railcar repair facility located at Cudahy, Wisconsin; and (3) in the terminal areas of Chicago, Illinois, and Milwaukee, Wisconsin, as may be necessary or desirable to implement the operations described above.

1.5.7 Magma Copper Company

In Finance Docket No. 32760 (Sub-No. 17), Magma Copper Company and its wholly owned subsidiaries, The Magma Arizona Railroad Company (MAA) and the San Manuel Arizona Railroad Company (SMA), (collectively Magma) seek overhead trackage rights over the lines operated by SP between Magma, Arizona, and Phoenix and Nogales, Arizona, for the MAA, and between Hayden, Arizona (via the Copper Basin Railway Company (CBRY), a switching carrier for the SP operating between Hayden and Magma), and Phoenix and Nogales for the SMA.

CHAPTER 2.0 OVERVIEW OF OPERATIONAL IMPACTS

This chapter summarizes the potential environmental impacts which would result from operational changes associated with the proposed UP/SP merger. Specifically, the Surface Transportation Board's (Board) Section of Environmental Analysis (SEA) considered the following five impact areas related to rail line segments, rail yards, and intermodal facilities consistent with the Board's environmental rules at 49 CFR 1105.7(e):

- Air quality impacts.
- Noise level impacts.
- Impacts to local and regional transportation systems.
- Safety impacts.
- Energy impacts.

Detailed information on potential environmental impacts from operational changes is provided in **Volume 2** of this Environmental Assessment.

2.1 Air Quality Impacts

Air quality impacts are generally defined as the increase or decrease in emissions of pollutants from a source to the adjacent ambient air. The sources of emissions from operations associated with the proposed merger include:

- Increases in the emissions of locomotives from increased rail line segment activity.
- Emissions from increased use of locomotives at rail yards.
- Increases in vehicle emissions from expanded or new activities at intermodal facilities.

In considering the potential impacts to air quality, SEA concludes that adverse impacts could result from the proposed merger.

With respect to potential environmental impacts of the proposed merger on air quality, the Board has specified thresholds for analyzing the air quality impacts of increased rail line segment, rail yard, and intermodal facility activity at 49 CFR 1105.7(e)(5). The states where there are rail operations that meet or exceed the Board's environmental analysis thresholds include:

- Arizona.
- California.
- Colorado.
- Illinois.
- Louisiana.
- Missouri.
- Nebraska.
- Nevada.
- Oregon.
- Texas.
- Utah.
- Washington.
- Wisconsin.
- Wyoming.

The U.S. Environmental Protection Agency (EPA) has developed National Ambient Air Quality Standards (NAAQS) for six criteria pollutants. The criteria pollutants are: Sulfur dioxide (SO_2), Nitrogen dioxide (NO_2), Ozone (O_3), Carbon monoxide (CO), Lead (Pb), and Particulate matter less than ten microns in diameter (PM_{10}). Emissions of nitrogen oxides (NO_x) and hydrocarbons or volatile organic compounds (HCs or VOCs) contribute to the formation of surface level ozone. Therefore, numerous air quality programs are directed at reducing emissions of NO_x (including NO_2) and VOCs in order to reduce ozone pollution. Locomotives and trucks emit sulfur oxides (SO_x , including SO_2), NO_x , CO , PM_{10} , and HCs/VOCs.

EPA has grouped contiguous areas of the country having similar topography and air quality management needs into Air Quality Control Regions (AQCRs) and has designated each AQCR by an identification number.¹ The ambient (i.e., existing) air quality of each AQCR is measured and compared to the NAAQS on a pollutant-by-pollutant basis. Areas in which ambient air quality concentrations of a pollutant are less than these standards are considered to be attainment areas for that pollutant. On the other hand, areas where ambient concentrations exceed the standards for a pollutant are considered nonattainment areas. An area can be in nonattainment for one or more of the six criteria pollutants and in attainment for the others. Most areas of the country are in attainment, while nonattainment areas are limited primarily to urban industrial areas. Some areas of the country, such as national parks, are designated by EPA as Class I air quality areas and are protected from adverse air quality impacts. This includes protection from air pollutant emissions that may impair the visibility within the designated areas. The attainment status of the AQCRs affected by the proposed UP/SP merger are provided in **Volume 5**, Appendix G.

The following sections address the estimated increases in emissions for each rail line segment, rail yard, and intermodal facility that would meet or exceed the Board's thresholds for air quality impact analysis as specified at 49 CFR 1105.7(e)(5)(i) and (ii). A summary of the Board's thresholds is provided in Table 2-1. Emissions increases were estimated using standard EPA-approved emissions factors in conjunction with data supplied by the Applicant (e.g., the increase

¹ Each AQCR exceeding EPA's air quality standards must develop a plan to reduce emissions of pollutants within its region.

in the number of trains per day). (See **Volume 5**, Appendix G for EPA-approved emissions factors.) The total emissions in each AQCR were then compared to EPA regulatory programs to assess the potential impacts of the proposed merger on air quality. Potential impacts for stationary sources (i.e., rail yards and intermodal facilities) were compared to the EPA's Prevention of Significant Deterioration (PSD) permitting program. These regulations were designed by EPA under the Clean Air Act to assist States in attaining and maintaining NAAQS. Although the PSD program does not apply to the proposed UP/SP merger, SEA used these regulations as a benchmark to determine if the proposed merger poses potential problems for the air quality within an AQCR because there are no regulations that apply to rail operations. **Volume 5**, Appendix G, contains the air quality calculation methodology for rail line segments, rail yards, and intermodal facilities, and a detailed explanation of EPA's PSD program.

TABLE 2-1
STB AIR QUALITY THRESHOLDS FOR IMPACT ANALYSIS

Activity Site	Threshold
Attainment Areas (49 CFR 1105.7(e)(5)(i)):	
Rail Line Segments	Increase of 8 trains per day or 100% increase in annual gross ton miles.
Rail Yards	Increase of 100% in carload activity per day.
Intermodal Facilities	Increase of 50 trucks per day or 10% increase in average daily traffic volume on any affected road segment.
Non-Attainment Areas (49 CFR 1105.7(e)(5)(ii))	
Rail Line Segments	Increase of 3 trains per day or 50% increase in annual gross ton miles.
Rail Yards	Increase of 20% in carload activity per day.
Intermodal Facilities	Increase of 50 trucks per day or 10% increase in average daily traffic volume on any affected road segment.

2.1.1 Rail Line Segments

Rail line segments are portions of rail line arbitrarily selected by end points (e.g., the SP rail line segment between Yuma and Picacho, Arizona). Air pollutant emissions along rail line segments result from operations of road locomotives. Road locomotives are heavy duty units in the 3,000 to 4,400 horsepower range. Often two or more of these locomotives are combined to pull a train of 50 to 100 or more cars. In conducting its environmental analysis, SEA determined that a total of 72 rail line segments out of the 389 segments identified in the UP/SP application

would meet or exceed the thresholds for air quality and noise levels set forth in the Board's environmental rules at 49 CFR 1105.7(e)(5) and (6). Table 2-2 identifies the 72 rail line segments and presents, by AQCR, the estimated emissions due to increases in rail line segment activity that exceed the Board's analysis thresholds (note that some segments occur in more than one AQCR). In analyzing the potential impacts, SEA concludes that adverse air quality impacts from locomotive emissions may result from increased traffic on rail line segments. Rail line segment activity may contribute to increased levels of pollution in nonattainment areas. The impacts of these rail line segments are discussed further in Section 2.1.4 as part of the analysis of impacts to individual AQCRs from the combination of emissions from rail line segments, rail yards, and intermodal facilities.

TABLE 2-2
ESTIMATED EMISSIONS INCREASES DUE TO INCREASED
RAIL LINE SEGMENT ACTIVITY

AQCR	State	Origin Station	Destination Station	Emissions Increase (tons per year)				
				HC	CO	NO _x	SO _x	PM-10
501	AZ	Cochise AZ	Lordsburg NM	5.4	16.7	125.3	9.1	2.7
501	AZ	Tuscon AZ	Cochise AZ	11.2	34.9	261.2	18.9	5.7
502	AZ	Picacho AZ	Tuscon AZ	11.3	35.0	262.2	19.0	5.7
502	AZ	Tuscon AZ	Cochise AZ	11.2	34.9	261.2	18.9	5.7
503	AZ	West Colton CA	Yuma AZ	0.1	0.5	3.4	0.2	0.1
503	AZ	Yuma AZ	Picacho AZ	20.5	63.8	477.2	34	10.3
504	AZ	Yuma AZ	Picacho AZ	17.1	53.1	397.7	28.8	8.6
505	AZ	Picacho AZ	Tuscon AZ	8.9	27.5	206.0	14.9	4.5
505	AZ	Yuma AZ	Picacho AZ	11.2	34.9	261.3	18.9	5.7
16	AR	Pine Bluff AR	Brinkley AR	10.4	32.3	241.4	17.5	5.2
20	AR	Brinkley AR	Fair Oaks AR	9.2	28.7	214.6	15.6	4.7
20	AR	Fair Oaks AR	Paragould AR	17.3	53.8	402.5	29.2	8.7
20	AR	Paragould AR	Dexter Jct. MO	7.8	24.2	181.1	13.1	3.9
20	AR	Pine Bluff AR	Brinkley AR	18.4	57.3	429.2	31.1	9.3
24	CA	Long Beach CA	Slauson Jct. CA	-1.6	-5.0	-37.3	-2.7	-0.8
24	CA	Palmdale CA (via Hiland)	West Colton CA	10.0	31.1	233.0	16.9	5.1
24	CA	Slauson Jct. CA	Los Angeles CA	-0.2	-0.5	-3.7	-0.3	-0.1
24	CA	West Colton CA	Yuma AZ	6.0	18.6	139.6	10.1	3.0
27	CA	Dunsmuir CA	Klamath Falls OR	4.6	14.3	107.4	7.8	2.3
27	CA	Keddie CA	Bieber CA	1.1	3.3	24.7	1.8	0.5
28	CA	Dunsmuir CA	Klamath Falls OR	0.0	0.1	0.8	0.1	0.0
28	CA	Marysville CA	Dunsmuir CA	9.6	29.8	222.7	16.1	4.8
28	CA	Roseville CA	Marysville CA	0.5	1.5	11.0	0.8	0.2
28	CA	Sacramento CA	Roseville CA	4.9	15.2	114.0	8.3	2.5
28	CA	Stockton (Lathrop) CA	Sacramento CA	7.7	24.0	179.7	13.0	3.9

TABLE 2-2
ESTIMATED EMISSIONS INCREASES DUE TO INCREASED
RAIL LINE SEGMENT ACTIVITY

AQCR	State	Origin Station	Destination Station	Emissions Increase (tons per year)				
				HC	CO	NO ₂	SO ₂	PM-10
30	CA	Martinez CA (via Monaco)	Stockton (Lathrop) CA	1.6	5.0	37.2	2.7	0.8
30	CA	Niles Jct. CA	Oakland CA	0.5	1.6	12.0	0.9	0.3
30	CA	Oakland CA	Martinez CA	3.6	11.2	83.6	6.1	1.8
31	CA	Martinez CA (via Monaco)	Stockton (Lathrop) CA	1.5	4.6	34.4	2.5	0.7
31	CA	Stockton (Lathrop) CA	Sacramento CA	9.4	29.3	219.6	15.9	4.8
33	CA	Palmdale CA (via Hiland)	West Colton CA	3.0	9.3	69.6	5.0	1.5
33	CA	West Colton CA	Yuma AZ	41.9	130.4	975.9	70.7	21.2
508	CA	Keddie CA	Bieber CA	0.4	1.3	9.6	0.7	0.2
508	CA	Roseville CA	Marysville CA	0.8	2.5	18.8	1.4	0.4
508	CA	Roseville CA	Sparks NV	35.4	110.0	823.1	59.6	17.8
508	CA	Sacramento CA	Roseville CA	1.4	4.3	32.1	2.3	0.7
34	CO	Denver CO	Oakley KS	33.6	104.5	782.4	56.7	17.0
35	CO	Bond CO	Denver CO	3.0	9.3	69.8	5.1	1.5
35	CO	Dotsero CO	Bond CO	12.8	39.8	297.9	21.6	6.5
36	CO	Bond CO	Denver CO	15.4	48.0	359.1	26.0	7.8
36	CO	Denver CO	Cheyenne WY	5.2	16.1	120.5	8.7	2.6
36	CO	Denver CO	Oakley KS	15.1	46.9	351.3	25.5	7.6
37	CO	Denver CO	Cheyenne WY	21.3	66.3	496.2	36.0	10.8
40	CO	Bond CO	Denver CO	24.4	76.0	568.6	41.2	12.3
65	IL	Galesburg IL	Buda IL	2.2	7.0	52.2	3.8	1.1
66	IL	Villa Grove IL	Chicago IL	9.9	30.9	231.4	16.8	5.0
67	IL	Geneva IL	West Chicago IL	2.3	7.2	53.8	3.9	1.2
67	IL	Nelson IL	Geneva IL	5.3	16.5	123.8	9.0	2.7
67	IL	Villa Grove IL	Chicago IL	4.9	15.2	114.0	8.3	2.5
67	IL	West Chicago IL	Chicago (Proviso) IL	5.8	18.0	134.6	9.8	2.9
69	IL	Galesburg IL	Buda IL	1.5	4.5	33.7	2.4	0.7
71	IL	Buda IL	Nelson IL	8.1	25.3	189.3	13.7	4.1
71	IL	Galesburg IL	Buda IL	1.0	3.1	22.9	1.7	0.5
71	IL	Nelson IL	Clinton IA	0.2	0.5	4.0	0.3	0.1
71	IL	Nelson IL	Geneva IL	10.1	31.4	235.3	17.0	5.1
73	IL	Nelson IL	Geneva IL	11.2	34.7	260.0	18.8	5.6
69	IA	Nelson IL	Clinton IA	4.1	12.9	96.5	7.0	2.1
69	IA	Vinton IA	Clinton IA	4.0	12.4	92.7	6.7	2.0
88	IA	Vinton IA	Clinton IA	5.5	17.2	128.8	9.3	2.8
91	IA	Vinton IA	Clinton IA	1.5	4.8	36.1	2.6	0.8

TABLE 2-2
ESTIMATED EMISSIONS INCREASES DUE TO INCREASED
RAIL LINE SEGMENT ACTIVITY

AQCR	State	Origin Station	Destination Station	Emissions Increase (tons per year)				
				HC	CO	NO _x	SO _x	PM-10
93	IA	California Jct. IA	Fremont NE	1.3	4.1	30.7	2.2	0.7
93	IA	California Jct. IA	Missouri Valley IA	1.8	5.6	41.7	3.0	0.9
95	KS	Valley NE	Marysville KS	0.3	1.0	7.1	0.5	0.2
96	KS	Herington KS	Lost Springs KS	2.3	7.2	54.1	3.9	1.2
96	KS	Salina KS	Oakley KS	14.0	43.5	325.7	23.6	7.1
97	KS	Denver CO	Oakley KS	19.9	61.9	463.0	33.6	10.0
97	KS	Salina KS	Oakley KS	36.0	111.9	837.5	60.7	18.2
99	KS	Chickasha OK	Wichita KS	17.6	54.9	410.7	29.8	8.9
99	KS	Herington KS	Lost Springs KS	0.8	2.4	18.0	1.3	0.4
99	KS	Lost Springs KS	Wichita KS	25.4	79.1	591.9	42.9	12.8
99	KS	Stratford TX	Hutchinson KS	3.2	9.9	74.4	5.4	1.6
100	KS	Stratford TX	Hutchinson KS	15.4	48.0	359.5	26.1	7.8
22	LA	Lufkin TX	Shreveport LA	0.3	1.0	7.5	0.5	0.2
106	LA	Avondale LA	Lafayette LA	-10.2	-31.8	-238.0	-17.2	-5.2
106	LA	Iowa Jct. LA	Beaumont TX	19.3	60.1	449.8	32.6	9.8
106	LA	Lafayette LA	Iowa Jct. LA	-5.1	-15.9	-118.9	-8.6	-2.6
106	LA	Livonia LA	Kinder LA	11.6	36.0	269.7	19.5	5.8
138	MO	Dexter Jct. MO	Paragould AR	6.9	21.5	160.6	11.6	3.5
85	NE	Valley NE	Marysville KS	0.0	0.1	1.0	0.1	0.0
145	NE	Valley NE	Marysville KS	2.9	9.1	68.1	4.9	1.5
146	NE	California Jct. IA	Freemont NE	7.5	23.2	173.8	12.6	3.8
146	NE	Valley NE	Marysville KS	1.1	3.4	25.4	1.8	0.6
12	NM	Cochise AZ	Lordsburg NM	16.2	50.2	376.0	27.2	8.2
12	NM	Lordsburg NM	El Paso TX	31.2	97.0	726.3	52.6	15.7
154	NM	El Paso TX	Dalhart TX	11.9	36.9	276.5	20.0	6.0
155	NM	El Paso TX	Dalhart TX	7.6	23.7	177.8	12.9	3.9
147	NV	Alazon NV	Winnemucca NV	33.9	105.5	789.4	57.2	17.1
147	NV	Ogden UT	Alazon NV	20.4	63.5	475.7	34.5	10.3
147	NV	Sparks NV	Winnemucca NV	38.2	118.7	888.2	64.4	19.3
148	NV	Sparks NV	Roseville CA	3.1	9.6	71.6	5.2	1.6
148	NV	Sparks NV	Winnemucca NV	12.7	39.6	296.1	21.5	6.4
184	OK	Chickasha OK	Wichita KS	26.5	82.3	616.0	44.6	13.4
184	OK	Fort Worth TX	Chickasha OK	10.7	33.1	248.0	18.0	5.4
185	OK	Chickasha OK	Wichita KS	23.8	73.9	552.8	40.1	12.0
187	OK	Stratford TX	Hutchinson KS	6.1	19.0	142.6	10.3	3.1
189	OK	Fort Worth TX	Chickasha OK	20.7	64.3	481.4	34.9	10.4
190	OR	Chemult OR	Eugene OR	2.0	6.1	45.7	3.3	1.0
190	OR	Dunsmuir CA	Klamath Falls OR	1.1	3.4	25.4	1.8	0.6

TABLE 2-2
ESTIMATED EMISSIONS INCREASES DUE TO INCREASED
RAIL LINE SEGMENT ACTIVITY

AQCR	State	Origin Station	Destination Station	Emissions Increase (tons per year)				
				HC	CO	NO ₂	SO ₂	PM-10
190	OR	Klamath Falls OR	Chemult OR	7.2	22.4	167.7	12.2	3.6
190	OR	Portland OR	Oregon Trk. Jct. OR	3.0	9.5	70.9	5.1	1.5
193	OR	Chemult OR	Eugene OR	5.3	16.5	123.6	9.0	2.7
193	OR	Eugene OR	Portland OR	22.1	68.7	514.6	37.3	11.2
193	OR	Portland OR	Oregon Trk. Jct. OR	1.9	6.1	45.3	3.3	1.0
193	OR	Seattle WA	Portland OR	5.0	15.5	116.4	8.4	2.5
22	TX	Big Sandy TX	Texarkana TX	27.7	86.2	645.4	46.8	14.0
22	TX	Dallas TX	Big Sandy TX	12.9	40.1	300.2	21.8	6.5
106	TX	Iowa Jct. LA	Beaumont TX	9.7	30.0	224.9	16.3	4.9
106	TX	Lufkin TX	Shreveport LA	0.6	1.8	13.3	1.0	0.3
153	TX	El Paso TX	Dalhart TX	19.5	60.7	454.3	32.9	9.8
153	TX	El Paso TX	Sierra Blanca TX	12.3	38.1	285.2	20.7	6.2
153	TX	Lordsburg NM	El Paso TX	18.3	57.0	426.6	30.9	9.2
153	TX	Sierra Blanca TX	Toyah TX	27.5	85.5	639.9	46.4	13.9
210	TX	Big Spring TX	Fort Worth TX	48.9	152.1	1138.4	82.5	24.7
210	TX	Fort Worth TX	Chickasha OK	10.7	33.1	248.0	18.0	5.4
211	TX	Dalhart TX	Stratford TX	5.3	16.4	122.5	8.9	2.7
211	TX	El Paso TX	Dalhart TX	3.4	10.6	79.0	5.7	1.7
211	TX	Stratford TX	Hutchinson KS	1.9	5.8	43.4	3.1	0.9
215	TX	Big Spring TX	Fort Worth TX	27.8	86.5	647.7	46.9	14.0
215	TX	Dallas TX	Big Sandy TX	11.4	35.6	266.2	19.3	5.8
215	TX	Fort Worth TX	Chickasha OK	20.7	64.3	481.4	34.9	10.4
215	TX	Fort Worth TX	Dallas TX	6.3	19.7	147.3	10.7	3.2
218	TX	Big Spring TX	Fort Worth TX	7.6	23.6	176.7	12.8	3.8
218	TX	Sierra Blanca TX	Toyah TX	9.2	28.5	213.3	15.5	4.6
218	TX	Toyah TX	Big Spring TX	50.5	156.9	1174.2	85.1	25.5
219	UT	Granger WY	Ogden UT	7.8	24.3	182.0	13.2	3.9
219	UT	Ogden UT	Alazon NV	31.8	98.9	739.9	53.6	16.0
219	UT	Provo UT	Lynndyl UT	7.3	22.7	169.9	12.3	3.7
220	UT	Granger WY	Ogden UT	1.4	4.5	33.5	2.4	0.7
220	UT	Ogden UT	Alazon NV	4.5	14.1	105.7	7.7	2.3
220	UT	Provo UT	Lynndyl UT	3.9	12.2	91.5	6.6	2.0
228	WA	Seattle WA	Portland OR	1.1	3.4	25.6	1.9	0.6
229	WA	Seattle WA	Portland OR	3.9	12.1	90.8	6.6	2.0
239	WI	Oak Creek WI	St. Francis WI	0.1	0.3	2.0	0.1	0.0
242	WY	Denver CO	Cheyenne WY	4.0	12.3	92.1	6.7	2.0

TABLE 2-2
ESTIMATED EMISSIONS INCREASES DUE TO INCREASED
RAIL LINE SEGMENT ACTIVITY

AQCR	State	Origin Station	Destination Station	Emissions Increase (tons per year)				
				HC	CO	NO ₂	SO ₂	PM-10
242	WY	Rawlins WY	Cheyenne WY	24.7	76.9	575.6	41.7	12.5
243	WY	Granger WY	Green River WY	7.0	21.7	162.1	11.7	3.5
243	WY	Granger WY	Ogden UT	11.3	35.2	263.4	19.1	5.7
243	WY	Green River WY	Rawlins WY	30.7	95.3	713.4	51.7	15.5
243	WY	Rawlins WY	Cheyenne WY	14.5	45.2	338.0	24.5	7.3

Key:

HC = hydrocarbons, CO = carbon monoxide, NO₂ = nitrogen dioxide, SO₂ = sulfur dioxide, PM-10 = particulate matter less than 10 microns in diameter

2.1.2 Rail Yard Operations

Many operations, including fueling, switching, and assembling of trains, are completed in rail yards. Similar to the rail line segments, the primary source of emissions in rail yards is switching locomotives. Switch locomotives are in the range of 1,000 to 2,300 horsepower and, therefore, are of a lighter duty than road locomotives. In conducting the environmental analysis, SEA determined that 26 rail yards would meet or exceed the thresholds for air quality and noise levels set forth in the Board's environmental rules at 49 CFR 1105.7(e)(5) and (6). The emissions from rail yard operations were estimated using the method presented in **Volume 5**, Appendix G. Table 2-3 presents the estimated increase in pollutant emissions due to increases in rail yard activity that exceed the Board's analysis thresholds.

In analyzing the overall potential environmental impacts, SEA concludes that none of the rail yards would experience increases in pollutant emissions that would exceed the EPA definition of significance (as defined in Prevention of Significant Deterioration at 40 CFR 51.166), either individually or in combination with other rail yards within a particular AQCR. On the national level, the impacts from increased rail yard operations at these 26 yards would be partially offset by corresponding decreases in operations at yards no longer being used as a result of the proposed merger. Despite these offsets, emissions from these rail yards could contribute to increased levels of pollutants in their respective AQCRs, when analyzed in combination with other proposed merger activities. These increases are detailed in Section 2.1.4 as part of the discussion of potential impacts to individual AQCRs from the combination of emissions from rail line segments, rail yards, and intermodal facilities.

TABLE 2-3
ESTIMATED EMISSIONS INCREASES DUE TO INCREASED RAIL YARD ACTIVITY

AQCR	State	Name	Emissions Increase (tons per year)				
			HC	CO	NO ₂	SO ₂	PM-10
501	AZ	Nogales	0.0	0.1	1.0	0.1	0.0
503	AZ	Yuma	0.0	0.1	0.7	0.0	0.0
504	AZ	Phoenix	0.2	0.5	3.5	0.3	0.1
24	CA	Montclair	0.1	0.2	1.3	0.1	0.0
30	CA	Martinez	0.1	0.3	1.9	0.1	0.0
31	CA	Lathrop	0.2	0.6	4.2	0.3	0.1
33	CA	Niland	0.0	0.1	1.0	0.1	0.0
508	CA	Roseville	1.1	3.3	25.1	1.8	0.5
35	CO	Grand Jct.	0.0	0.1	0.7	0.1	0.0
36	CO	Rolla	0.1	0.2	1.6	0.1	0.0
37	CO	La Salle	0.1	0.2	1.5	0.1	0.0
67	IL	Canal Street	0.4	1.1	8.5	0.6	0.2
74	IL	Salem	0.1	0.4	3.0	0.2	0.1
96	KS	Herington	0.7	2.3	17.1	1.2	0.4
106	LA	DeQuincy	0.0	0.1	0.7	0.0	0.0
106	LA	Lake Charles	0.2	0.6	4.4	0.3	0.1
106	LA	Livonia	0.6	1.8	13.6	1.0	0.3
138	MO	Poplar Bluff	0.0	0.0	0.4	0.0	0.0
190	OR	Bend	0.0	0.0	0.1	0.0	0.0
191	OR	Hinkle	0.6	1.9	14.5	1.0	0.3
193	OR	Salem	0.0	0.1	0.4	0.0	0.0
153	TX	El Paso	0.3	0.9	6.4	0.5	0.1
211	TX	Amarillo	0.1	0.4	3.3	0.2	0.1
212	TX	Bellmead	0.2	0.6	4.3	0.3	0.1
215	TX	Ft. Worth	0.5	1.7	12.6	0.9	0.3
229	WA	Seattle	0.3	0.8	6.1	0.4	0.1

Key:

HC = hydrocarbons, CO = carbon monoxide, NO₂ = nitrogen dioxide, SO₂ = sulfur dioxide, PM-10 = particulate matter less than 10 microns in diameter

2.1.3 Intermodal Facilities

Increases in activity at intermodal facilities are attributable to the diversion of truck traffic to rail. Intermodal operations are generally considered to have a positive impact on air quality since greater fuel efficiencies (and hence, lower emissions) are realized on long-haul train freight versus long-haul truck freight. The intermodal operations combine the local delivery ability of a truck with the increased ton-mile fuel efficiency of a train. For this analysis, the increased emissions for an intermodal yard are associated with trucks, yard tractors, and lift equipment while in the intermodal facility. In conducting its environmental analysis, SEA determined that a total of 16 intermodal facilities are expected to incur an increase in truck activity greater than the

threshold of 50 trucks per day specified by the Board's environmental rules at 49 CFR 1105.7(e)(5) and (6). Table 2-4 presents the estimated increase in pollutant emissions due to increases in intermodal facility operations that exceed the Board's analysis thresholds. The estimated increased emissions from the intermodal facilities were estimated using the method presented in **Volume 5**, Appendix G.

TABLE 2-4
ESTIMATED EMISSIONS INCREASES DUE TO INCREASED INTERMODAL ACTIVITY

State	Facility	AQCR	Emissions Increase (tons per year)				
			HC	CO	NO ₂	SO ₂	PM-10
AZ	Phoenix	504	1.3	6.0	7.1	0.2	1.3
CA	East Los Angeles	24	15.0	70.1	82.8	2.3	14.7
CA	Oakland (SP)	30	1.7	8.1	9.6	0.3	1.7
CA	Oakland (UP)	30	2.0	9.4	11.1	0.3	2.0
CA	Lathrop	31	2.6	12.3	14.5	0.4	2.6
CA	Roseville	508	2.6	12.3	14.5	0.4	2.6
CO	Denver	36	1.6	7.3	8.6	0.2	1.5
IL	Canal Street	67	4.8	22.2	26.3	0.7	4.7
IL	Dolton	67	2.2	10.2	12.0	0.3	2.1
IL	Global II	67	10.9	50.7	59.9	1.7	10.6
IL	Dupo (East St. Louis)	70	4.5	21.2	25.1	0.7	4.4
KS	Kansas City	94	4.4	20.7	24.4	0.7	4.3
OR	Portland (Albina)	193	7.0	32.7	38.6	1.1	6.8
TX	Dallas	215	2.6	12.0	14.2	0.4	2.5
TX	San Antonio	217	3.0	13.9	16.4	0.5	2.9
WA	Seattle	229	1.5	7.1	8.3	0.2	1.5

Key:

HC = hydrocarbons, CO = carbon monoxide, NO₂ = nitrogen dioxide, SO₂ = sulfur dioxide, PM-10 = particulate matter less than 10 microns in diameter

In analyzing the potential impacts, SEA concludes that the East Los Angeles intermodal facility in California and the Global II intermodal facility in Illinois would experience increases in emissions of NO₂ that would exceed the EPA definition of significance (as defined in Prevention of Significant Deterioration at 40 CFR 51.166). Within their respective AQCRs, these two facilities also would contribute to increases in emissions of particulate matter (PM-10) that would exceed the EPA definition of significance (as defined in Prevention of Significant Deterioration at 40 CFR 51.166). On a national level, the impacts from increased intermodal facility operations at these 16 yards would be partially offset by corresponding decreases in operations at facilities yards no longer being used as a result of the proposed merger. Despite these offsets, emissions from these intermodal facilities could contribute to increased levels of pollutants in their respective AQCRs, when analyzed in combination with other proposed merger activities. The increases from the intermodal facilities are detailed in Section 2.1.4 as part of the analysis of potential

impacts to individual AQCRs from the combination of emissions from rail line segments, rail yards, and intermodal facilities.

2.1.4 Summary by Air Quality Control Region

This section summarizes the impact to each potentially affected AQCR based on the estimated increased emissions from the combination of increased rail line segment, rail yard, and intermodal facility activity. A listing of the total emissions increase in each AQCR is presented in Table 2-5.

