

STB Decision ID #28333

Service Date: **October 7, 1997**
Comment Due Date: **October 27, 1997**

Environmental Assessment

Finance Docket No. 33388 (Sub No. 5)

**CSX Corporation and CSX Transportation, Inc.,
Norfolk Southern Corporation and Norfolk Southern Railway Company**

—Control and Operating Leases/Agreements—

Conrail Inc. and Consolidated Rail Corporation

Norfolk Southern/Union Pacific Rail Connection – Sidney, Illinois

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EXECUTIVE SUMMARY

This Environmental Assessment (EA) was prepared by the Surface Transportation Board's (Board) Section of Environmental Analysis (SEA) in accordance with the Surface Transportation Board's orders in Decision No. 9, served on June 12, 1997, and Decision No. 12, served on July 23, 1997, in Finance Docket No. 33388. This EA consists of five chapters. The EA describes the potential environmental impacts of a proposed new rail line connection between the existing Norfolk & Western Railway Company, a subsidiary of Norfolk Southern Railway Company (NS) and Union Pacific Railroad Company (UP) lines near Sidney, in a rural area of Champaign County, Illinois (see Table ES-1). The proposed construction would include approximately 3,250 feet of new rail line and would require 5.3 acres of new right-of-way. The proposed construction site is surrounded by cropland and the existing UP and NS lines.

It is anticipated that traffic on this connection will average 9 trains per day. The new connection would permit more efficient movement between UP points in the Gulf Coast/Southwest and NS points in the Midwest and particularly between Pine Bluff, Arkansas and Fort Wayne, Indiana. The new connection would also add rail traffic capacity and reduce rail congestion in St. Louis. Without the connection, according to NS, the traffic would have to be routed approximately 50 miles farther through East St. Louis, Illinois via the Alton and Southern Railroad, a terminal company, which would entail the payment of switching charges and also delay the traffic by a day.

After an overview of the proposed construction plan, this EA describes various aspects of the existing environment at the site of the proposed connection. It then addresses the potential environmental impacts of construction of the proposed connection. Next, the different alternatives considered in developing the construction plan are discussed. Finally, a summary is provided of agency comments related to the project, along with NS' responses to agency comments and explanations of responsive mitigation measures proposed by NS and SEA's recommended mitigation measures.

As shown in Table ES-1, potential environmental impacts related to the proposed project are insignificant or nonexistent. Based on its independent analysis of all the information available at this time, SEA concludes that the proposed project is not expected to have any significant adverse impact on land use, water resources, biological resources or air quality. Nor would the proposed project have significant adverse impacts on safety, electric transmission facilities, cultural resources or on minority and low-income groups. Any noise increases during construction would be limited to normal work hours and would only occur during the three to six month construction period.

SEA concludes that the construction of the proposed rail line connection would not significantly affect the quality of the environment with the implementation of the mitigation measures set forth in this EA. Accordingly, SEA recommends that the Board impose the mitigation measures set forth in Chapter 5, Section 5.3 as conditions in any final decision approving construction of the proposed rail line connection at Sidney, Illinois.

Table ES-1
SUMMARY OF POTENTIAL ENVIRONMENTAL IMPACTS
PROPOSED RAIL CONNECTION AT SIDNEY, ILLINOIS

Sidney, Illinois		
Impact Type	Environmental Assessment Criteria	Evaluation of Criteria
Land Use	Length of Proposed Connection Length of New Right-of-Way Required Effect on Prime Farmland Effect on Coastal Zone Management Areas Effect on Parks, Forest Preserves, Refuges and Sanctuaries	3,250 feet 2,650 feet Negligible None None
Water Resources	Effect on Groundwater Effect on Surface Water Effect on Wetlands	None None None
Biological Resources	Loss of Critical Habitat Effect on Threatened and Endangered Species	None None
Air Quality	Impact to Air Quality Due to Construction	Negligible
Noise	Affected Sensitive Noise Receptors Within Ldn 65 Noise Contour	None
Transportation and Safety	Train Movement Over Connection New or Expanded Grade Crossings Effect on Transportation of Hazardous Materials	9 trains per day None* None
Cultural Resources	Effect on Sites Listed on the NRHP Effect on Sites Potentially Eligible for Listing on the NRHP Effect on Archaeological Sites	None None None
Energy	Change in Fuel Consumption Due to Construction Change in Fuel Consumption Due to Operation (gallons per year saved) Effect on Transportation of Energy Resources and Recyclable Commodities Overall Energy Efficiency Rail to Motor Carrier Diversions	Negligible 1.3 million None Improved None
Environmental Justice	High and Disproportionate Impact on Minority and Low-Income Groups	None

* To provide access to farmland being isolated by the connection, NS would provide a private farm road crossing over the connection as mitigation.

SEA specifically invites comments on all aspects of this EA, including the scope and adequacy of the recommended mitigation. SEA will consider all comments received in response to the EA in making its final recommendations to the Board. Comments (an original and 10 copies) should be sent to: Vernon A. Williams, Secretary, Surface Transportation Board, 1925 K Street, NW, Suite 700, Washington, DC 20423. Mark the lower left corner of the envelope: Attention: Dana White, Environmental Comments, Finance Docket No. 33388 (Sub Nos. 1-7). You may also direct questions to Ms. White at this address or by telephoning (888) 869-1997.

Date made available to the public: October 7, 1997

Comment due date: October 27, 1997

ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED CONNECTION AT SIDNEY, ILLINOIS

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CHAPTER 1

Description of the Proposed Action

CSX Corporation and CSX Corporation Inc. (CSX), Norfolk Southern Corporation and Norfolk Southern Railway Corporation (NS), and Conrail Inc. and Consolidated Rail Corporation (Conrail) have filed a joint application with the Surface Transportation Board (Board) seeking authorization for the acquisition of Conrail by CSX and NS. The fundamental objective of the proposed acquisition is to divide existing Conrail assets and operations between CSX and NS. As a result, certain Conrail facilities and operations would be assigned individually to either CSX or NS through operating agreements or other mechanisms, and certain other existing Conrail facilities would be shared or operated by both CSX and NS. As a part of their joint application, CSX and NS have petitioned the Board to grant waivers which would allow the railroads to begin construction on a limited number of connections following an environmental review and approval of the constructions, but in advance of a final ruling on the primary transaction.

A connection at Sidney, Illinois is proposed to integrate the Union Pacific (UP) Railroad line into the NS system. CR has trackage rights with UP further south from this connection. This Environmental Assessment has been prepared by the Board's Section on Environmental Analysis (SEA) to determine whether early construction of the proposed connection would have any significant impacts to the human and natural environment.

Relevant governmental agencies were consulted for their comments on environmental issues, permit requirements, and necessary approvals related to the project. A sample letter, a list of the agencies to whom a letter was sent and the agency responses are included in Appendix C.

1.1 OVERVIEW OF THE PROPOSED RAIL CONNECTION

1.1.1 Location and Description

The project is located in a rural area approximately 0.5 miles east of Sidney, Illinois (Figure 1.1). The site is bordered on the north by County Road 15 and on the east by an electrical substation and grassy field. Land to the south and west is primarily cropland. Two commercial Farmers Supply buildings are northwest of the underpass of the UP line below the NS line. The commercial property also contains three above-ground anhydrous ammonia tanks.

The proposed action at Sidney, Illinois would involve the construction, operation, and maintenance of a new connection between existing UP and NS rail lines. The design includes approximately 3,250 feet of new rail line. Approximately 600 feet of new rail line would be located in either UP or NS' existing rights-of-way. The remaining 2,650 feet of new rail line would require approximately 5.3 acres of new railroad right-of-way.

The proposed new connection would permit more efficient movement between UP points in the Gulf Coast/Southwest and NS points in the Midwest and particularly between Pine Bluff, Arkansas and Fort Wayne, Indiana. It would allow the connection of a new operating gateway as a fully competitive service for petrochemical traffic flows between the Northeast, the Southwest and the Gulf Coast. Without this proposed connection, according to NS, the traffic would have to be routed to East St. Louis, Illinois and then through the terminal company Alton and Southern Railroad, which would require the payment of switching charges and would delay traffic by a day. This would also increase the length of haul by approximately 50 miles.

The proposed construction would connect existing north/south-oriented UP and east/west-oriented NS tracks. The connection would be west of UP's existing underpass with NS. The proposed connecting line would cross agricultural land located southwest of the existing UP/NS crossing. The existing UP mainline is located in a ravine, while the existing NS line and the proposed construction site are on higher ground. Land in the existing right-of-way contains grasses and gravel ballast. Other features include communication lines bordering the southern edge of the NS right-of-way and electric utility lines located east of the UP/NS intersection. The overhead electric utility lines cross the NS line east of the intersection and extend north along the eastern edge of the UP right-of-way. Two Farmers Supply buildings are adjacent to the north side of the NS right-of-way, approximately 400 feet northwest of the intersection. The Farmers Supply facility is served by a NS siding, located on the north side of the mainline.

1.1.2 Changes in Rail Traffic

NS estimates an average of nine train movements per day on the proposed rail line connection. These would consist primarily of general merchandise trains, with two combined automotive/intermodal trains per day, in each direction. Train movements on the line could occur seven days a week during the day or night. Dispatching of trains would be dependent upon train availability and traffic on the area rail system. The existing NS line carries 22 trains per day while the UP line has 19 trains per day (Union Pacific Corporation, et al. -Control and Merger- Southern Pacific Rail Corporation, et al., 1995. Finance Docket No. 32760, Volume 6, Part 1, page 11.). Increases in rail traffic from the proposed connection is 39 trains per day on the NS line and 25 trains per day on the UP line.

1.1.3 Construction Requirements

The proposed construction site is located approximately 0.5 miles east of Sidney in a rural area of Champaign County, Illinois. It encompasses an area approximately 3,250 by 100 feet southwest of UP's existing underpass with NS. No modifications to existing structures are anticipated for construction of this proposed railroad connection. The design includes approximately 2,650 feet of new rail and would require approximately 5.3 acres of right-of-way which would have to be acquired. The construction site is rural, consisting primarily of cropland, a strip of non-native grasses, scrub brush and deciduous trees adjacent to the existing rail rights-of-way. The area is bordered on the north by County Road 15 and on the east by an electrical substation and a grassy field. Land to the south and west is primarily cropland. Two commercial Farmers Supply buildings are northwest of the underpass. The commercial property contains three above-ground anhydrous ammonia tanks.

The proposed construction would affect one property. Six acres from a field currently in crop production would be affected. Existing NS communication lines currently on poles would be buried. No other modifications would be required.

NS' construction specifications and procedures meet or exceed the practices recommended by the American Railway Engineering Association (AREA). The entire length of the proposed connection would involve new construction. Recycled rail may be used where applicable. New ties, subgrade, subballast, and ballast materials would be used for the roadbed. The design specifications for the project are set out in Table 1-1 below. A typical cross-section is provided in Figure 1.2.

Table 1-1
Design Specifications for the Proposed Connection Near Sidney, Illinois

Maximum train speed	25 miles/hour
Maximum curvature	5 degrees, 30 minutes
Maximum grade	1 percent
Minimum weight of rail	136 pounds per yard
Tie length	8 feet, 6 inches
Grade of ties	4 and 5
Ties per mile	3,168
Ballast depth	12 inches
Minimum subballast depth	12 inches
Minimum subgrade width	32 feet
Minimum depth of ditches	1 foot, 0 inches
Maximum side slopes	2 feet horizontal by 1 foot vertical
Maximum cut	15.18 feet
Maximum fill	6.7 feet

The topography along the proposed rail line is level. General surface grading of the area would be necessary. Minor cut and fill activities will be required as a low fill would be required on the northern half of the connection and the middle portion would require a minor cut to prepare the roadbed and ditches. The extreme southern portion would require a low cut through a low hill to access the UP roadbed. The total cut is an estimated 14,307 cubic yards and the estimated fill is 13,699 cubic yards. The NS internal communications lines along the southern edge of the NS right-of-way would be buried.

Grading activities would consist of:

- removal and disposal of vegetative and non-vegetative debris
- excavation and compaction of existing material as required to achieve desired subgrade elevation in cut sections
- placement and compaction of borrow material as required to achieve desired subgrade elevation in fill sections
- placement of a compacted subballast layer upon finished subgrade
- recontouring of property and ditches as required to ensure drainage, and
- seeding and mulching of all areas in which existing ground is disturbed.

A National Pollution Discharge Elimination System (NPDES) storm water discharge construction permit would be obtained prior to the work. The right-of-way width for the proposed construction would be 100 feet, centered on the rail line in most areas. The proposed rail line would not cross any roads, streams or wetlands. No residences would be required to be moved.

The exact labor force required and the duration of the construction have not been determined, but the project is expected to require 10 to 15 people and three to six months to complete. It is expected that work would be done during normal working hours. Borrow material for the project would be obtained from local sources and hauled to the construction site by rail or truck. It is planned that a majority of the construction activities would be performed by qualified contractors working for NS. The project would be advertised in recognized trade journals and bids solicited in accordance with NS' Corporate Standard Procedures. The contractor could hire new or additional employees specifically for the project.

Portions of the track and signal work would be done by NS' existing maintenance and construction crews from their Maintenance of Way and Structures (MW&S) and Signal and Electrical Department. No new NS positions are anticipated to be created specifically for this project.

Construction of the proposed connection would not require raising or relocating any electrical distribution lines.

1.1.4 Operation

NS estimates an average of nine train movements per day on the proposed rail line connection. These would consist primarily of general merchandise trains, with two combined automotive/intermodal trains per day, in each direction. Train movements on the line could occur seven days a week during the day or night. Dispatching of trains would be dependent upon train availability and traffic on the area rail system.

1.1.5 Maintenance

Track inspections would be performed as outlined in NS' MW&S Standard Procedure #380, and Federal Railroad Administration (FRA) Track & Safety Standards. Each inspection would be carried out only by qualified personnel who meet the requirements set forth by the FRA in Section 213.7 of the Track and Safety Standards. NS maintains its track so that it meets or exceeds all FRA safety standards. This proposed connection would be classified and maintained as main track, and would therefore be inspected at a minimum of twice per week as specified by the FRA. Additional inspections would be done whenever specific conditions warrant them. NS uses scheduled maintenance programs for the continual maintenance of all track segments based on tonnage handled. These programs are supplemented by additional "spot" maintenance activities to correct any deficiencies from the NS maintenance standards should they develop.

As part of NS' track maintenance program, the zone consisting of the rail, ties and the immediately adjacent ballast section is treated with herbicides on a yearly basis. The elimination of vegetation from the track structure and roadbed section is desirable for track maintenance reasons and to provide a safe working environment for NS transportation and maintenance employees.

NS uses only EPA-approved general use herbicides (i.e., herbicides approved by EPA as safe for use by the general public). Application is performed by fully-licensed personnel provided to NS by licensed firms working under multi-year contracts. NS personnel familiar with specific locations accompany these contractors at all times. Application is by spray-bars mounted on rail bound equipment, or hy-rail vehicles. The application width is normally 12 feet on either side of the centerline of the track. This width is reduced or eliminated as required by local conditions such as water courses, protected vegetation or structures.

1.2 PURPOSE AND NEED FOR THE PROPOSED CONNECTION

The purpose of this environmental review is to identify, analyze, and disclose the environmental issues and potential impacts associated with the early construction of the rail line connection at Sidney, Illinois.

Based on the Application filed by CSX and NS, this connection would serve to improve the service capabilities and operating efficiencies of each railroad. These efficiencies include enhanced single-line service, reduced travel times, and increased utilization of equipment. NS intends to begin operations on this connection immediately after the approval of the entire acquisition transaction. This EA is being prepared to determine whether the Board should grant approval to construct the connection before there is a decision on the entire transaction. If approved by the Board, this connection would be constructed in anticipation of the Board approval (or disapproval) of the acquisition of Conrail by CSX and NS. If the entire transaction is approved by the Board, this connection would be available for service immediately. If the transaction is not approved, or approved with conditions which preclude the use of this connection, operation of this connection would not be allowed. NS accepts the risk that use of this connection is predicated on Board approval of the entire transaction.

1.3 RELATIONSHIP TO THE PROPOSED TRANSACTION

On April 10, 1997, CSX, NS, and Conrail filed their notice of intent to file an application seeking the Board's authorization for: (1) the acquisition by CSX and NS of control of Conrail, and (2) the division

of Conrail's assets. On May 2, 1997, CSX and NS filed petitions seeking a waiver of the Board's regulations that provide that all "directly related applications, e.g., those seeking authority to construct or abandon rail lines..." be filed at the same time (Appendix A, 49 CFR 1180.4(c)(2)(vi)). The waiver would allow CSX and NS to seek the Board's authority to construct and operate seven rail line connections (four for CSX and three for NS) prior to the Boards' decision on the acquisition and division of Conrail.

The seven constructions are each relatively short connections between two rail carriers and have a total length under 4 miles. According to the railroads, much of the construction on these short segments would take place within existing rights-of-way. CSX and NS stated that these seven connections must be in place before the Board's decision on the primary application in order for them to provide efficient service in competition with each other. Without early authorization to construct these connections, CSX and NS contended, each railroad would be severely limited in its ability to serve important customers.

In Decision No. 9 served June 12, 1997, the Board granted CSX's and NS's petitions (Appendix B). The Board stated that it understood the railroads' desire to "be prepared to engage in effective, vigorous competition immediately following consummation of the [acquisition]". In granting the waiver, the Board noted that the railroads were proceeding at their own risk. If the Board were to deny the primary applications, any resources expended by CSX and NS in building the connections would be of little benefit to them.

Both the railroads and the Board recognized that no construction could occur until the Board completed its environmental review of each of the construction projects. Thus, the Board stated that it would consider the environmental aspects of these proposed constructions and the railroads' proposed operations over these lines together in deciding whether to approve the physical construction of each of these lines. The operational implications of the merger as a whole, including operations over the roughly 4 miles of line embraced by the seven connections projects, will be examined in the Environmental Impact Statement being prepared for the overall merger. That document will be available for a 45-day public comment period in late November 1997.

In order to fully consider the environmental aspects of the seven proposed constructions, the Board required both CSX and NS to file certain information on the environmental effects of the construction and operation of these projects. The railroads complied with this requirement on September 5, 1997 and submitted detailed Preliminary Draft Environmental Assessments (PDEA) for each of the seven projects.

The Board's Section of Environmental Analysis (SEA) has independently verified the information contained in each PDEA, conducted further independent analysis, and developed appropriate environmental mitigation measures. Its findings are set forth in this EA. SEA is now seeking your comments on this EA. Comments must be submitted to the Board by October 27, 1997.

1.4 SEA ENVIRONMENTAL ASSESSMENT PROCESS

This EA is necessary to ensure that the proposed action complies with the statutory requirements under the National Environmental Policy Act (NEPA), the Board's environmental regulations (49 CFR 1105), and other applicable rules and/or regulations. The Board's SEA is responsible for conducting NEPA environmental review.

The Board has adopted the former Interstate Commerce Commission (ICC) environmental regulations (49 CFR Part 1105) that govern the environmental review process and outline procedures for preparing environmental documents. Section 1105.6(b) of these regulations establish the criteria which identify the types of actions for which an Environmental Assessment (EA) would be prepared. The construction of rail line connections, like the action proposed here, are classified under the Board's regulations as normally requiring preparation of an EA. SEA reviewed the proposed rail construction and determined that because the connection is not expected to result in significant environmental impacts, an EA should be prepared.

In preparing the EA, SEA identified issues and areas of potential environmental impact, analyzed the potential environmental impacts of the proposed rail line construction project, reviewed public comments, and developed mitigation measures to avoid or reduce anticipated impacts on the environment. To assist it in conducting the NEPA environmental analysis and in preparing the EA, SEA selected and approved HDR Engineering, Inc. to act as the Board's independent third party consultant as provided for in 49 CFR Part 1105.10(d). NS retained the independent third party consultant who worked solely under SEA's direction and supervision and assisted SEA in conducting environmental analyses related to the proposed merger.

SEA analyzed the Environmental Report and Operating Plan that accompanied the transaction application, technical studies conducted by NS' environmental consultants, and the Preliminary Draft Environmental Assessment (PDEA) prepared as a part of the waiver application. In addition, SEA conducted its own independent analysis of the proposed construction, 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; assessing impacts to biological resources; and performing archaeological and historic resource surveys. In addition, SEA and/or its independent third party consultant conducted consultations with NS and their environmental consultants and made site visits to the proposed rail line construction site to assess the potential impacts on the environment.

CHAPTER 2

Alternative Actions Considered

This chapter outlines the alternatives considered for the proposed connection.

2.1 NO-ACTION ALTERNATIVE

In its environmental review, SEA considered a “no-action” alternative. Under this alternative, current operations would continue to move over existing NS and UP rail lines. However, as outlined below, access between the two lines would be limited to existing connections, interchanges, or terminals. If the "no-action" alternative were implemented, the proposed rail line connection would not be constructed and trains would not be rerouted. None of the potential environmental impacts associated with construction would occur. However, neither would the benefits of the project be realized. According to NS, these benefits include a new, more efficient train route between Pine Bluff, Arkansas and Fort Wayne, Indiana. The proposed connection would bypass East St. Louis, Illinois, add rail traffic capacity, reduce rail congestion and traffic delays in St. Louis, and save 1.3 million gallons of fuel each year. The no-build alternative would not provide the full operational, environmental and economic benefits, including added rail capacity and improved service to shippers, expected to be realized as a result of the proposed connection.

2.2 BUILD ALTERNATIVES

SEA identified no feasible alternatives to the proposed rail line construction project. An alternative alignment for the connection was identified (Figure 2.1) and would involve construction of 4,000 feet of new UP/NS connecting track traversing land to the southeast of the existing UP/NS crossing. This alternative route (Alternative B) was analyzed but rejected because it would pass through an electrical substation, requiring its total or partial relocation, and would pass approximately 140 feet west of the two Farmers Supply buildings, as well as pass through the northwestern edge of two farm properties. This route would cross two large overhead electric transmission line corridors. A private crossing would be provided for the substation road (if it were to be only partially relocated), and a radio tower would have to be removed and relocated as well. The proposed rail line would be the most direct connection between the existing rail lines and would minimize the use of new land outside the NS and UP rights-of-way. There are no construction, operational, or environmental features that would render another alignment of the proposed rail line connection more reasonable than the proposed location.

Alternative A, the proposed connection, would involve construction of 3,250 linear feet of new UP/NS connecting rail line that would traverse cropland to the southeast of the existing UP/NS crossing. This route would not interfere with any residences, businesses or other structures. The alignment would not cross any existing or public roads. Only one property owner would be potentially affected by reduced cropland acreage on this alignment. A private road crossing for the property owner would be created to provide access to farmland isolated by the connection. Aerial NS communication lines along the existing right-of-way would be buried.

2.3 SELECTION OF PROPOSED CONNECTION LOCATION

The new connection would permit more efficient movement between UP points in the Gulf Coast/Southwest and NS points in the Midwest and particularly between Pine Bluff, Arkansas and Fort Wayne, Indiana and allow the connection of a new operating gateway as a fully-competitive service for petrochemical traffic flows between the Northeast, the Southwest and the Gulf Coast. Without this proposed connection, the traffic, which would move over the new NS connection, would have to go to East St. Louis, Illinois and then through the terminal company Alton and Southern Railroad, which would require the payment of switching charges and would delay traffic by a day. The "no-build" alternative would not promote competition or ease congestion in East St. Louis, Illinois and it was therefore dropped from consideration. The "build" alternative is the preferred action.

As discussed in Section 2.2, two alternative alignments for rail construction were evaluated. These alternatives are shown in Figure 2.1. Preliminary studies determined that both alternatives were feasible from economic and engineering perspectives. The evaluation also addressed the potential social and environmental impacts of the alternatives. Both alternatives would affect the same community, i.e., the same census block. Consequently, there would be no difference between the alternatives in the racial or economic composition of the population affected. Table 2-1 summarizes the environmental criteria investigated as part of the environmental evaluation.

As shown in Table 2-1 and Figure 2.1, the two alternatives differ somewhat in total length, type of land use crossed and amount of private property crossed. Alternative B would also affect more prime farmland, an electrical substation, a radio tower and a private road. Alternative B would thus have a greater environmental impact than Alternative A.

**Table 2-1
Comparison of the "Build" Alternatives for Sidney, Illinois Rail Connection**

Feature	Unit	Alternative	
		A	B
Length of Alignment	feet	3,250	4,000
Land Use Crossed:			
Agricultural	feet	2,200	2,500
Woodland (including shrub/scrub habitat)	feet	240	25
Residential	feet	500	300
Industrial	feet	0	0
Utilities	feet	0	950
Structures Affected	number	0	2
Private Property Crossed	acres	5.3	7.5
Prime Farmland Soil Crossed			
Prime in native state	feet	1,200	1600
Prime if drained	feet	1,000	900
Waterway Crossings	number (feet)	0 0	0 0
Wetland Crossed	feet	0	0
100-year Floodplain Crossed	feet	0	0
Endangered Species Habitat Crossed	feet	0	0
Critical Habitat Crossed	feet	0	0
Road Crossings: private roads	number	0*	1
Residences/Businesses			
within right-of-way			
residences	number	0	0
businesses	number	0	0
50-100 feet from centerline			
residences	number	0	0
businesses	number	0	0
100-500 feet from centerline			
residences	number	1	2
businesses	number	0	0
Affected Sensitive Noise Receptors within the Ldn 65 dBA	number	0	0
Transmissions Corridor Crossings	number	0	2
Known Cultural Resource Sites	number	0	0
Nearest Recreational Area	miles	4	4
Nearest Residence	feet	450	350

Feature	Unit	Alternative	
		A	B
Nearest Church	feet	2,000	3,000
Nearest School	feet	2,600	3,200
Nearest Hazardous Waste Site	miles	>0.34	>0.45

* To provide access to farmland being isolated by the connection, NS would provide a private farm road crossing over the connection as a mitigation.

Alternative A was selected as the preferred route because it has the shorter length, does not cross any roads, affects only one property (a cultivated crop field), does not impact any structures, and is farther from the nearest residence.

CHAPTER 3

Existing Environment

This chapter provides an overview of the existing environment in the vicinity of the proposed construction.

3.1 LAND USE

3.1.1 Current Land Use and Zoning

Champaign County is approximately 90 percent agricultural. About 7,000 acres or one percent of the county consists of woodland and windbreaks (USDA Soil Conservation Service, 1982). The area of the proposed construction site is primarily cropland and is currently zoned for agricultural use. A strip of nonnative grasses, scrub brush and deciduous trees borders the existing rail rights-of-way.

The UP main line is located in a ravine, while the NS line and the proposed construction site are on higher ground. Land in the rights-of-way contains grasses and gravel ballast. NS communication lines border the southern edge of the NS right-of-way. Other adjacent land uses include an electrical substation located approximately 300 feet east of the eastern edge of the UP main line right-of-way and approximately 2,000 feet southeast of the UP/NS crossing. Electrical utility lines run east of the UP/NS intersection. These electric transmission lines cross the NS line east of the intersection and extend north along the eastern edge of the UP right-of-way. Two Farmers Supply buildings are located adjacent to the north side of the NS right-of-way, approximately 400 feet west of the intersection. This facility is served by an existing NS siding on the north side of the main line. A private residence is located approximately 500 feet to the northeast of the proposed connection.

3.1.2 Consistency with Local Plans

There are no indications that the proposed project will interfere with any localized plan or development strategy (Champaign County Department of Planning and Zoning, Exhibit 25, Appendix C).

3.1.3 Prime Farmlands and Coastal Zones

Soils in the area of the proposed construction site consist of silts and loams of the Drummer-Flanagan association. Soil classifications include Dana and Flanagan silty loams and Drummer silty clay loam. The Drummer association is defined as a hydric soil due to relatively shallow groundwater depths and moderate permeability (USDA, Soil Conservation Service, 1982). Land outside urban areas in Champaign County is over 90 percent farmland, of which 94 percent is prime farmland. The soil in the proposed construction area is disturbed; approximately 80 percent of the land is cultivated cropland and the rest consists of weeds, grasses and woody vegetation. The proposed project area is not in a coastal zone.

3.2 SOCIOECONOMICS and ENVIRONMENTAL JUSTICE

3.2.1 General County Information

The proposed project would be in a primarily rural area of Champaign County, Illinois. The entire route would be outside the city limits of Sidney, Illinois. Sidney is not an incorporated city and had a 1994 population of 1,077 (U.S. Bureau of the Census). Population data for Sidney are provided in Table 3-1. Sidney's population remained fairly constant from 1990-1994.

**Table 3-1
Population of Sidney, Illinois**

	1990	1991	1992	1993	1994
Population	1,027	1,036	1,065	1,086	1,077 ¹
¹ = Population Distribution and Population Estimates Branch, US Bureau of the Census					

Population, employment and income trends from 1970 to 1990 for Champaign County and the State of Illinois are provided in Table 3-2. The population of Illinois increased 2.9 percent from 1970 to 1990. The population of Champaign County increased 6 percent during the same period. The average number of persons in each household in Champaign County in 1990 was 3.02.

The 1989 median household income in Champaign County was \$26,541. In 1990, the unemployment rate in Champaign County was 3.9 percent, lower than the state unemployment rate of 6 percent.

**Table 3-2
Population, Employment and Income Trends for
Champaign County and the State of Illinois**

	Champaign County			Illinois		
	1970 ¹	1980 ²	1990 ³	1970 ¹	1980 ²	1990 ⁴
Population	163,281	168,392	173,025	11,109,935	11,426,518	11,431,000
Labor Force	73,680	86,490	91,662	4,644,622	5,497,425	6,015,000 ^a
Employed	61,464	78,534	88,049	4,419,915	5,068,428	5,656,000 ^a
Unemployed	12,216	10,926	3,613	224,707	428,997	359,000 ^a
Unemployment rate	3.8	4.9	3.9	3.7	7.2	6.02 ^a
¹ = County and City Data Book, 1972; ² =County and city Data Book, 1982; ³ =1990 Census Bureau Summary; ⁴ =Statistical Abstract of the United States; ^a =1989 data						

Agriculture is important to the economy of Champaign. Approximately 90 percent of the acreage is farmland. The principal crops are corn, soybeans, winter wheat and oats. Crops grown on small acreage include grass-legume hay and brome grass-alfalfa.