TABLE 2-5
SUMMARY OF EMISSIONS INCREASES BY AQCR
DUE TO ALL INCREASED RAIL ACTIVITY

AQCR	State	AQCR Name	Emissions Increase (tons per year)				
			HC	CO	NO ₂	SO ₂	PM-10
501	AZ	Southeast Arizona	16.7	51.8	387.5	28.1	8.4
502	AZ	Pima	22.5	69.9	523.4	37.9	11.3
503	AZ	Mohave-Yuma	20.7	64.3	481.3	34.9	10.4
504	AZ	Maricopa	18.5	59.6	408.3	29.3	10.0
505	AZ	Central Arizona	20.1	62.4	467.3	33.9	10.1
16	AR	Central Arkansas	10.4	32.3	241.4	17.5	5.2
20	AR	Northeast Arkansas	52.7	164.0	1227.4	88.9	26.6
24	CA	Metropolitan Los Angeles	29.3	114.6	415.7	26.4	21.9
27	CA	Northeast Plateau	5.7	17.6	132.0	9.6	2.9
28	CA	Sacramento Valley	22.7	70.6	528.1	38.3	11.5
30	CA	San Francisco Bay Area	9.5	35.5	155.5	10.3	6.6
31	CA	San Joaquin Valley	13.7	46.8	272.6	19.1	8.2
33	CA	Southeast Desert	45.0	139.8	1046.5	75.8	22.7
508	CA	Mountain Counties	41.7	133.7	923.2	66.2	22.3
34	CO	Commanche	33.6	104.5	782.4	56.7	17.0
35	CO	Grand Mesa	15.8	49.2	368.4	26.7	8.0
36	CO	Metropolitan Denver	37.3	118.5	841.1	60.6	19.6
37	CO	Pawnee	21.4	66.5	497.7	36.1	10.8
40	CO	Yampa	24.4	76.0	568.6	41.2	12.3
65	IL	Burlington-Keokuk	2.2	7.0	52.2	3.8	1.1
66	IL	East Central Illinois	9.9	30.9	231.4	16.8	5.0
67	IL	Metropolitan Chicago	36.5	141.2	532.9	34.2	26.8
69	IL	Metropolitan Quad Cities	1.5	4.5	33.7	2.4	0.7
70	IL	Metropolitan St. Louis	4.5	21.2	25.1	0.7	4.4
71	IL	North Central Illinois	19.4	60.3	451.5	32.7	9.8
73	IL	Rockford-Janesville-Beloit	11.2	34.7	260.0	18.8	5.6
74	IL	Southeast Illinois	0.1	0.4	3.0	0.2	0.1
69	IA	Metropolitan Quad Cities	8.1	25.3	189.2	13.7	4.1
88	IA	Northeast Iowa	5.5	17.2	128.8	9.3	2.8

TABLE 2-5
SUMMARY OF EMISSIONS INCREASES BY AQCR
DUE TO ALL INCREASED RAIL ACTIVITY

AQCR	State	AQCR Name	Emissions Increase (tons per year)				
			HC	CO	NO ₂	SO ₂	PM-10
91	IA	Southeast Iowa	1.5	4.8	36.1	2.6	0.8
93	IA	Southwest Iowa	3.1	9.7	72.3	5.2	1.6
94	KS	Metropolitan Kansas City	4.4	20.7	24.4	0.7	4.3
95	KS	Northeast Kansas	0.3	1.0	7.1	0.5	0.2
96	KS	North Central Kansas	17.1	53.0	396.9	28.8	8.6
97	KS	Northwest Kansas	55.9	173.7	1300.6	94.2	28.2
99	KS	South Central Kansas	47.0	146.3	1094.9	79.3	23.7
100	KS	Southwest Kansas	15.4	48.0	359.5	26.1	7.8
22	LA	Shreveport-Texarkana-Tyler	0.3	1.0	7.5	0.5	0.2
106	LA	Southern Louisiana-Southeast Texas	16.4	50.9	381.3	27.6	8.3
138	MO	Southeast Missouri	6.9	21.5	161.0	11.7	3.5
85	NE	Metropolitan Omaha-Council Bluffs	0.0	0.1	1.0	0.1	0.0
145	NE	Lincoln-Beatrice-Fairbury	2.9	9.1	68.1	4.9	1.5
146	NE	Nebraska	8.6	26.6	199.2	14.4	4.3
12	NM	New Mexico Southern Border	47.4	147.3	1102.4	79.9	23.9
154	NM	Northeastern Plains	11.9	36.9	276.5	20.0	6.0
155	NM	Pecos-Permian Basin	7.6	23.7	177.8	12.9	3.9
147	NV	Nevada	92.5	287.7	2153.2	156.0	46.7
148	NV	Northwest Nevada	15.8	49.1	367.6	26.6	8.0
184	OK	Central Oklahoma	37.1	115.4	864.0	62.6	18.7
185	OK	North Central Oklahoma	23.8	73.9	552.8	40.1	12.0
187	OK	Northwestern Oklahoma	6.1	19.0	142.6	10.3	3.1
189	OK	Southwestern Oklahoma	20.7	64.3	481.4	34.9	10.4
190	OR	Central Oregon	13.3	41.4	309.7	22.4	6.7
191	OR	Eastern Oregon	0.6	1.9	14.5	1.0	0.3
193	OR	Portland	41.4	139.6	838.9	59.1	24.2
22	TX	Shreveport-Texarkana-Tyler	40.6	126.3	945.6	68.5	20.5
106	TX	Southern Louisiana-Southeast Texas	10.2	31.8	238.2	17.3	5.2
153	TX	El Paso-Las Cruces-Almagordo	77.9	242.1	1812.4	131.3	39.3
210	TX	Abilene-Wichita Falls	59.6	185.2	1386.4	100.5	30.1
211	TX	Amarillo-Lubbock	10.7	33.2	248.2	18.0	5.4
212	TX	Austin-Waco	0.2	0.6	4.3	0.3	0.1
215	TX	Metropolitan Dallas-Ft. Worth	69.4	219.8	1569.6	113.1	36.2
217	TX	Metropolitan San Antonio	3.0	13.9	16.4	0.5	2.9
218	TX	Midland-Odessa-San Angelo	67.2	209.0	1564.1	113.3	33.9
219	UT	Utah	46.9	145.9	1091.8	79.1	23.7

TABLE 2-5
SUMMARY OF EMISSIONS INCREASES BY AQCR
DUE TO ALL INCREASED RAIL ACTIVITY

AQCR	State	AQCR Name	Emissions Increase (tons per year)				
			HC	CO	NO ₂	SO ₂	PM-10
220	UT	Wasatch Front	9.9	30.8	230.7	16.7	5.0
228	WA	Olympic-Northwest Washington	1.1	3.4	25.6	1.9	0.6
229	WA	Puget Sound	5.7	20.0	105.2	7.2	3.6
239	WI	Southeastern Wisconsin	0.1	0.3	2.0	0.1	0.0
242	WY	Metropolitan Cheyenne	28.7	89.2	667.7	48.4	14.5
243	WY	Wyoming	63.5	197.3	1476.9	107.0	32.0
Total			1553.5	4935.7	34952.7	2515.9	815.8

Key:

HC = hydrocarbons, CO = carbon monoxide, NO₂ = nitrogen dioxide, SO₂ = sulfur dioxide, PM-10 = particulate matter less than 10 microns in diameter

Overall, in analyzing the potential environmental impacts, SEA concludes that the adverse impacts may result from increased air emissions. Estimated pollutant emissions increases in nonattainment areas could contribute to increased levels of pollution. The estimated pollutant emissions in nonattainment areas could pose problems for state and local agencies because these areas are trying to obtain the emissions reductions necessary to attain NAAQS. Thus, the pollutant emission increases as a result of the proposed UP/SP merger could contribute to increased pollution in these nonattainment areas. State and local agencies may find it necessary to find additional emissions reductions to offset the potential emissions increases. As a result, the estimated emissions of pollutant from increased rail operations have the potential to result in adverse impacts to air quality.

In analyzing the potential environmental impacts associated with the proposed UP/SP merger, SEA concludes that adverse impacts to air quality could result from increased rail operations (rail line segments, rail yards, and intermodal facilities). The estimated emissions increases, however, represent a conservative estimate of the potential emissions. The actual net emissions may be lower. This potential for a lower level of emissions can be attributed to operational efficiencies, reduction of duplicate activities, and truck-to-rail traffic diversions. Several increases in activity, which equate to increased emissions, could be offset by reductions in activities elsewhere in the same AQCR (i.e., intermodal facilities and rail yards where UP and SP activities would be consolidated). The increase in activities at the remaining facility would be offset by corresponding decreases in activity and emissions at the facility no longer being used as a result of consolidation. Also, certain rail line segments are expected to experience a decrease in activity. This decrease would largely offset the increased emissions from other segments in the same AQCR. The increases in rail operations, and thus emissions in the nonattainment areas, may in fact be diversions or consolidations from other rail operations.

However, despite the offsets, increased rail operations could contribute to increased levels of pollution as a result of the estimated increases in pollutant emissions.

2.2 Noise Impacts

The purpose of the noise analysis was to identify noise-sensitive receptors where the change in operations could result in noise exposure increases that would meet or exceed the Board's thresholds for impact analysis (49 CFR 1105.7(e)(6)). The analysis provided an estimate of the number of noise sensitive receptors (e.g., residences, schools, hospitals, churches) where the Board's thresholds for impact analysis would be exceeded, potentially causing an adverse increase in noise exposure. In conducting its noise level impact assessment, SEA verified and used the baseline and proposed activity level data set forth by UP/SP in their merger application. Overall, in analyzing the potential impacts, SEA concluded that minor noise level impacts to sensitive receptors would occur on rail line segments and at rail yards and intermodal facilities.

The Board's environmental rules at 49 CFR 1105.7(e)(6) provide that where the Board's analysis thresholds are exceeded, noise level impact analysis may be warranted. Specifically, SEA determined that noise level impact studies were warranted in locations where the consolidated activities would exceed the thresholds specified in Table 2-6.

TABLE 2-6
THE BOARD'S NOISE THRESHOLDS FOR IMPACT ANALYSIS

Activity Site	Noise Threshold
Rail Line Segment	Increase of 8 trains per day or 100% increase in annual gross ton miles
Rail Yards	Increase of 100% in carload activity per day.
Intermodal Facilities	Increase of 50 trucks per day or 10% increase in average daily traffic volume on any affected road segment.

Where noise studies are performed, the following noise criteria apply to determine whether adverse impacts would occur:

- An incremental increase in noise levels of three (3) decibels (dBA) or more, as measured by the Day-Night Equivalent Sound Level (L_{dn}); or
- An increase to a noise level of L_{dn} of 65 dBA or greater.

The L_{dn} noise descriptor represents an average of the noise levels occurring during a complete 24-hour period. However, it includes a weighing applied to those noises occurring during nighttime hours (10:00 p.m. to 7:00 a.m.), reflecting the fact that most people are more sensitive to nighttime noise. In calculating L_{dn} , the nighttime adjustment makes one freight train passby occurring between 10:00 p.m. and 7:00 a.m., equivalent to ten freight train passbys during the daytime hours. In general, an increase in L_{dn} of 3 dBA would require a 100 percent increase in rail traffic, a substantial change in operating conditions, changed equipment, or a shift of daytime operations to the nighttime hours. Table 2-7 provides data regarding the numbers of train operations per day necessary to generate an L_{dn} noise level of 65 dBA and the distance from the track that this noise level would occur.

TABLE 2-7
NUMBERS OF TRAIN OPERATIONS NEEDED TO GENERATE AN L_{dn} OF 65 dBA*

Trains Per Day	Receptor Distance from Noise Source (feet)	
	With Horns	Without Horns
2	50	275
4	110	450
8	180	700
16	325	1,100

*Estimates assume average train speed of 30 mph, a throttle setting no higher than position 6, train operation at any time of the day, and no acoustical shielding.

The following sections detail the potential noise level impacts from increased operations on the rail line segments, rail yards, and intermodal facilities. Detailed noise level impact information at individual locations are presented in **Volume 2**, Chapters 2 through 20. A detailed discussion of the noise methodology and models used in the impact analysis are provided in **Volume 5**, Appendix HI.

2.2.1 Rail Line Segments

SEA identified 39 rail line segments, out of 389 possible segments, that would meet or exceed the Board's threshold for noise analysis. These segments are listed in Table 2-8. The Board's environmental rules at 49 CFR 1105.7(e) specify that where a noise assessment is warranted, the analysis should determine for noise sensitive receptors whether the proposed action would result in a 3-dBA increase in noise exposure, as expressed by L_{dn} , or would result in an overall L_{dn} of 65 dBA or greater. In analyzing the environmental impacts of the proposed merger, SEA concludes that minor impacts to noise sensitive receptors would occur on several rail line segments.

Table 2-8 provides the noise exposure increase expected given the projected train volumes. For many of these segments, the change is small, often less than 2 decibels. Thus, SEA analyzed only those areas where the projected increase in train volumes would be expected to cause more than a negligible change in noise exposure and cause a significant increase in the number of noise-sensitive receptors within the L_{dn} 65 contour. A 2-decibel increase in L_{dn} was considered as a threshold for determining significance of impact because:

- Near railroad facilities, a plus or minus 2-decibel variation in L_{dn} is common because of normal variation in factors such as operating condition and procedures, weather, time of day, and equipment maintenance.
- In most cases, a 2-decibel increase in noise exposure would cause only a small change (about 10 percent) in the number of residences within the L_{dn} 65 contour. Noise level impacts from train operations tend to be localized to the residences closest to the tracks, with the first row or two of houses providing acoustical shielding to those beyond sufficient to keep the noise exposure below L_{dn} 65 at residences farther away.

Overall, although some segments have long stretches with no noise-sensitive land uses, they do pass through many residential areas where trains are the dominant source of noise exposure. The noise exposure is greatly increased near grade crossings where train horns are used as a warning to motorists and pedestrians. UP and SP operate according to all applicable Federal, state, and local laws regarding the use of train horns. Any decision to reduce this use could result in a reduction of public safety at grade crossings.

TABLE 2-8
RAIL LINE SEGMENTS REQUIRING NOISE ANALYSIS

Location	TRAINS PER DAY:			% Change in Gross Ton-Miles/Year	Increase in dBA
	Pre-Merger	Post-Merger	Change		
Yuma, AZ to Picacho, AZ	25.8	39.2	13.4	23.0%	<2.0
Picacho, AZ to Tucson, AZ	25.7	41.4	15.7	38.6%	2.1
Tucson, AZ to Cochise, AZ	29.6	44.7	15.1	27.3%	< 2.0
Cochise, AZ to Lordsburg, NM	30.3	44.9	14.6	24.2%	< 2.0
Fair Oaks, AR to Paragould, AR	11.4	19.7	8.3	68.9%	2.4
Brinkley, AR to Fair Oaks, AR	11.4	21.7	10.3	97.5%	2.8
Pine Bluff, AR to Brinkley, AR	22.6	31.6	9.0	91.3%	< 2.0
Roseville, CA to Sparks, NV	13.8	25.1	11.3	78.7%	2.6
Stockton (Lathrop), CA to Sacramento, CA	13.3	23.0	9.7	56.4%	2.4

TABLE 2-8
RAIL LINE SEGMENTS REQUIRING NOISE ANALYSIS

Location	TRAINS PER DAY:			% Change in Gross Ton- Miles/Year	Increase in dBA
	Pre-Merger	Post-Merger	Change		
Martinez, CA to Stockton (Lathrop), CA	0.0	4.0	4.0	>100.0%	N/A
West Colton, CA to Yuma, AZ	27.2	38.8	11.1	24.1%	< 2.0
Denver, CO to Oakley, KS	1.8	8.7	6.9	443.6%	6.8
Bond, CO to Denver, CO	11.0	19.6	8.6	87.8%	2.5
Dotsero, CO to Bond, CO	6.0	14.0	8.0	202.2%	3.7
Nelson, IL to Geneva, IL	43.8	57.9	14.1	23.1%	< 2.0
Geneva, IL to West Chicago, IL	78.6	92.7	14.1	22.7%	< 2.0
West Chicago, IL to Chicago (Proviso), IL	92.7	106.8	14.1	22.4%	< 2.0
Buda, IL to Nelson, IL	6.1	16.2	10.1	97.2%	4.3
California Jct., IA to Missouri Valley, IA	28.9	37.4	8.5	28.0%	< 2.0
California Jct., IA to Fremont, NE	22.6	31.1	8.5	33.7%	< 2.0
Salina, KS to Oakley, KS	2.2	8.2	6.0	388.0%	5.7
Lost Springs, KS to Wichita, KS	1.9	11.9	10.0	362.4%	8.0
Herington, KS to Lost Springs, KS	0.1	10.4	10.3	17005.4%	18.7
Iowa Jct., LA to Beaumont, TX	15.5	30.8	15.3	73.9%	3.0
Valley, NE to Marysville, KS	0.9	2.9	2.0	133.6%	5.0
Sparks, NV to Winnemucca, NV	13.8	26.2	12.4	74.1%	2.8
Lordsburg, NM to El Paso, TX	29.3	44.7	15.4	29.4%	< 2.0
Chickasha, OK to Wichita, KS	4.4	11.8	7.4	129.3%	4.3
Klamath Falls, OR to Chemult, OR	22.1	30.2	8.1	15.5%	< 2.0
Fort Worth to Chickasha, OK	7.6	14.2	6.6	113.2%	2.7
Big Sandy, TX to Texarkana, TX	11.7	18.3	6.6	119.2%	<2.0
Fort Worth, TX to Dallas, TX	23.5	33.7	10.2	45.3%	< 2.0
Big Spring, TX to Fort Worth, TX	2.5	11.5	9.0	260.9%	6.6
Toyah, TX to Big Spring, TX	2.3	12.1	9.9	345.7%	7.3
Sierra Blanca, TX to Toyah, TX	2.1	11.9	9.9	430.6%	7.5
Stratford, TX to Hutchinson, KS	11.3	20.1	8.8	24.3%	2.5
Dalhart, TX to Stratford, TX	13.3	21.9	8.6	34.4%	2.2
Ogden, UT to Alazon, NV	12.7	23.0	10.3	77.2%	2.6
Oak Creek, WI to St. Francis, WI	4.0	3.2	(0.9)	153.3%	< 2.0

2.2.2 Rail Yard Operations

SEA identified four rail yards that would as meet or exceed the Board's thresholds for noise level impact analysis at 49 CFR 1105.7(e)(6). These are shown in Table 2-9.

TABLE 2-9
RAIL YARDS REQUIRING NOISE ANALYSIS

Location	RAILCARS HANDLED PER DAY				Increase in dBA
	Pre-Merger	Post-Merger	Change	% Change	
Salem, IL	64.0	133.2	69.2	108.1%	3.0
Herington, KS	150.0	549.7	399.7	266.5%	5.6
Amarillo, TX	40.0	117.2	77.2	193.0%	<2.0
Bellmead, TX	45.7	145.9	100.2	219.3%	3.0

Sources of noise in rail yards include: inbound/outbound main line and local train operations, switch engine operations, retarders, car impacts, idling locomotives and refrigeration cars, locomotive engine load tests, and intermodal yard equipment. Operations at the Salem, Herington, and Bellmead yards would cause adverse noise impacts slightly above the 2 dBA level in L_{dn} .

2.2.3 Intermodal Facilities

Noise sources at intermodal facilities include the truck traffic in and out of the facility, locomotives moving the rail cars, and the cranes or forklifts used for loading and unloading the flatcars. SEA identified 16 intermodal facilities that meet the Board's threshold for analysis. These are shown in Table 2-10. For most of these facilities, the projected increase in noise exposure would be relatively modest, indicating that increased noise impacts would not be expected except in localized areas. The modest increase, along with the few sensitive receptors near most of the facilities, indicates that the potential for noise impacts from increased operations at these intermodal facilities would be limited.

TABLE 2-10
INTERMODAL FACILITIES REQUIRING NOISE ANALYSIS

Location	Operator	Change in Trucks/Day	% Increase in Daily Traffic	Summary of Noise Impacts
Phoenix, AZ	SP	50	0.4%	>2.0 dB, no impacts in 65 dBA contour.
East Los Angeles, CA	UP	587	4.2%	>2.0 dB, no sensitive receptors 65 dBA contour
Oakland, CA	UP	79	4.7%	<2.0 dB
Oakland, CA	SP	68	2.0%	<2.0 dB
Lathrop, CA	UP	103	N/A	<2.0 dB
Roseville, CA	SP	103	0.8%	>2.0 dB, no sensitive receptors in 65 dBA contour
Denver, CO	UP	61	0.7%	<2.0 dB
Dupo, IL (East St. Louis)	UP	178	2.6%	>2.0 dB, merger would result in an increase of 13 homes within 65 dBA contour
Global II, IL	UP	425	2.2%	>2.0 dB, no sensitive receptors in 65 dBA contour
Canal Street, IL	UP	186	1.8%	<2.0 dB
Dolton, IL	UP	85	0.3%	<2.0 dB
Kansas City, KS	SP	173	1.1%	<2.0 dB
Portland (Albina), OR	UP	274	5.3%	>2.0 dB, no sensitive receptors in 65 dBA contour
San Antonio, TX	UP	116	1.3%	>2.0 dB, no sensitive receptors in 65 dBA contour
Dallas, TX	SP	101	1.3%	<2.0 dB
Seattle, WA	UP	59	0.8%	<2.0 dB

Seven of the 16 intermodal facilities would experience an increase of noise exposure greater than 2 dBA. Many of the intermodal facilities are located in industrial areas, and, for all but one of the 16 facilities, there are not expected to be any sensitive receptors within the 65 dBA L_{dn} contour. The exception is the facility at Dupo, Illinois, which currently has an estimated 15 homes within the 65 dBA contour. This is expected to increase with the proposed merger to 28 homes. The noise impacts resulting from increased activity at intermodal facilities on the overall merged system are not expected to be adverse.

2.3 Transportation Impacts

In considering the environmental impacts of the proposed UP/SP merger, the Board's rules at 49 CFR 1105.7(e)(2) require a description of the effects of the proposed action on local and regional transportation systems and patterns. The rules also require an estimate of the amount of passenger or freight traffic that would be diverted to other transportation systems or modes as a result of the proposed action. This EA also analyzes impacts to national transportation systems and patterns.

For the purpose of this environmental analysis, local transportation was defined as the effect of truck activity at intermodal facilities. Regional transportation was defined as the effect of intermodal facilities on the regional or metropolitan transportation networks, and in particular, the consolidations of intermodal facilities within a metropolitan area. National transportation was defined as the net effect of the proposed merger on transportation across the nation.

Overall, in analyzing the potential impacts, SEA concludes that the only impact on local and regional transportation systems would be increased truck activity at intermodal facility locations and on the surrounding roads (i.e., trucks entering and exiting facilities from local roads to pick up or drop off containers or trailers capable of being hauled by a truck or a rail car). This increase in truck activity would result from anticipated truck-to-rail diversions, rail-to-rail diversions, and extended hauls that the proposed merger could attract (i.e., the merged railroads would be able to haul freight for longer distances without interchanging with other carriers). In addition, increased truck activity at several intermodal facilities would result because of consolidated operations now conducted in separate UP/SP intermodal facilities located in the same city.

The primary impact on national transportation systems from the proposed merger would be the reduction in truck traffic on interstate highways and regional transportation routes resulting from truck-to-rail diversions. This would have a positive effect on the national transportation system. The methodology used to estimate the transportation impacts is presented in **Volume 5, Appendix I**.

2.3.1 Local Transportation Systems at Intermodal Facilities

The proposed merger would result in daily truck traffic increases of 50 or more trucks at 16 intermodal facilities in eight states (these facilities are shown in Table 2-10). The largest increases in truck traffic would occur in East Los Angeles with an increase of 587 trucks per day, Global II in Illinois with an increase of 425 trucks per day, and Portland, Oregon with an increase of 274 trucks per day. The impact of the increased traffic from these facilities on local streets would represent between 0.4 and 5.3 percent of average daily traffic (ADT), and thus would only cause minor impacts on local traffic. Truck traffic from intermodal facilities is not concentrated during normal peak periods (commuter "rush" hours) as trains arrive throughout the day and night and,

on average, train arrivals are evenly spread throughout a 24-hour day. The impact on local traffic during these peak hours is, therefore, also expected to be negligible.

2.3.2 Regional Transportation Systems

UP and SP propose to consolidate intermodal operations at 13 facilities in 12 areas. The intermodal operations that would be consolidated and the current operator of the existing facility that would be phased out are listed below:

- Brooklyn: Portland, Oregon (SP).
- LACT: Los Angeles, California (SP)
- Roper: Salt Lake City, Utah (SP, potential use by BN/SF)
- Reno: Reno, Nevada (UP)
- North Yard: Denver, Colorado (SP)
- Neff: Kansas City, Missouri (UP)
- Forrest Hill: Chicago, Illinois (Leased from CSX)
- Valley Yard: East St. Louis, Illinois (SP)
- Pine Bluff: Pine Bluff, Arkansas (SP)
- Shreveport: Shreveport, Louisiana (SP, Port Owned)
- Marshall: Marshall, Texas (UP)
- East Yard: San Antonio, Texas (SP).
- Avondale: Avondale, Louisiana (SP, potential use by BN/SF)

The increase in truck traffic at the facility to which operations would be shifted would be offset by a decrease in truck traffic at the phased-out facility. Because both the remaining facility and the facility to be phased out are located within the same regional transportation network, the same volume of truck traffic would continue to use the regional network in each of the areas where the intermodal facilities are consolidated. Thus, there would be no substantial increases in traffic in these areas as a result of the consolidation of facilities. Overall, SEA concludes that there would not be any adverse impact on regional transportation systems as a result of the proposed merger.

2.3.3 National Transportation System

The Applicants projected that a total of 180,000 intermodal units would be removed from highways as a result of truck-to-rail diversions. The Applicants further stated that the diversions are estimated to save approximately 283 million truck miles annually and approximately 35 million gallons of diesel fuel per year. (Systemwide energy savings are discussed in more detail in Section 2.5.) The diversions would result in increased local truck traffic into and out of intermodal facilities with corresponding decreases in long-haul traffic on the interstate highway transportation system. The Applicants stated that the proposed merger would have a positive effect on the national transportation system.

2.3.4 Diversions to Other Transportation Systems

The Board's environmental rules at 49 CFR 1105.7(e)(2) require an examination of the freight traffic that would be diverted to other transportation systems or modes as a result of the proposed action. According to the Applicants, the proposed merger would not result in the diversion of any rail traffic (passenger or freight) to other transportation systems.

2.4 Safety Impacts

The safety impacts associated with the proposed merger actions can be broadly categorized as additional accidents and delays that could be caused by:

- New rail-highway grade crossings.
- Increased possibility of train accidents.
- Derailments, and other incidents.
- Hazards resulting from shipments of hazardous commodities.
- Hazards related to hazardous waste sites.

Overall, in analyzing the potential safety impacts, SEA concludes that there would be no major impacts as a result of the proposed UP/SP merger. A detailed discussion of the safety issues and methodology is provided in **Volume 5**, Appendix J.

2.4.1 Grade Crossings

Railroad operations may affect public health and safety as a result of: (1) accidents that occur at grade crossings, and (2) delays at grade crossings, which could affect the time required to respond to an emergency or could affect the judgment of motorists concerning safe crossing of the tracks.

The Federal Highway Administration, in conjunction with the Federal Railroad Administration, has developed a method for predicting the number of accidents per year at a crossing. The methodology uses an equation that incorporates factors derived from data about specific crossings on the product of train and highway traffic, the number of main tracks, the number of through trains per day during daylight, highway paving, maximum timetable speed, and number of highway lanes. The type of warning device at the crossing and the historical number of accidents per year at the crossing are also considered. Since the proposed merger would not result in any new grade crossings or negligible changes to roadway traffic volumes, and would affect only the number of trains passing through existing grade crossings, changes in the probability of accidents at grade crossings would depend on changes in the number of trains on rail segments. SEA estimates that 51 percent of rail segments on the merged system would experience an increase in train traffic, 8 percent would experience no change, and 41 percent

would experience a decrease. The overall change in grade crossing safety from the proposed merger is, therefore, expected to be relatively minor.

At an individual grade crossing level, the magnitude of an increase in accident exposure depends on the many factors listed above and cannot be predicted without detailed data for each crossing. UP and SP currently have a total of 39,884 public and private grade crossings. Calculations to predict changes in potential accident rates at crossings as a result of the proposed merger, using the accident prediction methodology described above, would require traffic studies at each affected crossing. The impacts of accidents at specific crossings were therefore not analyzed. **Volume 5**, Appendix J provides additional information on accident calculations.

SEA analyzed the potential changes in delays to vehicles at grade crossings based on the changes in train traffic from the proposed merger. Delay is a function of the number of trains passing per day, and the length and speed of the train. Average delay is estimated as half of the time required for the train to pass plus time for crossing arm to lift and for cars to begin moving again. The equations for these estimates are presented in **Volume 5**, Appendix J.

As with safety, vehicular delays at grade crossings would vary based on whether the segment would experience increase, no change, or decreased rail traffic. Since the merger would result both increases and decreases in train traffic, depending on rail segment, the overall change in grade crossing delay is expected to be negligible. At the local and individual crossing level, certain areas would experience some increases in delay at grade crossings. Total roadway vehicular delay is also a function of traffic volumes at crossings and the availability of alternative routes, so local traffic and access patterns play a key part in determining the extent of delay impacts. Areas where lack of alternative routes, access or high volumes of roadway traffic would result in high levels of grade crossing delay impacts are addressed within the individual state discussions of this volume.

2.4.2 Accidents

Accidents posing the greatest potential impacts on public health and safety are derailments potentially involving the release of hazardous materials. The accident safety analysis focused on historical data on recent accidents involving UP and SP trains and accidents that could release hazardous materials.

Accidents include those occurring on the mainline (approximately 40 percent), those occurring on yard track (approximately 50 percent), and those occurring on industry, siding, or miscellaneous track (approximately 10 percent). Yard accidents typically have little effect on public safety (except possibly those that result in the release of hazardous materials). The 1994 national average accident rate for all types of rail accidents was 4.07 accidents per million train-miles. Derailments accounted for 68.4 percent of the total, collisions accounted for 9 percent, and

22.6 percent were classified as "other". According to the Applicants, the accident rate for the UP and SP for 1994 were 4.07 and 3.96 accidents per million train-miles, respectively. These rates are at or below the national averages.

The Applicant states that the proposed merger could be expected to result in an additional 25 accidents per year based the projected increase in train-miles of the proposed merged system. Based on national averages, 17 of these accidents would be derailments, 2 would be collisions, and 6 would be "other" types of accidents. In addition, the greater use of intermodal shipments resulting from the proposed merger would lead to increased truck activity in the vicinity of some of the yards, creating the potential for increased accidents. However, increased use of intermodal shipments should result in decreased truck traffic on highways and a decrease in accidents on the interstate highway system.

2.4.3 Hazardous Commodities

The proposed merger would not affect the UP/SP's policies or operating procedures governing the transport of hazardous materials. Although the quantities of materials transported may increase, the merger will not affect the type of materials handled or the methods used to safeguard shipments.

In 1994, the UP and SP transported a total of 725,000 hazardous materials shipments; 99.9 percent arrived at their destination without incident. In the event of a hazardous material incident, both railroads have developed emergency action and response plans. These will be revised to reflect changes in systemwide operation implemented as part of the merger.

2.4.4 Hazardous Waste Sites

The Applicants provided information on active and inactive hazardous waste sites on properties owned or controlled by UP and SP, indicating that UP has 19 hazardous waste sites and SP has 2. The Applicants stated that the proposed merger would have no effect on the total number of known hazardous waste sites. Information provided included the locations of these hazardous waste sites and contaminants found there. Contaminants listed at a number of hazardous waste sites owned by both railroads include solvents, particularly perchloroethylene and trichloroethylene, heavy metals, creosote, and petroleum hydrocarbons.

No construction activities are planned in areas containing hazardous substances or wastes; should hazardous wastes be found in any areas where construction occurs, remediation would be performed in compliance with appropriate Federal, state and local regulations, by qualified firms prior to construction, as identified in existing emergency plans.