3.2.2 Information on the Area Surrounding the Proposed Connection

As seen in Table 3-3, the area surrounding the proposed connection, i.e. the relevant census block, has a substantially lower percentage of minority residents than Champaign County does on average. Data on economic levels in the area indicate that the population of the relevant census block is more prosperous than that of the county as a whole; census data indicate that the percentage of people living below the Federal poverty level in the census block is substantially lower than the county average and median household incomes in the same area are higher than the county average.

**Table 3-3
1990 Racial and Economic Composition of Champaign County
and the Area Surrounding the Proposed Connection**

Proposed Sidney Connection			
		Champaign County	Proposed Connection
Racial data (percentages)	White	83.8	99.68
	Black	9.4	0.09
	Asian	4.6	0.18
	Native American	0.2	0.05
	Hispanic and other	2.0	0
Economic data	Median Household Income	\$26,541	\$30,913
	Percent below Federal poverty level	15.6	5.4

No residences or other sensitive noise receptors are within the existing Ldn 65 dBA contour for the proposed connection.

3.3 TRANSPORTATION SYSTEMS

3.3.1 Existing Rail Transportation Network

The existing rail transportation network consists of a north/south UP track that passes under an east/west NS track. This intersection is bordered on the north by County Road 15, which extends east/west and passes over the UP line. Other roads in the proposed project vicinity include State Highway 516, which passes through Sidney, and numerous residential roads. An existing private drive for access to the electrical substation is crossed at-grade by the existing NS line approximately 500 feet southeast of the UP/NS intersection. A total of 39 trains per day use the NS main line. Approximately 25 trains per day operate over the UP line (Union Pacific Corporation, et al. -Control and Merger- Southern Pacific Rail Corporation, et al. 1995. Finance Docket No. 32760. Volume 6, Part 1, page 11.).

3.3.2 Grade Crossings

There are no grade crossings, other than the single private drive to the electrical substation, in the vicinity of the project area. However, the ADT for area roads is provided below.

- County Road 15, which is located 500 feet north of the proposed construction site between the UP rail line overpass and Highway 516, averaged 2,400 vehicles per day.
- County Road 15 which is located between Highway 516 and Highway 522 averaged 2,950 vehicles per day.

3.4 SAFETY

3.4.1 Hazardous Waste Sites

Review of the appropriate environmental databases by Environment Data Resources, Inc. (EDR) did not identify any hazardous waste sites (e.g., National Priorities List (NPL); Comprehensive Environmental Response, Compensation, and Liability Information System (CECLIS); Treatment, Storage, or Disposal Sites (TSDS); Emergency Response Notification System (ERNS); State Priority List (SPL); State Inventory of Leaking Underground Storage Tanks (LUST); or State Inventory of Solid Waste Facilities (SWFLF) or other sites of environmental concern in the vicinity of the proposed rail line construction. The EDR database search revealed one unmappable site within the city limits of Sidney, Illinois. This site could not be located because of poor address or geocoding information provided to the state and/or Federal databases. No evidence of any hazardous waste sites was observed within the proposed construction area during a site visit.

3.4.2 Transportation of Hazardous Materials

Currently 5.6 percent of NS' system wide traffic consists of hazardous materials. More information on the transportation of hazardous materials is included in the following sections.

3.4.2.1 Carrier's Safety Practices

Train accidents involving damage as low as \$6,300 must be reported to the FRA. The number of FRA-reportable train accidents per million train-miles for NS for 1991 through 1995 are listed in Table 3-4.

**Table 3-4
Norfolk Southern Train Accident Rates per Million Train Miles**

Year	Rate
1991	2.86
1992	2.65
1993	2.23
1994	1.97
1995	1.93

In 1995, NS' train accident rate was 1.93 accidents per million train miles, approximately half the national average rate of 3.71 accidents per million miles for Class I railroads.

Safe transportation protects the resources of the customers and communities served as well as the resources of the railroads. NS has independently adopted proactive programs to improve the safety of hazardous materials transportation. This action has resulted in superior safety records for NS compared to industry averages. As part of their efforts to continually improve safety performance in transportation, NS is involved in Responsible Care® Partners. The Responsible Care® program was established by the Chemical Manufacturers Association (CMA) in 1988 as a proactive self-regulating approach to improving health, safety and environmental performance.

The Responsible Care® Partnership program extends Responsible Care® requirements to non-CMA members including transportation companies which apply to join. Partners must align internal management practices to meet or continuously improve toward meeting established codes. The codes include: Community Awareness and Emergency Response; Process Safety; Pollution Prevention; Safe Distribution; Employee Health and Safety; and Product Stewardship.

NS has committed to this proactive effort with its CMA customers to improve the safe transportation of chemicals and hazardous materials. NS would continue to transport all hazardous materials in compliance with the U.S. Department of Transportation Federal Hazardous Materials Regulations (49 CFR Parts 171 to 180).

NS' environmental policy requires employees to understand and comply with environmental requirements. To assure that NS employees are aware of individual and corporate responsibilities for protection of the environment, NS implemented environmental awareness training for all employees. NS regularly provides hazardous materials training for all employees with duties related to hazardous materials transportation. NS is involved with local communities in providing training for fire, police and emergency response departments. NS is also involved in community outreach programs. NS has received numerous safety and service awards, including the Harriman Gold Safety Award, the highest safety honor for railroads for the last eight years.

3.4.2.2 Carrier's Safety Record Regarding Hazardous Materials

As previously stated, currently, 5.6 percent of NS' system wide traffic consists of hazardous materials, representing a total of about 255,000 carloads in 1996. During the same year, NS had a company record low total of 90 Department of Transportation (DOT) F 5800.1 reportable incidents, mostly minor in nature. Over 99.96 percent of the hazardous materials shipments arrived at their destination without incident.

These hazardous material shipments move primarily on routes designated as key routes (NS defines these as routes with annual hazardous materials traffic exceeding 9,000 carloads. This definition is more restrictive than the Inter-Industry Task Force Recommendations). In 1995, NS key routes consisted of 6,423 miles.

The east/west-oriented NS rail line west of the City of Sidney is a NS key route transporting between 10,000 to 20,000 loads of hazardous materials annually. The UP line is also a key route.

3.4.2.3 Emergency Action Plans

NS developed and maintains corporate and divisional Emergency Action Plans based on the principles of Prevention, Preparedness, Response and Remediation. In the event of a hazardous material incident, NS implements its Emergency Action Plans. The proposed connection near Sidney, Illinois, and both the existing UP and NS rail lines, would be covered by the NS Emergency Action Plans.

Prevention

Prevention of incidents is the primary challenge, with a goal of zero incidents. Prevention efforts include hazardous materials training of employees; compliance with regulations, operating rules, safety rules and industry recommended operating practices; maintenance of the railroad's infrastructure and equipment; and risk assessment to target and prioritize opportunities to improve performance.

Preparedness

Preparedness to respond includes distribution and maintenance of the written response plans, instructions, guidelines and contact lists of agencies, personnel and contractors; training employees, fire departments and other public emergency response personnel how to handle hazardous materials incident responsibilities; conducting emergency response exercises; and conducting hazardous materials audits.

Response

Response efforts are taken to prevent or minimize any detrimental effects to health, safety and the environment. Response efforts include safe initial assessment of an incident; a structured system for reporting the response to government agencies, the shipper(s) and company personnel; and an established network of qualified emergency response contractors across the NS system which are

mobilized as indicated by the location and nature of incidents. Ten full-time NS Environmental Operations Engineers are located strategically throughout the NS system to respond to incidents, supervise the response and remediation efforts of contractors, and coordinate with regulatory agencies.

Remediation

Remediation efforts bring the incident to a close and restore the environment in the area. Remediation tasks include assessment of the site, contamination and risks; development of a corrective action plan; corrective action; and confirmation assessment. Remediation of serious incidents is typically performed in cooperation with and under the supervision of regulatory authorities.

In addition to system wide and division Emergency Action Plans, NS has Spill Prevention Control and Countermeasure (SPCC) plans, Facility Response Plans (FRPs), and Hazardous Waste Management plans at numerous fixed facilities.

3.4.3 Electric Transmission Facilities

An electrical substation is located about 300 feet from the proposed construction site, and electrical utility lines are east of the existing UP/NS intersection. These facilities are owned by Illinois Power and provide electricity to the area.

3.5 WATER RESOURCES

3.5.1 Wetlands

National Wetland Inventory (NWI) maps indicate that no wetlands are crossed or are adjacent to the proposed construction site. The nearest wetland indicated on the NWI map is located 1,500 feet west of where the existing NS track crosses over the UP track (see Figure 1.1). No other surface waters were observed.

3.5.2 Surface Waters

No surface waters are found within 500 feet of the construction site. However, the existing UP rail line is located in a ravine that is prone to flooding from surface runoff and backwater from Salt Fork Creek at the UP/NS intersection. Warning devices to notify UP of water over their line are currently in place along the existing UP rail line.

3.5.3 Floodplain

Federal Emergency Management Agency (FEMA) maps for the area show that the proposed project is not within the 100-year floodplain.

3.5.4 Groundwater

Surficial aquifers in east central Illinois consist of unconsolidated glacial material in the form of Quaternary sand and gravel deposits. These surficial aquifer systems are approximately 100 to 200 feet thick and supply more than 50 percent of the fresh ground water withdrawn in east-central Illinois. In the vicinity of the proposed construction site, groundwater moves through the surficial aquifer systems from southern upland recharge areas toward northern discharge areas near Salt Fork Creek. Between the months of April and June groundwater can rise to within three feet of the surface. Well yields of up to 100 gallons per minute can be expected from the unconsolidated glacial material found in the area.

3.6 BIOLOGICAL RESOURCES

3.6.1 Vegetation

Corn and soybeans are the major crops grown in Champaign County. Secondary crops grown in Champaign County include wheat, oats, and hay. Roadside vegetation, fence-rows, and windbreaks consist of weeds, grasses, deciduous trees, and shrubs.

The proposed construction site and the surrounding vicinity consist mainly of cropland. A 1,200-foot long by 150-foot wide strip of woodland borders the western side of the UP track, approximately 300 feet south of the existing NS rail line. Deciduous trees that are expected to be in the wooded area include black walnut (*Juglans nigra*), northern red oak (*Quercus rubra*), white ash (*Fraxinus americana*), and eastern cottonwood (*Populus deltoides*). Other than the cropland and small wooded area, vegetation on the proposed site consists of grasses and weeds such as these species of vegetation found alongside the NS track: frost grape (*Vitis vulpina*), teasel (*Dipsacus sylvestris*), Queen Anne's Lace (*Daucus carota*), redtop (*Agrostis alba*), Timothy (*Pheleum pratense*), Kentucky bluegrass (*Poa pratensis*) and velvet grass (*Holcus lanatus*).

In summary, the project area and vicinity has limited biological diversity. Similar vegetation is abundant throughout the region.

3.6.2 Wildlife

Wildlife habitat found on and adjacent to the proposed construction site is limited to the wooded area and to narrow strips of deciduous trees and shrubs adjacent to the existing NS and UP rail rights-of-way. This area provides suitable habitat for a limited variety of insects, birds, and mammals. Wildlife species that were seen during a site visit were the northern cardinal (*Cardinalis cardinalis*), blue jay (*Cyanocitta cristata*), American robin (*Turdus migratorius*), European starling (*Sturnus vulgaris*), field sparrow (*Spizella pusilla*), song sparrow (*Melospiza melodia*), mourning dove (*Zenaida macroura*), American crow (*Corvus brachyrhynchos*), red-tailed hawk (*Buteo camaicensis*), common sulfur butterfly (*Colias philodice*) and golden northern bumble bee (*Bombus fervidus*). Wildlife species that are expected to be found in this rural setting are the American goldfinch (*Carduelis tristis*), American kestrel (*Falco sparverius*), white-tailed deer (*Odocoileus virginianus*), coyote (*Canis latrans*), red fox (*Vulpes vulpes*), raccoon (*Procyon lotor*), opossum (*Didelphis virginiana*), eastern cottontail (*Sylvilagus floridanus*), striped skunk (*Mephitis mephitis*), house mouse (*Mus musculus*) and deer mouse (*Peromyscus maniculatus*).

3.6.3 Threatened and Endangered Species

The U.S. Fish and Wildlife Service (USFWS) and the Illinois Department of Natural Resources (DNR) were contacted regarding threatened and endangered species within the area of the proposed rail line construction at Sidney. The USFWS stated that no Federally-listed threatened or endangered species are found within the project area. The Illinois DNR stated that no listed species, Illinois Natural Areas Inventory (INAI) sites or Nature Preserves are likely to be impacted as a result of the proposed project. Moreover, no threatened or endangered species were observed at the proposed construction site during a site visit.

3.6.4 Parks, Forest Preserves, Refuges and Sanctuaries

No parks, forests, preserves or refuges are in or within 1,000 feet of the project area. The Champaign County Conservation Area is located approximately four miles northeast of the proposed construction site. Recreational opportunities in the project area are limited.

3.7 AIR QUALITY

According to 40 CFR 81, Champaign County is in attainment with the National Ambient Air Quality Standards (NAAQS). Current sources of emissions in the project area include locomotives, vehicles and farm machinery.

In 1996, NS carried fewer than 800 loads, system wide, of commodities listed by the Clean Air Act as ozone-depleting. This represents less than 0.017 percent of total traffic, a negligible amount.

3.8 NOISE

Rail, automobile and truck traffic are the primary sources of noise within the area of the proposed rail line construction. Average Daily Traffic (ADT) data collected in 1991 for roads in the project vicinity were provided by the Illinois Department of Transportation (DOT). The ADT data for County Road 15, which is located 500 feet north of the proposed construction site between the existing UP rail line overpass and Highway 516, averaged 2,400 vehicles per day. A total of 39 trains per day presently use the NS main line. Approximately 25 trains per day operate over the UP line.

The Ldn 65 dBA contour for the existing NS line extends 150 feet (550 feet at grade crossings) perpendicular to the centerline. The Ldn 65 dBA contour for the existing UP line extends 150 feet (250 feet at grade crossings) perpendicular to the centerline. Close to the intersection of the NS and UP rail lines, the Ldn 65 dBA contour extends out farther due to the cumulative effects of train operations on both rail lines. No residences are located within the Ldn 65 noise contour of the proposed construction site. No schools, churches, hospitals, nursing homes, retirement homes, libraries or other residences are within 500 feet of the proposed construction site.

3.9 CULTURAL RESOURCES

Records at the Illinois State Historic Preservation Office (SHPO) were reviewed to determine if previously identified cultural resources are located in the project construction area. No historical sites listed on the National Register of Historical Places (NRHP) or archaeological sites were recorded in the vicinity of the proposed action. The Illinois SHPO states that there are no significant historic, archaeological, or architectural resources in the proposed project area. During a site visit, no unique or historical structures were observed in the project area.

3.10 ENERGY

Potential impacts to energy consumption as a result of the proposed connection would primarily be related to (1) additional fuel consumption by construction equipment during the construction period; (2) changes in fuel consumption by trains using the proposed connection; (3) the effect of the proposed connection on the transportation of energy resources and recyclable commodities; (4) whether the proposed connection would result in an increase or decrease in overall energy efficiency; and (5) the extent to which the proposed connection would cause diversions from rail-to-motor carrier.

CHAPTER 4

Potential Environmental Impacts

This chapter provides an overview of the potential environmental impacts from the proposed rail line connection between NS' East-West and North-South main lines in Sidney, Illinois. This connection would involve the construction of a new rail line segment in new right-of-way to connect existing tracks to other existing rail lines, sidings, and/or yard facilities. As with any construction of new railroad tracks, the steps required to build a new 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.

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

- Land Use
- Socioeconomics and Environmental Justice
- Transportation Systems
- Safety
- Water Resources
- Biological Resources
- Air Quality
- Noise
- Cultural Resources
- Energy
- Cumulative Impacts

For detailed information about methodologies and evaluation criteria, refer to Appendix D.

4.1 POTENTIAL ENVIRONMENTAL IMPACTS FROM THE PROPOSED ACTION

4.1.1 Land Use

4.1.1.1 Evaluation Criteria

The following criteria were used to assess the significance of land use impacts:

Land Use Consistency and Compatibility

- The severity of visual, air quality and noise impacts on sensitive land uses.
- Interference with the normal functioning of adjacent land uses.
- Alteration of flood water flow that could increase flooding in adjacent areas.
- Consistency and/or compatibility with local land use plans and policies.

Prime Agricultural Land

- Permanent loss of Natural Resource Conservation Service (NRCS)-designated prime farmland.

4.1.1.2 Potential Impacts

Current Land Use and Zoning

The proposed project would result in minimal impacts to land use. Approximately 5.3 acres of land would be acquired for the new connection, all of which would be used for right-of-way. The properties for which NS is negotiating rights to allow the proposed construction and operation are disturbed areas. The land that would be converted to rail use from outside existing rights-of-way is approximately 80 percent cropland. The remaining 20 percent contains weeds and grasses typical of disturbed areas, and woody vegetation. The proposed construction would not conflict with adjacent land uses, electric utility lines or zoning. NS communication lines along the south side of the NS right-of-way would be buried.

Consistency with Local Plans

The proposed alternative does not conflict with any local or regional land use plans (Champaign County Department of Planning and Zoning, Exhibit 25, Appendix C).

Prime Farmlands and Coastal Zones

Loss of prime farmland within the right-of-way would be insignificant since the proposed construction site comprises only a small percentage of the land currently in agricultural production in the proposed project vicinity. Temporary construction impacts to adjacent farmland from excavation, such as mixing of soil profiles or soil compaction, are expected to be minor due to the small amount of land affected and because construction would be limited to the proposed new right-of-way. No construction activities would occur within a designated coastal zone.

4.1.2 Socioeconomics and Environmental Justice

4.1.2.1 Evaluation Criteria

The following criteria was used to determine impacts from the proposed project to socioeconomics and environmental justice:

- Reviewed demographic and income data from the 1990 Census to compare the population of the area of the proposed construction with that of the Village of Sidney.
- An environmental justice effect is determined to be significant if an adverse effect of the proposed construction falls disproportionately on low-income or minority populations.

4.1.2.2 Potential Impacts

No significant and adverse effects which have a high and disproportionate impact on minority and low-income communities are expected as a result of the proposed connection. The population in the area of the proposed construction has a lower percentage of minority residents than the county as a whole. Further, data on economic levels in the area indicate that the population of the relevant census block is more prosperous than that of the county as a whole. Moreover, since there would be no significant and adverse environmental effects as a result of the construction and operation of the proposed connection, concerns about potentially significant adverse environmental consequences would be eliminated, regardless of the composition of the surrounding population.

U.S. Census data indicates that both the proposed connection site, (as well as the alternative considered since they are in the same census block) contain substantially lower percentages of minority residents than Champaign County on average. These data indicate that construction and operation of the proposed connection would not have a high and disproportionate impact on minority groups. This conclusion is further supported by the absence of significant environmental impacts related to the proposed connection.

Data on economic levels in the area indicate that the population of the relevant census block is more prosperous than that of the county as a whole; census data indicate that the percentage of people living below the Federal poverty level in the census block is substantially lower than the county average and median household incomes in the same area are higher than the county average. These data indicate that construction and operation of the proposed connection would not have a high and disproportionate impact on minority groups. This conclusion is further supported by the absence of significant environmental impacts related to the proposed connection.

4.1.3 Transportation Systems

4.1.3.1 Evaluation Criteria

The evaluation criteria used to determine potential impacts on transportation includes:

- The need for new grade crossings.
- Modifications of existing grade crossings

4.1.3.2 Potential Impacts

Grade Crossings

The proposed connection would not cross any roads.

4.1.4 Safety

4.1.4.1 Evaluation Criteria

The following criteria was used to determine the effects of the proposed project on safety issues:

- The likelihood of encountering hazardous waste sites during construction.
- The likelihood of a hazardous material release during construction.
- The effect of the proposed connection on the transportation of hazardous materials.

4.1.4.2 Potential Impacts

Hazardous Waste Sites

Review of the EDR database indicated that no hazardous waste sites, e.g., NPL, CERCLIS, Resource Conservation and Recovery Information System - Treatment, Storage, or Disposal (RCRIS-TSD), ERNS, SHWS, LUST or SWFLF, were identified in the vicinity of the proposed rail line construction. The database search revealed one unmappable site within the city limits of Sidney, Illinois. This site could not be located because of poor address or geocoding information provided to the state and/or Federal databases.

During a site visit, no evidence of potential hazardous waste sites in the project area was observed. Three above-ground anhydrous ammonia tanks were observed bordering the north side of the NS right-of-way, approximately 400 feet northwest of the UP underpass. These tanks would be unaffected by the proposed construction. No hazardous waste sites are expected to be impacted by the proposed project.

Hazardous Materials Release

All necessary precautions will be taken to reduce the risk of a hazardous materials release during construction. The majority of the materials that are likely to be on the construction site include petroleum products for construction vehicles. As part of the National Pollution Discharge Elimination System, a plan for accidental releases of hazardous materials must be included in the Storm Water Pollution Prevention Plan.

Transportation of Hazardous Materials

Currently, 5.6 percent of NS' system wide traffic consists of hazardous materials, representing a total of about 255,000 carloads in 1996. During the same year, NS had a company record low total of 90 reportable incidents as defined under Department of Transportation (DOT) F 5800.1, mostly minor in nature. Over 99.96 percent of the hazardous materials shipments arrived at their destination without incident. These hazardous material shipments moved primarily on routes designated as key routes (NS defines these as routes with annual hazardous materials traffic exceeding 9,000 carloads. This definition is more restrictive than the Inter-Industry Task Force Recommendations). In 1995, NS key routes consisted of 6,423 miles of trackage.

Both the existing NS and UP rail lines are key routes. Petrochemical traffic is expected to operate over the proposed connection. The probability of a rail accident on the proposed connection is approximately one in two million. No significant adverse impact from transportation of hazardous materials is expected. The reduction in train-miles from using the shorter route over the connection would have a beneficial system impact on transportation safety.

No significant adverse impact from the transportation of hazardous materials is expected. The reduction in train-miles from using the shorter route over the connection would have a beneficial system impact on transportation safety.

Train Operation

There is no potential for train-to-automobile accidents on the proposed connection due to the absence of grade crossings. The average train is expected to be 5,000 feet long.

Train operation always involves a possibility for train accidents or incidents. However, NS' track and equipment inspection and maintenance programs, employee training programs, and the low speed (25 mph) of trains on the proposed connection would minimize this potential. The approximate likelihood of an accident occurring is 0.004 accidents/year.

4.1.5 Water Resources

4.1.5.1 Evaluation Criteria

The following criteria were used to assess the potential impacts to surface water resources and wetlands that could result from the proposed construction project:

- Alteration of creek embankments with rip-rap, concrete, and other bank stabilization measures.
- Temporary or permanent loss of surface water area associated with the incidental deposition of fill.
- Downstream sediment deposition or water turbidity due to fill activities, dredging, and/or soil erosion from upland construction site areas.
- Direct or indirect destruction and/or degradation of aquatic, wetland, and riparian vegetation/habitat.
- Degradation of water quality through sediment loading or chemical/petroleum spills.
- Alteration of water flow that could increase bank erosion or flooding, uproot or destroy vegetation, or affect fish and wildlife habitats.

The extent and duration of impacts to surface water resources and wetlands resulting from the project would depend primarily on the type of work to be completed and the size of the project. The overall effect could be lessened by avoiding important resources and minimizing impacts to the extent practicable, and by implementing the mitigation measures. Prior to initiating construction, regulatory agencies would be consulted regarding the need to obtain permits, such as U.S. Army Corps of Engineers' (COE) Section 404 permits, National Pollution Discharge Elimination System (NPDES) permits, and state-required permits or agreements, as appropriate.

4.1.5.2 Potential Impacts

Wetlands

The National Wetland Inventory (NWI) map indicated that no surface waters are located within 500 feet of the construction site. According to the NWI map, the nearest wetland is 1,500 feet west of where the existing NS track crosses over the UP track. In addition, the existing UP rail line is located in a ravine that is prone to flooding from surface runoff.

Surface Water

No surface waters or wetlands would be crossed by the proposed connection. Storm water drainage patterns are not anticipated to be altered by the proposed project. Potential impacts from soil erosion resulting from cleared vegetation and disturbed soil would be insignificant because Best Management Practices (BMPs) would be used to control runoff and soil erosion. Additionally, the construction would be performed in compliance with the Illinois EPA Storm Water NPDES Permit, which is required for construction of the proposed connection. In addition, NS would restore disturbed areas of soil through reseeded.

Floodplain

Federal Emergency Management Agency (FEMA) maps for the area show that the proposed project is not within the 100-year floodplain.

Groundwater

Groundwater quality will not be affected by construction or normal operation of the proposed connection. The only potential impact could result from spill of hazardous material. Safety measures as well as emergency response methods are in place to protect against the results of a potential accident.

4.1.6 Biological Resources**4.1.6.1 Evaluation Criteria**

The following evaluation criteria were utilized to assess the potential impacts to biological resources resulting from the proposed projects:

- Loss or degradation of unique or important vegetative communities.
- Harm to or loss of individuals or populations of rare, threatened or endangered plants or animals.
- Disturbance of nesting, breeding or foraging areas of threatened or endangered wildlife.
- Loss or degradation of areas designated as critical habitat.
- Loss or degradation of wildlife sanctuaries, refuges or national, state or local parks/forests.
- Alteration of movement or migration corridors for animals.
- Loss of large numbers of local wildlife or their habitats.

Sensitive animal species with potential to occur in the vicinity of the project may be impacted by construction activities. A determination as to the level of impact will depend on many factors including the availability of suitable habitat, previous surveys, and comments from agencies.

Parks, forest preserves, refuges and sanctuaries were identified within one mile of the proposed construction. Impacts to these areas were determined based on their distance from the proposed constructions and the degree to which rail construction, operation and maintenance would disturb or disrupt activities at these areas.

4.1.6.2 Potential Impacts

Vegetation

The proposed action would affect cropland, a narrow strip of weedy, grassy vegetation characteristic of disturbed wooded areas, and woody vegetation bordering the existing UP and NS rights-of-way. NS would reseed disturbed areas outside the subgrade slope of the new proposed connection. Approximately 80 percent of the project area is cropland and 20 percent of the project area consists of weeds, grasses and woody vegetation. Loss of prime farmland within the right-of-way would be insignificant since it comprises only a small percentage of the land currently in agricultural production in the project vicinity.

Wildlife

No adverse impacts to wildlife are anticipated. The construction site is small and contains only limited wildlife habitats. Wildlife within the project area would be subject to sporadic disturbance because of noise and human activity generated during construction activities, and subsequent train operations and maintenance activities. The minimal loss of habitat due to this proposed construction would be insignificant compared with the wildlife habitat available in the surrounding area.

Construction of the proposed connection may temporarily displace local terrestrial wildlife because of increased noise from construction equipment and the presence of humans. However, such disturbances would be temporary and are not anticipated to cause a major permanent redistribution of resident species. The width of the right-of-way and the low height of rail should not pose a significant barrier to the movement of wildlife. Some mortality of small animals may result during construction due to compaction of burrows and encounters with heavy equipment. Incidental train/animal collisions could result in mortality to some species.

The railroad right-of-way would require approximately 5.3 acres outside of NS' existing property. This area is primarily cropland. On NS property, rail right-of-way would include a maximum of two acres of potential wildlife habitat. These areas contain low-quality wildlife habitat and following construction, all cleared areas outside the right-of-way subgrade slope would be reseeded with grasses or other vegetation. Overall, minimal impact to wildlife would occur.

Threatened and Endangered Species

A site visit, as well as responses received from the USFWS and the Illinois DNR indicated that no known Federal or state listed species occur in the project area. Therefore, no impacts to threatened or endangered species are expected.

Parks, Forests Preserves, Refuges, and Sanctuaries

There would be no impacts to parks, forests, preserves, refuges, conservation areas or sanctuaries from

the construction of the proposed connection.

4.1.7 Air Quality

4.1.7.1 Evaluation Criteria

The following criteria were used to assess the potential impacts to air quality that could result from the proposed construction project:

- Increase in levels of pollutant emissions (e.g., hydrocarbons, carbon monoxide, sulfur dioxide, nitrogen oxide, and particulate matter) from the operation of construction equipment and vehicles.
- Effects related to train operations over the NS and UP line segments adjoining the connection, to the extent they meet the Board's thresholds for analysis.
- Evaluation of the potential for air quality effects from fugitive dust emissions.
- Air quality effects are considered to be adverse if the proposed construction would lead to long-term increases in pollutant emissions or excessive fugitive dust emissions.

4.1.7.2 Potential Impacts

Champaign County is an air quality attainment area. Only minor effects on air quality are expected as a result of the construction, operation and maintenance of the proposed project. The operation of heavy equipment would be the primary source of pollutant emissions during construction activities. Such pollutants vary by the source as described below:

- Particulate matter, volatile organic compounds (VOCs), carbon monoxide (CO), and nitrogen oxide (NOx) resulting from the combustion of diesel fuel
- Fugitive dust along the right-of-way and unimproved roads resulting from the operation of heavy equipment.

Construction

Air quality impacts due to construction are expected to be minimal. During the construction phase, grading, excavation and placement of ballast and subgrade could result in a temporary increase of fugitive dust. However, with appropriate mitigation measures, such effects are expected to be minimal. Mitigation measures would include spraying road surfaces with a water truck or covering truck beds with tarps as necessary. Emissions from construction and maintenance equipment engines would be localized and temporary during the construction period and during maintenance activities. They are not expected to reduce air quality.

Operation

Because rail traffic over the proposed connection would meet STB thresholds for air quality, area emissions were quantified and are presented below in Table 4-1.

Table 4-1
Estimated Air Emissions for the Proposed Connection Near Sidney
(tons per year)

VOC	CO	NOx	SO ₂	PM	Pb
0.16	0.48	4.29	0.28	0.11	0.0000091

As previously stated, the proposed connection would shorten the route NS trains would have to travel by approximately 50 miles. The estimated system wide decreases in emissions as a result of the proposed connection near Sidney are presented below.