2.5 Energy Impacts

The Board's environmental rules at 49 CFR 1105.7(e)(4) require a description of:

- The effect of the proposed action on transportation of energy resources and recyclable commodities.
- Whether the proposed action would result in an increase or decrease in overall energy efficiency.
- The extent to which the proposed action would cause diversions from rail to motor carriage.²

According to the Applicant, the overall impact of the proposed merger on the national transportation system would be increased efficiencies of operation and a net reduction in diesel fuel consumption. Fuel consumption impacts could result from the following:

- Internal reroutes of through-train service.
- Changes in rail yard, terminal, and intermodal activities.
- Track upgrades and new construction.
- New truck-to-rail and rail-to-rail diversions.

According to the Applicant, the overall impact of the proposed consolidation on the national transportation system would be a net reduction in diesel fuel consumption of 35 million gallons per year. This net reduction in diesel fuel would result from improved efficiencies.

2.5.1 Effects on Transportation of Energy Resources and Recyclable Commodities

The Applicants stated that no changes in the transport of energy-producing materials or recyclable commodities are planned as part of the proposed merger. Energy-producing materials that may be transported include coal, fuel oils, liquefied gases, wood products, chemical products, and various petroleum-based products. Recyclable commodities that may be transported include aluminum alloy scrap, iron or steel scrap or tailings, and waste paper scrap. In their application, the UP/SP state that no substantial volumes of energy producing or recyclable products are expected to be diverted from truck to rail. If the increased overall efficiencies of operation are achieved, this could benefit the transportation of energy resources and recyclable commodities, due to the potential for shorter and more direct transportation routes.

² Since no diversions from rail to motor carriage are expected, the number of diversions specified in Board's environmental rules do not apply in this situation.

2.5.2 Effects on Energy Efficiency

SEA estimates that the proposed merger would reduce net diesel fuel consumption by 35 million gallons annually. Although the proposed operational changes would increase the amount of diesel fuel required for UP/SP operations by 46 million gallons/year, this increase would be offset by the fuel savings attributable to truck-to-rail diversions. Consumption of nearly 81 million gallons of diesel fuel would be avoided if projected levels of truck-to-rail diversions occur. Energy savings associated with rail-to truck diversions are negligible.

CHAPTER 3.0 OVERVIEW OF ABANDONMENT IMPACTS

3.1 Introduction

This chapter provides an overview of the potential environmental impacts of the 17 rail line segments that the UP/SP plan to abandon as part of the proposed merger. Rail traffic currently using these lines would be rerouted to other UP/SP lines. The 17 segments proposed for abandonment are located in eight states and total nearly 600 miles of track. These segments include:

- Gurdon to Camden, Arkansas (UP).
- Whittier Junction to Colima Junction, California (UP).
- Magnolia Tower to Melrose, California (UP).
- Alturas to Wendel, California (SP).
- Sage to Leadville, Colorado (SP).
- Malta to Canon City, Colorado (SP).
- Towner to NA Junction, Colorado (UP).
- Barr to Girard, Illinois (UP).
- Edwardsville to Madison, Illinois (UP).
- DeCamp to Edwardsville, Illinois (UP).
- Whitewater to Newton, Kansas (UP).
- Hope to Bridgeport, Kansas (UP).
- Iowa Junction to Manchester, Louisiana (UP).
- Seabrook to San Leon, Texas (SP).
- Suman to Benchley, Texas (SP).
- Troup to Whitehouse, Texas (UP).
- Little Mountain Junction to Little Mountain, Utah (UP).

On rail line segments to be abandoned, the rails, ties, ballast, structures, buildings, and ancillary equipment (i.e., communications, signals) would be removed by the UP/SP. Road crossings would also be removed. Most salvage and removal activities would occur within the existing right-of-way. In addition, portions of some abandoned segments may be considered for future recreation use (e.g., Rails to Trails). In such cases, after the railroad has removed its equipment, the right-of-way would be maintained for recreational purposes by the trail owner or operator. These abandoned line segments also would remain available for future transportation uses. **Volume 3** of this EA describes in detail each of these projects by location, alternative actions considered, the existing environment, the potential environmental impacts, and recommended mitigation measures.

In conducting its environmental analysis, SEA considered the following environmental impact

areas in accordance with the Board's environmental rules at 49 CFR 1105.7(e):

- Air quality.
- Noise.
- Energy.
- Land use.
- Water resources.
- Biological resources.
- Historic and archaeological resources.
- Safety.
- Transportation.

Based on the information available to date and the mitigation measures recommended in **Volume 3** of this EA, SEA concludes that the proposed abandonments would not result in significant environmental impacts. Below are summaries of the systemwide environmental impacts and the impact categories and criteria. The potential site-specific environmental impacts of each proposed abandonment are summarized, below by location, in the tables beginning in Section 10.2.

3.1.1 Systemwide Environmental Impacts

SEA evaluated three impact areas--air quality, noise, and energy--based on the systemwide effects of the proposed abandonments.

Air Quality

The primary air quality impact from the proposed abandonments would be a change in emissions levels due to cessation of railroad operations and the diversion of traffic from the abandoned segments to trucks. SEA concludes that the proposed abandonments would result in a decrease in overall emissions. Although six of the proposed abandonments would generate rail-to-truck diversions, the increased emissions from truck traffic would be offset by the decreases associated with all abandonments. No impacts to ambient (i.e., existing) air quality are anticipated.

Noise

In terms of noise impacts, SEA concludes that none of the proposed abandonments would cause exposure to increased noise levels or adverse noise impacts at sensitive receptors. In most cases, abandonment of a rail segment would lead to reduced noise exposure at adjacent receptors. However, there may be short-term increases in noise levels associated with salvage operations.

Energy

The Board's environmental analysis thresholds require an estimate of the net change in energy

consumption resulting from a rail line abandonment if the proposed abandonment causes a rail-to-truck diversion totaling 1,000 or more rail cars per year, or more than 50 carloads/mile per year for an individual line segment. Based on data included in the Applicants' operating plan, the total rail traffic on all lines to be abandoned is 992 cars per year, an average of 1.7 carloads per mile. Because no lines proposed for abandonment would exceed either threshold for energy analysis, no energy consumption impacts were calculated.

3.1.2 Site-Specific Environmental Impacts

In addition to the systemwide impacts associated with proposed abandonments, SEA evaluated specific impact areas for each proposed abandonment location, including:

- Land use.
- Water resources.
- Biological resources.
- Historic and archaeological resources.
- Safety.
- Transportation.

To assess potential environmental impacts, SEA through its third party consultant reviewed existing conditions, consulted with public agencies and local officials, analyzed resource maps and published reports, and visited abandonment sites. Criteria developed to characterize impacts are discussed below.

Land Use

A rail line abandonment could affect local or regional land uses. SEA was primarily concerned about potential impacts to land uses sensitive to environmental changes, such as housing, businesses, schools, hospitals, and prime agricultural lands. Each proposed abandonment was reviewed for its compatibility with adjacent land uses, consistency with local or regional land use plans, and effect on prime farmland.

Water Resources

Water resources that could experience impacts as a result of the proposed abandonments include creeks, streams, wetlands, floodplains, lakes, ponds, ditches, and canals. Impacts to water resources are considered adverse if there is substantial interference with drainage, adverse discharges (i.e., sediment, pollutants, etc.), or loss of wetlands resulting from the proposed abandonment action.

Biological Resources

Potential impacts on important natural and biological resources, such as threatened and endangered species (plants and animals), critical habitats, parklands, forest preserves, and wildlife refuges resulting from proposed abandonment locations were assessed. Impacts are considered adverse if the action would cause:

- Loss of important vegetation or wildlife habitats.
- Harm to threatened or endangered species.
- Loss of critical habitat(s).
- Loss or degradation of parklands, forest preserves, or wildlife sanctuaries.

Historic and Archaeological Resources

Each abandonment location was reviewed to determine if any historic or archeological sites listed (or eligible for listing) on the National Register of Historic Places (NRHP) would be affected by the proposed action. An impact is considered adverse if any property listed on the NRHP would be disturbed by the proposed abandonment or subsequent salvage operations. The Section 106 consultation process was initiated on January 29, 1996 with the issuance of a letter to the State Historic Preservation Officer in each affected state. A sample of these letters is shown in Volume 5, Appendix D, Exhibit D-8. Subsequent consultation has taken place, and will continue, to address the identification of NRHP properties and whether the proposed merger would have an effect on NRHP properties.

Safety (Hazardous Waste Sites)

SEA reviewed each abandonment to determine if the proposed action would create or disturb hazardous waste sites. Any abandonment action which would cause additional exposure to hazardous waste sites or hazardous materials is considered to have an significant safety-related impact.

Transportation

Rail-to-truck diversions resulting from rail line abandonments were the primary transportation impacts reviewed. Transportation impacts are considered adverse if a substantial increase in truck traffic would occur on local, regional, or national transportation routes.

3.2 Arkansas

3.2.1 Gurdon to Camden

The proposed action would include the abandonment of 28.7 miles of rail line between Gurdon and Camden, Arkansas, from MP 428.3 to 457.0. Approximately 405 acres would be affected by this change. There would be no rail-to-truck diversions. Surface water impacts would be minor, and no groundwater or wetlands would be affected. Natural habitat loss would be negligible, and no threatened or endangered species or critical habitats would be affected. Changes in air quality and noise levels due to short-term salvage operations would be negligible. One historic resource, a bridge on this rail line segment, would be affected; Section 106 consultation has been initiated. No hazardous waste sites would be affected.

3.3 California

3.3.1 Whittier Junction to Colima Junction

The proposed action would include the abandonment of 5.2 miles of rail line between Whittier Junction and Colima Junction, California, from MP 0.0 to MP 5.2. Approximately 38 acres would be affected by this change. There would be no rail-to-truck diversions. Surface water impacts would be minor, and no groundwater or wetlands would be affected. Natural habitat loss would be negligible, and no threatened or endangered species or critical habitats would be affected. Changes in air quality and noise levels due to short-term salvage operations would be negligible. No historic resources would be affected. No hazardous waste sites would be affected.

3.3.2 Magnolia Tower to Melrose

The proposed action would include the abandonment of 4.9 miles of rail line between Magnolia Tower and Melrose, from MP 5.8 to MP 10.7. Approximately 29 acres would be affected by this change. There would be no rail-to-truck diversions. Surface water and wetland impacts would be minor, and no groundwater would be affected. Natural habitat loss would be negligible, and no threatened or endangered species or critical habitats would be affected. Changes in air quality and noise levels due to short-term salvage operations would be negligible. One historic resource would be affected; Section 106 consultation has been initiated. No hazardous waste sites would be affected.

3.3.3 Alturas to Wendel

The proposed action would include the abandonment of 85.5 miles of rail line between Alturas and Wendel, from MP 445.6 to MP 360.1. Approximately 1,900 acres would be affected by this change. There would be no rail-to-truck diversions. Surface water and wetland impacts would be

minor, and no groundwater would be affected. Natural habitat loss would be negligible, and no threatened or endangered species or critical habitats would be affected. Changes in air quality and noise levels due to short-term salvage operations would be negligible. No historic resources would be affected. No hazardous waste sites would be affected.

3.4 Colorado

3.4.1 Sage to Leadville

The proposed action would include the abandonment of 64.0 miles of rail line between Sage and Leadville, from MP 335.0 to 271.0. Approximately 1,406 acres would be affected by this change. There would be no rail-to-truck diversions. Surface water and wetland impacts would be minor, and no groundwater would be affected. Natural habitat loss would be negligible, and no threatened or endangered species or critical habitats would be affected. Changes in air quality and noise levels due to short-term salvage operations would be negligible. Two historic resources, both of which are portions of the rail line itself, would be affected; Section 106 consultation has been initiated. Two Superfund hazardous waste sites would be affected. Risk assessment and remediation plans will be developed.

3.4.2 Malta to Cañon City

The proposed action would include the abandonment of 109 miles of rail line between Malta and Cañon City, from MP 271.0 to 162.0. Approximately 2,487 acres would be affected by this change. Approximately 530 rail car loads would be diverted to trucks. Surface water and wetland impacts would be minor, and no groundwater would be affected. Natural habitat loss would be negligible, and no threatened or endangered species or critical habitats would be affected. There would be negligible changes in air quality due to rail-to-truck diversions. Impacts to noise levels due to short-term salvage operations would be negligible. Three historic resources would be affected; Section 106 consultation has been initiated. Two Superfund hazardous waste sites would be affected. Risk assessment and remediation plans will be developed.

3.4.3 Towner to NA Junction

The proposed action would include the abandonment of 122.4 miles of rail line between Towner and North Avondale Junction, from MP 747.0 to 869.4. Approximately 2,673 acres would be affected by this change. Approximately 120 rail car loads would be diverted to trucks. Surface water and wetland impacts would be minor, and no groundwater would be affected. Natural habitat loss would be negligible, and no threatened or endangered species or critical habitats would be affected. There would be negligible changes in air quality due to rail-to-truck diversions. Impacts to noise levels due to short-term salvage operations would be negligible. No historic sites would be affected. No hazardous waste sites would be affected.

3.5 Illinois

3.5.1 Barr to Girard

The proposed action would include the abandonment of 38.4 miles of rail line between Barr and Girard, from MP 51.0 to MP 89.4. Approximately 619 acres would be affected by this change. Approximately 38 rail car loads would be diverted to truck. Surface water and wetland impacts would be minor, and no groundwater would be affected. Natural habitat loss would be negligible, and no threatened or endangered species or critical habitats would be affected. There are negligible changes in air quality due to rail-to-truck diversions. Impacts to noise levels due to short-term salvage operations are negligible. Three historic railroad bridge sites would be affected. No hazardous waste sites would be affected.

3.5.2 Edwardsville to Madison

The proposed action would include the abandonment of 15 miles of rail line between Edwardsville and Madison, from MP 133.8 to MP 148.8. Approximately 191 acres would be affected by this change. There would be no rail-to-truck diversions. Surface water and wetland impacts would be minor, and no groundwater would be affected. Natural habitat loss would be negligible, and no threatened or endangered species or critical habitats would be affected. Changes in air quality and noise levels due to short-term salvage operations would be negligible. No historic sites would be affected. No hazardous waste sites would be affected.

3.5.3 De Camp to Edwardsville

The proposed action would include the abandonment of 14.6 miles of rail line between DeCamp and Edwardsville, from MP 119.2 to MP 133.8. Approximately 139 acres would be affected by this change. There would be no rail-to-truck diversions. Surface water and wetland impacts would be minor, and no groundwater would be affected. Natural habitat loss would be negligible, and no threatened or endangered species or critical habitats would be affected. Changes in air quality and noise levels due to short-term salvage operations would be negligible. One historic site, a railroad bridge, could be affected; Section 106 consultations have been initiated. No hazardous waste sites would be affected.

3.6 Kansas

3.6.1 Whitewater to Newton

The proposed action would include the abandonment of 9 miles of rail line between Whitewater

and Newton, from MP 476.0 to MP 485.0. Approximately 110 acres would be affected by this change. There would be no rail-to-truck diversions. Surface water and wetland impacts would be minor, and no groundwater would be affected. Natural habitat loss would be negligible, and no threatened or endangered species or critical habitats would be affected. Changes to air quality and noise levels due to short-term salvage operations would be negligible. No historic sites would be affected. No hazardous waste sites would be affected.

3.6.2 Hope to Bridgeport

The proposed action would include the abandonment of 32.0 miles of rail line between Hope and Bridgeport, from MP 459.2 to 491.2. Approximately 754 acres would be affected by this change. Surface water and wetland impacts would be minor, and no groundwater would be affected. Natural habitat loss would be negligible, and no threatened or endangered species or critical habitats would be affected. Approximately 240 rail car loads would be diverted to trucks. Changes to air quality and noise levels due to short-term salvage operations would be negligible. No historic sites would be affected. No hazardous waste sites would be affected.

3.7 Louisiana

3.7.1 Iowa Junction to Manchester

The proposed action would include the abandonment of 8.5 miles of rail line between Iowa Junction and Manchester, MP 680.0 to MP 688.5. Approximately 109 acres would be affected by this change. Surface water and wetland impacts would be minor, and no groundwater would be affected. Natural habitat loss would be negligible, and no threatened or endangered species or critical habitats would be affected. There are two rail-to-truck diversions. Changes to noise levels and air quality due to short-term salvage operations are negligible. No historic sites would be affected. No hazardous waste sites would be affected.

3.8 Texas

3.8.1 Seabrook to San Leon

The proposed action would include the abandonment of 10.5 miles of rail line between Seabrook and San Leon, from MP 30.0 to MP 40.5. Approximately 143 acres would be affected by this change. There are no rail-to-truck diversions. Surface water and wetland impacts would be minor, and no groundwater would be affected. Natural habitat loss would be negligible, and no threatened or endangered species or critical habitats would be affected. Changes to noise levels and air quality due to short-term salvage operations would be negligible. Two historic bridge sites and three archaeological sites would be affected; Section 106 consultation has been initiated. No hazardous waste sites would be affected.

3.8.2 Suman to Benchley

The proposed action would include the abandonment of 12.53 miles of rail line between Suman and Benchley, from MP 117.6 to MP 105.07. Approximately 220 acres would be affected by this change. There are 106 rail-to-truck diversions. Surface water and wetland impacts would be minor, and no groundwater would be affected. Natural habitat loss would be negligible, and no threatened or endangered species or critical habitats would be affected. Changes to noise levels and air quality due to short-term salvage operations would be negligible. There are three historic bridge sites and one archaeological site affected. No hazardous waste sites would be affected.

3.8.3 Troup to Whitehouse

The proposed action would include the abandonment of 7.5 miles of rail line between Troup and Whitehouse, from MP 0.5 to MP 8.0. Approximately 157 acres would be affected by this change. There are no rail-to-truck diversions. Surface water and wetland impacts would be minor, and no groundwater would be affected. Natural habitat loss would be negligible, and no threatened or endangered species or critical habitats would be affected. Changes to noise levels and air quality due to short-term salvage operations would be negligible. No historic sites would be affected. No hazardous waste sites would be affected.

3.9 Utah

3.9.1 Little Mountain Junction to Little Mountain

The proposed action would include the abandonment of 12.0 miles of rail line between Little Mountain Junction and Little Mountain, from MP 0.0 to 12.0. Approximately 304 acres would be affected by this change. There are no rail-to-truck diversions. Surface water and wetland impacts would be minor, and no groundwater would be affected. Natural habitat loss would be negligible, and no threatened or endangered species or critical habitats would be affected. Changes to noise levels and air quality due to short-term salvage operations would be negligible. No historic sites would be affected. No hazardous waste sites would be affected.

3.10 Summary Table

Table 3-1 summarizes the potential environmental impacts anticipated at each of the proposed abandonment locations. Additional details on the impacts associated with each proposed abandonment are provided in **Volume 3** of this EA.

TABLE 3-1
SUMMARY OF ABANDONMENT IMPACTS

GURDON TO CAMDEN, ARKANSAS		
Impact Type	Assessment Criteria	Impacts
Land Use	Compatibility with Adjoining Land Uses	Compatible
	Compatibility with Land Use Plans	Compatible
	Effect on Prime Farmland	None
Water Resources	Effect on Groundwater	None
	Effect on Surface Water	Minor
	Effect on Wetlands	Minor
Biological Resources	Loss of Critical Habitats	No
	Effect on Federally-listed Threatened & Endangered Species	None
Historic and Archaeological Resources	Potential or Actual NRHP Sites Affected	One Bridge -- Section 106 Consultation Initiated
Safety	Change in Exposure to Hazardous Sites or Materials	None
Transportation	Change in Truck Traffic Due to-Rail-to-Truck Diversion	None

TABLE 3-1, continued
SUMMARY OF ABANDONMENT IMPACTS

WHITTIER JUNCTION TO COLIMA JUNCTION, CALIFORNIA		
Impact Type	Assessment Criteria	Impacts
Land Use	Compatibility with Adjoining Land Uses	Compatible
	Compatibility with Land Use Plans	Compatible
	Effect on Prime Farmland	None
Water Resources	Effect on Groundwater	None
	Effect on Surface Water	Minor
	Effect on Wetlands	None
Biological Resources	Loss of Critical Habitats	No
	Effect on Federally-listed Threatened & Endangered Species	None
Historic and Archaeological Resources	Potential or Actual NRHP Sites Affected	None
Safety	Change in Exposure to Hazardous Sites or Materials	None
Transportation	Change in Truck Traffic Due to-Rail-to-Truck Diversion	None

TABLE 3-1, continued
SUMMARY OF ABANDONMENT IMPACTS

MAGNOLIA TOWER TO MELROSE, CALIFORNIA		
Land Use	Compatibility with Adjoining Land Uses	Compatible
	Compatibility with Land Use Plans	Compatible
	Effect on Prime Farmland	None
Water Resources	Effect on Groundwater	None
	Effect on Surface Water	Minor
	Effect on Wetlands	Minor
Biological Resources	Loss of Critical Habitats	No
	Effect on Federally-listed Threatened & Endangered Species	None
Historic and Archaeological Resources	Potential or Actual NRHP Sites Affected	1 Site -- Section 106 Consultation Initiated
Safety	Change in Exposure to Hazardous Sites or Materials	None
Transportation	Change in Truck Traffic Due to-Rail-to-Truck Diversion	None

TABLE 3-1, continued
SUMMARY OF ABANDONMENT IMPACTS

ALTURAS TO WENDEL, CALIFORNIA		
Impact Type	Assessment Criteria	Impacts
Land Use	Compatibility with Adjoining Land Uses	Compatible
	Compatibility with Land Use Plans	Compatible
	Effect on Prime Farmland	None
Water Resources	Effect on Groundwater	None
	Effect on Surface Water	Minor
	Effect on Wetlands	Minor
Biological Resources	Loss of Critical Habitats	No
	Effect on Federally-listed Threatened & Endangered Species	None
Historic and Archaeological Resources	Potential or Actual NRHP Sites Affected	None
Safety	Change in Exposure to Hazardous Sites or Materials	None
Transportation	Change in Truck Traffic Due to-Rail-to-Truck Diversion	None

TABLE 3-1, continued
SUMMARY OF ABANDONMENT IMPACTS

SAGE TO LEADVILLE, COLORADO		
Impact Type	Assessment Criteria	Impacts
Land Use	Compatibility with Adjoining Land Uses	Compatible
	Compatibility with Land Use Plans	Compatible
	Effect on Prime Farmland	None
Water Resources	Effect on Groundwater	None
	Effect on Surface Water	Minor
	Effect on Wetlands	Minor
Biological Resources	Loss of Critical Habitats	No
	Effect on Federally-listed Threatened & Endangered Species	None
Historic and Archaeological Resources	Potential or Actual NRHP Sites Affected	2 Sites -- Section 106 Consultation Initiated
Safety	Change in Exposure to Hazardous Sites or Materials	2 Superfund Sites -- Risk Assessment and Remediation Plans to Be Developed
Transportation	Change in Truck Traffic Due to-Rail-to-Truck Diversion	None

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TABLE 3-1, continued
SUMMARY OF ABANDONMENT IMPACTS

MALTA TO CAÑON CITY, COLORADO		
Impact Type	Assessment Criteria	Impacts
Land Use	Compatibility with Adjoining Land Uses	Compatible
	Compatibility with Land Use Plans	Compatible
	Effect on Prime Farmland	None
Water Resources	Effect on Groundwater	None
	Effect on Surface Water	Minor
	Effect on Wetlands	Minor
Biological Resources	Loss of Critical Habitats	No
	Effect on Federally-listed Threatened & Endangered Species	None
Historic and Archaeological Resources	Potential or Actual NRHP Sites Affected	3 sites -- Section 106 Consultation Initiated
Safety	Change in Exposure to Hazardous Sites or Materials	2 Superfund Sites -- Risk Assessment and Remediation Plan to Be Developed
Transportation	Change in Truck Traffic Due to-Rail-to-Truck Diversion	Minor

TABLE 3-1, continued
SUMMARY OF ABANDONMENT IMPACTS

TOWNER TO NA JUNCTION, COLORADO		
Impact Type	Assessment Criteria	Impacts
Land Use	Compatibility with Adjoining Land Uses	Compatible
	Compatibility with Land Use Plans	Compatible
	Effect on Prime Farmland	None
Water Resources	Effect on Groundwater	None
	Effect on Surface Water	Minor
	Effect on Wetlands	Minor
Biological Resources	Loss of Critical Habitats	No
	Effect on Federally-listed Threatened & Endangered Species	None
Historic and Archaeological Resources	Potential or Actual NRHP Sites Affected	None
Safety	Change in Exposure to Hazardous Sites or Materials	None
Transportation	Change in Truck Traffic Due to-Rail-to-Truck Diversion	Minor

TABLE 3-1, continued
SUMMARY OF ABANDONMENT IMPACTS

BARR TO GIRARD, ILLINOIS		
Impact Type	Assessment Criteria	Impacts
Land Use	Compatibility with Adjoining Land Uses	Compatible
	Compatibility with Land Use Plans	Compatible
	Effect on Prime Farmland	None
Water Resources	Effect on Groundwater	None
	Effect on Surface Water	Minor
	Effect on Wetlands	Minor
Biological Resources	Loss of Critical Habitats	No
	Effect on Federally-listed Threatened & Endangered Species	None
Historic and Archaeological Resources	Potential or Actual NRHP Sites Affected	3 Bridges; Section 106 Consultation Initiated
Safety	Change in Exposure to Hazardous Sites or Materials	None
Transportation	Change in Truck Traffic Due to-Rail-to-Truck Diversion	Minor

TABLE 3-1, continued
SUMMARY OF ABANDONMENT IMPACTS

EDWARDSVILLE TO MADISON, ILLINOIS		
Impact Type	Assessment Criteria	Impacts
Land Use	Compatibility with Adjoining Land Uses	Compatible
	Compatibility with Land Use Plans	Compatible
	Effect on Prime Farmland	None
Water Resources	Effect on Groundwater	None
	Effect on Surface Water	Minor
	Effect on Wetlands	Minor
Biological Resources	Loss of Critical Habitats	No
	Effect on Federally-listed Threatened & Endangered Species	None
Historic and Archaeological Resources	Potential or Actual NRHP Sites Affected	None
Safety	Change in Exposure to Hazardous Sites or Materials	None
Transportation	Change in Truck Traffic Due to-Rail-to-Truck Diversion	None

TABLE 3-1, continued
SUMMARY OF ABANDONMENT IMPACTS

DE CAMP TO EDWARDSVILLE, ILLINOIS		
Impact Type	Assessment Criteria	Impacts
Land Use	Compatibility with Adjoining Land Uses	Compatible
	Compatibility with Land Use Plans	Compatible
	Effect on Prime Farmland	None
Water Resources	Effect on Groundwater	None
	Effect on Surface Water	Minor
	Effect on Wetlands	Minor
Biological Resources	Loss of Critical Habitats	No
	Effect on Federally-listed Threatened & Endangered Species	None
Historic and Archaeological Resources	Potential or Actual NRHP Sites Affected	1 Potential Site
Safety	Change in Exposure to Hazardous Sites or Materials	None
Transportation	Change in Truck Traffic Due to-Rail-to-Truck Diversion	None

TABLE 3-1, continued
SUMMARY OF ABANDONMENT IMPACTS

WHITEWATER TO NEWTON, KANSAS		
Impact Type	Assessment Criteria	Impacts
Land Use	Compatibility with Adjoining Land Uses	Compatible
	Compatibility with Land Use Plans	Compatible
	Effect on Prime Farmland	None
Water Resources	Effect on Groundwater	None
	Effect on Surface Water	Minor
	Effect on Wetlands	Minor
Biological Resources	Loss of Critical Habitats	No
	Effect on Federally-listed Threatened & Endangered Species	None
Historic and Archaeological Resources	Potential or Actual NRHP Sites Affected	None
Safety	Change in Exposure to Hazardous Sites or Materials	None
Transportation	Change in Truck Traffic Due to-Rail-to-Truck Diversion	None

TABLE 3-1, continued
SUMMARY OF ABANDONMENT IMPACTS

HOPE TO BRIDGEPORT, KANSAS		
Impact Type	Assessment Criteria	Impacts
Land Use	Compatibility with Adjoining Land Uses	Compatible
	Compatibility with Land Use Plans	Compatible
	Effect on Prime Farmland	None
Water Resources	Effect on Groundwater	None
	Effect on Surface Water	Minor
	Effect on Wetlands	Minor
Biological Resources	Loss of Critical Habitats	No
	Effect on Federally-listed Threatened & Endangered Species	None
Historic and Archaeological Resources	Potential or Actual NRHP Sites Affected	None
Safety	Change in Exposure to Hazardous Sites or Materials	None
Transportation	Change in Truck Traffic Due to-Rail-to-Truck Diversion	Minor

TABLE 3-1, continued
SUMMARY OF ABANDONMENT IMPACTS

IOWA JUNCTION TO MANCHESTER, LOUISIANA		
Impact Type	Assessment Criteria	Impacts
Land Use	Compatibility with Adjoining Land Uses	Compatible
	Compatibility with Land Use Plans	Compatible
	Effect on Prime Farmland	None
Water Resources	Effect on Groundwater	None
	Effect on Surface Water	Minor
	Effect on Wetlands	Minor
Biological Resources	Loss of Critical Habitats	No
	Effect on Federally-listed Threatened & Endangered Species	None
Historic and Archaeological Resources	Potential or Actual NRHP Sites Affected	None
Safety	Change in Exposure to Hazardous Sites or Materials	None
Transportation	Change in Truck Traffic Due to-Rail-To-Truck Diversion	Minor

TABLE 3-1, continued
SUMMARY OF ABANDONMENT IMPACTS

SEABROOK TO SAN LEON, TEXAS		
Impact Type	Assessment Criteria	Impacts
Land Use	Compatibility with Adjoining Land Uses	Compatible
	Compatibility with Land Use Plans	Compatible
	Effect on Prime Farmland	None
Water Resources	Effect on Groundwater	None
	Effect on Surface Water	Minor
	Effect on Wetlands	Minor
Biological Resources	Loss of Critical Habitats	No
	Effect on Federally-listed Threatened & Endangered Species	None
Historic and Archaeological Resources	Potential or Actual NRHP Sites Affected	2 Bridges and 3 Archaeological Sites -- Section 106 Consultation Initiated
Safety	Change in Exposure to Hazardous Sites or Materials	None
Transportation	Change in Truck Traffic Due to-Rail-to-Truck Diversion	None

TABLE 3-1, continued
SUMMARY OF ABANDONMENT IMPACTS

SUMAN TO BENCHLEY, TEXAS		
Impact Type	Assessment Criteria	Impacts
Land Use	Compatibility with Adjoining Land Uses	Compatible
	Compatibility with Land Use Plans	Compatible
	Effect on Prime Farmland	None
Water Resources	Effect on Groundwater	None
	Effect on Surface Water	Minor
	Effect on Wetlands	Minor
Biological Resources	Loss of Critical Habitats	No
	Effect on Federally-listed Threatened & Endangered Species	None
Historic and Archaeological Resources	Potential or Actual NRHP Sites Affected	3 Bridges and 1 Archaeological Site -- Section 106 Consultation Initiated
Safety	Change in Exposure to Hazardous Sites or Materials	None
Transportation	Change in Truck Traffic Due to-Rail-to-Truck Diversion	Minor

TABLE 3-1, continued
SUMMARY OF ABANDONMENT IMPACTS

TROUP TO WHITEHOUSE, TEXAS		
Impact Type	Assessment Criteria	Impacts
Land Use	Compatibility with Adjoining Land Uses	Compatible
	Compatibility with Land Use Plans	Compatible
	Effect on Prime Farmland	None
Water Resources	Effect on Groundwater	None
	Effect on Surface Water	Minor
	Effect on Wetlands	Minor
Biological Resources	Loss of Critical Habitats	No
	Effect on Federally-listed Threatened & Endangered Species	None
Historic and Archaeological Resources	Potential or Actual NRHP Sites Affected	None
Safety	Change in Exposure to Hazardous Sites or Materials	None
Transportation	Change in Truck Traffic Due to-Rail-to-Truck Diversion	None

TABLE 3-1, continued
SUMMARY OF ABANDONMENT IMPACTS

LITTLE MOUNTAIN JUNCTION TO LITTLE MOUNTAIN, UTAH		
Impact Type	Assessment Criteria	Impacts
Land Use	Compatibility with Adjoining Land Uses	Compatible
	Compatibility with Land Use Plans	Compatible
	Effect on Prime Farmland	None
Water Resources	Effect on Groundwater	None
	Effect on Surface Water	Minor
	Effect on Wetlands	Minor
Biological Resources	Loss of Critical Habitats	No
	Effect on Federally-listed Threatened & Endangered Species	None
Historic and Archaeological Resources	Potential or Actual NRHP Sites Affected	None
Safety	Change in Exposure to Hazardous Sites or Materials	None
Transportation	Change in Truck Traffic Due to-Rail-to-Truck Diversion	None

CHAPTER 4.0 OVERVIEW OF CONSTRUCTION IMPACTS

4.1 Introduction

This chapter provides an overview of the potential environmental impacts of the 25 rail line construction projects on new rights-of-way proposed as part of the UP/SP merger. Rail construction is planned on new rights-of-way in eight states at the following locations:

- Camden, Arkansas.
- Fair Oaks, Arkansas.
- Pine Bluff, Arkansas (2 projects).
- Texarkana, Arkansas.
- West Colton, California (2 projects).
- Lathrop, California.
- Stockton, California.
- Denver, Colorado.
- Denver (Pulman), Colorado.
- Girard, Illinois.
- Salem, Illinois.
- Hope, Kansas.
- Kinder, Louisiana.
- Shreveport, Louisiana.
- Dexter, Missouri.
- Paront, Missouri.
- West Point, Texas.
- Houston, Texas (3 projects).
- Fort Worth, Texas (2 projects).
- Carrollton, Texas.

These connections would involve construction of a new rail line segment to connect existing tracks to other existing rail lines, sidings, and/or yard facilities. In some cases, an existing connection would be upgraded to accommodate additional traffic or increased operating speeds. Most of the connections are between UP and SP lines, although there would be some connections between the UP, SP and other carriers with which trackage rights agreements have been negotiated. As with any construction of new railroad tracks, steps required to build a new rail connection include site preparation and grading, railbed preparation, ballast application, track installation, and systems (e.g., signals, communications) installation. Although the construction zone required will vary depending on site conditions, most work would be completed within 250 feet of the new rail line. **Volume 4** of this EA describes in detail each of these projects by location, alternative actions considered, the existing environment, the potential environmental impacts, and

recommended mitigation measures.

In conducting its environmental analysis, SEA considered the following environmental impact areas in accordance with the Board's environmental rules at 49 CFR 1105.7(e):

- Air quality.
- Noise.
- Energy.
- Land use.
- Water resources.
- Biological resources.
- Historic and archaeological resources.
- Safety.
- Transportation.

Based on the information available to date and the mitigation measures recommended in **Volume 4** of this EA, SEA concludes that the proposed construction would not result in significant environmental impacts. The potential environmental impacts of each construction project are discussed below and summarized in Table 4-1.

4.1.1 Systemwide Construction Impacts

SEA evaluated three impact areas--air quality, noise, and energy--based on the system effects of the proposed construction projects. All other impacts areas were evaluated by location (see Sections 4.2 to 4.9 below).

Air Quality

Air quality impacts that could result from the proposed rail construction projects include increased levels of fugitive dust in the vicinity of construction sites and increased emissions from the operation of construction equipment and vehicles. Some construction sites could experience increased levels of fugitive dust due to specific construction activities, including clearing, grading and excavating. The amount of fugitive dust generated will vary with construction site and depends on the topography of the site, soil composition, wind speeds, precipitation, vehicle traffic levels, and the types of roadways used to access the site. Construction sites could also experience temporary increases in hydrocarbons, carbon monoxide, sulfur dioxide, nitrogen oxide, and particulate matter emissions due to operation of engines in construction equipment (cranes, bulldozers, graders), trucks and automobiles. Overall, SEA concludes that these temporary air quality impacts would not cause long-term degradation of the environment.

Noise

SEA concludes that any noise impacts resulting from new construction projects would be temporary (one to two months) and would not cause any long-term adverse impacts at sensitive receptors. In most cases, there are no sensitive receptors in the vicinity of the proposed construction site. Any noise impacts from construction projects would be similar to those associated with routine track maintenance.

Energy

The proposed construction projects would require temporary increases in the consumption of petroleum products (gasoline, oil, diesel fuel) associated with the operation of construction equipment, although SEA prepared no estimate of the increase. It is anticipated that any increases in energy consumption would be minimal and would be offset by fuel savings associated with merger-related operational changes.

4.1.2 Site-Specific Construction Impacts

In addition to the systemwide impacts associated with construction, specific impact areas were evaluated for each proposed construction site, including:

- Land use.
- Water resources.
- Biological resources.
- Historic and archaeological resources.
- Transportation.
- Safety.

To assess potential construction-related impacts, SEA through their third party consultant reviewed existing conditions, consulted with public agencies and local officials, analyzed resource maps and published reports, and visited sites. Each proposed construction project was evaluated for impacts during construction and any operational impacts which would occur after it was completed. Criteria developed to determine whether a particular impact was significant are discussed below.

Land Use

New rail line construction could affect local or regional land uses. SEA was primarily concerned about potential impacts to land uses sensitive to environmental changes, such as residential housing, commercial businesses, schools, hospitals, and prime agricultural lands. Each rail line construction project was reviewed for incompatibility with adjacent land uses, inconsistency with

local or regional land use plans, and effect on prime farmland.

Water Resources

Water resources that could experience impacts as a result of the proposed construction projects include creeks, streams, wetlands, lakes, ponds, and canals. Impacts to water resources are considered significant if any of the following would result from the construction of a new rail line segment:

- Placement of fill, footings or culverts which decrease the area of surface waters.
- Alteration of embankments or embankment-stabilization devices.
- Increases in sediment or turbidity due to fill operations, dredging, or soil erosion.
- Destruction or degradation of aquatic, wetland, or riparian habitats.
- Degradation of water quality from sediment or pollution.
- Alteration of water flow.

Biological Resources

Potential impacts on important natural and biological resources, such as threatened and endangered species (plants and animals), critical habitats, parklands, forest preserves, and wildlife refuges resulting from construction activities were assessed. Impacts are considered significant if the action would cause:

- Loss of important vegetation or wildlife habitats.
- Harm to threatened or endangered species.
- Loss of critical habitat(s).
- Loss or degradation of parklands, forest preserves or wildlife sanctuaries.

Historic and Archaeological Resources

Each construction project was reviewed to determine if any historic or archeological sites listed (or eligible for listing) on the National Register of Historic Places (NRHP) would be affected by the proposed action. An impact is considered significant if any property listed on the NRHP would be disturbed by the construction process or subsequent railroad operations on that line segment.

Transportation

Proposed construction activities could result in temporary traffic increases at construction sites. In some cases, local traffic patterns could be disrupted during the construction period, and the increase in heavy equipment could add to the wear and tear on roadways. Overall, SEA concludes that construction-related transportation impacts are not significant.

Safety

Activities at all sites where new track would be constructed are to be implemented in accordance with Federal, state and local regulations governing worker safety and materials handling. All sites would be evaluated to determine if any hazardous waste sites are located in the vicinity of the proposed location for new construction. Discovery of hazardous materials would be reported to the appropriate government agencies immediately. Because no new grade crossings are planned as a part of the merger-related new rail construction, SEA concludes that any potential safety impacts would be temporary and limited to the construction site.

4.2 Arkansas

4.2.1 Camden

The proposed Camden construction project would involve the construction of a new 1,100-foot common point connection between the SP Pine Bluff subdivision line and the UP Gurdon Branch. The proposal would require the acquisition of approximately one-half acre of new right-of-way. There would be seven train movements per day over this connection and no new grade crossings. Groundwater impacts would be negligible and there would be minor impacts to surface waters and associated wetlands. Natural habitat loss would be negligible, and no threatened or endangered species or critical habitats would be affected. Changes in air quality and noise levels due to the construction would be negligible. No impacts to historic or cultural resources are anticipated. No adverse impacts on public services (e.g., emergency response) or schools would occur. A short-term (approximately one-month) increase in local employment would occur during construction.

4.2.2 Fair Oaks

The proposed Fair Oaks construction project would involve upgrading the existing wye connection with the construction of 1,100 feet of new rail line. This new connection is between the UP Memphis subdivision mainline and the SP Illmo subdivision mainline. The connection would require the acquisition of approximately one-half acre of new right-of-way. There would be four additional train movements per day over this connection; however, there would be no new grade crossings. There would be no effects to groundwater, surface waters, or wetlands. Natural habitat loss would be negligible, and no threatened or endangered species or critical habitats would be affected. Changes in air quality and noise levels due to the construction sites would also be negligible. No impacts to historic or cultural resources are anticipated. No adverse impacts on public services (e.g., emergency response) or schools would occur. A short-term (approximately one-month) increase in local employment would occur during construction.

4.2.3 Pine Bluff (East)

The proposed Pine Bluff (East) construction project would involve the construction of a new 650-foot common point connection between the SP Pine Bluff subdivision mainline and the UP Monroe mainline. The proposal would require the acquisition of approximately one-half acre of new right-of-way. There would be two train movements per day over this connection; however, there would be no new grade crossings. There would be negligible effects to groundwater, surface waters, and wetlands. Natural habitat loss would also be negligible, and no threatened or endangered species or critical habitats would be affected. Changes in air quality and noise levels due to the construction would be negligible. No impacts to historic or cultural resources are anticipated. No adverse impacts on public services (e.g., emergency response) or schools would occur. A very short-term (approximately two-weeks) increase in local employment would occur during construction.

4.2.4 Pine Bluff (West)

The proposed Pine Bluff (West) construction project would involve the construction of a new 900-foot common point connection between the UP Monroe subdivision mainline and the SP Pine Bluff subdivision mainline. The proposal would require the acquisition of approximately one-half acre of new right-of-way. There would be two train movements per day over this connection; however, there would be no new grade crossings. There would be negligible effects to groundwater, surface waters, and wetlands. Natural habitat loss would also be negligible, and no threatened or endangered species or critical habitats would be affected. Changes in air quality and noise levels due to the construction would be negligible. No impacts to historic or cultural resources are anticipated. No adverse impacts on public services (e.g., emergency response) or schools would occur. A short-term (approximately three-weeks) increase in local employment would occur during construction.

4.2.5 Texarkana

The proposed Texarkana construction project would involve the construction of a new 2,500-foot common point connection between UP Dallas and SP Pine Bluff subdivision mainlines. The proposal would require the acquisition of approximately one-half acre of new right-of-way. There would be three to four contraflow train movements per day over this connection as well as an additional eight to ten yard moves. There would be no new grade crossings. There would be negligible effects to groundwater, surface waters, and wetlands. Natural habitat loss would be negligible, and no threatened or endangered species or critical habitats would be affected. Changes in air quality and noise levels due to the construction would be negligible. No impacts to historic or cultural resources are anticipated. No adverse impacts on public services (e.g., emergency response) or schools would occur. A short-term (approximately five-weeks) increase in local employment would occur during construction.

4.3 California

4.3.1 West Colton (UP to SP)

The proposed West Colton (UP to SP) construction project would involve the construction of two new connections, involving 1,150 feet of new rail line, at the rail crossing between the UP/Santa Fe mainline and the SP Yuma subdivision east line at Colton. The proposal would require the acquisition of approximately one acre of new right-of-way. There would be no new grade crossings. The number of train movements per day over these connections would vary at the discretion of the dispatcher. Groundwater impacts would be negligible and there would be no impacts to surface waters or wetlands. Natural habitat loss would also be negligible, and no threatened or endangered species or critical habitats would be affected. Changes in air quality and noise levels due to the construction would be negligible. No impacts to historic or cultural resources are anticipated. No adverse impacts on public services (e.g., emergency response) or schools would occur. A short-term (approximately four weeks) increase in local employment would occur during construction.

4.3.2 West Colton (SP to UP)

The proposed West Colton (SP to UP) construction project would involve the construction of a new 6,000 foot common point connection that would allow eastbound trains off the SP tracks to operate west on the UP line. The proposal would require the acquisition of approximately two acres of new right-of-way. There would be two to three train movements per day over this connection and no new grade crossings. Groundwater impacts would be negligible and there would be no impacts to surface waters or wetlands. Natural habitat loss would also be negligible, and no threatened or endangered species or critical habitats would be affected. Changes in air quality and noise levels due to the construction would be negligible. No impacts to historic or cultural resources are anticipated. No adverse impacts on public services (e.g., emergency response) or schools would occur. A moderate-term (approximately 13 weeks) increase in local employment would occur during construction.

4.3.3 Lathrop

The proposed Lathrop construction project would involve the construction of a new 2,990-foot common point connection between the UP Canyon subdivision mainline and the SP San Joaquin subdivision mainline. The proposal would require the acquisition of approximately one acre of new right-of-way. There would be four train movements per day over this connection; however, there would be no new grade crossings. Groundwater impacts would be negligible and there would be no impacts to surface waters or wetlands. Natural habitat loss would be minor, and no threatened or endangered species or critical habitats would be affected. Changes in air quality and noise levels due to the construction would be negligible. No impacts to historic or cultural resources are

anticipated. No adverse impacts on public services (e.g., emergency response) or schools would occur. A moderate-term (approximately ten weeks) increase in local employment would occur during construction.

4.3.4 Stockton

The proposed Stockton construction project would involve the construction of a new 1,500-foot common point connection between the SP mainline and the UP Stockton yard. The proposal would require the acquisition of approximately one-half acre of new right-of-way. There would be 14 train movements per day over this connection; however, there would be no new grade crossings. Groundwater impacts would be negligible and there would be no impacts to surface waters or wetlands. Natural habitat loss would also be negligible, and no threatened or endangered species or critical habitats would be affected. Changes in air quality due to the construction would be negligible. Minor noise impacts would occur at a school and a residential area. No impacts to historic or cultural resources are anticipated. No adverse impacts on public services (e.g., emergency response) or schools would occur. A short-term (approximately three weeks) increase in local employment would occur during construction.

4.4 Colorado

4.4.1 Denver

The proposed Denver (North Yard) construction project would involve the construction of a new 3,650-foot common point connection between the SP Moffat mainline and SP Belt Line at North Yard. The proposal would require the acquisition of approximately one acre of new right-of-way. There would be four train movements per day over this connection; however, there would be no new grade crossings. Groundwater impacts would be negligible and no surface waters or wetlands would be impacted. Natural habitat loss would be negligible, and no threatened or endangered species or critical habitats would be affected. Changes in air quality and noise levels due to the construction would be negligible. No impacts to historic or cultural resources are anticipated. No adverse impacts on public services (e.g., emergency response) or schools would occur. A moderate-term (approximately ten weeks) increase in local employment would occur during construction.

4.4.2 Denver (Pulman)

This proposed Denver construction project would involve the construction of a new 5,000-foot common point connection between the UP Greeley mainline and SP Belt Line, including a siding extension. The proposal would require the acquisition of approximately two acres of new right-of-way. There would be four train movements per day over this connection and there would be no new grade crossings. Groundwater impacts would be negligible and no surface waters or wetlands

would be impacted. Natural habitat loss would be negligible, and no threatened or endangered species or critical habitats would be affected. Changes in air quality and noise levels due to the construction would be negligible. No impacts to historic or cultural resources are anticipated. No adverse impacts on public services (e.g., emergency response) or schools would occur. A relatively long-term (approximately seventeen weeks) increase in local employment would occur during construction.

4.5 Illinois

4.5.1 Girard

The proposed Girard construction project would involve the construction of a new 3,000-foot common point connection between the UP Madison subdivision mainline and the SP Springfield subdivision Wilmington line. The proposal would require the acquisition of approximately 12 acres of new right-of-way. There would be two train movements per day over this connection; however, there would be no new grade crossings. Groundwater impacts would be negligible and impacts to surface waters and associated wetlands would be minor. Natural habitat loss would be negligible, and no threatened or endangered species or critical habitats would be affected. Changes in air quality and noise levels due to the construction would be negligible. No impacts to historic or cultural resources are anticipated. No adverse impacts on public services (e.g., emergency response) or schools would occur. A relatively long-term (approximately five months) increase in local employment would occur during construction.

4.5.2 Salem

The proposed Salem construction project would involve the construction of a new 4,600-foot common point connection between the UP Chicago subdivision mainline and the CSX mainline. The proposal would require the acquisition of approximately one acre of new right-of-way. There would be two train movements per day over this connection and there would be no new grade crossings. Groundwater impacts would be negligible and impacts to surface waters and associated wetlands would be minor. Natural habitat loss would be negligible, and no threatened or endangered species or critical habitats would be affected. Changes in air quality and noise levels due to the construction would be negligible. No impacts to historic or cultural resources are anticipated. No adverse impacts on public services (e.g., emergency response) or schools would occur. A relatively long-term (approximately four months) increase in local employment would occur during construction.

4.6 Kansas

4.6.1 Hope

The proposed Hope construction project would involve the construction of a new 2,200-foot common point connection between the UP and BN/Santa Fe tracks. The proposal would require the acquisition of approximately ten acres of new right-of-way. There would be two train movements per day over this connection; however, there would be no new grade crossings. Groundwater impacts would be negligible and there would be minor impacts on two intermittent streams crossed by the project. No wetlands would be impacted. Natural habitat loss would be negligible, and no threatened or endangered species or critical habitats would be affected. Changes in air quality and noise levels due to the construction would be negligible. No impacts to historic or cultural resources are anticipated. No adverse impacts on public services (e.g., emergency response) or schools would occur. A short-term (approximately seven weeks) increase in local employment would occur during construction.

4.7 Louisiana

4.7.1 Kinder

The proposed Kinder construction project would involve the construction of a new 1,750-foot common point connection between the UP Lake Charles subdivision mainline and the UP Beaumont subdivision mainline. The proposal would require the acquisition of approximately one-half acre of new right-of-way. There would be four train movements per day over this connection; however, there would be no new grade crossings. Groundwater impacts would be negligible and there would be minor impacts to Kinder Ditch and its associated wetlands. Natural habitat loss would be minor, and no threatened or endangered species or critical habitats would be affected. Changes in air quality and noise levels due to the construction would be negligible. No impacts to historic or cultural resources are anticipated. No adverse impacts on public services (e.g., emergency response) or schools would occur. A short-term (approximately four weeks) increase in local employment would occur during construction.

4.7.2 Shreveport

The proposed Shreveport construction project would involve the construction of a new 1,560-foot common point connection between the UP Reisor subdivision mainline and the SP Lufkin subdivision mainline. The proposal would require the acquisition of approximately three acres of new right-of-way and the relocation of a U.S. Highway 171 overpass pier. There would be two train movements per day over this connection; however, no new grade crossings would be required. Groundwater impacts would be negligible and there may be minor impacts to a small pond and an intermittent stream. Although some natural habitat would be lost, the habitat area would not be

fragmented and only a small amount would be permanently impacted. No threatened or endangered species or critical habitats would be affected. Changes in air quality and noise levels due to the construction would be negligible. No impacts to historic or cultural resources are anticipated. No adverse impacts on public services (e.g., emergency response) or schools would occur. A short-term (approximately three weeks) increase in local employment would occur during construction.

4.8 Missouri

4.8.1 Dexter

The proposed Dexter construction project would involve the construction of a new 8,900-foot extension of an existing siding on UP's Chester subdivision. The proposal would require the acquisition of approximately one acre of new right-of-way. Transportation impacts would be minor as there would be no new grade crossings added although one existing grade crossing would be modified. Groundwater impacts would be negligible. Surface waters consisting of several small streams and associated wetland areas would receive only minor impacts. Natural habitat loss would be negligible, and no threatened or endangered species or critical habitats would be affected. Changes in air quality and noise levels due to the construction would be negligible. No impacts to historic or cultural resources are anticipated. No adverse impacts on public services (e.g., emergency response) or schools would occur. A moderate-term (approximately four months) increase in local employment would occur during construction.

4.8.2 Paront

The proposed Paront construction project would involve the construction of a new 8,600-foot extension to an existing siding on SP's Pine Bluff subdivision mainline. The proposal would require the acquisition of approximately two acres of new right-of-way. Transportation impacts would be minor as there would be no new grade crossings added although one existing grade crossing would be modified. Groundwater impacts would be negligible and impacts to surface waters and associated wetlands would be minor. Natural habitat loss would also be negligible, and no federally-listed threatened or endangered species or critical habitats would be affected. One state-endangered fish species may occur in the project area and mitigation measures will be implemented to avoid adverse effects to it. Changes in air quality and noise levels due to the construction would be negligible. No impacts to historic or cultural resources are anticipated. No adverse impacts on public services (e.g., emergency response) or schools would occur. A moderate-term (six and a half months) increase in local employment would occur during construction.

4.9 Texas

4.9.1 West Point

The proposed West Point construction project would involve the construction of a new 1,900-foot common point connection between the UP Houston subdivision line and the SP Ennis subdivision Flatonia line. The proposal would require the acquisition of approximately one-half acre of new right-of-way. There would be three train movements per day over this connection; however, there would be no new grade crossings. Groundwater impacts would be negligible and there would be no impacts to surface waters or wetlands. Natural habitat loss would be negligible, and no threatened or endangered species or critical habitats would be affected. Changes in air quality and noise levels due to the construction would be negligible. No impacts to historic or cultural resources are anticipated. No adverse impacts on public services (e.g., emergency response) or schools would occur. A short-term (approximately four weeks) increase in local employment would occur during construction.

4.9.2 Houston (Tower 26)

The proposed Houston (Tower 26) construction project would involve the construction of a new 1,400-foot common point connection in the northwest quadrant of the SP/HB&T rail crossing in Houston. The proposal would require the acquisition of approximately two acres of new right-of-way. There would be two train movements per day over this connection and one new grade crossing. Groundwater impacts would be negligible and there would be no impacts to surface waters or wetlands. Natural habitat loss would also be negligible, and no threatened or endangered species or critical habitats would be affected. Changes in air quality and noise levels due to the construction would be negligible. No impacts to historic or cultural resources are anticipated. No adverse impacts on public services (e.g., emergency response) or schools would occur. A short-term (approximately four weeks) increase in local employment would occur during construction.

4.9.3 Houston (Tower 87)

The proposed Houston (Tower 87) construction project would involve the construction of a new 1,000-foot common point connection between the SP and the HB&T mainlines at Tower 87 in Houston. The proposal would require the acquisition of approximately two acres of new right-of-way. Transportation impacts would be negligible. Groundwater impacts would be negligible and there would be minor impacts to Hunting Bayou and associated fringe wetlands. Natural habitat loss would be minor, and no threatened or endangered species or critical habitats would be affected. Changes in air quality and noise levels due to the construction would be negligible. No impacts to historic or cultural resources are anticipated. No adverse impacts on public services (e.g., emergency response) or schools would occur. A short-term (approximately three weeks)

increase in local employment would occur during construction.

4.9.4 Houston (SP to UP)

The proposed Houston (SP to UP) project would involve the construction of a new 1,650-foot common point connection in the northeast quadrant of the SP/HB&T crossing in Houston. The proposal would require the acquisition of approximately one acre of new right-of-way. There would be eight train movements per day over this connection; however, there would be no new grade crossings. Groundwater impacts would be negligible and there would be no impacts to surface waters or wetlands. Natural habitat loss would also be negligible, and no threatened or endangered species or critical habitats would be affected. Changes in air quality due to the construction would be negligible. One residential area could experience higher noise levels due to wheel squeal. No impacts to historic or cultural resources are anticipated. No adverse impacts on public services (e.g., emergency response) or schools would occur. A short-term (approximately six-weeks) increase in local employment would occur during construction.

4.9.5 Fort Worth (Ney Yard)

The proposed Fort Worth (Ney Yard) construction project would involve the construction of a new 1,180-foot common point connection between the UP Fort Worth subdivision line and the SP Ennis subdivision branch line. The proposal would require the acquisition of approximately one-half acre of new right-of-way. There would be two train movements per day over this connection; however, there would be no new grade crossings. Groundwater impacts would be negligible and there would be no impacts to surface waters or wetlands. Natural habitat loss would also be negligible, and no threatened or endangered species or critical habitats would be affected. Changes in air quality and noise levels due to the construction would be negligible. One residential area would experience higher noise levels due to wheel squeal. No impacts to historic or cultural resources are anticipated. No adverse impacts on public services (e.g., emergency response) or schools would occur. A short-term (approximately four weeks) increase in local employment would occur during construction.

4.9.6 Fort Worth (UP to SP)

The proposed Fort Worth (UP to SP) project would involve the construction of a new 800-foot common point connection between the UP Fort Worth subdivision mainline and the SP Ennis subdivision branch line. The proposal would require the acquisition of approximately one-half acre of new right-of-way. There would be eight train movements per day over this connection; however, there would be no new grade crossings. Groundwater impacts would be negligible and there would be no impacts to surface waters or wetlands. Natural habitat loss would also be negligible, and no threatened or endangered species or critical habitats would be affected. Changes in air quality due to the construction would be negligible. One residential area would experience higher noise levels

due to wheel squeal. No impacts to historic or cultural resources are anticipated. No adverse impacts on public services (e.g., emergency response) or schools would occur. A short-term (approximately three weeks) increase in local employment would occur during construction.

4.9.7 Carrollton

The proposed Carrollton construction project would involve the construction of 3,660 linear feet of new rail for two yard tracks and one track extension at the SP Carrollton yard. The proposal would require the acquisition of approximately one-half acre of new right-of-way. Train movements over this connection would be at the discretion of the yard controller in managing local rail traffic. There would be no new grade crossings. Groundwater impacts would be negligible and there would be no impacts to surface waters or wetlands. Natural habitat loss would also be negligible, and no threatened or endangered species or critical habitats would be affected. Changes in air quality due to the construction would be negligible. Minor increases in noise levels could occur in one residential area. No impacts to historic or cultural resources are anticipated. No adverse impacts on public services (e.g., emergency response) or schools would occur. A short-term (approximately eight weeks) increase in local employment would occur during construction.

4.10 Summary Table

Table 4-1 summarizes the environmental impacts anticipated at each of the locations where new rail lines would be constructed. Additional details on the impacts associated with each construction project are provided in **Volume 4** of this EA.