Table 4-2
Estimated System wide Decreases in Emissions as a Result of the
Proposed Connection Near Sidney
(tons per year)

VOC	CO	NOx	SO ₂	PM	Pb
13.2	39.7	357.4	23.2	9.0	0.00076

No significant, if any, shipments of ozone-depleting commodities are expected over this proposed connection.

Vehicle Emissions

Emissions from heavy equipment and construction vehicles would occur during construction. The majority of these emissions would be limited to the period of construction. Minor additional impacts would include maintenance activities for the rail line that would occur sporadically for short periods throughout the year. Vehicle emissions can be minimized by proper vehicle maintenance.

Fugitive Dust Emissions

Increases in fugitive dust could occur due to grading and other earthwork necessary for rail bed preparation or removal activities. These impacts would only be temporary and would be minimized by good construction practices that would include dust control.

4.1.8 Noise

4.1.8.1 Evaluation Criteria

The following criteria was used to determine potential impacts from the proposed project:

- Identification of noise-sensitive land uses where changes in operation could result in noise exposure increases.
- Identification of noise sensitive receptors (e.g. residences, schools, hospitals, libraries).

4.1.8.2 Potential Impacts

Construction

Noise levels in the project areas are expected to temporarily increase during construction. Temporary noise increases would be caused by operation of vehicles and heavy machinery during grading, rail construction, etc. The impacts would only be short-term, occurring from approximately 7:00 a.m. to 5:00 p.m. Because of the rural nature of the project area, no residences or other sensitive noise receptors would be within the Ldn 65 dBA contour of the proposed connection. Since construction noise would occur during daylight hours and would be short-term in nature, and because of the rural nature of the project area, noise impacts from construction are not expected to be significant.

Operation

Train operation over the proposed connection would not likely cause any significant increase in ambient noise levels. NS would lubricate the curve of the new connection. No residences or other sensitive noise receptors would be within the Ldn 65 dBA contour of the proposed connection. At a maximum operating speed of 25 miles per hour over the connection, increases in noise levels at any given location should not occur for more than approximately four minutes while a train passes.

Approximately nine trains per day are expected to travel over the proposed connection, which exceeds the STB thresholds for noise analysis. NS would regularly lubricate the 5 degree 30 minute curve of the proposed connection to minimize the friction which causes both rail wear and wheel squeal. Train traffic operating on the proposed connection would generate an Ldn 65 dBA contour approximately 50 feet perpendicular to the proposed rail line (approximately 250 feet at grade crossings). No residences are within the existing or post construction Ldn 65 dBA contour. No receptors would experience a significant increase in noise as a result of the new connection.

4.1.9 Cultural Resources

4.1.9.1 Evaluation Criteria

Impacts to historic and archaeological resources would be considered adverse (as defined in 36 CFR 800.9) if any site listed or eligible for listing on the NRHP would experience destruction of the site; alteration of site characteristics or setting; neglect resulting in deterioration or destruction; or transfer, lease, or sale of the property on which the site occurs if adequate restrictions or conditions are not included to ensure preservation of the property's significant historic features.

4.1.9.2 Potential Impacts

No documented archaeological sites or historic properties are on or near the proposed construction site. The Illinois SHPO stated in a letter that the Section 106 process is complete.

4.1.10 Energy Resources

4.1.10.1 Evaluation Criteria

The following criteria was used to evaluate the potential impacts of the proposed project on energy resources:

- The effect of the proposed project on energy consumption.
- The effect of the proposed project on the transportation of energy resources and recyclable commodities.
- The effect of the proposed project on diversions of shipments from rail to trucks.

4.1.10.2 Potential Impacts

The operation of construction equipment would require the consumption of diesel fuel, which cannot be quantified at this time, but is expected to be minimal due to the short duration of the project. An insignificant amount of fuel would be used by construction equipment. The routes provided by the proposed connection would be more direct (i.e., approximately 50 miles shorter) than would be possible without the proposed connection, thereby reducing fuel consumption (1.3 million gallons of fuel saved each year). No additional rail-to-truck diversions would result from the proposed connection. The amount of energy resources and recyclable commodities that would be transported over the proposed connection cannot be quantified but, the operational efficiencies expected to be realized from the operation of the proposed connection are expected to benefit the transportation of energy resources and recyclable commodities.

4.1.11 Cumulative Impacts

Cumulative impacts are impacts on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR Parts 1500-15-8, Section 1508.7).

The potential cumulative impacts related to the construction and operation of the proposed connection are insignificant or nonexistent. The proposed project is not expected to have any significant adverse impact on land use, water resources, biological resources, or air quality. Nor would the proposed project have significant adverse impacts on safety, electric transmission facilities or cultural resources. Any noise increases during construction would be limited to normal work hours and would only occur during the construction period. Increases in noise from ongoing operation on the connection would be minor.

There would not be any significant environmental impacts on any group regardless of race or economic status as a result of the proposed project. Consequently, there would not be any high and disproportionate environmental justice impacts as a result of the construction and operation of the proposed connection. This conclusion is further supported by the absence of significant environmental impacts related to the proposed connection.

The operation of the proposed connection would result in reduced fuel consumption of approximately

1.3 million gallons per year and associated reduction in air emissions.

4.2 POTENTIAL ENVIRONMENTAL IMPACTS OF ALTERNATIVE ACTIONS

4.2.1 No-Action Alternative

If the “no-action” alternative were implemented, the proposed rail line connection would not be constructed or operated. Therefore, the current land use and other existing environmental conditions would remain unchanged. However, if the related transaction is approved, the absence of this rail line connection would result in less efficient rail service. The capacity constraints, delays, and slower operating speeds that would result without the new connection would cause additional fuel consumption and increase pollutant emissions from locomotives.

4.2.2 Build Alternatives

As discussed in Section 2.2, SEA identified no feasible “build” alternatives to the proposed rail line construction project. The alternative alignment that was evaluated would consume approximately 6.2 acres of prime farmland, be located within 500 feet of two residences, cross one private road, cross two large overhead transmission line corridors, and require the removal and relocation of a radio tower. The alternative alignment is in the same U.S. Census block as the preferred alternative. Thus, the same socioeconomic setting and environmental justice factors analyzed in this chapter would be applicable for this alternative.

CHAPTER 5

Agency Comments and Mitigation

This chapter summarizes comments received from Federal, State and local agencies or officials about the proposed construction, and outlines SEA's recommended mitigation measures.

5.1 SUMMARY OF AGENCY COMMENTS

Norfolk Southern's consultant, Burns & McDonnell, sent letters to various Federal, state and local agencies seeking their comments on the construction and operation of the proposed connecting track (See Appendix C, Exhibit 1 for the consultation letter and Exhibit 2 for the list of agencies contacted). The letters were distributed to these agencies in January and February, 1997. The agency responses to the letters are provided in Appendix C, Exhibits 3 through 25. This chapter summarizes substantive comments received from these agencies, including mitigation discussed and the mitigation proposed by the Petitioner NS.

5.1.1 Land Use

Comment: A letter from the Illinois Department of Agriculture (Appendix C, Exhibit 21) stated that the area to be affected by the proposed Sidney, Illinois project is prime farmland currently in crop production. Agricultural issues of primary concern, which should be addressed in the Environmental Assessment, include:

- Soil erosion problems that may result from the construction of the connection.
- Access to the farmland isolated by the new rail connection.
- Whether borrow outside the designated right-of-way would be required for construction, and if so, how many acres would be involved.
- Whether Federal funds will be used for this project. If so, the USDA-Natural Resources Conservation Service (NRCS) Form AD-1006, Farmland Conversion Impact Rating would need to be initiated with the local USDA-NRCS office in Champaign.
- The presence of any resulting uneconomical remnants or landlocked parcels. Any such parcels should be indicated on a map with their location, number, acreage and current land use.

Petitioner's Response: NS would comply with all NRCS requirements. Potential impacts from soil erosion resulting from cleared vegetation and disturbed soil would be insignificant because of the use of Best Management Practices (BMPs) to control runoff and soil erosion. An erosion control plan would be prepared, implemented and maintained until disturbed areas are revegetated. NS would restore disturbed areas of soil through reseeding. Landscaping and revegetation would utilize existing drainage patterns and trees, grasses and shrubs native to the immediate area. NS would provide access to the farmland isolated by the new connection. Borrow material would be obtained from local sources that presently have not been identified. A map indicating the location, number, acreage and current land use of any remnant or parcel would be provided.

Comment: A letter from the U.S. Department of the Army, Operations Division (Appendix C, Exhibit 6) stated that it does not appear that a Department of Army permit would be needed for the construction of the Sidney, Illinois construction project.

Comment: A letter from the Champaign County Soil and Water Conservation District (Appendix C, Exhibit 23) stated that the proposed connection for the Sidney, Illinois rail connection would transect prime farmland and consideration should be given to its preservation.

Petitioner's Response: Of the two alternatives, the preferred connection crosses the least amount of agricultural land. As mitigation to the farmer whose field would be crossed by the proposed connection, NS would provide a private crossing to the farmland isolated by the new connection.

Comment: A letter from the Champaign County Department of Planning and Zoning (Appendix C, Exhibit 25), states that the proposed change would have only minor impacts in Champaign County. It was stated that the connection would directly affect approximately 6 acres of prime farmland classified USDA Land Capability Class II and I respectively. These would probably no longer be used for agricultural production.

Petitioner's Response: Of the two alternatives, the preferred connection crosses the least amount of agricultural land. Prime farmland is abundant in the area. Only a small number of acres would be affected. NS would provide a private crossing to the farmland isolated by the new connection.

5.1.2 Socioeconomics and Environmental Justice

No comments were received concerning socioeconomics or environmental justice.

5.1.3 Transportation

Comment: A letter from the Champaign County Department of Planning and Zoning (Appendix C, Exhibit 25), included the following comment on the existing transportation system: The recent Conrail abandonment of the "Pekin Secondary" east of Urbana and the acquisition by NS of the line to Bloomington has already reduced the number of railroads serving the County. The proposed acquisition of Conrail by NS and CSX would not alter the competitive situation for local rail users. The proposed connection allows for new routing, improved service or otherwise lowers costs and results in more competitive pricing. Increased rail traffic on the NS line may increase the inconvenience experienced in some on-line communities at railroad grade crossings.

Petitioner's Response: No new public grade crossings would be created by this construction. A private farm road crossing would be created to mitigate impacts to the farmer whose field would be impacted by the proposed connection.

Comment: A letter from the Illinois Department of Transportation (Appendix C, Exhibit 19) stated that the Illinois DOT has no objection at this juncture. They stated as long as the connector ties back into the Chicago and Eastern line north of County Road 900N, it would not have an impact on either the state or local highway systems. Also, there are no highway or street projects planned in the affected area.

5.1.4 Safety

Comment: A letter from the Champaign County Department of Planning and Zoning (Appendix C, Exhibit 25), included the following comments on public health and safety: Local Accident Reference System (LARS) data for unincorporated Champaign County shows six vehicular grade crossing accidents with one fatality on the NS line between 1990 and 1995 and three accidents, including one fatality, on the UP during the same time period. Increased traffic on the NS line would result in a greater likelihood of grade crossing accidents. Again the significance of this depends on the time of day when the increase occurs. Increased traffic on the NS line would increase the potential obstruction of grade crossings to emergency vehicles for on-line communities (Ivesdale, Sadorus, Tolono, Philo, Sidney, and Homer). Increased rail traffic would also increase the exposure of on-line communities to the dangers imposed by hazardous materials spills related to railroad accidents.

Hazardous Waste Sites

No comments were received from governmental agencies concerning hazardous waste sites.

Electric Transmission Facilities

No comments were received from governmental agencies concerning electrical facilities.

5.1.5 Water Resources

Comment: A letter from the Illinois Department of Agriculture (Appendix C, Exhibit 21) stated that the issues of primary concern are the possible alteration of any sub-surface tile systems at the proposed construction site, and a potential wetland located near or in the path of the proposed connection.

Petitioner's Response: NS would preserve overall surface and subsurface drainage on the affected site and surrounding fields through proper engineering design. According to the Champaign County Soil and Water Conservation District, part of the 1,200 foot long by 150 foot wide wooded area adjacent to the western side of the UP line, exists on Drummer soils. This soil type may contain hydric components, providing conditions necessary for potential wetlands to occur. The proposed connection would traverse this wooded strip in a non-Drummer soil area. The existing UP line is below grade, lying in a cut slope to the east and west of the rail line. The wooded area on the cut slope cannot be considered a wetland because it is drained. Furthermore, the U.S. Army Corps of Engineers has jurisdiction over any potential wetland being converted to non-agricultural use. The U.S. Army Corps of Engineers responded that a permit would not be needed in this case.

Comment: A letter from the Champaign County Soil and Water Conservation District (Appendix C, Exhibit 23) stated that the existing drainage tile needs to be maintained or replaced with an adequate system to maintain natural drainage. They also stated that a potential wetland along the western edge of the existing NS railway would require appropriate permits should it be modified or manipulated. On September 2, 1997, Leon Wendte from the Champaign Soil and Water Conservation Service stated over the phone that the NS rail line referred to in the letter is actually the UP line. He mentioned that a wooded area exists on Drummer soils present along the western edge of the UP right-of-way. He was concerned that this wooded area, on a hydric soil, could potentially be a wetland. He suggested that any wetlands in the area be delineated. If wetlands are found within the proposed right-of-way, then proper permits should be obtained from the U.S. Army Corps of Engineers.

Petitioner's Response: Natural drainage patterns would be maintained where possible. If drainage tile is encountered, NS would maintain or replace the tiles with concrete pipes. The wooded area (potential wetland) along the western edge of the UP right-of-way exists on a sloping cut and is considered to be drained. Therefore, it is not considered a wetland. The proposed construction would not traverse the wooded area on the Drummer soil. Also, a letter received from the U.S. Army Corps of Engineers did not recognize any wetlands in the proposed right-of-way.

Comment: A letter from the Champaign County Department of Planning and Zoning (Appendix C, Exhibit 25) stated that preservation of the surface and subsurface drainage of the affected site and surrounding fields would have to be addressed by proper engineering design.

Petitioner's Response: Storm water drainage patterns are not anticipated to be altered by the proposed project. NS would preserve surface and subsurface drainage of the affected site and surrounding fields through proper engineering design.

5.1.6 Biological Resources

Comment: A letter from the Champaign County Department of Planning and Zoning (Appendix C, Exhibit 25) stated that:

- Neither the site nor the rest of the NS line is thought to abut any significant natural area in Champaign County. No designated Natural Areas in the INAI are located near this line (though there may be locally significant prairie remnants along the right-of-way).
- Although it is believed that no threatened or endangered species habitat is found within or near this site, consulting the Natural Heritage Division of the Illinois Department of Natural Resource is recommended.

Petitioner's Response: The Illinois Department of Natural Resources was contacted. A letter from the Illinois Department of Natural Resources stated that according to the Natural Heritage database no Federally-listed endangered or threatened species, Illinois Natural Areas Inventory sites or Nature Preserves are likely to be impacted because of the proposed project. During a site visit, no Federally-listed endangered or threatened species were observed.

Comments: Jake Hoogland of the National Park Service (Appendix C, Exhibit 15) stated in a phone conversation that no national parks are in the area of the proposed connection.

Comment: A letter from the Rock Island Illinois Office of the United States Fish and Wildlife Service (Appendix C, Exhibit 13) stated that the agency had no objection.