TABLE 4-1
SUMMARY OF CONSTRUCTION IMPACTS

CAMDEN, ARKANSAS		
Impact Type	Assessment Criteria	Impacts
Land Use	Length of Proposed New Rail Construction	1,100 feet
	New Right-of-Way Required	0.5 acre
	Effect on Prime Farmland	None
Water Resources	Effect on Groundwater	None
	Effect on Surface Water	Minor
	Effect on Wetlands	Minor
Biological Resources	Loss of Critical Habitats	No
	Effect on Federally-listed Threatened & Endangered Species	None
Historic Resources	Potential or Actual NRHP Sites Affected	None
Transportation	Train Movements Over Connection	Occasional
	New Grade Crossings	None
Safety	Grade Crossing Safety/Delay Impacts	None
	Hazardous Waste Sites Affected	None
Air Quality	Impact on Air Quality in Project Area due to Construction and Operation	Negligible
Noise	Receptors within 65 dBA Contour	None
Energy	Increase in Energy Consumption due to Operation of Construction Equipment	Negligible

TABLE 4-1, continued
SUMMARY OF CONSTRUCTION IMPACTS

FAIR OAKS, ARKANSAS		
Impact Type	Assessment Criteria	Impacts
Land Use	Length of Proposed New Rail Construction	1,100 feet
	New Right-of-Way Required	0.5 acre
	Effect on Prime Farmland	None
Water Resources	Effect on Groundwater	None
	Effect on Surface Water	None
	Effect on Wetlands	None
Biological Resources	Loss of Critical Habitats	None
	Effect on Federally-listed Threatened & Endangered Species	None
Historic Resources	Potential or Actual NRHP Sites Affected	None
Transportation	Train Movements Over Connection	4 trains/day
	New Grade Crossings	None
Safety	Grade Crossing Safety/Delay Impacts	None
	Hazardous Waste Sites Affected	None
Air Quality	Impact on Air Quality in Project Area due to Construction and Operation	Negligible
Noise	Receptors within 65 dBA Contour	10 homes and 1 church
Energy	Increase in Energy Consumption due to Operation of Construction Equipment	Negligible

TABLE 4-1, continued
SUMMARY OF CONSTRUCTION IMPACTS

PINE BLUFF (EAST), ARKANSAS		
Impact Type	Assessment Criteria	Impacts
Land Use	Length of Proposed New Rail Construction	650 feet
	New Right-of-Way Required	0.5 acre
	Effect on Prime Farmland	None
Water Resources	Effect on Groundwater	None
	Effect on Surface Water	None
	Effect on Wetlands	None
Biological Resources	Loss of Critical Habitats	No
	Effect on Federally-listed Threatened & Endangered Species	None
Historic Resources	Potential or Actual NRHP Sites Affected	None
Transportation	Train Movements Over Connection	2 trains/day
	New Grade Crossings	None
Safety	Grade Crossing Safety/Delay Impacts	None
	Hazardous Waste Sites Affected	None
Air Quality	Impact on Air Quality in Project Area due to Construction and Operation	Negligible
Noise	Receptors within 65 dBA Contour	15 residences
Energy	Increase in Energy Consumption due to Operation of Construction Equipment	Negligible

TABLE 4-1, continued
SUMMARY OF CONSTRUCTION IMPACTS

PINE BLUFF (WEST), ARKANSAS		
Impact Type	Assessment Criteria	Impacts
Land Use	Length of Proposed New Rail Construction	900 feet
	Net: Right-of-Way Required	0.5 acre
	Effect on Prime Farmland	None
Water Resources	Effect on Groundwater	None
	Effect on Surface Water	None
	Effect on Wetlands	None
Biological Resources	Loss of Critical Habitats	No
	Effect on Federally-listed Threatened & Endangered Species	None
Historic Resources	Potential or Actual NRHP Sites Affected	None
Transportation	Train Movements Over Connection	2 trains/day
	New Grade Crossings	None
Safety	Grade Crossing Safety/Delay Impacts	None
	Hazardous Waste Sites Affected	None
Air Quality	Impact on Air Quality in Project Area due to Construction and Operation	Negligible
Noise	Receptors within 65 dBA Contour	None
Energy	Increase in Energy Consumption due to Operation of Construction Equipment	Negligible

TABLE 4-1, continued
SUMMARY OF CONSTRUCTION IMPACTS

TEXARKANA, ARKANSAS		
Impact Type	Assessment Criteria	Impacts
Land Use	Length of Proposed New Rail Construction	2,500 feet
	New Right-of-Way Required	0.5 acre
	Effect on Prime Farmland	None
Water Resources	Effect on Groundwater	None
	Effect on Surface Water	None
	Effect on Wetlands	None
Biological Resources	Loss of Critical Habitats	None
	Effect on Federally-listed Threatened & Endangered Species	None
Historic Resources	Potential or Actual NRHP Sites Affected	None
Transportation	Train Movements Over Connection	3-4 contraflow trains/day plus 8-10 yard moves
	New Grade Crossings	None
Safety	Grade Crossing Safety/Delay Impacts	None
	Hazardous Waste Sites Affected	None
Air Quality	Impact on Air Quality in Project Area due to Construction and Operation	Negligible
Noise	Receptors within 65 dBA Contour	None
Energy	Increase in Energy Consumption due to Operation of Construction Equipment	Negligible

TABLE 4-1, continued
SUMMARY OF CONSTRUCTION IMPACTS

LATHROP, CALIFORNIA		
Impact Type	Assessment Criteria	Impacts
Land Use	Length of Proposed New Rail Construction	2,990 feet
	New Right-of-Way Required	1 acre
	Effect on Prime Farmland	None
Water Resources	Effect on Groundwater	None
	Effect on Surface Water	None
	Effect on Wetlands	None
Biological Resources	Loss of Critical Habitats	None
	Effect on Federally-listed Threatened & Endangered Species	None
Historic Resources	Potential or Actual NRHP Sites Affected	None
Transportation	Train Movements Over Connection	4 trains/day
	New Grade Crossings	None
Safety	Grade Crossing Safety/Delay Impacts	None
	Hazardous Waste Sites Affected	None
Air Quality	Impact on Air Quality in Project Area due to Construction and Operation	Negligible
Noise	Receptors within 65 dBA Contour	None
Energy	Increase in Energy Consumption due to Operation of Construction Equipment	Negligible

TABLE 4-1, continued
SUMMARY OF CONSTRUCTION IMPACTS

STOCKTON, CALIFORNIA		
Impact Type	Assessment Criteria	Impacts
Land Use	Length of Proposed New Rail Construction	1,500 feet
	New Right-of-Way Required	0.5 acre
	Effect on Prime Farmland	None
Water Resources	Effect on Groundwater	None
	Effect on Surface Water	None
	Effect on Wetlands	None
Biological Resources	Loss of Critical Habitats	None
	Effect on Federally-listed Threatened & Endangered Species	None
Historic Resources	Potential or Actual NRHP Sites Affected	None
Transportation	Train Movements Over Connection	14 trains/day
	New Grade Crossings	None
Safety	Grade Crossing Safety/Delay Impacts	None
	Hazardous Waste Sites Affected	None
Air Quality	Impact on Air Quality in Project Area due to Construction and Operation	Negligible
Noise	Receptors within 65 dBA Contour	1 school at 300 feet plus a residential area
Energy	Increase in Energy Consumption due to Operation of Construction Equipment	Negligible

TABLE 4-1, continued
SUMMARY OF CONSTRUCTION IMPACTS

WEST COLTON (UP to SP), CALIFORNIA		
Impact Type	Assessment Criteria	Impacts
Land Use	Length of Proposed New Rail Construction	1,150 feet
	New Right-of-Way Required	1 acre
	Effect on Prime Farmland	None
Water Resources	Effect on Groundwater	None
	Effect on Surface Water	None
	Effect on Wetlands	None
Biological Resources	Loss of Critical Habitats	None
	Effect on Federally-listed Threatened & Endangered Species	None
Historic Resources	Potential or Actual NRHP Sites Affected	None
Transportation	Train Movements Over Connection	Variable at discretion of dispatcher
	New Grade Crossings	None
Safety	Grade Crossing Safety/Delay Impacts	None
	Hazardous Waste Sites Affected	None
Air Quality	Impact on Air Quality in Project Area due to Construction and Operation	Negligible
Noise	Receptors within 65 dBA Contour	None
Energy	Increase in Energy Consumption due to Operation of Construction Equipment	Negligible

TABLE 4-1, continued
SUMMARY OF CONSTRUCTION IMPACTS

WEST COLTON (SP to UP), CALIFORNIA		
Impact Type	Assessment Criteria	Impacts
Land Use	Length of Proposed New Rail Construction	6,000 feet
	New Right-of-Way Required	2 acres
	Effect on Prime Farmland	None
Water Resources	Effect on Groundwater	None
	Effect on Surface Water	None
	Effect on Wetlands	None
Biological Resources	Loss of Critical Habitats	None
	Effect on Federally-listed Threatened & Endangered Species	None
Historic Resources	Potential or Actual NRHP Sites Affected	None
Transportation	Train Movements Over Connection	2-3 trains/day
	New Grade Crossings	None
Safety	Grade Crossing Safety/Delay Impacts	None
	Hazardous Waste Sites Affected	None
Air Quality	Impact on Air Quality in Project Area due to Construction and Operation	Negligible
Noise	Receptors within 65 dBA Contour	None
Energy	Increase in Energy Consumption due to Operation of Construction Equipment	Negligible

TABLE 4-1, continued
SUMMARY OF CONSTRUCTION IMPACTS

DENVER (NORTH YARD), COLORADO		
Impact Type	Assessment Criteria	Impacts
Land Use	Length of Proposed New Rail Construction	3,650 feet
	New Right-of-Way Required	1 acre
	Effect on Prime Farmland	None
Water Resources	Effect on Groundwater	Negligible
	Effect on Surface Water	None
	Effect on Wetlands	None
Biological Resources	Loss of Critical Habitats	None
	Effect on Federally-listed Threatened & Endangered Species	None
Historic Resources	Potential or Actual NRHP Sites Affected	1 (not affected)
Transportation	Train Movements Over Connection	4 trains/day
	New Grade Crossings	None
Safety	Grade Crossing Safety/Delay Impacts	None
	Hazardous Waste Sites Affected	None
Air Quality	Impact on Air Quality in Project Area due to Construction and Operation	Negligible
Noise	Receptors within 65 dBA Contour	None
Energy	Increase in Energy Consumption due to Operation of Construction Equipment	Negligible

TABLE 4-1, continued
SUMMARY OF CONSTRUCTION IMPACTS

DENVER (PULMAN), COLORADO		
Impact Type	Assessment Criteria	Impacts
Land Use	Length of Proposed New Rail Construction	5,000 feet
	New Right-of-Way Required	2 acres
	Effect on Prime Farmland	None
Water Resources	Effect on Groundwater	Negligible
	Effect on Surface Water	None
	Effect on Wetlands	None
Biological Resources	Loss of Critical Habitats	None
	Effect on Federally-listed Threatened & Endangered Species	None
Historic Resources	Potential or Actual NRHP Sites Affected	None
Transportation	Train Movements Over Connection	4 trains/day
	New Grade Crossings	None
Safety	Grade Crossing Safety/Delay Impacts	None
	Hazardous Waste Sites Affected	None
Air Quality	Impact on Air Quality in Project Area due to Construction and Operation	Negligible
Noise	Receptors within 65 dBA Contour	None
Energy	Increase in Energy Consumption due to Operation of Construction Equipment	Negligible

TABLE 4-1, continued
SUMMARY OF CONSTRUCTION IMPACTS

GIRARD, ILLINOIS		
Impact Type	Assessment Criteria	Impacts
Land Use	Length of Proposed New Rail Construction	3,000 feet plus 1,500 feet relocated
	New Right-of-Way Required	12 acres
	Effect on Prime Farmland	Minor
Water Resources	Effect on Groundwater	Negligible
	Effect on Surface Water	Minor
	Effect on Wetlands	Minor
Biological Resources	Loss of Critical Habitats	No
	Effect on Federally-listed Threatened & Endangered Species	None
Historic Resources	Potential or Actual NRHP Sites Affected	None
Transportation	Train Movements Over Connection	2 trains/day
	New Grade Crossings	None
Safety	Grade Crossing Safety/Delay Impacts	None
	Hazardous Waste Sites Affected	None
Air Quality	Impact on Air Quality in Project Area due to Construction and Operation	Negligible
Noise	Receptors within 65 dBA Contour	None
Energy	Increase in Energy Consumption due to Operation of Construction Equipment	Negligible

TABLE 4-1, continued
SUMMARY OF CONSTRUCTION IMPACTS

SALEM, ILLINOIS		
Impact Type	Assessment Criteria	Impacts
Land Use	Length of Proposed New Rail Construction	4,600 feet
	New Right-of-Way Required	1 acre
	Effect on Prime Farmland	None
Water Resources	Effect on Groundwater	Negligible
	Effect on Surface Water	Minor
	Effect on Wetlands	Minor
Biological Resources	Loss of Critical Habitats	None
	Effect on Federally-listed Threatened & Endangered Species	None
Historic Resources	Potential or Actual NRHP Sites Affected	None
Transportation	Train Movements Over Connection	2 trains/day
	New Grade Crossings	None
Safety	Grade Crossing Safety/Delay Impacts	None
	Hazardous Waste Sites Affected	None
Air Quality	Impact on Air Quality in Project Area due to Construction and Operation	Negligible
Noise	Receptors within 65 dBA Contour	None
Energy	Increase in Energy Consumption due to Operation of Construction Equipment	Negligible

TABLE 4-1, continued
SUMMARY OF CONSTRUCTION IMPACTS

HOPE, KANSAS		
Impact Type	Assessment Criteria	Impacts
Land Use	Length of Proposed New Rail Construction	2,200 feet
	New Right-of-Way Required	10 acres
	Effect on Prime Farmland	None
Water Resources	Effect on Groundwater	None
	Effect on Surface Water	Minor
	Effect on Wetlands	None
Biological Resources	Loss of Critical Habitats	None
	Effect on Federally-listed Threatened & Endangered Species	None
Historic Resources	Potential or Actual NRHP Sites Affected	None
Transportation	Train Movements Over Connection	2 trains/day
	New Grade Crossings	None
Safety	Grade Crossing Safety/Delay Impacts	None
	Hazardous Waste Sites Affected	None
Air Quality	Impact on Air Quality in Project Area due to Construction and Operation	Negligible
Noise	Receptors within 65 dBA Contour	None
Energy	Increase in Energy Consumption due to Operation of Construction Equipment	Negligible

TABLE 4-1, continued
SUMMARY OF CONSTRUCTION IMPACTS

KINDER, LOUISIANA		
Impact Type	Assessment Criteria	Impacts
Land Use	Length of Proposed New Rail Construction	1,750 feet
	New Right-of-Way Required	0.5 acre
	Effect on Prime Farmland	None
Water Resources	Effect on Groundwater	Negligible
	Effect on Surface Water	Minor
	Effect on Wetlands	Minor
Biological Resources	Loss of Critical Habitats	None
	Effect on Federally-listed Threatened & Endangered Species	None
Historic Resources	Potential or Actual NRHP Sites Affected	None
Transportation	Train Movements Over Connection	4 trains/day
	New Grade Crossings	None
Safety	Grade Crossing Safety/Delay Impacts	None
	Hazardous Waste Sites Affected	None
Air Quality	Impact on Air Quality in Project Area due to Construction and Operation	Negligible
Noise	Receptors within 65 dBA Contour	None
Energy	Increase in Energy Consumption due to Operation of Construction Equipment	Negligible

TABLE 4-1, continued
SUMMARY OF CONSTRUCTION IMPACTS

SHREVEPORT, LOUISIANA		
Impact Type	Assessment Criteria	Impacts
Land Use	Length of Proposed New Rail Construction	1,560 feet
	New Right-of-Way Required	3 acres
	Effect on Prime Farmland	None
Water Resources	Effect on Groundwater	Negligible
	Effect on Surface Water	Minor
	Effect on Wetlands	None
Biological Resources	Loss of Critical Habitats	None
	Effect on Federally-listed Threatened & Endangered Species	None
Historic Resources	Potential or Actual NRHP Sites Affected	None
Transportation	Train Movements Over Connection	2 trains/day
	New Grade Crossings	None
Safety	Grade Crossing Safety/Delay Impacts	None
	Hazardous Waste Sites Affected	None
Air Quality	Impact on Air Quality in Project Area due to Construction and Operation	Negligible
Noise	Receptors within 65 dBA Contour	None
Energy	Increase in Energy Consumption due to Operation of Construction Equipment	Negligible

TABLE 4-1, continued
SUMMARY OF CONSTRUCTION IMPACTS

DEXTER, MISSOURI		
Impact Type	Assessment Criteria	Impacts
Land Use	Length of Proposed New Rail Construction	8,900 feet
	New Right-of-Way Required	1 acre
	Effect on Prime Farmland	None
Water Resources	Effect on Groundwater	Negligible
	Effect on Surface Water	Minor
	Effect on Wetlands	Minor
Biological Resources	Loss of Critical Habitats	None
	Effect on Federally-listed Threatened & Endangered Species	None
Historic Resources	Potential or Actual NRHP Sites Affected	None
Transportation	Train Movements Over Siding Extension	Variable
	New Grade Crossings	None (modify 1)
Safety	Grade Crossing Safety/Delay Impacts	None
	Hazardous Waste Sites Affected	None
Air Quality	Impact on Air Quality in Project Area due to Construction and Operation	Negligible
Noise	Receptors within 65 dBA Contour	None
Energy	Increase in Energy Consumption due to Operation of Construction Equipment	Negligible

TABLE 4-1, continued
SUMMARY OF CONSTRUCTION IMPACTS

PARONT, MISSOURI		
Impact Type	Assessment Criteria	Impacts
Land Use	Length of Proposed New Rail Construction	8,600 feet
	New Right-of-Way Required	2 acres
	Effect on Prime Farmland	None
Water Resources	Effect on Groundwater	None
	Effect on Surface Water	Minor
	Effect on Wetlands	Minor
Biological Resources	Loss of Critical Habitats	None
	Effect on Federally-listed Threatened & Endangered Species	None
Historic Resources	Potential or Actual NRHP Sites Affected	None
Transportation	Train Movements Over Siding Extension	Variable
	New Grade Crossings	None (modify 1)
Safety	Grade Crossing Safety/Delay Impacts	None
	Hazardous Waste Sites Affected	None
Air Quality	Impact on Air Quality in Project Area due to Construction and Operation	Negligible
Noise	Receptors within 65 dBA Contour	One residential area
Energy	Increase in Energy Consumption due to Operation of Construction Equipment	Negligible

TABLE 4-1, continued
SUMMARY OF CONSTRUCTION IMPACTS

WEST POINT, TEXAS		
Impact Type	Assessment Criteria	Impacts
Land Use	Length of Proposed New Rail Construction	1,900 feet
	New Right-of-Way Required	0.5 acre
	Effect on Prime Farmland	None
Water Resources	Effect on Groundwater	Negligible
	Effect on Surface Water	None
	Effect on Wetlands	None
Biological Resources	Loss of Critical Habitats	None
	Effect on Federally-listed Threatened & Endangered Species	None
Historic Resources	Potential or Actual NRHP Sites Affected	None
Transportation	Train Movements Over Connection	3 trains/day
	New Grade Crossings	None
Safety	Grade Crossing Safety/Delay Impacts	None
	Hazardous Waste Sites Affected	None
Air Quality	Impact on Air Quality in Project Area due to Construction and Operation	Negligible
Noise	Receptors within 65 dBA Contour	None
Energy	Increase in Energy Consumption due to Operation of Construction Equipment	Negligible

TABLE 4-1, continued
SUMMARY OF CONSTRUCTION IMPACTS

HOUSTON (TOWER 26), TEXAS		
Impact Type	Assessment Criteria	Impacts
Land Use	Length of Proposed New Rail Construction	1,400 feet
	New Right-of-Way Required	2 acres
	Effect on Prime Farmland	None
Water Resources	Effect on Groundwater	Negligible
	Effect on Surface Water	None
	Effect on Wetlands	None
Biological Resources	Loss of Critical Habitats	None
	Effect on Federally-listed Threatened & Endangered Species	None
Historic Resources	Potential or Actual NRHP Sites Affected	None
Transportation	Train Movements Over Connection	2 trains/day
	New Grade Crossings	1
Safety	Grade Crossing Safety/Delay Impacts	Minor
	Hazardous Waste Sites Affected	None
Air Quality	Impact on Air Quality in Project Area due to Construction and Operation	Negligible
Noise	Receptors within 65 dBA Contour	None
Energy	Increase in Energy Consumption due to Operation of Construction Equipment	Negligible

TABLE 4-1, continued
SUMMARY OF CONSTRUCTION IMPACTS

HOUSTON (TOWER 87), TEXAS		
Impact Type	Assessment Criteria	Impacts
Land Use	Length of Proposed New Rail Construction	1,000 feet
	New Right-of-Way Required	2 acres
	Effect on Prime Farmland	None
Water Resources	Effect on Groundwater	None
	Effect on Surface Water	Minor
	Effect on Wetlands	Minor
Biological Resources	Loss of Critical Habitats	None
	Effect on Federally-listed Threatened & Endangered Species	None
Historic Resources	Potential or Actual NRHP Sites Affected	None
Transportation	Train Movements Over Connection	None (interyard locomotive transfers only)
	New Grade Crossings	None
Safety	Grade Crossing Safety/Delay Impacts	None
	Hazardous Waste Sites Affected	None
Air Quality	Impact on Air Quality in Project Area due to Construction and Operation	Negligible
Noise	Receptors within 65 dBA Contour	None
Energy	Increase in Energy Consumption due to Operation of Construction Equipment	Negligible

TABLE 4-1, continued
SUMMARY OF CONSTRUCTION IMPACTS

HOUSTON (SP to UP), TEXAS		
Impact Type	Assessment Criteria	Impacts
Land Use	Length of Proposed New Rail Construction	1,650 feet
	New Right-of-Way Required	1 acre
	Effect on Prime Farmland	None
Water Resources	Effect on Groundwater	Negligible
	Effect on Surface Water	None
	Effect on Wetlands	None
Biological Resources	Loss of Critical Habitats	No
	Effect on Federally-listed Threatened & Endangered Species	None
Historic Resources	Potential or Actual NRHP Sites Affected	None
Transportation	Train Movements Over Connection	8 trains/day
	New Grade Crossings	None
Safety	Grade Crossing Safety/Delay Impacts	None
	Hazardous Waste Sites Affected	None
Air Quality	Impact on Air Quality in Project Area due to Construction and Operation	Negligible
Noise	Receptors within 65 dBA Contour	One residential area 200 feet from site
Energy	Increase in Energy Consumption due to Operation of Construction Equipment	Negligible

TABLE 4-1, continued
SUMMARY OF CONSTRUCTION IMPACTS

FORT WORTH (NEY YARD), TEXAS		
Impact Type	Assessment Criteria	Impacts
Land Use	Length of Proposed New Rail Construction	1,180 feet
	New Right-of-Way Required	0.5 acre
	Effect on Prime Farmland	None
Water Resources	Effect on Groundwater	Negligible
	Effect on Surface Water	None
	Effect on Wetlands	None
Biological Resources	Loss of Critical Habitats	No
	Effect on Federally-listed Threatened & Endangered Species	None
Historic Resources	Potential or Actual NRHP Sites Affected	None
Transportation	Train Movements Over Connection	2 trains/day
	New Grade Crossings	None
Safety	Grade Crossing Safety/Delay Impacts	None
	Hazardous Waste Sites Affected	None
Air Quality	Impact on Air Quality in Project Area due to Construction and Operation	Negligible
Noise	Receptors within 65 dBA Contour	One residential area located 100 feet from site
Energy	Increase in Energy Consumption due to Operation of Construction Equipment	Negligible

TABLE 4-1, continued
SUMMARY OF CONSTRUCTION IMPACTS

FORT WORTH (UP to SP), TEXAS		
Impact Type	Assessment Criteria	Impacts
Land Use	Length of Proposed New Rail Construction	800 feet
	New Right-of-Way Required	0.5 acre
	Effect on Prime Farmland	None
Water Resources	Effect on Groundwater	Negligible
	Effect on Surface Water	None
	Effect on Wetlands	None
Biological Resources	Loss of Critical Habitats	None
	Effect on Federally-listed Threatened & Endangered Species	None
Historic Resources	Potential or Actual NRHP Sites Affected	None
Transportation	Train Movements Over Connection	8 trains/day
	New Grade Crossings	None
Safety	Grade Crossing Safety/Delay Impacts	None
	Hazardous Waste Sites Affected	None
Air Quality	Impact on Air Quality in Project Area due to Construction and Operation	Negligible
Noise	Receptors within 65 dBA Contour	One residential area located 400 feet from site
Energy	Increase in Energy Consumption due to Operation of Construction Equipment	Negligible

TABLE 4-1, continued
SUMMARY OF CONSTRUCTION IMPACTS

CARROLLTON, TEXAS		
Impact Type	Assessment Criteria	Impacts
Land Use	Length of Proposed New Rail Construction	3,660 feet
	New Right-of-Way Required	0.5 acre
	Effect on Prime Farmland	None
Water Resources	Effect on Groundwater	Negligible
	Effect on Surface Water	None
	Effect on Wetlands	None
Biological Resources	Loss of Critical Habitats	No
	Effect on Federally-listed Threatened & Endangered Species	None
Historic Resources	Potential or Actual NRHP Sites Affected	None
Transportation	Train Movements Over Connection	Variable at discretion of yard controller
	New Grade Crossings	None
Safety	Grade Crossing Safety/Delay Impacts	None
	Hazardous Waste Sites Affected	None
Air Quality	Impact on Air Quality in Project Area due to Construction and Operation	Negligible
Noise	Receptors within 65 dBA Contour	Minor
Energy	Increase in Energy Consumption due to Operation of Construction Equipment	Negligible

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CHAPTER 5.0 OVERVIEW OF COMMENTS

In considering the potential environmental impacts of the proposed UP/SP merger, SEA sent consultation letters to various Federal, state, and local agencies on January 29, 1996. These letters, samples of which are included in **Volume 5**, Appendix D, Exhibits D-1 through D-9, provided early notification of this EA and requested information and comments on the effects to the environment of the proposed merger and related abandonment and construction projects. Each letter included a state information packet and maps that listed the specific merger-related proposals. A sample packet is shown in **Volume 5**, Appendix D, Exhibit D-10. SEA contacted agencies by telephone to alert them to the distribution of the consultation letter and to confirm its receipt. The Applicant also contacted these agencies in preparation of the Environmental Report which accompanied the merger application. That correspondence and all responses were reviewed, verified, and considered by SEA in the preparation of this EA.

All comments received (through March 21, 1996) in response to the January 29th letter are shown in **Volume 5**, Appendix E, Exhibits E-1 through E-11. As necessary, SEA conducted additional consultation with agencies as shown in **Volume 5**, Appendix E, Table E-1. The recommended mitigation in response to these agency comments, and any independent analyses or surveys SEA conducted to address agency concerns, can be found in **Volumes 2, 3 and 4** of this EA.

This section summarizes the comments received according to state, organized into three categories:

- Comments about Rail Segments, Rail Yards and Intermodal Facilities.
- Comments about Proposed Constructions.
- Comments about Proposed Abandonments.

5.1 Arizona

Rail Segments, Rail Yards and Intermodal Facilities

- Natural Resources Conservation Service does not have any comments on this proposal.
- The Arizona Department of Environmental Quality does not have any comments on this proposal.

Comments about Proposed Constructions

No proposed constructions in Arizona.

Comments about Proposed Abandonments

No proposed abandonments in Arizona.

5.2 Arkansas

Comments about Rail Segments, Rail Yards and Intermodal Facilities

- Arkansas Department of Pollution Control states that there are no significant adverse impacts.
- Arkansas Department of Transportation recommends that final plans should be reviewed by local cities.
- Clark County is in complete agreement with the proposed merger.

Comments about Proposed Constructions

Camden, Arkansas - 1,100 feet.

- Natural Resource Conservation Service noted that they did not anticipate project would adversely impact prime farmlands or erosion rates.
- Arkansas Department of Pollution Control and Ecology provided state water quality standards and ecologically sensitive water bodies, and referred SEA to the Natural Heritage Commission for information about state species of special concern.
- Arkansas Soil and Water Commission recommended that proper measures be taken during construction to minimize potential stream and wetland impacts and that review of final construction plans be completed by appropriate state and city agencies.
- Arkansas Department of Transportation recommends that the final plans be reviewed by DOT.

Fair Oaks, Arkansas - 1,100 feet.

- Natural Resource Conservation Service states that rail line construction in Fair Oaks may adversely affect prime farmland, and recommends that conservation practices be applied to the construction area.
- Arkansas Department of Pollution Control and Ecology provided state water quality standards and ecologically sensitive water bodies, and referred SEA to the Natural Heritage Commission for information about state species of special concern.
- Arkansas Soil & Water Conservation Commission recommended that proper measures be taken during construction to minimize potential stream and wetland impacts and that review of final construction plans be completed by appropriate state and city agencies.

Pine Bluff, Arkansas (two connections) - 650 feet and 900 feet.

- Natural Resource Conservation Service noted that they did not anticipate project would adversely impact prime farmlands or erosion rates.
- Arkansas Department of Pollution Control and Ecology provided state water quality standards and ecologically sensitive water bodies, and referred SEA to the Natural Heritage Commission for information about state species of special concern.
- Arkansas Soil & Water Conservation Commission recommended that proper measures be taken during construction to minimize potential stream and wetland impacts and that review

of final construction plans should be completed by appropriate state and city agencies.

Texarkana, Arkansas - 2,500 feet.

- Natural Resource Conservation Service noted that they did not anticipate project would adversely impact prime farmlands or erosion rates.
- Arkansas Department of Pollution Control and Ecology provided state water quality standards and ecologically sensitive water bodies, and referred SEA to the Natural Heritage Commission for information about state species of special concern.
- Arkansas Soil & Water Conservation Commission recommended that proper measures be taken during construction to minimize potential stream and wetland impacts and that review of final construction plans be completed by appropriate state and city agencies.
- Arkansas Department of Transportation recommend that final plans should be reviewed by local cities.

Comments about Proposed Abandonments

Camden to Gurdon — Docket No. AB-3 (Sub-No. 129X)

- The Arkansas Historic Preservation Program requested a project location map (topo map) delineating project boundaries and the location (and age) of all structures to be renovated, removed, demolished or abandoned as a result of the project, including bridges, trestles, and buildings.
- The Arkansas Soil & Water Conservation Commission noted that proper measures should be undertaken to minimize potentially negative stream, wetland, and sediment impacts and advised coordination with appropriate state agencies. The Commission also asked for consideration of restoring natural topography, hydrology, and vegetation if no other specific use (e.g., Rails to Trails) is planned.
- The Arkansas Department of Pollution Control noted that the proposed merger would have no significant adverse impact.
- Clark County government had no environmental concerns with the proposed abandonment.

5.3 California

Comments about Rail Segments, Rail Yards and Intermodal Facilities

- East Bay Regional Park District states significant changes in the density and character of traffic may affect the use and enjoyment of the District's lands. There are concerns relating to a series of grade separations or at-grade crossings of SP main line right-of-way on San Pablo Bay and Carquinez Strait shoreline which are needed for public access to the District's parklands and regional trail corridors.
- Butte County will experience an increase in rail traffic on the Marysville to Dunsmuir segment. The increase is projected at 5.2 trains per day as compared to the existing volume of 16.7 trains per day. There will be an increase in emissions of air pollutants and noise. They would like to continue to review and comment on the future environmental

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documents.

- Placer County expressed concerns that post-merger rail traffic will increase on Roseville to Sparks and Roseville to Marysville routes. These increase traffic could have impacts on existing local and regional transportation systems, air emissions and ambient air quality conditions, noise, and public health and safety. They would like the document to address each of these issues.
- Shasta County states that there are significant transportation efficiency and safety issues at existing rail line intersections with existing streets and roads along with the Marysville to Dunsmuir segment. The proposed construction will exacerbate this existing condition. These areas require improvements such as grade separation crossings or reconfiguration of existing intersections.
- Nevada County states that there will be substantial increased train traffic in the Town of Truckee at crossing of SH 267. Other issues that need to be addressed are air quality and water quality.
- Town of Truckee states there will be substantial increased train traffic in the Town of Truckee at crossing of SH 267. Other issues that need to be addressed are air quality and water quality.

Comments about Proposed Constructions

West Colton, California (two connections) - 1,150 feet and 6,000 feet.

- No comments were received by the various parties consulted regarding this proposed construction project.

Lathrop, California - 3,000 feet.

- No comments were received by the various parties consulted regarding this proposed construction project.

Stockton, California - 1,500 feet.

- No comments were received by the various parties consulted regarding this proposed construction project.

Comments about Proposed Abandonments

Whittier Junction to Colima Junction, California (UF) — Docket No. AB-33 (Sub-No. 93x).

- The National Park Service indicated that the proposed abandonment has potential for conversion to a trail that would connect with other trails in the area.

Magnolia Tower to Melrose, California (UP) — Docket No. AB-33 (Sub-No. 94x).

- The National Park Service noted that the proposed abandonment has potential for conversion to trail use.

Alturas to Wendel, California (SP) — Docket No. AB-12 (Sub-No. 184x).

- The U.S. Bureau of Land Management, Eagle Lake Resource Area requests that abandonment property in Lassen and Modoc Counties be considered for other public use by only disposing of tracks, ties, and signal equipment, except when needed for public use, keeping all trail-related structures such as bridges and culverts, and by establishing a 180-day time period for imposition of Public Use Conditions.

5.4 Colorado

Comments about Rail Segments, Rail Yards and Intermodal Facilities

- National Forest Service indicates that being considered as interested party is not acceptable. The proceeding could have profound effect on their management of this corridor, and hazardous material liability for the federal taxpayer. Concerns include implications of a new operator on scenic and sensitive National Forest System lands crossed by the line and consideration of railbanking. They have substantial concerns about hazardous substances under CERCLA.
- U.S. Fish and Wildlife Service have no comments due to staffing and budget constraints.
- Natural Resources Conservation Service indicates that there is no apparent impact on prime farmland or farmland of statewide importance.
- Colorado Historical Society indicates that in order to supply information about known historic, archaeological or cultural resources, it will be necessary to provide legal locations (township/range/section) and universal transverse mercator (UTM) points for unsectioned areas.
- Cheyenne County expressed concerns regarding the accessibility of emergency equipment (specific locations given). There are three crossings within 1.4 miles. They requesting that in process of line upgrade, automatic warning signals be installed (where needed). Trains have started fires and UP has not maintained access roads along track to provide access for fire fighting equipment. Lack of an access road also precludes treatment of bindweed on right-of-way which can smother crops if not treated.
- Crowley County expressed concerns about increased local truck traffic and additional traffic would increase deterioration of existing highway and increase accidents and fatalities. They cited the Foxley Cattle Company feedlot that now ships grain via rail that would be by truck. There are also concerns for additional hazardous material movement via truck which would create emission problem.
- Lake County expressed concerns for local regional and national transportation systems; local land use; air emissions and ambient air quality conditions; public health and safety including hazardous materials, and economic impacts. They stated concerns that hazardous materials would be moved from rail to truck, with increases in air emission, risk of exposure, accidents or spills, and damage and maintenance costs to highway and bridges.
- Mesa County indicated that an increase in rail traffic will increase conflicts at at-grade

crossings. They noted the crossing at the east end of SP yard that now blocks vehicular traffic for 20+ minutes per day. Requests that UP/SP cooperate with the County in locating a site for grade-separated crossing for Grand Junction yard and participate with the County in financing its construction.