5.1.7 Air Quality

Comment: A letter from the Champaign County Department of Planning and Zoning (Appendix C, Exhibit 25) stated that Champaign County is presently an Air Quality Attainment Area and while increased rail traffic on the NS and UP lines would not result in a significant decrease in truck traffic in Champaign County, the increase in rail traffic would most likely result in a negligible increase in locomotive emissions.

5.1.8 Noise

Comment: A letter from the Champaign County Department of Planning and Zoning (Appendix C, Exhibit 25) stated that outside the urbanized areas of Champaign-Urbana and Rantoul, ambient noise levels in the county are generally low. Ambient noise levels in the area range between 36 and 52 dBA (*FAR Part 150 Noise Compatibility Study*, Coffman Associates, 1988). Increased traffic would tend to increase average noise levels. The magnitude of this impact would be directly proportional to the increase in traffic.

Petitioner's Response: This connection occurs in a rural part of Champaign County, and the nearest residence is approximately 450 feet away and would be outside of the Ldn 65 dBA contour. No other sensitive noise receptors would be within the Ldn 65 dBA contour for the proposed project.

5.1.9 Cultural Resources

Comment: A letter from the Champaign County Soil and Water Conservation District (Appendix C, Exhibit 23) stated that a Phase I archaeological survey may be needed to identify any cultural resources that may be on the site.

Petitioner's Response: The Illinois SHPO has identified no significant cultural resources on the site.

Comment: A letter from the Illinois State Historic Preservation Office (Appendix C, Exhibit 16) states that no significant historic, archaeological, or architectural resources in the proposed project area.

5.1.10 Energy Resources

Comment: A letter from the Champaign County Department of Planning and Zoning (Appendix C, Exhibit 25) stated that while railroads are significantly more energy efficient than other modes of ground transportation, the impact of the new connection on energy use in Champaign County is likely to be minimal since its potential for diverting highway traffic is not clear.

5.2 AGENCY SUGGESTED MITIGATION

A list of the agencies consulted during the environmental review process and copies of agency correspondence related to this rail construction are provided in Appendix C.

The following mitigation measures were suggested for the proposed construction project by the various parties consulted in the process of preparing the EA:

- Petitioner would maintain all rail line warning devices according to Federal Railroad Administration standards.
- Petitioner would comply with all applicable Federal, state and local regulations regarding fugitive dust and open burning. Mitigation measures would include spraying surfaces with water or other dust suppressants.
- Petitioner will restore any adjacent properties that are disturbed during construction.
- Petitioner will use Best Management Practices (BMPs) to control erosion, runoff and surface instability during construction. After the new rail line is constructed, the petitioner will reseed outside the subgrade slope to provide permanent cover and prevent potential erosion.
- Petitioner will control temporary noise from construction equipment by ensuring all machinery has properly functioning muffler systems and by work hour controls.
- Petitioner will transport all hazardous materials in compliance with the U.S. Department of Transportation Hazardous Materials Regulations (49 CFR parts 171-174 and 177-179).
- In the case of a spill, the petitioner will follow appropriate emergency response procedures outlined in its emergency response plans.
- Petitioner will restore all roads disturbed during construction to the conditions required by state or local regulations.
- Petitioner would observe all applicable regulations for handling and disposing of waste materials, including hazardous waste.
- Petitioner would provide a private crossing so the property owner can reach farmland isolated by the proposed connection.

5.3 SEA RECOMMENDED MITIGATION

SEA recommends that the Board impose the following mitigation measures in any decision approving the construction waiver for the proposed rail line connection construction in Sidney, Illinois.

5.3.1 General Mitigation Measures

SEA's recommendations include, but are not limited to, the following general mitigation conditions:

Land Use

1. NS shall restore any adjacent properties that are disturbed during construction activities to their pre-construction conditions.
2. Before undertaking any construction activities, NS shall consult with any potentially affected American Indian Tribes adjacent to, or having a potential interest in the right-of-way.

Socioeconomics and Environmental Justice

1. No impacts were identified so no mitigation will be required.

Transportation Systems

1. NS shall use appropriate signs and barricades to control traffic disruptions during construction.
2. NS shall restore roads disturbed during construction to conditions as required by state or local jurisdictions.

Safety

1. NS shall observe all applicable Federal, state, and local regulations regarding handling and disposal of any waste materials, including hazardous waste, encountered or generated during construction of the proposed rail line connection.
2. NS shall dispose of all materials that cannot be reused in accordance with state and local solid waste management regulations.
3. NS shall consult with the appropriate Federal, state and local agencies if hazardous waste and/or materials are discovered at the site.

4. NS shall transport all hazardous materials in compliance with U.S. Department of Transportation Hazardous Materials Regulations (49 CFR Parts 171 to 180). NS shall provide, upon request, local emergency management organizations with copies of all applicable Emergency Response Plans and participate in the training of local emergency staff for coordinated responses to incidents. In the case of a hazardous material incident, NS shall follow appropriate emergency response procedures contained in their Emergency Response Plans.

Water Resources

1. NS shall obtain all necessary Federal, state, and local permits if construction activities require the alteration of wetlands, ponds, lakes, streams, or rivers, or if these activities would cause soil or other materials to wash into these water resources. NS shall use appropriate techniques to minimize impacts to water bodies and wetlands.

Biological Resources

1. NS shall use Best Management Practices to control erosion, runoff, and surface instability during construction, including seeding, fiber mats, straw mulch, plastic liners, slope drains, and other erosion control devices. Once the track is constructed, NS shall establish vegetation on the embankment slope to provide permanent cover and prevent potential erosion. If erosion develops, NS shall take steps to develop other appropriate erosion control procedures.
2. NS shall use only EPA-approved herbicides and qualified contractors for application of right-of-way maintenance herbicides, and shall limit such application to the extent necessary for rail operations.

Air Quality

1. NS shall comply with all applicable Federal, state, and local regulations regarding the control of fugitive dust. Fugitive dust emissions created during construction shall be minimized by using such control methods as water spraying, installation of wind barriers, and chemical treatment.

Noise

1. NS shall control temporary noise from construction equipment through the use of work hour controls and maintenance of muffler systems on machinery.

Cultural Resources

1. In those cases where historic resources would be adversely affected, NS shall not undertake construction activities until the Section 106 of the National Historic Preservation Act (16 U.S.C. 470f., as amended) review process is completed. If previously undiscovered archaeological remains are found during construction, NS shall cease work and immediately contact the SHPO to initiate the appropriate Section 106 process.

Energy

1. No impacts were identified so no mitigation will be required.

5.3.2 Specific Mitigation Measures

SEA does not identify any specific mitigation measures, in addition to the general mitigation measures identified above, that the Board impose for means of approval of the construction waiver for the proposed rail connection in Sidney, Illinois. SEA does not recommend any specific mitigation measures for a decision in approving the construction waiver for the proposed rail connection construction in Sidney, Illinois.

5.4 REQUEST FOR COMMENTS

SEA specifically invites comments on all aspects of this EA, including the scope and adequacy of the recommended mitigation. SEA will consider all comments received in response to the EA in making its final recommendations to the Board. Comments (an original and 10 copies) should be sent to: Vernon A. Williams, Secretary, Surface Transportation Board, 1925 K Street, NW, Suite 700, Washington, DC 20423. Mark the lower left corner of the envelope: Attention: Dana White, Environmental Comments, Finance Docket No. 33388 (Sub Nos. 1-7). You may also direct questions to Ms. White at this address or by telephoning (888) 869-1997.

Date made available to the public: October 7, 1997

Comment due date: October 27, 1997

APPENDIX B

**STB DECISION 9
DECISION 9 PRESS RELEASE**

27896

EB

SURFACE TRANSPORTATION BOARD

DECISION

STB Finance Docket No. 33388

**CSX CORPORATION AND CSX TRANSPORTATION, INC.,
NORFOLK SOUTHERN CORPORATION AND
NORFOLK SOUTHERN RAILWAY COMPANY
--CONTROL AND OPERATING LEASES/AGREEMENTS--
CONRAIL INC. AND CONSOLIDATED RAIL CORPORATION**

Decision No. 9¹

Decided: June 11, 1997

On April 10, 1997, CSX Corporation (CSXC), CSX Transportation, Inc. (CSXT), Norfolk Southern Corporation (NSC), Norfolk Southern Railway Company (NSR), Conrail Inc. (CRI), and Consolidated Rail Corporation (CRC)² filed their notice of intent to file an application seeking our authorization for: (a) the acquisition by CSX and NS of control of Conrail, and (b) the division of

¹This decision also embraces the following proceedings: STB Finance Docket No. 33388 (Sub-No. 1), *CSX Transportation, Inc., and Consolidated Rail Corporation--Construction--Crestline, OH*; STB Finance Docket No. 33388 (Sub-No. 2), *CSX Transportation, Inc., and Consolidated Rail Corporation--Construction--Willow Creek, IN*; STB Finance Docket No. 33388 (Sub-No. 3), *CSX Transportation, Inc., and Consolidated Rail Corporation--Construction--Greenwich, OH*; STB Finance Docket No. 33388 (Sub-No. 4), *CSX Transportation, Inc., and Consolidated Rail Corporation--Construction--Sidney Junction, OH*; STB Finance Docket No. 33388 (Sub-No. 5), *Norfolk Southern Railway Company and Consolidated Rail Corporation--Construction--Colson/Bucyrus, OH*; STB Finance Docket No. 33388 (Sub-No. 6), *Norfolk Southern Railway Company and Consolidated Rail Corporation--Construction--Alexandria, IN*; and STB Finance Docket No. 33388 (Sub-No. 7), *Norfolk Southern Railway Company--Construction--Sidney, IL*.

²CSXC and CSXT are referred to collectively as CSX. NSC and NSR are referred to collectively as NS. CRI and CRC are referred to collectively as Conrail. CSX, NS, and Conrail are referred to collectively as applicants.

Conrail's assets by and between CSX and NS. In Decision No. 5, served and published in the Federal Register on May 13, 1997, at 62 FR 26352, we invited comments from interested persons respecting the CSX-1 and NS-1 petitions filed May 2, 1997, by applicants CSX and NS, wherein applicants seek, for seven construction projects, waivers of our otherwise applicable "everything goes together" rule.³ The requested waivers, if granted, would allow CSX and NS to begin construction on the seven projects following the completion of our environmental review of the constructions, and our issuance of further decisions exempting or approving construction, but in advance of a final ruling on the primary application.

Seven construction projects, more fully detailed below, are the focus of the two petitions. Applicants contend that it is important that these projects (all of which involve relatively short connections between two rail carriers and which have a total length of fewer than 4 miles) be constructed prior to a decision on the primary application. Applicants claim that these connections must be in place prior to a decision on the primary application so that, if and when we approve the primary application, CSXT (with respect to four of the connections) and NSR (with respect to the other three) will be immediately able to provide efficient service in competition with each other. Applicants contend that, without early authorization to construct these connections, both CSXT and NSR would be severely limited in their ability to serve important (though different) customers. At the same time, applicants recognize that there can be no construction until we complete our environmental review of each of these construction projects and we issue a decision approving the construction, or an exemption from our otherwise applicable construction approval criteria, and impose whatever environmental conditions that we find appropriate.

***The CSX Connections.** If we grant its waiver request, CSXT will file, in four separate dockets,⁴ a notice of exemption pursuant to 49 CFR 1150.36 for construction of a connection at Crestline, OH, and petitions for exemption pursuant to 49 U.S.C. 10502 and 49 CFR 1121.1 and 1150.1(a) for the construction of connections at Greenwich and Sidney, OH, and Willow Creek, IN. CSXT indicates that it would consult with appropriate federal, state, and local agencies with respect to any potential environmental effects from the construction of these connections and would file environmental reports with our Section of Environmental Analysis (SEA) at the time that the notice and petitions are filed. The connections at issue are as follows:*

- (1) Two main line CRC tracks cross at Crestline, and CSXT proposes to construct in the northwest quadrant a connection track between those two CRC main lines. The connection would extend approximately 1,507 feet⁵ between approximately MP 75.4 on CRC's North-South main line between Greenwich, OH, and Indianapolis, IN, and approximately MP 188.8 on CRC's East-West main line between Pittsburgh, PA, and*

³Our regulations provide that applicants shall file, concurrently with their 49 U.S.C. 11323-25 primary application, all "directly related applications, e.g., those seeking authority to construct or abandon rail lines, * * * ." 49 CFR 1180.4(c)(2)(vi). Our regulations also provide, however, that, for good cause shown, we can waive a portion, but not all, of the requirements otherwise imposed by our regulations. 49 CFR 1180.4(f)(1).

⁴These dockets will be sub-dockets 1, 2, 3, and 4 under STB Finance Docket No. 33388.

⁵CSXT's correction, filed May 21, 1997, modified the length of this connection from 1,142 feet at MP 75.5 to 1,507 feet at MP 75.4.

Ft. Wayne, IN.

- (2) *CSXT and CRC cross each other at Willow Creek, and CSXT proposes to construct a connection track in the southeast quadrant between the CSXT main line and the CRC main line. The connection would extend approximately 2,800 feet between approximately MP BI-236.5 on the CSXT main line between Garrett, IN, and Chicago, IL, and approximately MP 248.8 on the CRC main line between Porter, IN, and Gibson Yard, IN (outside Chicago).*
- (3) *The lines of CSXT and CRC cross each other at Greenwich, and CSXT proposes to construct connection tracks in the northwest and southeast quadrants between the CSXT main line and the CRC main line. The connection in the northwest quadrant would extend approximately 4,600 feet between approximately MP BG-193.1 on the CSXT main line between Chicago and Pittsburgh, and approximately MP 54.1 on the CRC main line between Cleveland and Cincinnati. A portion of this connection in the northwest quadrant would be constructed utilizing existing trackage and/or right-of-way of the Wheeling & Lake Erie Railway Company. The connection in the southeast quadrant would extend approximately 1,044 feet between approximately MP BG-192.5 on the CSXT main line and approximately MP 54.6 on the CRC main line.*
- (4) *CSXT and CRC lines cross each other at Sidney Junction, and CSXT proposes to construct a connection track in the southeast quadrant between the CSXT main line and the CRC main line. The connection would extend approximately 3,263 feet between approximately MP BE-96.5 on the CSXT main line between Cincinnati, OH, and Toledo, OH, and approximately MP 163.5 on the CRC main line between Cleveland, OH, and Indianapolis, IN.*

CSXT argues that, if it cannot begin the early construction of these four connections, its ability to compete with NSR will be severely compromised. CSXT claims that, if it could not offer competitive rail service from New York to Chicago and New York to Cincinnati using lines that it proposes to acquire from CRC, the achievement of effective competition between CSXT and NSR would be delayed significantly. CSXT adds that, if it cannot compete effectively with NSR “out of the starting blocks,” this initial competitive imbalance could have a deleterious and long-term effect on CSXT’s future operations and its ability to compete effectively with NSR, even when the connections are ultimately built. CSXT claims that, if its waiver was not granted, the time needed for construction and signal work could delay competitive operations for as long as 6 months after we take final action on the primary application.

The NS Connections. *If we grant its waiver request, NSR will file, in three separate dockets,⁶ petitions for exemption pursuant to 49 U.S.C. 10502 and 49 CFR 1121.1 and 1150.1(a) for the construction of connections at Alexandria, IN, Colson/Bucyrus, OH,⁷ and Sidney, IL. NSR indicates*

⁶These dockets would be sub-dockets 5, 6, and 7 under STB Finance Docket No. 33388.

⁷Although NSR in its petition describes this connection as Colson/Bucyrus, the correct designation is Colson/Bucyrus. See diagram attached to NS-1.

that it would consult with appropriate federal, state, and local agencies with respect to any potential environmental effects from the construction of these connections and would file environmental reports with SEA at the time that the petitions are filed. The connections at issue are as follows:

- (1) *The Alexandria connection would be in the northeast quadrant between former CRC Marion district lines to be operated by NSR and NSR's existing Frankfort district line. The new connection would allow traffic flowing over the Cincinnati gateway to be routed via a CRC line to be acquired by NSR to CRC's Elkhart Yard, a major CRC classification yard for carload traffic. This handling would permit such traffic to bypass the congested Chicago gateway. NSR estimates that the Alexandria connection would take approximately 9.5 months to construct.*
- (2) *The Colson/Bucyrus connection would be in the southeast quadrant between NSR's existing Sandusky district line and the former CRC Ft. Wayne line. This new connection would permit NSR to preserve efficient traffic flows, which otherwise would be broken, between the Cincinnati gateway and former CRC northeastern points to be served by NSR. NSR estimates that the Colson/Bucyrus connection would take approximately 10.5 months to construct.*
- (3) *The Sidney connection would be between NSR and Union Pacific Railroad Company (UPRR) lines. NSR believes that a connection would be required in the southwest quadrant of the existing NSR/UPRR crossing to permit efficient handling of traffic flows between UPRR points in the Gulf Coast/Southwest and NSR points in the Midwest and Northeast, particularly customers on CRC properties to be served by NSR. NSR estimates that the Sidney connection would take approximately 10 months to construct.*

Comments. *Four comments opposing applicants' waiver requests were filed. Steel Dynamics, Inc. (SDI) filed comments (SDI-3) on May 6, 1997; The Allied Rail Unions (ARU)⁸ filed comments (ARU-3) on May 15, 1997; American Trucking Associations, Inc. (ATA) filed comments on May 16, 1997; and The Council on Environmental Quality, Executive Office of the President (CEQ) late-filed comments on June 4, 1997.⁹ On June 4, 1997, CSX filed a reply (CSX-3) to the comments of ARU and ATA; and NS filed a reply (NS-3) to the comments of SDI, ARU, and ATA. On June 6, 1997, CSX and NS filed a joint reply (CSX/NS-16) to the comments of CEQ.*

Steel Dynamics, Inc. SDI asks us to deny NSR's waiver petition and to require NSR to file any

⁸ARU's membership includes American Train Dispatchers Department/BLE; Brotherhood of Locomotive Engineers; Brotherhood of Maintenance of Way Employees; Brotherhood of Railroad Signalmen; Hotel Employees and Restaurant Employees International Union; International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers and Helpers; International Brotherhood of Electrical Workers; The National Conference of Firemen & Oilers/SEIU; and Sheet Metal Workers' International Association.

⁹As indicated in Decision No. 5, the comments filed by CEQ were due no later than June 2, 1997. We have accepted and considered CEQ's comments, and have permitted applicants to reply to the comments by June 6, 1997.

construction application or exemption with its primary application.¹⁰ SDI believes that NSR's three proposed construction connections are intertwined with the issues involved in the primary application. Creating separate dockets for these connections, according to SDI, will not be an efficient use of the Board's resources nor permit an adequate review of the issues involved in the Midwest region. SDI contends that the proposed transfer of NSR's Fort Wayne line to CRC, followed by CRC's transfer of the line, under a long-term operating agreement, to CSXT, see Decision No. 4, slip op. at 6-7, is intended to disguise the asserted fact that the acquisition of Conrail will create duplicate Chicago-bound lines only about 25 miles apart, running through Waterloo and Fort Wayne, IN. SDI maintains that our consideration of issues as complex as NSR's proposed connections and the possible divestiture of duplicate lines should not precede our review of the primary application.¹¹

The Allied Rail Unions. ARU opposes the CSX-1 and NS-1 waiver petitions as inconsistent with our review of the primary application. ARU argues that, by requesting the waivers, CSXT and NSR seek leverage for our ultimate approval of the application, while allegedly evading public scrutiny and comment on the transaction as a whole. ARU maintains that the construction projects are directly related to, and are dependent on, our approval of the primary transaction, and that the construction projects should be authorized only if the transaction itself is authorized. ARU argues that our merger regulations already confer a significant advantage on the applicants because they may immediately file for related abandonments and line transfers, even though they do not currently own the affected lines. ARU avers that, as a consequence, CSXT and NSR have no basis to seek additional advantage through their waiver requests. ARU contends that applicants offered no evidence to support their "competitive disadvantage" or "delay of public benefits" arguments. According to the unions, the applicants' arguments on competitive disadvantage are inherently inconsistent because both carriers assert that they will be disadvantaged unless their respective petitions are granted. Accordingly, ARU believes that a reasonable competitive balance can be maintained by denying both waiver petitions.

American Trucking Associations, Inc. ATA asks us to reserve judgment on the seven construction projects until the primary application is filed and reviewed by the parties. ATA contends that our approval of the waivers, despite any disclaimer to the contrary, could be interpreted by the public as tacit support for the primary application and inadvertently stifle full debate on the relevant issues. According to ATA, early consideration of the construction projects will unreasonably burden the parties and the Board's staff by requiring incremental participation in the transaction approval process. ATA also maintains that the competitive impact of the seven construction projects could not be adequately determined in the absence of consideration of the

¹⁰SDI did not address the merits of CSXT's waiver petition.

¹¹SDI also asserts that NS has not sought waiver of our requirement that waiver petitions be filed at least 45 days prior to the filing of the primary application. See 49 CFR 1180.4(f)(2). SDI therefore asks us to clarify that NS may not file its application before June 16, 1997, regardless of whether NS-1 is granted. We note that, in accordance with the procedural schedule adopted in Decision No. 6 (served and published on May 30, 1997) applicants may not file their primary application until 30 days after the filing of applicants' Preliminary Environmental Report, which was filed on May 16, 1997. The primary application, therefore, may be filed only on or after June 16, 1997. SDI's request in this regard is moot.

primary application.

The Council on Environmental Quality, Executive Office of the President. CEQ believes that the construction and operation aspects of applicants' track connection projects should be assessed at the same time so that the environmental impacts of operating these rail lines can be properly evaluated. CEQ cites its regulations at 40 CFR 1508.25(a)(1) that, when actions are "closely related," they "should be discussed in the same impact statement." CEQ also maintains that bifurcation of the related decisions appear to conflict with 40 CFR 1506.1(c)(3), which prohibits agencies from taking actions that will prejudice the ultimate decision in a programmatic environmental impact statement (EIS). In this regard, CEQ contends that, even though the proposed merger does not involve a programmatic EIS, if we grant the proposed waivers, the likelihood that we will subsequently deny the merger tends to decrease.

According to CEQ, courts have recognized the need to prepare a comprehensive EIS when actions are functionally or economically related in order to prevent projects from being improperly segmented. CEQ argues that the fact that applicants are willing to risk our eventual disapproval of the merger does not remove the interdependence of these individual decisions.

DISCUSSION AND CONCLUSIONS

Applicants' waiver petitions will be granted. It is understandable that applicants want to be prepared to engage in effective, vigorous competition immediately following consummation of the control authorization that they intend to seek in the primary application.¹² We are not inclined to prevent applicants from beginning the construction process simply to protect them from the attendant risks. We emphasize what applicants acknowledge--that any resources they expend in the construction of these connections may prove to be of little benefit to them if we deny the primary application, or approve it subject to conditions unacceptable to applicants, or approve the primary application but deny applicants' request to operate over any or all of the seven connections. Nonetheless, given applicants' willingness to assume those risks, we will grant the waivers they seek in CSX-1 and NS-1.

¹²In this regard, we note that ARU is simply wrong in its assertion that a reasonable competitive balance can be maintained by denying both waiver petitions, so that neither carrier would face unanswered competition from the other. In their original petitions requesting waiver, both CSX and NS separately explained that these connections would permit each carrier to be able, as soon as possible following any Board approval of the primary application, to link its expanded system and compete with the other carrier in areas in which the other carrier's infrastructure would already be in place. As CSX has further explained (CSX-3 at 8):

CSX and NS have requested permission to construct connections that largely address different markets. Three of CSX's connections are intended to allow it to provide competitive services on routes linking Chicago and New York and the fourth on Northeast-Southeast routes served via Cincinnati. These are routes that NS will be able to serve immediately upon any Board approval of the Acquisition. NS's proposed connections, on the other hand, are focused on allowing it to compete with CSX in serving southwestern markets and to make use of an important Chicago-area yard used for interchanging traffic with western carriers. Denying the waiver petitions will only assure that inequality (12 continued) in competition, and the potential long term problems created by such inequality, will occur.

ARU maintains in its comments that applicants have no basis for seeking the waivers. Our rules, however, specifically provide for such requests, and we have entertained numerous waiver and clarification petitions in previous rail merger cases, as well as this one. See, e.g. Decision No. 7 (STB served May 30, 1997). ATA and SDI argue that the competitive effect of the involved connections should be considered as part of the primary application. We agree. Applicants' operations over these connections are interdependent with the primary application, and we will consider the competitive impact of the projects and the environmental effects of those operations along with our consideration of the primary application. Without authority to operate over the seven track connections for which the waivers are sought, applicants' construction projects alone will have no effect on competition. We emphasize that the waiver petitions that we are granting here are restricted to the construction of, and not the operation over, the seven connection projects described above.

The commenters complain that granting the waivers constitutes a prejudicial "rush to judgment" with respect to the primary application. However, as we emphasized in our May 13, 1997 request for comments, our grant of these waivers will not, in any way, constitute approval of, or even indicate any consideration on our part respecting approval of, the primary application. We also found it appropriate to note that, if we granted the waivers sought in the CSX-1 and NS-1 petitions, applicants would not be allowed to argue that, because we had granted the waivers, we should approve the primary application. We affirm those statements here.

Environmental considerations. *CEQ has advised us not to consider the proposed construction projects separately from the operations that will be conducted over them. CEQ's recommendation is based upon its regulations at 40 CFR 1508.25(a)(1)(i)-(iii), and upon various court decisions, indicating that "when a given project effectively commits decisionmakers to a future course of action [] this form of linkage argue[s] strongly for joint environmental evaluation." Coalition of Sensible Transp. v. Dole, 826 F.2d 60, 69 (D.C. Cir. 1987). We believe, however, that we have the authority to consider the proposed construction projects separately, and agree with the applicants that permitting the construction proceedings to go forward now would be in the public interest and would not foreclose our ability to take the requisite hard look at all potential environmental concerns.*

After reviewing the matter, we do concur with CEQ that regulatory and environmental issues concerning both the construction and operating aspects of these seven small construction projects should be viewed together.¹³ Thus, in reviewing these projects separately, we will consider the regulatory and environmental aspects of these proposed constructions and applicants' proposed operations over these lines together in the context of whether to approve each individual physical construction project.¹⁴ The operational implications of the merger as a whole, including operations over the 4 or so miles embraced in the seven construction projects, will be examined in the context

¹³The applicable statute for both construction and operation of new rail lines is 49 U.S.C. 10901, which requires us to permit such actions unless they are shown to be inconsistent with the public convenience and necessity.

¹⁴We will have the information we need to do this because applicants' environmental report that will accompany the application will address the environmental impacts of both the construction and proposed operation of these projects. In addition, as discussed below, applicants will be required to file a detailed preliminary draft environmental assessment (PDEA) for each of the seven projects.

of the EIS that we are preparing for the overall merger. That EIS may result in further environmental mitigating conditions. No rail operations can begin over these seven segments until completion of the EIS process and issuance of a further decision.

We believe that CEQ may have misconstrued the merger project as consisting of just two roughly equivalent elements: construction and operation. In fact, these seven construction projects, including the operations over them, are but a tiny facet of an over \$10 billion merger project. To put matters in perspective, the construction projects together amount to fewer than 4 miles of connecting track for a 44,000-mile rail system covering the eastern half of the United States.¹⁵ Our approval of the construction exemptions will in no way predetermine the outcome of our merger decision. As was the case in *North Carolina v. City of Virginia Beach*, 951 F.2d 596, 602 (4th Cir. 1991) (North Carolina), segmentation of one phase of a larger project prior to completion of environmental review will not have “direct and substantial probability of influencing [the agency’s] decision” on the overall project. Accord, *South Carolina ex. rel. Campbell v. O’Leary*, 64 F.3d 892, 898-99 (4th Cir. 1995). Approval of the constructions will not make approval of the merger any more likely, and we have made that clear to the railroads in advance. Compare *Thomas* (where the Forest Service committed substantial public funds to a road project that could not be recovered absent its approval of related logging projects) with *North Carolina*, 951 F.2d at 602 (where, as here, the facts reflect that the city proposing the project accepted the risk that funds expended or constructed could be lost if the overall project were not approved).

Nor will separate consideration and approval of these small construction projects in any way undermine our ability to give meaningful and thorough consideration to all environmental issues surrounding the larger merger proposal. We have not, by segmenting these construction projects, broken down the environmental impacts of the merger into insignificant pieces escaping environmental review. See *Swain v. Brineger*, 542 F.2d 364 (7th Cir. 1976). Indeed, we are preparing an EIS for the overall merger, and we will undertake appropriate environmental documentation for each of the seven individual construction projects. Our approach is appropriate because the environmental impacts of these constructions tend to be localized, whereas the impacts of the merger will affect a much larger area (quite likely the Eastern United States).

In sum, separate consideration of the seven construction projects and their environmental impacts should not be precluded by 40 CFR 1508.25 because: (1) approval of the construction projects will not automatically trigger approval of the merger; moreover, we have already determined to do an EIS for the merger and separate approval of these construction projects will in no way affect that decision; and (2) these appear to be “garden-variety connection projects” that will proceed at the railroads’ financial risk, independent of the much larger merger proposal.

Having decided to grant the petitions for waiver, we will now set out some details of how we plan to proceed. In order to fulfill our responsibilities under the National Environmental Policy Act

¹⁵Applicants point out that much of the construction on these short segments will take place within existing rights-of-way, suggesting that they will be unlikely to have significant environmental impacts. Compare *Thomas v. Peterson*, 753 F.2d 754 (9th Cir. 1985) (*Thomas*) (where the Forest Service proposed to construct a road through a pristine wilderness). Applicants also suggest that there are no alternative routings for these projects. That issue, however, has not yet been determined; it will be examined in the environmental assessments (EAs) or other environmental documents that will be prepared for each of these construction projects.

(NEPA) and related environmental laws, we will require applicants to submit certain information on the environmental effects of the construction and operation of the seven proposed connections. As noted, the applicants will file an environmental report with the primary application that will address all of the construction projects associated with the proposed merger, including the seven connections discussed in this decision.