Comments about Proposed Constructions

Denver, Colorado (two connections) - 3,650 feet and 5,000 feet.

- Natural Resource Conservation Service stated that proposed merger activities had no apparent impact on prime farmland or farmland of statewide importance.
- U.S. Army Corps of Engineers, Omaha District states that if construction involves any work in the water of the U.S. a 404 permit may be necessary. The design of the proposed project should ensure that the project is in compliance with flood plain management criteria for the City of Denver and the State of Colorado. At a minimum, the project design should ensure that the 100-year flood water surface elevation of any stream affected is not increased more than 1 foot relative to pre-project conditions.
- U.S. Fish and Wildlife Service, Colorado Field Office provided a list of threatened and endangered species by county. No specific comments on project site due to lack of staff.
- City and County of Denver voiced no concerns. Reference was provided to an EA on Airtrain planned for UP right-of-way between downtown and DIA.

Comments about Proposed Abandonments

Sage to Leadville, Colorado (SP)—Docket No. AB-12 (Sub-No. 189x) and
Docket No 8 (Sub-No. 36x).

- U.S. Environmental Protection Agency, Region VIII, noted concerns that abandonments may increase vehicular traffic within Rocky Mountain states and may impact noise and air quality. The Agency also stated its intent to participate in proceedings.
- U.S. Environmental Protection Agency, Region VIII, also noted that the abandonment runs near three Superfund sites: Eagle Mountain, California Gulch and Smeltertown; that it is unclear whether the railroad owned any contaminated piles or structures adjacent to the rail line, or whether property within the Eagle Mountain site is owned by the railroad. The agency is concerned about the apparent lack of a mitigation plan for issues related to the Superfund sites or that might be needed if the abandoned lines were converted to public use; and the lack of discussion on potential liability.
- U.S. Forest Service noted its intent to participate in proceedings, and expressed concerns about: the potential effects to their management responsibilities in the corridor; potential movement of hazardous materials; potential for railbanking; identification and inventory of reverted property rights, cultural resources, and hazardous material.
- National Resource Conservation Service noted there would be no apparent impacts on prime farmlands or farmland of statewide importance.
- U.S. Fish and Wildlife Service, Western Colorado Office, provided a list of federally listed and candidate Threatened and Endangered Species possible along the rail abandonment

line.

- U.S. Army Corp of Engineers, Omaha District, indicates that some of the construction associated with salvage operations could take place in waterways or wetlands which are classified as waters of the U.S. and therefore regulated under Section 404 of the Clean Water Act.
- Colorado Historical Society requests that appropriate Colorado Cultural Resource Survey forms be completed for the rail lines themselves as well as their associated features and that they be submitted to the Historical Society's office for their opinion regarding their eligibility for inclusion in the NRHP.
- Lake County Board of Commissioners states that:
 - (1) Abandonment would deprive Lake County of any rail service, which could have a substantial impact on the County and its residents. Mining is an important segment of the economy and mining materials or supplies are brought by rail.
 - (2) Historically ASARCO has shipped up to 400 cars per year of a high metal concentrate. Without rail lines these would be required to travel by truck, resulting in increased air emissions, and increased risk to public health and safety.
 - (3) The lack of rail lines as a potential source of transportation may have a negative impact on the recovery of Lake County mining.
 - (4) D&RGW has agreed to remove slag piles for ballast material as part of the California Gulch Superfund Site, pursuant to CERCLA. How will these materials be removed if the rail line is abandoned? How will abandonment affect the cleanup of any remaining slag fines that may be required under CERCLA?
- People for the West, Arkansas Valley Chapter, noted the need to address impacts of disposal (salvage) and any potential for alternative use of abandoned lines, such as railbanking.

Malta to Cañon City, Colorado (SP) — Docket No. AB-12 (Sub-No. 188) and
Docket No. AB-8 (Sub-No. 39).

- U.S. Forest Service noted its intent to participate in proceedings, and expressed concerns about: the potential effects to their management responsibilities in the corridor; potential movement of hazardous materials; potential for railbanking; identification and inventory of reverted property rights, cultural resources, and hazardous material.
- National Resource Conservation Service noted there would be no apparent impacts on prime farmlands or farmland of statewide importance.
- U.S. Fish and Wildlife Service, Western Colorado Office, provided a list of federally listed and candidate Threatened and Endangered Species possible along the rail abandonment line.
- U.S. Army Corp of Engineers, Albuquerque District, indicates that the rail abandonment is not anticipated to involve discharge of dredge or fill material into waterways. However if these actions should occur, a Section 404 permit may be necessary.
- Colorado Historical Society requests that appropriate Colorado Cultural Resource Survey

forms be completed for the rail lines themselves as well as their associated features and that they be submitted to the Historical Society's office for their opinion regarding their eligibility for inclusion in the NRHP.

Towner to NA Junction, Colorado (UP) — Docket No. AB-3 (Sub-No. 130) and
Docket No. AB-8 (Sub-No. 38) (DRGW).

- U.S. Forest Service noted its intent to participate in proceedings, and expressed concerns about: the potential effects to their management responsibilities in the corridor; potential movement of hazardous materials; potential for railbanking; identification and inventory of reverted property rights, cultural resources, and hazardous material.
- Natural Resource Conservation Service noted there would be no apparent impacts on prime farmlands or farmland of statewide importance.
- U.S. Fish and Wildlife Service, Western Colorado Office, provided a list of federally listed and candidate Threatened and Endangered Species possible along the rail abandonment line.
- U.S. Army Corp of Engineers, Omaha District, indicates that some of the salvage operations could take place in waterways or wetlands which are classified as waters of the U.S. and are therefore regulated under Section 404 of the Clean Water Act.
- Colorado Historical Society requests that appropriate Colorado Cultural Resource Survey forms be completed for the rail lines themselves as well as their associated features and that they be submitted to the Historical Society's office for their opinion regarding their eligibility for inclusion in the NRHP.
- Crowley County Commissioners comments include:
 - (1) The abandonment of rail lines, and consolidation of rail yards and intermodal facilities would increase local truck traffic, which would cause increased deterioration of existing poor roadway surfaces. There would also be an increase in emissions and in traffic accidents and fatalities.
 - (2) Grain for a large local feedlot is currently shipped by rail and the abandonment would cause a large increase in truck traffic to the feedlot.
 - (3) Locally generated hazardous waste is currently transported by rail. The abandonment would necessitate this material being hauled by truck, which increases the risk to local citizens.
- Kiowa County Commissioners comments include:
 - (1) The county currently produces more than 5 million bushels of grain per year, with the potential for more than 9 million. Abandonment of the rail line could substantially increase truck traffic, greatly impacting the highways which are already greatly deteriorated.
 - (2) If the abandoned land reverts back to the state, the Colorado Department of Transportation (CDOT) will be required to install additional bridges at Colorado taxpayers' expense. UP should be required to compensate CDOT for additional bridge construction.

- (3) Dirt dikes built by the railroad should be leveled, cleaned, and reclaimed to the original state, with the adjacent landowners' consent. This should not be up to the Colorado government to provide.
- (4) UP should run soil tests at each derailment site over the past 20 years. Tests should include all EPA standards for hazardous materials.
- (5) Expressed concern for the three major creeks in the area which drain into the Arkansas River and their associated wetlands.

5.5 Illinois

Comments about Rail Segments, Rail Yards and Intermodal Facilities

- U.S. Corps of Engineers state that it does not appear that any activities associated with the proposed merger fall within the jurisdiction of the Ohio River Division.
- Environmental Protection Agency states that they have no objections. If purchase or lease of federal lands becomes a factor, the agency must be contacted.
- Macoupin County states that the proposed project will have no adverse environmental effects on the citizens or property.
- Whiteside County expressed general concern for increased traffic and safety issues for crossings without lights and gates on county and township roads. Increased noise and public health are also issues.
- City of Morrison states that they do not object to the proposed merger. Expressed concern over the increased train traffic from Clinton, Iowa to Nelson, Illinois. The issues are noise, public health and safety, and hazardous materials. The overall impact on the City cannot be determined without a local EIS.

Comments about Proposed Constructions

Girard, Illinois - 3,100 feet.

- Natural Resource Conservation Service stated that new rail line constructions outside right-of-way will probably require acquisition of agricultural land and that the Farmland Protection Act of Illinois requires alternative actions to less adverse effects be considered if farmland is converted to nonagricultural uses.
- U.S. Environmental Protection Agency noted no objections.
- Macoupin County stated that the proposed project will have no adverse environmental effect on the citizens or property.

Salem, Illinois - 2,500 feet.

- Natural Resource Conservation Service stated that new rail line constructions outside right-of-way will probably require acquisition of agricultural land and that the Farmland Protection Act of Illinois requires alternative actions to less adverse effects be considered if farmland is converted to nonagricultural uses.
- The U.S. Environmental Protection Agency noted no objections.

Comments about Proposed Abandonments

Edwardsville to Madison, Illinois (UP) — Docket No. AB-33 (Sub-No. 98x).

- National Resources Conservation Service recommends that alternative actions take into account the adverse effect that could occur if rail lines are abandoned.
- Illinois Environmental Protection Agency advises that a General NPDES Permit for storm water discharges associated with construction site activities is required for any disturbance of five or more acres. For any abandonment site that totals five or more acres of disturbed land, submittal of Illinois EPA Notice of Intent forms is required 48 hours before beginning construction.

DeCamp to Edwardsville, Illinois (UP) — Docket No. AB-33 (Sub-No. 97x).

- National Resources Conservation Service recommends that alternative actions take into account the adverse effect that could occur if rail lines are abandoned.
- Illinois Environmental Protection Agency advises that a General NPDES Permit for storm water discharges associated with construction site activities is required for any disturbance of five or more acres. For any abandonment site that totals five or more acres of disturbed land, submittal of Illinois EPA Notice of Intent forms is required 48 hours before beginning construction.

Barr to Girard, Illinois (UP) — Docket No. AB-33 (Sub-No. 96).

- National Resources Conservation Service recommends that alternative actions take into account the adverse effect that could occur if rail lines are abandoned.
- Illinois Environmental Protection Agency advises that a General NPDES Permit for storm water discharges associated with construction site activities is required for any disturbance of five or more acres. For any abandonment site that totals five or more acres of disturbed land, submittal of Illinois EPA Notice of Intent forms is required 48 hours before beginning construction.

5.6 Iowa

Comments about Rail Segments, Rail Yards and Intermodal Facilities

- Iowa Natural Resources Conservation Service found no obvious environmental impact.
- Iowa Department of Natural Resources indicated that there are no records of rare species or significant natural communities. Based on their knowledge of the site and the project, they do not think the project will affect protected species or rare natural communities.
- Linn County (Emergency Mgmt. Agency) expressed concerns involving increased noise in the late evening and early morning. Primary concern is focused on shipment of hazardous materials through Linn County and on the current railroad's ability to handle the increased traffic load safely.

Comments about Proposed Constructions

No proposed constructions in Iowa.

Comments about Proposed Abandonments

Whitewater to Newton, Kansas (UP) — Docket No. AB-3 (Sub-No. 132x).

- U.S. Fish and Wildlife Service concludes there should be no adverse impacts to fish and wildlife resources, including threatened and endangered species. They encourage that right-of-way of abandoned lines be kept in natural condition to benefit native wildlife, plants, and the public.

Hope to Bridgeport, Kansas (UP) —Docket No. AB-3 (Sub-No. 131) - UP Abandonment and
Docket No. AB-8 (Sub-No. 37) - D&RGW Discontinuance of Service

- U.S. Bureau of Indian Affairs, Anadarko Area Office, reported that the proposed abandonment is not within close proximity of any current American Indian reservations or individual allotted lands. The history of the railroad in relation to lands ceded by the Kaw (Kansa) Nation for purposes of construction of the railroads in Kansas may need to be investigated.
- U.S. Fish and Wildlife Service, Kansas Field Office, indicated that the proposed abandonment would not adversely affect fish and wildlife resources, including threatened and endangered species. The Service encourages UP/SP to keep the right-of-way in a natural condition for the benefit of native wildlife, plants, and the public.
- Kansas Department of Health and Environment provided application requirements for the Stormwater Pollution Control plan required for any project disturbing more than five acres.
- Saline County Planning and Zoning Department does not have species information or a listing of critical habitats within five miles of the site. The Department also indicated that there are no parks or wildlife refuges in proximity to the project.

5.7 Kansas

Comments about Rail Segments, Rail Yards and Intermodal Facilities

- U.S. Army Corps of Engineers (Kansas City District) indicates that if increased rail activity near Herington causes excavation or discharges of dredge or fill material in waters of the United States, including wetlands, a Department of the Army permit may be required.
- Kansas Cultural Resources Division requests more specific information, including an inventory of structures and buildings over 50 years in age that would be affected by the increased traffic to the existing SP yard at Herington, the phaseout of the SP yard at Topeka, and the Kansas City (SP) Armourdale intermodal facility.

Comments about Proposed Constructions

Hope, Kansas - 2,200 feet.

- Natural Resources Conservation Service states that there should be no effect on prime farmlands. In the event that new construction involves both the acquisition of privately owned lands which are considered either prime farmland or contain soils of statewide importance and federal monies are involved, then a Form AD-1006 will need to be

completed.

- Fish and Wildlife Service concludes there should be no adverse impacts to fish and wildlife resources, including threatened and endangered species.
- State Office of Cultural Development requested more specific information, including an inventory of structures and buildings over 50 years in age that would be affected by the increased traffic to the existing SP yard at Herington, the phaseout of the SP yard at Topeka, and the Kansas City (SP) Armourdale intermodal facility before comments can be made on specific actions.

Comments about Proposed Abandonments

Whitewater to Newton, Kansas (UP) — Docket No. AB-3 (Sub-No. 132x).

- U.S. Fish and Wildlife Service concludes there should be no adverse impacts to fish and wildlife resources, including threatened and endangered species. They encourage that right-of-way for abandoned lines be kept in natural condition to benefit native wildlife, plants, and the public.

Hope to Bridgeport, Kansas (UP) — Docket No. AB-3 (Sub-No. 131) - UP Abandonment and Docket No. AB-8 (Sub-No. 37) - D&RGW Discontinuance of Service

- U.S. Bureau of Indian Affairs, Anadarko Area Office, reported that the proposed abandonment is not within close proximity of any current American Indian reservations or individual allotted lands. The history of the railroad in relation to lands ceded by the Kaw (Kansa) Nation for purposes of construction of the railroads in Kansas may need to be investigated.
- U.S. Fish and Wildlife Service, Kansas Field Office, indicated that the proposed abandonment would not adversely affect fish and wildlife resources, including threatened and endangered species. The Service encourages UP/SP to keep the right-of-way in a natural condition for the benefit of native wildlife, plants, and the public.
- Kansas Department of Health and Environment provided application requirements for the Stormwater Pollution Control plan required for any project disturbing more than five acres.
- Saline County Planning and Zoning Department does not have species information or a listing of critical habitats within five miles of the site. The Department also indicated that there are no parks or wildlife refuges in proximity to the project.

5.8 Louisiana

Comments about Rail Segments, Rail Yards and Intermodal Facilities

- U.S. Army Corps of Engineers indicated that there is a possible need for permits; provided points of contact.
- Louisiana Department of Transportation and Development indicated that the proposed merger is not in conflict with Statewide Transportation Plan. Maintenance Division should be consulted regarding changes to existing crossings or addition of new crossings at public

roads. Relocation of U.S. Highway 171 overpass pier shall be closely coordinated with LDOTD and the Louisiana Division FHWA.

- Louisiana Department of Wildlife and Fisheries, Baton Rouge Office identifies three sensitive species that are known to occur within 5 miles of the Lake Charles Yard. Also identifies Sam Houston Jones State Park which is approximately 3.5 miles north of the site. No wetlands will be affected to their knowledge.
- Acadia Parish Police Jury indicates that the UP/SP traffic will decrease approximately 50% (six trains) this will be offset by an increase of approximately five BN/SF trains. Therefore no difference should be realized.
- Calcasieu Parish Police Jury provided a map showing all Parish parks within five miles of the Lake Charles Yard. The Jury is extremely concerned that the increased activity within the Yards will result in blocked Parish Roads, in particular Trousdale Road adjacent to the Lake Charles Yard.

Comments about Proposed Constructions

Kinder, Louisiana - 1,750 feet.

- U.S. Army Corps of Engineers noted that there was a possible need for permits.
- Natural Resource Conservation Service stated that precaution should be taken for lines that would be used for transport of hazardous waste or materials.
- Natural Resource Conservation Service stated that any proposed construction should consider drainage and flooding impacts; that it appears that some wetlands will be affected; and that new rail line connections that would require construction outside of the existing right-of-way will have the potential to convert important farmland to nonagricultural uses.
- Louisiana Department of Environmental Quality noted that air quality problems during abandonment and construction activities could result from unauthorized open burning, grading, trucking or other activities which generate particulate. Also, water quality problems could result from construction and operations activities, or the use of contaminated fill materials during construction. The extent for wetland crossings and water body crossings should be minimized. Work which would occur in the Louisiana Coastal Zone will require a permit.
- Louisiana Department of Transportation and Development stated the proposed merger did not conflict with the Statewide Transportation Plan.

Shreveport, Louisiana - 1,560 feet.

- U.S. Army Corps of Engineers noted there was a possible need for permits.
- Natural Resource Conservation Service stated that precaution should be taken for lines that would be used for transport of hazardous waste or materials.
- Louisiana Department of Environmental Quality noted that air quality problems during abandonment and construction activities could result from unauthorized open burning, grading, trucking or other activities which generate particulate. Also, water quality problems could result construction and operations activities, or the use of contaminated fill

materials during construction. The extent for wetland crossings and water body crossings should be minimized. Work which would occur in the Louisiana Coastal Zone will require a permit.

- Natural Resource Conservation Service stated that any proposed construction should consider drainage and flooding impacts; that it appears that some wetlands will be affected; and that new rail line connects that would require construction outside of the existing right-of-way will have the potential to convert important farmland to nonagricultural uses.
- Louisiana Department of Transportation and Development stated that the proposed merger did not conflict with the Statewide Transportation Plan, and requested that the relocation of the U.S. Highway 171 overpass pier be closely coordinated with the Department and the Louisiana Division of the Federal Highway Administration.

Comments about Proposed Abandonments

Iowa Junction to Manchester (UP) Docket No. AB-3 (Sub-No. 133X).

- U.S. Army Corps of Engineers, New Orleans District, reports concerns over flood control with the abandonment. Removal of rails, ties, and switching assemblies is not anticipated to have any appreciable effect on the railroad roadbed integrity as a structure impeding and directing surface drainage of the surrounding areas throughout the designated linear abandonment proposal. However, the maintenance, clean out, and replacement of bridges, culverts, and structures that has been continuous to protect the integrity of the railroad roadbed has provided control of surface drainage in the area.
- Louisiana Department of Environmental Quality notes that air quality problems during abandonment and salvage activities could result from unauthorized open burning, grading, trucking, or other activities which generate particulates.
- Imperial Calcasieu Regional Planning & Development Commission requests issuance of a Public Use Condition, as well as an interim Trail Use Condition rather than outright abandonment.

5.9 Missouri

Comments about Rail Segments, Rail Yards and Intermodal Facilities

- Missouri Department of Natural Resources (Historic Preservation Programs comments relate to the phase-out of existing UP rail yard on Lesperance St. They are concerned that phase-out will result in demolition or abandonment/surplusing. If so, a review of rail yard needs to occur to determine if it has any historic significance.

Comments about Proposed Constructions

Dexter, Missouri - 8,500 feet.

- U.S. Army Corps of Engineers, Memphis District, states that permit requirements for construction of new rail line connections outside existing rights-of-way would be considered on a case-by-case basis. A portion of the proposed rail line construction near Dexter is in

a Special Flood Hazard Area.

- Department of Natural Resources provided a list of parks within a quarter mile of the railroad track that have utilized federal grant funds through the Land and Water Conservation Fund program.

Paront, Missouri - 8,600 feet.

- U.S. Army Corps of Engineers, Memphis District, states that permit requirements for construction of new rail line connections outside existing rights-of-way would be considered on a case-by-case basis.
- Department of Natural Resources provided a list of parks within a quarter mile of the railroad track that have utilized federal grant funds through the Land and Water Conservation Fund program.

Comments about Proposed Abandonments

No comments on proposed abandonment in Missouri.

5.10 Nebraska

Comments about Rail Segments, Rail Yards and Intermodal Facilities

- Natural Resources Conservation Service indicate that they have no comments to make at this time.
- Nebraska State Historical Society state that historic context property resources will be affected.
- Dodge County has no objections to the proposed merger.

Comments about Proposed Constructions

No proposed construction in Nebraska.

Comments about Proposed Abandonments

No proposed abandonments in Nebraska.

5.11 Nevada

Comments about Rail Segments, Rail Yards and Intermodal Facilities

- Nevada Department of Conservation and Natural Resources expressed concerns that all existing orders, agreements, court decrees and stipulations remain in effect and be complied with by the parent company. Further, both railroads likely have facilities that will require environmental cleanup, and these should be identified during the environmental assessment process.
- State Bureau of Air Quality indicates that a change in nonattainment status for AQCR 147 has been requested since the former Kennecott copper smelter ceased operation in 1983.

The PM₁₀ standard is no longer applicable in AQCR 147 and 148, or the State of Nevada. The Bureau believes it is imperative that a detailed air quality impact study of the complete rail network involved in the merger and possible additions of traffic due to trackage rights agreements be completed so the true impacts, both negative and positive, can be evaluated. They suggest that the air quality analysis be conducted on state air quality basins rather than AQCRs, citing the smaller areas of air sheds versus vast areas of AQCRs.

- Nevada Department of Transportation indicate that increased rail traffic volumes will require re-analyzing the Statewide Hazard Index based on the project traffic counts on each line segment. The closure of Carlin Yard will require relocation of flashing signal lights. The rail traffic changes affect Reno Branchline and planned future safety projects. If the TOFC yard is severed from the southern end, major traffic disruptions can be expected on local streets and existing crossings will have to be upgraded. Abandonments in other states probably have no effect on plans unless traffic is diverted through Nevada, then the Hazard Index would be affected and schedules rearranged. It was noted that the State has formally intervened.
- State Historic Preservation Office stated that by law they have 30 days for consultation. The SP Rail Yards in Carlin and Sparks, as well as the UP Facility in Reno, have not been surveyed.
- City of Reno is concerned that the proposed merger will almost double the train frequency (from 13 to 23/day) through the downtown Reno hotel/casino district. BN/SF and Amtrak train service will be raised to over 30 per day, not including local service. Eight of the 15 at-grade crossings are in downtown which will affect substantial pedestrian and vehicular traffic, as well as police, fire and ambulance equipment. Environmental impacts on air quality, congestion and noise levels as a result of the proposed merger are also under study.

Comments about Proposed Constructions

No proposed constructions in Nevada.

Comments about Proposed Abandonments

No proposed abandonments in Nevada.

5.12 New Mexico

Comments about Rail Segments, Rail Yards and Intermodal Facilities

- U.S. Corps of Engineers stated that if increased traffic volumes (provided list of locations) involves a discharge of dredged or fill materials a permit may be required.

Comments about Proposed Constructions

No proposed constructions in New Mexico.

Comments about Proposed Abandonments

No proposed abandonments in New Mexico.

5.13 Oklahoma

Comments about Rail Segments, Rail Yards and Intermodal Facilities

- U.S. Bureau of Indian Affairs, Muskogee Office, indicated concerns that additional rail traffic may result in more derailments, hazardous material releases and collisions. Significant impacts to public health and safety are not anticipated if Emergency Response Plans and Emergency Preparedness Plans are in place. Significant impacts to tribal land use, air quality, noise, biological resources, water resources, historic, cultural, archaeological and tribal populations are not anticipated.
- Oklahoma Fish and Wildlife Department provided a list of federally-listed endangered and threatened species. The most likely one to be affected by the project is the whooping crane. There are extensive forested and emergent wetlands along Beaver River and the importance of riparian habitat. Extreme care should be exercised to ensure that the fragile riparian ecosystem is protected from direct and indirect impacts due to construction, operation and maintenance. There are isolated playa wetlands adjacent to existing railroad facilities, impacts to playa wetlands should be avoided if future modifications or upgrades become necessary.

Comments about Proposed Constructions

No proposed constructions in Oklahoma.

Comments about Proposed Abandonments

No proposed abandonments in Oklahoma.

5.14 Oregon

Comments about Rail Segments, Rail Yards and Intermodal Facilities

- Public Utility Commission no longer has the staff or the information available to provide relevant comments on Finance Docket No. 32760. They referred all information to the Oregon Department of Transportation.
- Clackamas County would like to have more information regarding the proposed increase in traffic volumes on SP line. Concerned that increased train traffic will have an adverse safety impact at all at-grade crossings in county, specifically Railroad Avenue and Harmony Road, east of Milwaukie.
- Klamath County indicates that the increase in train volume brought forth many concerns:

noise pollution, geological instability, and hazardous materials. They did indicate that segments do not meet the ICC analysis standard. The noise pollution level in the County will rise less than two decibels and will not exceed 65 dBA. They expressed some concerns about hazardous commodities being transported through Klamath Falls. Also noted was the concern that UP/SP will move the switching yard from Klamath Falls to Crescent Lake; housing would need to be built in order to meet the needs of the employees.

- City of Salem has 15 at-grade crossings. The increased traffic along SP line will impact citizens' ability to travel into and out the CBD. All of the at-grade crossings are locally maintained. The central and northern portions of line are adjacent to commercial, institutional and historic areas and bisects three neighborhoods. The metropolitan area is in nonattainment for CO and Ozone. Increased train traffic will result in decline of quality of life for residents who live adjacent and impact other land uses.

Comments about Proposed Constructions

No proposed constructions in Oregon.

Comments about Proposed Abandonments

No proposed abandonments in Oregon.

5.15 Texas

Comments about Rail Segments, Rail Yards and Intermodal Facilities

- Natural Resources Conservation Service indicated the project will have no significant adverse impact on agricultural lands in Texas. Recommends that all salvage operations include plans to prevent soil erosion during and after track removal.
- Tarrant County does not have local jurisdiction at these sites. Provided contacts for entities which are in charge of air quality in the North Central Texas Area since increased train activity could result in additional air pollution.
- City of Bryan indicates that an increase in truck traffic will manifest on local streets and State Highways which will create an environmental impact on circulation and safety. Rail service to local industrial properties will be discontinued, resulting in an impact to land use, which could possibly result in promoting blight.

Comments about Proposed Constructions

West Point, Texas - 1,900 feet.

- U.S. Fish and Wildlife Service noted that project sites does not contain any designated Wild & Scenic Rivers along its routes; and that NWI maps indicate there are numerous wetlands, arroyos, draws and creeks throughout the project areas. Construction activities crossing rivers, riparian areas or wetlands should be carefully designed and revegetated to prevent erosion or loss of habitat. All machinery and petroleum products should be stored outside

the floodplain and/or wetland are during construction.

- U.S. Environmental Protection Agency, Region 6, noted general items that should be included in the Environmental Assessment (EA), but did not comment on any specific impacts.

Houston, Texas (three connections) - 1,000 feet, 1,650 feet, and 1,400 feet.

- U.S. Fish and Wildlife Service noted that project sites does not contain any designated Wild & Scenic Rivers along its routes; and that NWI maps indicate there are numerous wetlands, arroyos, draws and creeks throughout the project areas. Construction activities crossing rivers, riparian areas or wetlands should be carefully designed and revegetated to prevent erosion or loss of habitat. All machinery and petroleum products should be stored outside the floodplain and/or wetland are during construction.
- U.S. Environmental Protection Agency, Region 6, noted general items that should be included in the Environmental Assessment (EA), but did not comment on any specific impacts.

Fort Worth, Texas (two connections) - 1, 180 feet and 800 feet.

- U.S. Fish and Wildlife Service noted that project sites does not contain any designated Wild & Scenic Rivers along its routes; and that NWI maps indicate there are numerous wetlands, arroyos, draws and creeks throughout the project areas. Construction activities crossing rivers, riparian areas or wetlands should be carefully designed and revegetated to prevent erosion or loss of habitat. All machinery and petroleum products should be stored outside the floodplain and/or wetland are during construction.
- U.S. Environmental Protection Agency, Region 6, noted general items that should be included in the Environmental Assessment (EA), but did not comment on any specific impacts.

Carrollton, Texas - 3,660 feet.

- U.S. Fish and Wildlife Service noted that project sites does not contain any designated Wild & Scenic Rivers along its routes; and that NWI maps indicate there are numerous wetlands, arroyos, draws and creeks throughout the project areas. Construction activities crossing rivers, riparian areas or wetlands should be carefully designed and revegetated to prevent erosion or loss of habitat. All machinery and petroleum products should be stored outside the floodplain and/or wetland are during construction.
- U.S. Environmental Protection Agency, Region 6, noted general items that should be included in the Environmental Assessment (EA), but did not comment on any specific impacts.

Comments about Proposed Abandonments

Seabrook to San Leon, Texas (SP) — Docket No. AB-12 (Sub-No. 187x).

- U.S. Natural Resources Conservation Service, Temple Office, strongly recommends that

all trackage abandonments include plans to prevent soil erosion during and after track removal.

- U.S. Fish and Wildlife Service, Houston Office, reports that this section of abandonment occurs near one of the few remaining populations of Attwater's Greater Prairie Chicken. The Service also noted that several populations of Texas Windmill-grass (C2 candidate species) are known to occur in the vicinity.
- U.S. Army Corp of Engineers requests that, prior to actual salvage operations within the jurisdiction of Galveston District, the Chief of Evaluation be contacted.
- Texas Historical Commission requested that an assessment be made of any historic or archaeological properties along the abandonment.
- Texas Natural Resource Conservation Commission reported that the Houston/Galveston area is classified as a severe ozone nonattainment area. The Commission also advised that General Conformity regulations require that Federal actions be considered as a whole. Therefore, actions dealing with increased rail activity should be combined with construction actions within each nonattainment area in order to determine net emissions increase/decrease.
- Texas Parks and Wildlife Department recommends that existing vegetation along the abandoned sections of track be disturbed as little as possible. Railroad corridors often provide undisturbed segments of native vegetation communities not often found in Texas, which should be kept intact to provide some remnants of these once abundant communities.

Suman to Benchley, Texas (SP) — Docket No. AB-12 (Sub-No. 185x).

- U.S. Fish and Wildlife Service, Austin Office, indicated concern for the Navasota Ladies-tresses, a federally listed endangered species that may occur in Robertson County. They recommend that any habitat that may be cleared or modified by the abandonment be evaluated to determine if the site is used by the species.
- Texas Historical Commission requested that an assessment be made of any historic or archaeological properties along the abandonment.
- Texas Parks and Wildlife Department recommends existing vegetation along these sections of track be disturbed as little as possible. The Department notes that railroad corridors often provide undisturbed segments of native vegetation communities not often found in Texas, which should be kept intact to provide some remnants of these once abundant communities. A search of the Texas Biological and Conservation Data System revealed no presently known occurrences of special species or natural communities in the general vicinity of the proposed abandonment.

Troup to Whitehouse, Texas (UP) — Docket No. AB-3 (Sub-No. 134x).

- U.S. Fish and Wildlife Service, Arlington Office, reports that there are no federally listed threatened or endangered species known to occur within the vicinity of the proposed abandonment. However, abandonment activities along Mud, Kickapoo, and Blackhawk

Creeks should avoid impacts to wetlands and riparian vegetation.

- Natural Resources Conservation Service, Temple Office, strongly recommends that all trackage abandonments include plans to prevent soil erosion during and after track removal.
- Texas Parks and Wildlife Department recommends that existing vegetation along these sections of track be disturbed as little as possible. Railroad corridors often provide undisturbed segments of native vegetation communities not often found in Texas, which should be kept intact to provide some remnants of these once abundant communities.
- East Texas Council of Governments has determined that there will be no adverse economic consequences from the proposed abandonment.

5.16 Utah

Comments about Rail Segments, Rail Yards and Intermodal Facilities

- U.S. Fish and Wildlife Service have no comments at this time.
 - Governor's Office of Planning and Budget, stated the following:

The application appears to be biased towards the UP and SP interests and did not adequately address impacts to nearby residents or the local environment. UP North Yard is currently under investigation under CERCLA for historic waste management practices. A preliminary CERCLA assessment indicates that the site has historically affected nearby surface waters and site pollutants have entered the Northwest Oil Drain and been distributed throughout the Farmington Bay Bird Refuge on the Great Salt Lake. On-site and adjacent soils may also be affected. The ER does not adequately identify or address the impacts of the expansion on the wetlands. Information from the NWI is not incorporated into the report. Wetlands are not adequately identified. The residential area immediately south of the yard was not counted in Table 1601. The 1990 census data indicate that approximately 1840 persons live within 1/4 mile of the yard. Table 16-2 did not address all of the receptors sensitive to environmental change including: residential areas, commercial, schools, hospitals, churches, agriculture, institutional and water resources. Loss of prime farm land was the only issue addressed. Table 16-3 did not address all of the water resources including: water bodies, wetlands, mudflats, sewage treatment ponds, industrial waste ponds and springs. Table 16-4 did not list the Farmington Bay Bird Refuge which is four miles down gradient of the site. Bald Eagle and Peregrine Falcon were not listed as Threatened or Endangered Species. Table 16-5 did not list the Bald Eagle or the Peregrine Falcon as T&E species. Critical habitat for the falcon includes the wetlands near the yard and the Farmington Bay Bird Refuge. Bald Eagles are frequently found along the Jordan River and along the Northwest Oil Drain during the winter.
- Utah Resource Development Coordinating Committee states that to address the potential for the presence of ground water contamination at these facilities and the need for

remediation, if present, a program for evaluating the ground water quality and possible associated and related soil contamination should be developed. Data from these evaluations should be provided to the Utah Department of Environmental Quality. If conversion to crane operations is not offset by reduction in emissions from other former activities in the North Yard, the crane operations may represent a new, additional source of emissions impacting air quality in the area. If the merger occurs and the proposed actions in the North Yard are to become a reality, the DAQ requests that appropriate personnel representing the UP/SP Railroads meet with the DAQ and address these issues prior to construction in the North Yard.

- Salt Lake City/County Health Department, Division of Environmental Health, is investigating a petroleum release in the vicinity of the railroad yard in North Salt Lake.

Comments about Proposed Constructions

No proposed constructions in Utah.

Comments about Proposed Abandonments

Little Mountain Jct. to Little Mountain (UP) — Docket No. AB-33 (Sub-No. 99X).

- Weber County Commissioners request that the Surface Transportation Board place a provision on the abandonment and making the rail bed available for public use on reasonable terms. The Commissioners also note that marshes along the corridor provide valuable wildlife habitat.

5.17 Washington

Comments about Rail Segments, Rail Yards and Intermodal Facilities

- Cowlitz-Wahkiakum County Council of Governments state they are concerned with the increased rail traffic on the line segment between Seattle and Portland and with the current projected growth, the addition of traffic in the Longview-Kelso-Kalama region, a ten percent average annual increase in mainline trips by BN/SF, and the initiative to increase passenger rail trips. The merged company needs to work with state and local public and private interests to see that capacity improvements are accomplished to meet growth projections in a timely manner.

Comments about Proposed Constructions

No proposed constructions in Washington.

Comments about Proposed Abandonments

No proposed abandonments in Washington.

5.18 Wisconsin

Comments about Rail Segments, Rail Yards and Intermodal Facilities

- Natural Resources Conservation Service states that because the entire area is urbanized, provisions of the Farmland Protection Act not apply and the submission of a Farmland Conversion Impact Rating is not required.
- Coastal Zone Management Program expressed interest in an evaluation of the likelihood of hazardous materials accidents due to increased traffic volumes and details about the UP/SP's response plans.
- Department of Natural Resources expect the merger would create nationwide environmental benefits due to reduction in truck miles and corresponding reduction from truck emissions and road capacity expansion needed to service trucking. They are unable to comment on specific environmental impacts of increased traffic volumes on St. Frank to Oak Creek segment due to lack of data in letter. The area is designated as ozone nonattainment. Construction may be constrained by existing infrastructure and may contain undesirable soil considerations.

Comments about Proposed Constructions

No proposed constructions in Wisconsin.

Comments about Proposed Abandonments

No proposed abandonments in Wisconsin.

5.19 Wyoming

Comments about Rail Segments, Rail Yards and Intermodal Facilities

No comments received.

Comments about Proposed Constructions

No proposed constructions in Wyoming.

Comments about Proposed Abandonments

No proposed abandonments in Wyoming.

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CHAPTER 6.0 OVERVIEW OF ENVIRONMENTAL RECOMMENDATIONS AND PROPOSED MITIGATION MEASURES

Based on its independent analysis of the project, review of available information, and the comments and mitigation suggested by various Federal, state and local agencies, SEA recommends that any final decision of the Board approving the proposed merger and related abandonments and construction projects be subject to the mitigation measures set forth in this EA. Specifically, **Volume 2** presents SEA's recommended mitigation for rail line segments, rail yards, and intermodal facilities; **Volume 3** contains mitigation recommended for abandonments, and; **Volume 4** sets forth the recommended mitigations for construction projects.

With respect to increased activity on rail line segments, rail yards, and intermodal facilities, these mitigation measures address potential air quality, noise, transportation and safety impacts. They include, but are not limited to, the following types of mitigation:

- UP/SP shall consult with appropriate Federal, state and local agencies responsible for regulating air quality, concerning any possible mitigation measures to reduce adverse emissions in nonattainment areas.
- To reduce potential noise level impacts to sensitive receptors, UP/SP shall consult with appropriate state and local agencies to develop noise abatement plans.
- UP/SP shall consult with communities concerned about safety and potential effects of additional rail traffic on vehicular traffic to develop mutually agreeable mitigation plans.
- UP/SP shall maintain all rail lines and grade crossing warning devices according to Federal Railroad Administration standards.
- UP/SP shall transport all hazardous materials in compliance with U.S. Department of Transportation regulations. In the case of a hazardous material spill, UP/SP shall follow appropriate emergency response procedures contained in their Emergency Response Plans.

The recommended mitigation measures for the proposed rail line abandonment and construction projects address potential impacts to land use, safety, transportation, water resources, biological resources, air quality, noise, and historic and cultural resources. The recommendations include, but are not limited to, the following types of mitigation:

- UP/SP shall observe all applicable Federal, state, and local regulations regarding handling and disposal of any waste materials, including hazardous wastes.
- UP/SP shall use appropriate signs and barricades to control traffic disruptions during construction or salvage operations, and shall restore roads disturbed during construction to conditions as required by state and local regulations.
- UP/SP shall use Best Management Practices to control erosion and run-off.
- UP/SP shall restrict mechanized equipment to upland areas to complete salvage and construction activities. For any activities within wetlands or waterways, UP/SP shall obtain and comply with all permits required under Sections 402 and 404 of the Clean Water Act.
- UP/SP shall use only EPA-approved herbicides and qualified contractors for right-of-way maintenance.
- In those cases where historic resources would be adversely affected, UP/SP shall not undertake construction or salvage activities until the Section 106 review process is completed. If previously undiscovered archaeological remains are found during construction, UP/SP shall cease work and immediately contact the SHPO.
- UP/SP shall comply with applicable Federal, state and local regulations regarding the control of fugitive dust.
- UP/SP shall control temporary noise from construction equipment through the use of work hour controls and maintenance of muffler systems on machinery.

STB

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ID-DEISV5

1 of 9

Service Date: April 12, 1996
Comment Due Date: May 3, 1996

ENVIRONMENTAL ASSESSMENT

FINANCE DOCKET NO. 32760

UNION PACIFIC CORPORATION, UNION PACIFIC RAILROAD COMPANY,
AND MISSOURI PACIFIC RAILROAD COMPANY

-CONTROL AND MERGER-

SOUTHERN PACIFIC RAIL CORPORATION,
SOUTHERN PACIFIC TRANSPORTATION COMPANY,
ST. LOUIS SOUTHWESTERN RAILWAY COMPANY,
SPCSL CORPORATION, AND
THE DENVER & RIO GRANDE WESTERN RAILROAD COMPANY

VOLUME 5 OF 5 APPENDICES



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Prepared by:
Surface Transportation Board
Section of Environmental Analysis

Service Date: April 12, 1996
Comment Due Date: May 3, 1996

Environmental Assessment
Finance Docket No. 32760

**Union Pacific Corporation, Union Pacific Railroad Company, and
Missouri Pacific Railroad Company**

--Control and Merger--

**Southern Pacific Rail Corporation, Southern Pacific Transportation
Company, St. Louis Southwestern Railway Company, SPCSL
Corporation, and the Denver & Rio Grande Western Railroad
Company**

Volume 5:
Appendices

SURFACE TRANSPORTATION BOARD
Finance Docket No. 32760

Union Pacific Railroad Company
--Control and Merger--
Southern Pacific Transportation Company

GUIDE TO THE ENVIRONMENTAL ASSESSMENT

This Environmental Assessment (EA) evaluates the potential environmental impacts that could result from the proposed merger of the Union Pacific Railroad Company and the Southern Pacific Transportation Company. The EA has been prepared in accordance with the requirements of the National Environmental Policy Act (NEPA), as amended (42 USC 4321), the Surface Transportation Board's environmental rules (49 CFR Part 1105) and other applicable environmental statutes and regulations.

The Environmental Assessment includes five volumes:

Volume 1: Environmental Overview of the Proposed Merger provides an Executive Summary, an overview of the proposed merger, and a summary of the potential environmental impacts which could result if the proposed merger were approved. This volume also summarizes recommended mitigation measures.

Volume 2: Rail Line Segments, Rail Yards and Intermodal Facilities provides detailed analysis and mitigation of the potential environmental impacts related to proposed changes in traffic and other merger-related activities on specific rail line segments, at rail yards, or at intermodal facilities.

Volume 3: Proposed Abandonments provides detailed analysis and mitigation of potential environmental impacts associated with the proposed abandonment of rail line segments and related salvage activities.

Volume 4: Proposed Construction Projects provides detailed analysis and mitigation of the potential environmental impacts related to the proposed construction and operation of new rail lines requiring new rights-of-way.

Volume 5: Appendices contains additional documentation related to the preparation of the Environmental Assessment including: copies of agency correspondence, public comments on the proposed action, and descriptions of analytical methodologies.

To assist you in the review of this EA, a Glossary and List of Abbreviations and Acronyms is included in the front of each of the five volumes.

Based on an analysis of all available information, and subject to the recommended mitigation measures, the Surface Transportation Board's Section of Environmental Analysis concludes that the proposed merger of the Union Pacific and Southern Pacific railroads will not significantly affect the quality of the human environment.

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PREFACE

GLOSSARY

ballast	Top surface of rail bed, usually composed of aggregate (i.e., small rocks and gravel).
Best Management Practices (BMPs)	Techniques recognized as very effective in providing environmental protection.
Board	Surface Transportation Board, the licensing agency for the proposed merger.
borrow material	Earthen material used to fill depressions to create a level right-of-way.
bulk train	Also known as unit train. A solid consist of a single non-breakable commodity (such as coal, grain, semi-finished steel, sulfur, potash, or orange juice) being transported at a trainload rate.
consist	The make-up of a train, usually referring to the number of cars.
construction footprint	The area at a construction site subject to both permanent and temporary disturbances by equipment and personnel.
criteria pollutant	Any of six substances (lead, carbon dioxide, sulfur dioxide, nitrogen dioxide, ozone and particulate matter) regulated under the Clean Air Act, for which areas must meet national air quality standards.
dBA	Adjusted decibel level. A sound measurement that adjusts noise by filtering out certain frequencies to make it analogous to that perceived by the human ear.
decibel	A logarithmic scale that comprises over one million sound pressures audible to the human ear over a range from 0 to 140, where zero decibels represents a reference sound level necessary for a minimum sensation of hearing and 140 represents the level at which pain occurs.
deciduous	Any plant whose leaves are shed or fall off during certain seasons; usually used in reference to tree types.
emergent	An aquatic plant with vegetative growth mostly above the water.
endangered	A species that is in danger of extinction throughout all or a significant portion of its range and is protected by state and/or federal laws.

fill	The term used by the United States Army Corps of Engineers that refers to the placement of suitable materials (e.g., soils, aggregates, formed concrete structures, sidecast material, etc.) within water resources under Corps jurisdiction.
flat yard	A system of relatively level tracks within defined limits provided for making up trains, storing cars, and other purposes which requires a locomotive to move cars (switch cars) from one track to another.
Flood Insurance Rate Maps	Maps available from the Federal Emergency Management Agency that delimit the land surface area of 100-year and 500-year flooding events.
floodplain	The lowlands adjoining inland and coastal waters and relatively flat areas and flood prone areas of offshore islands, including, at a minimum, that area inundated by a one percent (also known as a 100-year or Zone A floodplain) or greater chance of flood in any given year.
frog	A track structure used where two running rails intersect that provides flangeways to permit wheels and wheel flanges on either rail to cross the other.
habitat	The place(s) where plant or animal species generally occur(s) including specific vegetation types, geologic features, and hydrologic features. The continued survival of that species depends upon the intrinsic resources of the habitat. Wildlife habitats are often further defined as places where species derive sustenance (foraging habitat) and reproduce (breeding habitat).
haulage right	The limited right of one railroad to operate trains over the designated lines of another railroad.
hump yard	A railroad classification yard in which the classification of cars is accomplished by pushing them over a summit, known as a "hump," beyond which they run by gravity.
interlocking	An arrangement of switch, lock, and signal appliances interconnected so that their movements succeed each other in a predetermined order, enabling a moving train to switch onto adjacent rails. It may be operated manually or automatically.
intermodal facility	A site or hub consisting of tracks, lifting equipment, paved areas, and a control point for the transfer (receiving, loading, unloading, and dispatching) of intermodal trailers and

	containers between rail and highway or rail and marine modes of transport.
intermodal train	A train consisting or partially consisting of highway trailers and containers or marine containers being transported for the rail portion of a multi-modal movement on a time-sensitive schedule. Also referred to as piggyback, TOFC (Trailer on Flat Car), COFC (Container on Flat Car), and double stacks (for containers only).
L_d	Level of noise (measured in decibels) averaged over the "daytime" period (7 a.m.-10 p.m.).
L_{dn}	Nighttime noise level (L_n) adjusted to account for the perception that a noise level at night is more bothersome than the same noise level would be during the day.
lift	A lift is defined as an intermodal trailer or container lifted onto or off a rail car. For calculations, lifts were used to determine the number of trucks using intermodal facilities.
locomotive, road	One or more locomotives (or engines) designed to move trains between yards or other designated points.
locomotive, switching	Locomotive (or engine) used to switch cars in a yard, industrial, or other area where cars are sorted, spotted (placed at a shipper's facility), pulled (removed from a shipper's facility), and moved within a local area.
merchandise train	A train consisting of single and/or multiple car shipments of various commodities.
mitigation	Actions to prevent or lessen negative effects.
National Wetlands Inventory	An inventory of wetland types in the United States compiled by the United States Fish and Wildlife Service.
nonattainment	An area that does not meet NAAQS specified under the Clean Air Act.
non-point source discharge	Pollution not associated with a specific outfall location, such as a sewer pipe.
palustrine wetland	Non-tidal wetland dominated by trees, shrubs or persistent emergent vegetation. Includes wetlands traditionally classified as marshes, swamps, or bogs.
passby	The passing of a train past a specific reference point.

pick up

To add one or more cars to a train from an intermediate (non-yard) track designated for the storage of cars.

rail spur

A track that diverges from a main line, also known as a spur track or rail siding, which typically serves one or more industries.

railbanking

A set-aside of abandoned rail corridor for recreational and/or transportation uses, including reuse for rail.

receptor/receiver

A land use or facility where sensitivity to noise or vibration is considered.

right-of-way

The right held by one person over the lands of another for a specific use; rights of tenants are excluded. The strip of land for which permission has been granted to build and maintain a linear structure, such as a road, railroad, or pipeline.

riparian

Relating to, living, or located on, or having access to, the bank of a natural water course, sometimes also a lake or tidewater.

riprap

A loose pile or layer of broken stones erected in water or on soft ground as a guard against erosion.

riverine wetland

All wetlands and deepwater habitats contained within a channel, either naturally or artificially created.

ruderal

An introduced plant community dominated by weed species, typically adapted to disturbed areas.

scrub-shrub

Areas dominated by woody vegetation less than 6 meters (20 feet) tall, which includes true shrubs and young trees.

set out

To remove one or more cars from a train at an intermediate (non-yard) location such as a siding, interchange track, spur track, or other track designated for the storage of cars.

take

Loss of individuals of a plant or wildlife species and/or any direct or indirect action that results in mortality and/or injury. Further defined to include actions that disrupt normal patterns of wildlife species behavior; specifically those that reduce the survival and reproductive potential of an individual. Also refers to loss and/or degradation of species' habitat.

threatened

A species that is likely to become an endangered species within the foreseeable future throughout all or part of its range, and is protected by state and/or federal law.

trackage rights

The right or combination of rights of one railroad to operate over the designated trackage of another railroad including, in some cases, the right to operate trains over the designated trackage; the right to interchange with all carriers at all junctions; the right to build connections or additional tracks in order to access other shippers or carriers.

turnout

A track arrangement consisting of a switch and frog with connecting and operating parts, extending from the point of the switch to the frog, which enables engines and cars to pass from one track to another.

unit train

A train consisting of cars carrying a single commodity, e.g., a coal train.

water resources

All-inclusive term that refers to many types of permanent and seasonally wet/dry surface water features including springs, creeks, streams, rivers, ponds, lakes, wetlands, canals, harbors, bays, sloughs, mudflats, and sewage-treatment and industrial waste ponds.

wetland

As defined by 40 CFR Part 230.3, wetlands are "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Wetlands generally include swamps, marshes, bogs and similar areas.

wye track

A principal track and two connecting tracks arranged like the letter "Y" on which locomotives, cars and trains may be turned.

LIST OF ACRONYMS AND ABBREVIATIONS

A&S	Alton & Southern Railway Company
ACHP	Advisory Council on Historic Preservation
ADT	Average Daily Traffic
AHPP	Arkansas Historic Preservation Program
AQCR(s)	Air Quality Control Region(s)
BIA	Bureau of Indian Affairs
BMPs	Best Management Practices
BN	Burlington Northern Railroad Company
BN/SF	The new railroad system created by the merger of the holding companies of BN and Santa Fe.
BRGI	Brownsville and Rio Grande International Railroad
CAAA	Clean Air Act and Amendments
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (the "Superfund" Act)
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CFR	Code of Federal Regulations
CMTA	Capital Metropolitan Transportation Authority
CNW	Chicago and Northwestern Railway Company
CO	Carbon Monoxide
COE	United States Army Corps of Engineers
CTC	Centralized Traffic Control
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
db	Decibel
dBA	Decibels (of sound) A range
DNL	Day-night equivalent level
DOT	United States Department of Transportation
DRGW	Denver and Rio Grande Western Railroad Company
EA	Environmental Assessment
EPA	Environmental Protection Agency
ER	Environmental Report
ERNS	Emergency Response Notification System
FEMA	Federal Emergency Management Agency
FWHA	Federal Highway Administration
FIRM	Flood Insurance Rate Maps
FRA	Federal Railroad Administration
GWWR	Gateway Western Railway Company
HC	Hydrocarbons (in air)
IBP	Iowa Beef Producers
HBT	Houston Belt Terminal
IC	Illinois Central

ICC	Interstate Commerce Commission (former licensing agency for the proposed merger; merger approval authority now with the Surface Transportation Board)
IHPA	Illinois Historic Preservation Agency
KCS	Kansas City Southern Railway Company
KSHS	Kansas State Historical Society
L_{dn}	Day-night equivalent sound level
L_{max}	Maximum sound level during train passby, dBA
LUST	State Inventory of Leaking Underground Storage Tanks
MOU	Memorandum of Understanding
MP	Mile Post or Missouri Pacific
MPH	Miles per Hour
MPRR	Missouri Pacific Railroad Company
MRL	Montana Rail Link, Inc.
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Preservation Act of 1966
NO_2	Nitrogen dioxide
NO_x	Nitrogen oxides
NPDES	National Pollution Discharge Elimination System
NPL	National Priorities List
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
O_3	Ozone
OBS	Office of Biological Services/United States Fish and Wildlife Service
OKT	Oklahoma-Kansas-Texas (operating division of UP)
OSHA	Occupational Safety and Health Administration
Pb	Lead
PDEA	Preliminary Draft Environmental Assessment
PM_{10}	Particulate Matter (under 10 microns in diameter)
PSD	Prevention of Significant Deterioration
RCRA	Resource Conservation and Recovery Act
ROW	Right of Way
SEA	Section of Environmental Analysis
SCS	Soil Conservation Service (currently named Natural Resources Conservation Service, Division of United States Department of Agriculture)
SEL	Source sound exposure level at 100 feet, dBA
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SO_2	Sulfur dioxide
SO_x	Sulfur oxides
SP	Southern Pacific Rail Corporation--includes SPT, SSW, SPCSL Corp., and DRGW
SPT	Southern Pacific Transportation Company
SSW	St. Louis Southwestern Railway Company
SPL	State Priority List

STATSGO	State Soil Geographic Database
STB	Surface Transportation Board
SWLF	State Inventory of Solid Waste Facilities
TRAA	Terminal Railroad Association of St. Louis
TSD	Treatment, Storage, or Disposal Sites
TSP	Total Suspended Particulates (particulate matter)
UP	Union Pacific Railroad, MPRR, and CNW
UP/SP	The new railroad system to be created by the merger of the holding companies of UP and SP if the merger proposal is approved
USC	United States Code
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VISTA	VISTA Environmental Information, Inc.
VOCs	Volatile organic compounds
WCL	Wisconsin Central Ltd.
WEPCO	Wisconsin Electric Power Company
WSC	Western Shipper's Coalition

APPENDIX A

**PART ONE:
VERIFIED STATEMENTS FOR
RESPONSIVE APPLICATIONS**

VERIFIED STATEMENT AND CERTIFICATION
ON ENVIRONMENTAL MATTERS

My name is Cynthia Hill and I serve as in-house counsel for Responsive Applicant, Capital Metropolitan Transportation Authority ("Capital Metro" or "CMTA"). This statement is to confirm that no Preliminary Draft Environmental Assessment ("PDEA") is required for the transaction contemplated by the foregoing Responsive Application and that the contemplated transaction meets exemption criteria under 49 C.F.R. § 1105.6(c)(2).

Capital Metro is a noncarrier seeking, through the foregoing Responsive Application, rights on behalf of a rail carrier unaffiliated with the primary applicants in this proceeding. In particular, the Responsive Application seeks for an unnamed third party rail carrier to have trackage rights over approximately seven miles of track, and for related interchange rights at a terminal point of this trackage (either Kerr or McNeil, as appropriate).

In Decision No. 13 in this proceeding, the STB determined that Capital Metro's proposed transaction is a "minor" transaction within the meaning of 49 C.F.R. § 1180.2(c). Typically, minor transactions that seek trackage rights as a condition to a proposed merger do not require a PDEA. Moreover, the SEA stated in its correspondence (received by Capital Metro on February 8, 1996) that a verified statement is appropriate for a responsive application that involves no significant operational changes and no abandonment or construction. Since the transaction Capital Metro proposes is minor and proposes no significant operational changes or abandonment or construction, it is appropriate for Capital Metro to file this verified statement in lieu of a PDEA.

Moreover, the proposed transaction meets the exemption criteria at 49 C.F.R. § 1180.6(c)(2) and thresholds established in § 1105.7(e)(4) and (5). Specifically, the proposed action may result in the environmentally beneficial diversion of some traffic from truck to rail, since the transaction

would provide competition that preserves, and may enhance, shippers' rail options. The proposed transaction should have an environmentally beneficial impact upon overall energy efficiency and air emissions since it would help preserve rail as an attractive option to trucking and should also facilitate Capital Metro's planned mass transit rail as an alternative to vehicular transportation into the Austin Metropolitan area.

Since the third party carrier is as yet unidentified, details of the transaction may need to be determined in a follow-up proceeding, as the Surface Transportation Board ("STB") acknowledged in Decision No. 25, and environmental matters that may arise owing to the specific carrier ultimately designated may need to be resolved at a later time. The STB has acknowledged this possibility and the appropriateness of this resolution in circumstances where an applicant carrier is unnamed at the time of its responsive application. See Decision No. 25, in which the STB stated: "We think it only fair to note, however, that applicants will be allowed to consummate an approved UP/SP transaction . . . even though the trackage rights operation of a designee might itself be delayed pending resolution of environmental issues or of a follow-up proceeding."

This statement is true to the best of my knowledge, information, and belief.

Cynthia J. Hill
Cynthia J. Hill

Subscribed and sworn to before me on this 24th day of March, 1996.

Oral L. Crossley
Notary Public

My Commission expires: 10/26/99

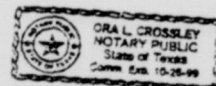


EXHIBIT 4
ENVIRONMENTAL VERIFICATION

My name is William H. Brodsky. I am President of Montana Rail Link, Inc. (MRL). I have prepared this Verified Statement in connection with the request of the Section of Environmental Analysis for information concerning the effect of MRL's Responsive Application in this proceeding on the environment.

Based on information available to me at this time, it is my judgment that the rail traffic reasonably likely to be associated with MRL's Responsive Application will not result in any significant changes in the operations of the lines at issue, as described in the Operating Plan submitted as part of the Responsive Application.

Pursuant to Ex Parte No. 55 (Sub-No. 22A), Implementation of Environmental Laws, 7 L.C.C.2d 807 (1991) ("Environmental Laws"), and Decision No. 9 in this proceeding, served December 27, 1995, I certify that the transaction described herein will not involve either the diversion from rail to motor carriage of more than (A) 1,000 rail carloads a year, or (B) an average of 50 rail carloads per mile per year for any part of the affected line (49 C.F.R. § 1105.7(e)(4)) on the one hand, or (A) an increase in rail traffic of at least 100 percent or an increase of at least eight trains per day on any segment of the affected line, (B) an increase in rail yard activity of at least 100 percent, or (C) an increase in truck traffic of more than 10 percent of the average daily traffic or 50 vehicles a day on any affected road segment (40 C.F.R. § 1105.7(e)(5)), on the other hand. See 49 C.F.R. § 1105.6(c)(2).

Acquisition Company's acquisition and operation of the Subject Lines will not result in changes in carrier operations that exceed the above-listed thresholds, nor will the acquisition and operation have the "potential for significant environmental impacts." See 49 C.F.R. § 1105.6(d). Therefore, no environmental documentation is required for this Responsive Application. See 49 C.F.R. § 1105.7(a).

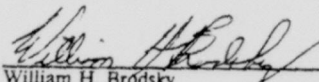
Pursuant to the Environmental Laws decision, transactions involving a sale, lease or transfer of rail line for the purposes of continued operation are exempt from the historic reporting requirements of 49 C.F.R. Section 1105.8(a), if termination of such operation requires further Commission approval and there are no plans to dispose of or alter properties adjacent to the rail line that are 50 or more years old. See 49 C.F.R. § 1105.8(b)(1).

Common carrier service on the Subject Lines will be continued by Acquisition Company. Acquisition Company has no plans to dispose of or alter the Subject Lines or any properties adjacent to the Subject Lines that are 50 or more years old. Therefore, an historic report is not required for this filing. See 49 C.F.R. § 1105.8(a), (b).

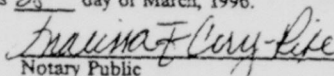
VERIFICATION

DISTRICT OF COLUMBIA

I, William H. Brodsky, being duly sworn, state that I have read the foregoing statement, that I know its contents and that those contents are true as stated.


William H. Brodsky

Subscribed and sworn to before me this 28th day of March, 1996.


Notary Public

My Commission Expires:

11-14-99

L. Environmental Data (and Historical Data)
49 C.F.R. § 1130.61(a)(2)

Pursuant to the Board's Decision No. 12 in Finance Docket No. 12760 at 3, Entergy submits the attached Verified Statement of Roy A. Giangrosso certifying that Entergy's proposal meets the exemption criteria under 49 C.F.R. § 1130.61(a)(2).

M. Information regarding Entergy
49 C.F.R. § 1130.61(b)(1)

Applicant ESI is the fuel procurement agent for the public utility operating subsidiaries of Entergy Corporation, which is an investor-owned public utility holding company with headquarters in New Orleans, LA. Entergy Corporation's public utility operating subsidiaries include Applicants AP&L and GSN, as well as Louisiana Power and Light Company, Mississippi Power & Light Company, and New Orleans Public Service, Inc. ESI is responsible for acquiring coal and related transportation for AP&L's and GSN's coal-fired generating plants. The total annual coal consumption by these plants is more than 15 million tons.

AP&L produces, distributes and sells electric power at wholesale and retail to approximately 408,000 residential, commercial, industrial and agricultural customers located in 43 counties in Arkansas. AP&L operates two large coal-fired power plants, the White Bluff and Independence Steam Electric Stations. White Bluff, which is relevant to this application, consists of two units with a combined generating capacity of 1,659 megawatts (MW) of electric power. White Bluff presently burns approximately 6.5 million tons of coal annually, all of which is pro-

VERIFICATION

STATE OF TEXAS }
COUNTY OF JEFFERSON } SS:

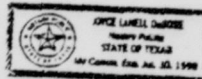
Roy A. Giangrosso, being duly sworn, deposes and says that he is Director, Coal Supply for Entergy Services, Inc., that he has read the foregoing Responsive Application and knows the contents thereof, and that the same are true as stated, except as to those statements made on information and belief, and as to those, that he believes them to be true.

Roy A. Giangrosso
Roy A. Giangrosso

Subscribed and sworn to before me
this 25th day of March, 1996.

James L. McQuinn

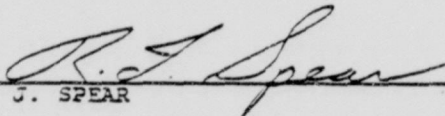
Notary Public for Jefferson County, Texas
My Commission expires 4-30-99



SECTION 1180.6(a)(8)
ENVIRONMENTAL DATA - EXHIBIT 4

As R.J. Spear discusses in his verified statement concerning the environmental impact of the responsive application, the operations proposed over the rights requested do not involve significant operational changes, as defined in 49 C.F.R. § 1105.6(b).¹⁴ Consistent with Decision No. 12 (served February 15, 1996) and the guidance issued by the Board's Section of Environmental Analysis in January, 1996, Tex Mex certifies that the operations (not including the improvements discussed in the text accompanying note 8) will meet the exemption criteria set forth in 49 C.F.R. § 1105.6(c)(2).

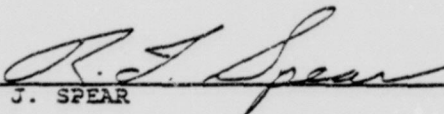
I, R. J. SPEAR, verify under penalty of perjury that the foregoing is true and correct. Further, I certify that I am qualified and authorized to file this Verified Statement.
Executed on March 27, 1996.


R. J. SPEAR

SECTION 1180.6(a)(8)
ENVIRONMENTAL DATA - EXHIBIT 4

As R.J. Spear discusses in his verified statement concerning the environmental impact of the responsive application, the operations proposed over the rights requested do not involve significant operational changes, as defined in 49 C.F.R. § 1105.6(b).¹⁴ Consistent with Decision No. 12 (served February 15, 1996) and the guidance issued by the Board's Section of Environmental Analysis in January, 1996, Tex Mex certifies that the operations (not including the improvements discussed in the text accompanying note 8) will meet the exemption criteria set forth in 49 C.F.R. § 1105.6(c)(2).

I, R. J. SPEAR, verify under penalty of perjury that the foregoing is true and correct. Further, I certify that I am qualified and authorized to file this Verified Statement.
Executed on March 27, 1996.


R. J. SPEAR

Finance Docket No. 32760 (Sub-No. ____)

APPENDIX 1

VERIFIED STATEMENT OF THOMAS F. McFARLAND, JR.

My name is Thomas F. McFarland. I am the attorney of record for Wisconsin Electric Power Company (WEPCO) in regard to its application for certain trackage rights in response to the merger application filed by Union Pacific and Southern Pacific Railroads.

I hereby certify that the trackage rights sought by WEPCO would not result in significant changes in carrier operations within the meaning of 49 C.F.R. 1105.6(c)(2), and specifically, that such trackage rights would not cause diversions from rail to motor carriage of any quantity of traffic. I further certify that the trackage rights sought by WEPCO would not substantially change the level of maintenance of railroad property within the meaning of 49 C.F.R. 1105.8(b)(3).

Based on the foregoing, I have advised WEPCO that it need not file environmental or historic information in conjunction with its application for trackage rights.

Thomas F. McFarland Jr.
THOMAS F. McFARLAND, JR.

SUBSCRIBED AND SWORN to
before me this 28th day
of March, 1996.

Kathleen Lenihan
Notary Public

My Commission Expires: 1/29/98

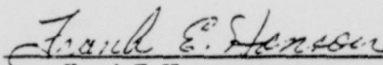


VERIFICATION

My name is Frank E. Hanson and I am the President of the San Manuel Arizona Railroad Company and the Magma Arizona Railroad Company. I am authorized on behalf of The San Manuel Arizona Railroad Company, The Magma Arizona Railroad Company, and Magma Copper Company to offer this statement. I have read the foregoing Responsive Application for Trackage Rights and its factual assertions are true and correct, to the best of my knowledge and belief.

The foregoing declaration is made under penalty of perjury under the laws of the United States.

Dated at Tucson, Arizona, this 25 Th. day of March 1996.


Frank E. Hanson

APPENDIX A

**PART TWO:
PRELIMINARY DRAFT ENVIRONMENTAL ASSESSMENTS (PDEA)
VERIFIED STATEMENTS FOR SETTLEMENT AGREEMENTS**

EXHIBIT A-8

Surface Transportation Board Washington, D.C. 20423-0001

Section of Environmental Analysis

COPY

March 5, 1996

Mr. Arvid E. Roach II
Covington & Burling
1201 Pennsylvania Avenue, N.W.
P.O. Box 7566
Washington, D.C. 20044-7566

Re: Preliminary Draft Environmental Assessment/Verified Statement
Finance Docket No. 32760, Union Pacific Corporation, Union Pacific Railroad
Company and Missouri Pacific Railroad-Control and Merger-Southern Pacific Rail
Corporation, Southern Pacific Transportation Company, St. Louis Southwestern
Railway Company, SPCSL Corp. and The Denver and Rio Grande Western Railroad
Company

Dear Mr. Roach:

The Surface Transportation Board (Board) has established the attached schedule for handling the proposed Union Pacific/Southern Pacific railroad merger. If we are to meet this schedule, you must submit a Preliminary Draft Environmental Assessment (PDEA) or a Verified Statement for those executed settlement agreements that involve trackage rights, rail line acquisition or other operational changes. Your PDEA or Verified Statement must be filed either on or prior to March 29, 1996.

You may file a Verified Statement for a settlement agreement if the agreement involves no substantive operational changes and no abandonments or construction projects. If after reviewing the operating plans for each settlement agreement, you determine that a Verified Statement is appropriate, you must certify that the agreement meets the exemption criteria under 49 CFR 1105.6 (c)(2). Each Verified Statement must include supporting operating data.

A PDEA is required if a settlement agreement involves either (1) substantive operational changes [49 CFR 1105.6(b)(4)] or (2) an action such as a rail line abandonment or construction. The PDEA must include the following: (1) a detailed description of the proposed action (i.e., proposed operations, abandonments and/or constructions) and alternatives considered; (2) a description of the existing environment; (3) a discussion of the potential environmental impacts; and (4) a summary of agency responses; and (5) any

recommended mitigation. We have attached a guide for your assistance that generally sets forth the format and content of a PDEA. The information to be included in the PDEA is similar to that required in an environmental and historic report under our environmental rules at 49 CFR 1105.7 and 1105.8.

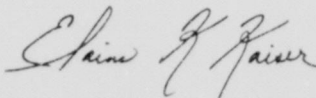
SEA will serve the EA, with PDEA's and/or Verified Statements on the public and all appropriate Federal, state and local agencies for their review and comment. There will be a 20-day public comment period on the EA.

COPY

Following the end of the public comment period, SEA will assess the comments and all available information and make its final environmental recommendations to the Board. The Board will then consider SEA's recommendations and the environmental record in making its final decision.

Your submission of the requested environmental documentation is essential to the timely and successful completion of the environmental review for your proposal. If you have any questions, please contact Harold McNulty or me at (202) 927-6217.

Sincerely,



Elaine K. Kaiser, Chief
Section of Environmental Analysis

Attachments

cc: Mr. Thomas Greenland

SURFACE TRANSPORTATION BOARD
SECTION OF ENVIRONMENTAL ANALYSIS

January 1996

Dear Applicant:

C O P Y

Re: Preliminary Draft Environmental Assessment/Verified Statement
Finance Docket No. 32760, Union Pacific Corporation, Union Pacific Railroad
Company and Missouri Pacific Railroad-Control and Merger-Southern Pacific Rail
Corporation, Southern Pacific Transportation Company, St. Louis Southwestern
Railway Company, SPCSL Corp. and The Denver and Rio Grande Western Railroad
Company

The Surface Transportation Board (Board) has established the attached schedule for handling the proposed Union Pacific/Southern Pacific railroad merger. To meet this schedule, anyone desiring to file an inconsistent or a responsive application involving either (1) significant operational changes [49 CFR 11-5.6(b)] or (2) an actions such as a rail line abandonment or construction must submit a Preliminary Draft Environmental Assessment (PDEA). The PDEA must be filed either prior to or with the application.

We note that Applicants may file a verified statement is an inconsistent or responsive application involves no significant operational changes and no abandonments or construction. If an Applicant determines that a verified statement is appropriate, the Applicant must certify that the proposal meets the exemption criteria under 49 CFR 1105.6 (c)(2). If you have questions concerning the verified statement, please call the Section of Environmental Analysis.

If a PDEA is required, it is critical that the applicant consult with SEA immediately to determine the scope and content of this document. The document must include the following: (1) a detailed description of the proposed action and alternatives considered; (2) a description of the existing environment; (3) a discussion of the potential environmental impacts; (4) a summary of agency comments; and (5) any recommended mitigation. We have attached a guide for your assistance that generally sets forth the format and content for the PDEA.

The information to be included in the PDEA is similar to that required in an environmental and historic report under our environmental rules at 49 CFR 1105.7 and 1105.8. Once the applicant submits the PDEA, SEA will review the document for adequacy. If the PDEA is not sufficient, it will be rejected along with the accompanying application. If the PDEA is adequate, SEA will accept the document. SEA plans to issue this document in April along with the Environmental Assessment (EA) for the proposed UP/SP merger.

SEA will serve the EA and any environmental document for inconsistent or responsive applications on the public and all appropriate Federal, state and local agencies for their review and comment. There will be a 20-day public comment period.

Following the end of the comment period, SEA will assess the comments and all available information and make its final environmental recommendations to the Board. The Board will then consider SEA's recommendations and the environmental record in making its final decision.

Again, we emphasize that early and ongoing consultation with SEA is essential to the successful completion of the environmental review for your proposal. If you have any questions, please contact Phillis Johnson-Ball or Elaine K. Kaiser at (202) 927-6213.

Attachments: Procedural Schedule
PDEA Guide

SURFACE TRANSPORTATION BOARD

Section of Environmental Analysis

January 1996

PRELIMINARY DRAFT ENVIRONMENTAL ASSESSMENT GUIDE (PDEA)

* Executive Summary

- Brief Description of PDEA process

C O P Y

* Table of Contents

* Introduction

- Brief Description of the Proposed Action, Purpose, and Relationship to the Primary Application
- Brief Description of Related Actions

* Detailed Description of the Proposed Action

- Need for the Proposed Action
- Rail and Intermodal Operations
- Alternatives, if any
- Relationship to the Primary Application

* Brief Description of Existing Environmental/Discussion of Environmental Impacts of the Proposed Action/Proposed Mitigation.

- Agency Comments
- Maps, Figures, Charts (e.g., Environmental Impact Charts).
- Environmental Impact Categories (Adverse and Beneficial):

Land Use
Safety
Transportation
Hazardous Materials
Water Resources
Biological Resources
Air Quality
Noise
Historic and Cultural Resources

Socio-economic Setting
Energy consumption

*** Description of Related Actions (e.g., Construction and Abandonments)**

- Construction Projects, Alternatives, and Proposed Mitigation

Impact Categories:

C O P Y

Land Use
Transportation
Hazardous Materials
Safety
Water Resources
Biological Resources
Air Quality
Noise
Historic and Cultural Resources
Energy Consumption

- Abandonments, Alternatives, and Proposed Mitigation

Impact Categories:

Land Use
Transportation
Hazardous Materials
Safety
Water Resources
Biological Resources
Air Quality
Noise
Historic and Cultural Resources
Energy Consumption

*** Summary of Environmental Impacts (Beneficial and adverse)**

*** Conclusion**

*** Request for Comments (20 days)**

*** Appendix**

- + List of Agencies Consulted (including Contact and Address)
- + Letters to Consulted Agencies
- + Agency Responses (Letters, Documentation of meetings and phone consultations)
- + Technical Studies/Analyses as appropriate

COPY

PROCEDURAL SCHEDULE

November 30, 1995 Primary application filed

December 29, 1995 Commission notice of acceptance of primary application and related applications published in the Federal Register on or before this date.

January 16, 1996 Notice of intent to participate in proceeding due.

January 29, 1996 Description of anticipated consistent and responsive applications due; petitions for waiver or clarification due.

March 29, 1996 Inconsistent and responsive applications due. All comments, protests, requests for conditions, and any other opposition evidence and argument due. DOJ and USDOT comments due.

April 12, 1996 Notice of acceptance (if required) of inconsistent and responsive applications published in the Federal Register.

April 29, 1996 Response to inconsistent and responsive applications due. Response to comments, protests, requested conditions, and other opposition due. Rebuttal in support of primary application and related applications due.

May 14, 1996 Rebuttal in support of inconsistent and responsive applications due.

June 3, 1996 Briefs due, all parties (not to exceed 50 pages).

July 2, 1996 Oral arguments (at Commission's discretion).

July 3, 1996 Voting Conference (at Commission's discretion).

August 12, 1996 Date of service of final decision.

EXHIBIT A-9

Applicant's Preliminary Draft Environmental Assessment Concerning Settlement with BN/ Santa Fe

This Appendix replicates the "Applicants' Submission of Preliminary Draft Environmental Assessment Concerning Settlement with BN/Santa Fe", filed March 29, 1996, but without the procedural appendices that were filed with the original. Procedural appendices are those which do not contain data necessary for review of the PDEA. The procedural appendices included: sample consultation letters, contact lists, acronyms, and abbreviations. Copies of the procedural appendices are available by calling the SEA's Environmental Hotline at 1-800-448-7246.

Non-procedural appendices to the PDEA are replicated. These include:

For Attachment B, Supplemental Report/Construction Projects:

Appendix A, Agency Response Section

Response Letters: Natural Resources Conservation Service, Davis , CA
Corps of Engineers, Little Rock, AR
US Fish and Wildlife Service, Atlanta, GA
Arkansas Department of Parks & Tourism
(without a 20-page inventory of parks in West Memphis, AR)

Appendix B Rare, Threatened and Endangered Species List

Appendix C Historic Resources

COVINGTON & BURLING

1201 PENNSYLVANIA AVENUE, N. W.

P.O. BOX 7566

WASHINGTON, D.C. 20044-7566

(202) 662-6000

TELEFAX: (202) 662-6291

TELEX: 89-593 (COVLING WSH)

CABLE: COVLING

April 5, 1996

EXHIBIT A-9

S. WILLIAM LIVINGSTON, JR.

DIRECT DIAL NUMBER

(202) 662-5380

LECONFIELD HOUSE

CURZON STREET

LONDON W1T 6AS

ENGLAND

TELEPHONE: 44-171-495 5655

TELEFAX: 44-171-495 3101

BRUSSELS CORRESPONDENT OFFICE

44 AVENUE DES ARTS

BRUSSELS 1040 BELGIUM

TELEPHONE: 32-2-512 9890

TELEFAX: 32-2-502-1598

BY HAND DELIVERY

Ms. Elaine K. Kaiser
Chief, Section of Environmental Analysis
Surface Transportation Board
Room 3219
12th and Constitution Avenue, N. W.
Washington, D.C. 20423

Re: Union Pacific/Southern Pacific Control
Proceeding (F.D. 32760)

Dear Elaine:

You have expressed concerns to Applicants' counsel that the Applicants' Preliminary Draft Environmental Assessment ("PDEA") Concerning Settlement with BN/Santa Fe, dated March 29, 1996, states that noise projections developed by SEA's consultant were provided to Applicants' environmental consultant. You also advised us that based on your consultation with your third-party consultant and their response of April 2, 1996, to your letter of the same date that there was a misstatement in the text (p. 5) and Table 1-3 in the PDEA (Section 1.3.2 - Noise).

After conferring with Applicants' environmental consultant and reviewing your letter of April 2, 1996 to De Leuw, Cather and the response thereto, we have confirmed that the concerns are based on misstatements in the PDEA.

Enclosed please find corrected pages 5, 6 and 9 of Section 1.3.2 - Noise in Applicants' PDEA Concerning Settlement with BN/Santa Fe dated March 29, 1996.

These corrections are being made to clarify and correct statements relating to noise analysis conducted by Applicants' environmental consultants for four line segments: Sparks to Roseville, Bond to Dotsero, Winnemucca to Sparks and Iowa Junction to Beaumont. To measure the increased effects of the BN/Santa Fe settlement on these line segments, Applicants' environmental consultant utilized on-site counts of residences, schools and churches within the existing 65 Ldn contour adjacent to these line segments developed by SEA's third-party consultant using standard noise measurement

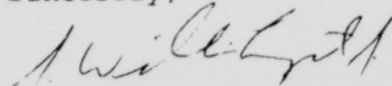
Ms. Elaine K. Kaiser
April 5, 1996
Page 2

methodology. These objective counts of sensitive noise receivers were then adjusted by Applicants' consultant to measure the effects of the BN/Santa Fe settlement using the methodology set forth in the PDEA. No projections or analyses were provided by SEA's consultant to Applicants' consultant.

In addition, Table 1-3 has been corrected to properly identify that the data shown as train volumes and Db calculations were derived from the Applicants' Environmental Report.

Applicants request that the corrected pages be substituted for the corresponding pages in Applicants' previously submitted PDEA.

Sincerely,



S. William Livingston, Jr.

Enclosure

BEFORE THE
SURFACE TRANSPORTATION BOARD

Finance Docket No. 32760

UNION PACIFIC CORPORATION, UNION PACIFIC RAILROAD COMPANY
AND MISSOURI PACIFIC RAILROAD COMPANY

-- CONTROL AND MERGER --

SOUTHERN PACIFIC RAIL CORPORATION, SOUTHERN PACIFIC
TRANSPORTATION COMPANY, ST. LOUIS SOUTHWESTERN RAILWAY
COMPANY, SPCSL CORP. AND THE DENVER AND
RIO GRANDE WESTERN RAILROAD COMPANY

APPLICANTS' SUBMISSION OF PRELIMINARY DRAFT ENVIRONMENTAL
ASSESSMENT CONCERNING SETTLEMENT WITH BN/SANTA FE

Applicants submit herewith a Preliminary Draft
Environmental Assessment Concerning Applicants' settlement with
BN/Santa Fe.

OVERVIEW

By letter dated March 5, 1996, the Section of Environmental Analysis ("SEA") of the Surface Transportation Board ("STB") requested the merger applicants in Finance Docket No. 32760 to submit a Preliminary Draft Environmental Assessment ("PDEA") for any settlement agreement that involved "either (1) substantive operational changes [49 CFR 1105.6(b)(4)] or (2) an action such as a rail line abandonment or construction."

Applicants filed their merger application in this proceeding on November 30, 1995. Prior to that time, on September 25, 1995, Applicants had entered into a settlement agreement involving BN/Santa Fe. The settlement agreement, in conjunction with the merger, would result in some construction projects and substantive operational changes, but would not involve any abandonments. The merger application described the BN/Santa Fe settlement agreement and its impact on such issues as competition and rail service. See, e.g., UP/SP-22, pp. 291-317; UP/SP-23, pp. 292-99. The Traffic Study that was developed for and presented in the merger application took into account Applicants' estimates of the traffic impacts of the BN/Santa Fe settlement, and the Operating Plan presented in the application was based on the assumption that BN/Santa Fe would be operating pursuant to the settlement.

Volume 6 (Parts 1 through 6) of the merger application contained Applicants' Environmental Report. See UP/SP-27. The Environmental Report was based on the Traffic Study and Operating Plan that were part of the merger application, supplemented by

Applicants' projections of BN/Santa Fe traffic and operations on the UP/SP system that would occur as a result of the settlement. Thus the report studied the possible environmental impacts on the UP/SP system relating to the combined effects of the merger and the BN/Santa Fe settlement agreement.

On November 29, 1995, Applicants served the Environmental Report upon all persons required to be served and set forth in 49 C.F.R. § 1105.7(b), namely;

- (i) the State clearinghouse or other equivalent State agency for each State involved;
- (ii) the State Environmental Protection Agency of each State involved;
- (iii) the State Coastal Zone Management Agency for any state where the proposed merger would affect land uses within that state's coastal zone;
- (iv) the appropriate regional offices of the Environmental Protection Agency;
- (v) the U.S. Fish and Wildlife Service;
- (vi) the U.S. Army Corps of Engineers;
- (vii) the National Park Service; and
- (viii) the U.S. Soil Conservation Service.

Applicants also served Part 1 of the report upon the head of each county (or comparable entity) in which any activity occurs which triggers the thresholds in 1105.7(e)(4)(iv) and all agencies that have been consulted in preparing the report, and offered to mail any or all of the remaining parts upon request.

The Environmental Report submitted with the merger application contains the environmental information and analysis that is appropriate for a PDEA concerning both the merger and the BN/Santa Fe settlement, and Applicants incorporate it herein by reference. The report, however, is based on Applicants' projections of BN/Santa Fe's operations on the UP/SP system (combined with Applicants' projections of UP/SP's operations). After the merger application was filed, BN/Santa Fe filed Comments, which included its estimates of the number of trains that it expects to operate on the UP/SP system as a result of the settlement agreement and the merger. See BN/SF-1, Verified Statement of Neal D. Owen, served December 29, 1995. These estimates are sometimes higher than Applicants' estimates. Applicants believe that the Environmental Report that they submitted with the application fully satisfied the pertinent regulatory requirements, and that they are not required to conduct environmental analyses of BN/Santa Fe's projections of traffic and operations (as opposed to Applicants' projections). However, Applicants have nonetheless conducted a supplemental study of the potential environmental impact of the merger and the BN/Santa Fe settlement agreement on those line segments where BN/Santa Fe projected greater levels of operations than Applicants had projected for BN/Santa Fe. This supplemental study is submitted herewith as Attachment A, and is referred to herein as "Supp. ER-A."

BN/Santa Fe's projections of its operations, as described in its Comments in BN/SF-1, are not expected to cause net increases in activity at any UP/SP yards, intermodal facilities or automotive facilities that would exceed the limits in 49 C.F.R. § 1105.7(e)(5). In large part, BN/Santa Fe will use its own yards and facilities, not those of UP/SP. See BN/SF-1, Verified Statement of Neal D. Owen. The following summarizes BN/Santa Fe's expected utilization as indicated in BN/SF-1, of various yards and facilities that will be part of the UP/SP system:

- Salt Lake City (Roper Yard) -- BN/Santa Fe is expected to use this yard and intermodal ramp for local traffic. However, most of this traffic will be diverted from UP/SP and is already being handled at Roper. Also, UP/SP's use of Roper is expected to decline, and it is expected that there will be a net decline in total switch traffic at Roper after the merger.
- Sparks, NV -- BN/Santa Fe is expected to use UP/SP's intermodal and automotive facilities at Sparks, but the net increase in traffic switched at Sparks should be small because BN/Santa Fe will obtain most of its traffic by diversions from UP/SP.
- Sacramento -- BN/Santa Fe is expected to set out and pick up with through manifest trains at UP/SP yards in the Sacramento area. The volume of this traffic is not known, but this activity is not regarded as terminal switching.
- Avondale, LA -- UP/SP projects a major decline in its utilization of this yard, and it is not anticipated that any increase in BN/Santa Fe activity at this yard would exceed the limits in 49 C.F.R. § 1105.7(e)(5).

- Pine Bluff, AR -- It is not anticipated that any increase in activity at this yard as a result of BN/Santa Fe switch traffic would exceed the limits in 49 C.F.R. § 1105.7(e)(5).
- San Antonio, Harlingen, Brownsville, Waco TX -- It is not expected that any increased activity by BN/Santa Fe at yards in these areas would cause net increases in traffic that exceed the limits in 49 C.F.R. § 1105.7(e)(5).

BN/Santa Fe has not quantified its expected usage of the above-referenced yards and facilities. For this reason, and for the reasons indicated above, the analysis of yards, intermodal facilities, and automotive facilities in the Environmental Report submitted with the merger application has not been modified as a result of BN/Santa Fe's projections of operations in BN/SF-1.

In addition, BN/Santa Fe's comments identified five proposed construction projections involving connections to the UP/SP system at Richmond, CA, Stockton, CA, Bridge Junction, AR, Sealy, TX, and Robstown, TX. See BN/SF-1, Verified Statement of Neal D. Owen, pp. 28-29.^{1/} These projects had not been studied in the Environmental Report submitted with the application. Applicants have now conducted a supplemental study of these projects, and it is submitted herewith as Attachment B, and is referred to herein as "Supp. ER-B."

^{1/} The Owen statement also refers (p. 17) to possible construction of "new trackage if necessary" at a storage-in-transit yard located just south of Dayton, TX. This is a speculative possibility at this stage. In addition, the Owen statement refers (pp. 18, 21) to BN/Santa Fe's plan to purchase and "rehabilitate" SP's yard in Lafayette, LA and to "upgrade" BN's Hulbert Branch between West Memphis-Presley Junction and Marion, AR. Rehabilitation and upgrading would not require construction of new track.

The merger and the BN/Santa Fe settlement agreement should be analyzed in combination, as they were in the Environmental Report submitted with the application, not on a separate or stand-alone basis. The analysis in the original report assumed throughout that both the merger and the settlement at the same time. This PDEA is likewise based on the assumption that both will occur simultaneously, and that the focus should be on the combined net changes in traffic and operations.

As noted previously, this PDEA incorporates by reference the initial Environmental Report ("ER") and the attached supplemental reports ("Supp. ER-A" and "Supp. ER-B"). Consequently, this PDEA cites to the pertinent parts of those reports, rather than repeating them.

I. EXECUTIVE SUMMARY

- Brief Description on PDEA process

[See ER, Part 1]

II. INTRODUCTION

- Brief Description of the Proposed Action, Purpose, and Relationship to the Primary Application
- Brief Description of Related Actions

[See ER, Part 1; see also UP/SP-22, pp. 291-317 (Rebensdorf), and UP/SP-23, pp. 7-302 (Peterson).]

III. DETAILED DESCRIPTION OF THE PROPOSED ACTION

- Need for the Proposed Action
- Rail and Intermodal Operations
- Alternatives, if any
- Relationship to the Primary Application

[See ER, Part 1; see also UP/SP-22, pp. 291-317 (Rebensdorf) and UP/SP-23, pp. 292-99 (Peterson)]

IV. BRIEF DESCRIPTION OF EXISTING ENVIRONMENT/DISCUSSION OF ENVIRONMENTAL IMPACTS OF THE PROPOSED ACTION/PROPOSED MITIGATION

- Agency comments
- Maps, Figures, Charts (e.g., Environmental Impact Charts)
- Environmental Impact Categories (Adverse and Beneficial):

Land Use
Safety
Transportation
Hazardous Materials
Water Resources
Biological Resources
Air Quality
Noise
Historic and Cultural Resources
Socio-economic Setting
Energy consumption

[See ER, Parts 1, 2, and 3; Supp. ER-A.]

V. DESCRIPTION OF RELATED ACTIONS (E.G., CONSTRUCTIONS AND ABANDONMENTS)

A. Construction Projects, Alternatives, and Proposed Mitigation

Land Use
Transportation
Hazardous Materials
Safety
Water Resources
Biological Resources
Air Quality
Noise
Historic and Cultural Resources
Energy consumption

[See ER, Part 5; Supp. ER-B.]

B. Abandonments, Alternatives, and Proposed Mitigation

There are no abandonments proposed as a result of the BN/Santa Fe settlement agreement.

VI. SUMMARY OF ENVIRONMENTAL IMPACTS (BENEFICIAL AND ADVERSE)

[See ER, Part 1, pp. 47-61.]

VII. CONCLUSION

[See ER, Part 1, Supp. ER-A and Supp. ER-B.]

* APPENDIX

- List of Agencies Consulted (including Contact and Address)
- Letters to Consulted Agencies
- Agency Responses (Letters, Documentation of meetings and phone consultations)
- Technical Studies/Analyses as appropriate

[See ER, Part 6, and Appendices to Supp. ER-A and Supp. ER-B.]

**SUPPLEMENTAL REPORT
RAIL LINE SEGMENTS
UNION PACIFIC RAILROAD COMPANY/
SOUTHERN PACIFIC RAILROAD COMPANY
MERGER**

Prepared by:
Dames & Moore
1701 Golf Road
Suite 1000
Rolling Meadows, Illinois 60008

March 29, 1996

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1.1 OVERVIEW OF THE PROPOSED MERGER	1
1.2 OVERVIEW OF SUPPLEMENTAL REPORT	1
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1.0 INTRODUCTION

1.1 OVERVIEW OF THE PROPOSED MERGER

This document supplements the six-part Environmental Report (ER) (dated November 30, 1995) prepared in connection with the Railroad Merger Application submitted to the Interstate Commerce Commission (ICC) in Finance Docket No. 32760, Union Pacific Railroad Company and Missouri Pacific Railroad Company - Control and Merger - Southern Pacific Rail Corporation, Southern Pacific Transportation Company, St. Louis Southwestern Railway Company, SPCSL Corp., and The Denver and Rio Grande Western Railroad Company.¹ The ER was based on Applicants' projections of the impact of the merger and of the related settlement with BN/Santa Fe on traffic and operations.

The Railroad Merger Application (Application), which was filed with the ICC simultaneously with the ER, describes the merger and consolidation of the respective Union Pacific (UP) and Southern Pacific (SP) railroad systems in detail and illustrates the proposed system on a combined system map as shown in the Figure following the Table of Contents. The Application addresses the benefits of the combined system and the proposed settlement with BN/Santa Fe, including improved service capabilities and increased operating efficiencies. The ER addresses the changes proposed by the merger and the settlement.

1.2 OVERVIEW OF SUPPLEMENTAL REPORT

This report analyzes potential environmental impacts on rail line segments in the UP/SP system based on the combination (a) of Applicants' estimates of changes in UP/SP's traffic as a result of the UP/SP merger and BN/Santa Fe settlement and (b) of BN/Santa Fe's estimates of the trains it will operate on the UP/SP system as a result of the settlement agreement. The BN/Santa Fe estimates are derived from information submitted by BN/Santa Fe in its "Comments on the Primary Application" (BN/SF-1) dated December 29, 1995. There are 16 rail line segments on the UP/SP system where use of the BN/Santa Fe estimates of its train counts (rather than Applicants' estimates as used in the ER) results in higher train counts. Of these 16 segments, four are new rail line segments not identified in Part 2 of the ER. The other

¹ The Surface Transportation Board ("STB") succeeded to the functions of the ICC on January 1, 1996.

twelve segments were previously identified and analyzed for air quality and noise impacts in Part 2 of the ER and have been revised to show potential impacts from the addition of BN/Santa Fe train counts. These line segments are analyzed in this report, and are listed in Table 1-1 and shown on Figures 1-1 through 1-3, and the ones that exceed the STB threshold for noise study are summarized in Table 1-2.

The rail line segments are generally described in Section 2.0. The air quality and noise effects of increased operations on the affected rail line segments are described in Section 3.0. Suggested mitigation actions are described in Section 4.0.

Appendix A presents a sample consultation letter to federal, state, and local government agencies and agency contact lists. Appendix B presents a list of acronyms and abbreviations, as well as a glossary.

1.3 POTENTIAL IMPACT AREAS AND METHODOLOGIES

This report summarizes the types of potential environmental impacts associated with changes in traffic activity on rail line segments. These impacts pertain to air quality, noise, and safety. Increases in rail traffic are not expected to cause physical disturbances to land use, water, historical, archeological or biological resources and, accordingly, these are not addressed.

The methodologies used for this Supplemental Report were similar to those previously described in Part 6 of the ER.

1.3.1 Air Quality Impacts

Air quality impacts are defined as the increase or decrease in emissions from a source to the ambient air. The source evaluated for rail segment traffic changes is diesel locomotive engine emissions. Diesel locomotives are a mobile rather than stationary source. The U.S. Environmental Protection Agency (USEPA) has developed National Ambient Air Quality Standards (NAAQS) for the following six criteria pollutants to protect human health and welfare:

- Sulfur Dioxide (SO₂) •Carbon Monoxide (CO)
- Nitrogen Dioxide (NO₂) •Lead (Pb)
- Ozone (O₃) •Particulate Matter (TSP and PM₁₀)

Table 3-5 contained in this Supplemental Report shows air emissions in hydrocarbons (HC), carbon monoxide (CO), nitrogen oxides (NO_x), Sulfur Dioxide (SO₂), and Particulate Matter (PM). Ozone (O₃) is formed during complex photochemical reactions between nitrogen