In addition, we will require that applicants provide a specific PDEA for each individual construction project covered by this decision. Each PDEA must comply with all of the requirements for environmental reports contained in our environmental rules at 49 CFR 1105.7. Also, the PDEA must be based on consultations with our Section of Environmental Analysis (SEA) and the federal, state, and local agencies set forth in 49 CFR 1105.7(b), as well as other appropriate parties. The information in the PDEA should be organized as follows: Executive Summary; Description of Each Construction Project Including Proposed Operations; Purpose and Need for Agency Action; Description of the Affected Environment; Description of Alternatives; Analysis of the Potential Environmental Impacts; Proposed Mitigation; and Appropriate Appendices that include correspondence and consultation responses. If a PDEA is insufficient, we may require additional environmental information or reject the document. We advise the applicants to consult with SEA as soon as possible concerning the preparation and content of each PDEA.

As part of the environmental review process, SEA will independently verify the information contained in each PDEA, conduct further independent analysis, as necessary, and develop appropriate environmental mitigation measures. For each project, SEA plans to prepare an EA, which will be served on the public for its review and comment. The public will have 20 days to comment on the EA, including the proposed environmental mitigation measures. After the close of the public comment period, SEA will prepare Post Environmental Assessments (Post EAs) containing SEA's final recommendations, including appropriate mitigation. In making our decision, we will consider the entire environmental record, including all public comments, the EAs, and the Post EAs.

Should we determine that any of the construction projects could potentially cause, or contribute to, significant environmental impacts, then the project will be incorporated into the EIS for the proposed merger and will not be separately considered. In order to provide SEA with adequate time to incorporate the proposed connections into the draft EIS, if warranted, applicants must file the PDEAs no later than Day F+75 under the procedural schedule established in Decision No. 6.

This action will not significantly affect either the quality of the human environment or the conservation of energy resources.

It is ordered:

- 1. The CSX-1 and NS-1 petitions for waiver are granted.*
- 2. NSR and CSXT must serve copies of this decision on the Council on Environmental Quality, the Environmental Protection Agency's Office of Federal Activities, and the Federal Railway Administration, and certify that they have done so within 5 days from the date of service of this decision.*
- 3. This decision is effective on the date of service.*

By the Board, Chairman Morgan and Vice Chairman Owen.

*Vernon A. Williams
Secretary*

APPENDIX D

METHODOLOGIES

The following environmental impact areas were evaluated for the proposed Sidney connection project: land use, socioeconomics and environmental justice, transportation systems, safety, water resources, biological resources, air quality, noise, cultural resources, and energy. The methods utilized in the assessment of impacts for each of these categories, with an explanation of the significance criteria, are provided below.

Environmental scientists visited the site to assess land use, vegetation and other characteristics of the area. Cultural resource specialists also visited the site. During the site visits the scientists and cultural resource specialists took photographs of the proposed construction site and surrounding area. Information was also obtained from published reference materials and from federal, state and local agencies.

LAND USE

Land use information was obtained from site visits, U.S. Geological Survey (USGS) topographic maps and from aerial photographs. Land use within and adjacent to the proposed construction area was determined. Buildings (such as residential and commercial buildings, schools and churches) near the proposed construction site were also noted due to possible sensitivity to noise disturbance or incompatibility with construction. Contacts were made with the county planning agency to obtain information on local planning and zoning requirements to determine if rights-of-way would be consistent with any such requirements. Contacts were made with the U.S. Bureau of Indian Affairs to determine the presence of any officially recognized Native American tribes or reservations near the site.

USGS Topographic Maps

USGS topographic maps were utilized during the site visits for notation of land use, and for preparation of the figures presented. Proper place names of roads, creeks, and water bodies not readily evident during the site visits were developed from information on these maps.

NRCS Maps

The United States Department of Agricultural Natural Resources Conservation Service (NRCS, formerly known as the Soil Conservation Service) has created a national database of prime farmland. The local NRCS office was contacted and requested to provide soil surveys, maps or drawings indicating the location of prime farmland at or in the vicinity of the project. These maps or drawings were reviewed, and the areas of prime farmland adjacent to or within 500 feet of the center line of the railway were inventoried to determine approximate areas or lengths of prime farmland in the area.

Flood Zone Maps

The Federal Emergency Management Agency (FEMA) publishes maps showing areas subject to flooding. These maps were previously published and distributed by the U.S. Department of Housing and Urban Development (USDHUD) and are periodically updated and revised. Maps that cover each proposed project area were obtained and reviewed to determine which portions of the line would be located within the 100-year and 500-year flood plains.

Evaluation Criteria

The following criteria were used to assess the significance of land use impacts:

Land Use Consistency and Compatibility

- *The severity of visual, air quality and noise impacts on sensitive land uses.*
- *Interference with the normal functioning of adjacent land uses.*
- *Alteration of flood water flow that could increase flooding in adjacent areas.*
- *Consistency and/or compatibility with local land use plans and policies.*

Prime Agricultural Land

- *Permanent loss of NRCS-designated prime farmland.*

SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

Executive Order 12898, entitled “Federal Actions to Address Environmental Justice in Minority Population 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 which have a high and disproportionate impact on these communities should be identified and addressed.

In this EA, potential impacts of the proposed construction of a rail line connection in Sidney, Illinois on minority and low-income communities were considered, along with the potential impacts associated with an alternative alignment. One of the primary goals in selecting alternative alignments for the proposed project was to minimize impacts on surrounding residents. Information was obtained through site visits and demographic research. While the “no-build” alternative would have no change in potential impacts on the community in the vicinity of the proposed connection, neither would it provide any of the anticipated benefits of the connection described.

In order to study the effects of the proposed construction on the population in the vicinity of the project, information on racial composition and average income level in the area was obtained from the U.S. Census Bureau TIGER/Line files and other statistical sources. From the Census files, the proposed construction was determined to be located in one census block. Using the census block number, Summary Tape Files were utilized to determine and analyze the poverty status, race and income for the relevant block.

The proposed project area and an alternative alignment for the project were studied to determine the number of new residences and other sensitive receptors within the Ldn 65 dBA contour around the connection affected by an increase of two dBA, since noise would be the predominant potential impact on nearby sensitive receptors. The assessment also considered whether any of these sensitive receptors would be subject to additional noise from the proposed connection, and whether they are currently affected by equal or greater noise from existing operations. Safety concerns were also taken into consideration. Potential increases in the number of grade crossings were examined, as were the nature and operation of the proposed grade crossings and the potential traffic they would experience.

Evaluation Criteria

The following criteria was used to determine impacts from the proposed project to socioeconomics and environmental justice:

- *Reviewed demographic and income data from the 1990 Census to compare the population of the area of the proposed construction with that of the Village of Sidney.*
- *An environmental justice effect is determined to be significant if an adverse effect of the proposed construction falls disproportionately on low-income or minority populations.*

TRANSPORTATION SYSTEMS

Potential impacts on local transportation systems for the proposed project included increased delays at grade crossings.

The evaluation criteria used to determine potential impacts on transportation includes:

- *The need for new grade crossings.*
- *Modifications of existing grade crossings*

Grade Crossings

Delays at grade crossings are a function of the number of trains per day passing over a crossing, the time it takes for a train to pass the crossing, and the type of crossing warning device. Delays at grade crossings will only be quantified if the ADT exceeds 5,000 vehicles.

SAFETY

Safety impacts are discussed in the following general categories:

- *Train accidents, derailments, and other incidents;*
- *Shipments of hazardous commodities; and*
- *Hazardous waste sites and hazardous material releases.*
- *Railroad safety precautions during construction.*

Evaluation Criteria

The following criteria was used to determine the effects of the proposed project on safety issues:

- *The effect of the proposed connection on the transportation of hazardous materials.*
- *The likelihood of encountering hazardous waste sites during construction.*
- *The likelihood of a hazardous material release during construction.*

Public Health and Safety

Railroad operations affect public health and safety when accidents occur. Delays also occur at grade crossings (which could affect the time required to respond to an emergency, or affect the judgment of motorists concerning their ability to cross the tracks safely); and releases of hazardous materials sometimes occur.

Transportation of Hazardous Materials

The existing lines were evaluated to determine if they are hazardous material key routes. NS' current train accident ratio (1.93 train accidents per million train miles) was applied to the annual number of trains projected to operate over the connection and the length of the connection to calculate the probability of a train accident on the connection.

Hazardous Waste Sites

Railroad records or information databases were examined to determine if there are known hazardous waste sites or sites where there have been hazardous materials spills at the proposed construction site. The information searches of federal and state environmental databases were used to identify known sites of environmental concern within 500 feet of the proposed construction. EDR searched the following databases:

- *National Priority List (NPL)*
- *Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)*
- *Resource Conservation and Recovery Information System - Treatment, Storage, or Disposal (RCRA-TSD) sites*
- *Emergency Response Notification System (ERNS) spill sites*
- *State Priority List (SPL)*
- *State Licensed Solid Waste Facilities (SWF/LF)*

- *State Inventory of Leaking Underground Storage Tanks (LUST)*
- *State Inventory of reported spills (SPILLS)*
- *Orphan or unmappable sites list*

The reports were reviewed to determine if any of these sites would be impacted by the proposed construction. Site visits noted any obvious indications of potential hazardous waste sites within the construction area.

WATER RESOURCES

Identification of the types and extent of surface water features occurring within 500 feet of the center line along the proposed Sidney construction was completed using a variety of information sources.

Surface water resources were primarily identified from site inspection and interpretation of hydrologic features delineated on USGS topographical and NWI maps. The other information sources described below were used to confirm and/or refine the locations of these features.

USGS Topographic Maps

USGS topographic maps indicate, among other items, the types and extent of water features on the landscape. These features include permanent and intermittent streams, water bodies, wetlands, tidal channels, mudflats, sewage-treatment ponds, channels, culverts, and ditches. Water resources located within and immediately adjacent to the railroad right-of-way were assessed for this project. Each crossing of a water resource was counted as required by 33 CFR Section 330.2 (I).

National Wetlands Inventory Maps

*NWI maps show various water features with a focus on wetland resources. The inventory was completed by USFWS through a stereoscopic analysis of high altitude aerial photography and delimitation of wetland types on USGS topographical maps. Wetlands are classified by USFWS in accordance with *Classification of Wetlands and Deepwater Habitats of the United States*. A particular wetland is located and classified in detail on NWI maps by a sequence of alphabetical and numerical symbols based on the attributes of the wetland. A comprehensive explanation of the classification system is provided in the map legend. This classification system includes a broad range of the types and extent of wetland resources, as well as other water features. However, for this evaluation, wetlands were identified as rivers, lacustrine (reservoirs, lakes) or palustrine (any vegetated wetland). Palustrine wetlands were further identified as forested, shrub/scrub, or emergent (containing herbaceous vegetation) wetlands. There are often differences between the USFWS definition of a “wetlands” and the definitions of various federal, state, and local regulatory agencies. All NWI wetlands that occur within 500 feet of the proposed construction are depicted on figures.*

Soil Survey Maps

Soil surveys have been completed by NRCS for a large number of counties in the United States. Maps have been prepared for each survey that show the types and extent of soil types. A subset of the soils mapped by NRCS is classified as “hydric;” that is, soils subjected to prolonged periods of flooding, ponding or saturation. The occurrence of a hydric soil provides an indication that an area may be a wetland. Information from the soil survey maps was used to cross-reference other sources of information to better understand the soils and hydrologic conditions at select locations.

Site Visits

The proposed construction site was inspected and reviewed in the field by environmental scientists. Information about surface water resources and other areas of interest was collected during the inspections. Field notes and photographs taken during the inspections were retained for later review and utilized to amend and refine information derived from other sources.

Evaluation Criteria

The following criteria were used to assess the potential impacts to surface water resources and wetlands that could result from the proposed construction project:

- Alteration of creek embankments with rip-rap, concrete, and other bank stabilization measures.*
- Temporary or permanent loss of surface water area associated with the incidental deposition of fill.*
- Downstream sediment deposition or water turbidity due to fill activities, dredging, and/or soil erosion from upland construction site areas.*
- Direct or indirect destruction and/or degradation of aquatic, wetland, and riparian vegetation/habitat.*
- Degradation of water quality through sediment loading or chemical/petroleum spills.*
- Alteration of water flow that could increase bank erosion or flooding, uproot or destroy vegetation, or affect fish and wildlife habitats.*

The extent and duration of impacts to surface water resources and wetlands resulting from the project would depend primarily on the type of work to be completed and the size of the project. The overall effect could be lessened by avoiding important resources and minimizing impacts to the extent practicable, and by implementing the proposed mitigation measures. Prior to initiating construction, regulatory agencies would be consulted regarding the need to obtain permits, such as U.S. Army Corps of Engineers’ (COE) Section 404 permits, National Pollution Discharge Elimination System (NPDES) permits, and state-required permits or agreements, as appropriate.

BIOLOGICAL RESOURCES

Information regarding biological resources potentially occurring at, or in the immediate vicinity of, the proposed project (within 500 feet of the center line) was collected from a variety of sources, including USGS topographic maps, NRCS soil survey maps, lists of threatened and endangered species, reference books on regional flora and fauna, and information databases. In addition, federal and state agencies such as the U.S. Fish and Wildlife Service and Illinois Department of Natural Resources were consulted, and specific information concerning the potential occurrence of sensitive plants and animals in the vicinity of the proposed project was solicited.

Site visits were conducted at the project site to evaluate biological resources. These evaluations included determinations as to the occurrence or potential occurrence of sensitive species and habitat for sensitive species, overall value to wildlife, and use of the area as a migration corridor for animals.

Evaluation Criteria

The following significance criteria were utilized to assess the potential impacts to biological resources resulting from the proposed projects:

- Loss or degradation of unique or important vegetative communities.*
- Harm to or loss of individuals or populations of rare, threatened or endangered plants or animals.*
- Disturbance of nesting, breeding or foraging areas of threatened or endangered wildlife.*
- Loss or degradation of areas designated as critical habitat.*
- Loss or degradation of wildlife sanctuaries, refuges or national, state or local parks/forests.*
- Alteration of movement or migration corridors for animals.*
- Loss of large numbers of local wildlife or their habitats.*

Sensitive animal species with potential to occur in the vicinity of the project may be impacted by construction activities. A determination as to the level of impact will depend on many factors including the availability of suitable habitat, previous surveys, and comments from agencies.

Parks, forest preserves, refuges and sanctuaries were identified within one mile of the proposed construction. Impacts to these areas were determined based on their distance from the proposed constructions and the degree to which rail construction, operation and maintenance would disturb or disrupt activities at these areas.

AIR QUALITY

Emissions from trains have the potential to impact air quality. STB regulations contain thresholds for air quality evaluations related to rail traffic increases. If STB thresholds would be met or exceeded, the effects on air pollutant emissions must be analyzed. The air quality methodologies contained in this section were used to calculate the air pollutant emissions from the proposed construction. Analyses were conducted for areas with activity increases above the following STB thresholds, as specified in 49 CFR 1105.7(e):

Activity	Threshold
Attainment Areas (49 CFR 1105.7(e)(5)(I))	
<i>Rail line segment</i>	<i>Increase of 8 trains/day or 100% as measured in gross tons miles annually</i>

Evaluation Criteria

The following criteria were used to assess the potential impacts to air quality that could result from the proposed construction project:

- Increase in levels of pollutant emissions (e.g., hydrocarbons, carbon monoxide, sulfur dioxide, nitrogen oxide, and particulate matter) from the operation of construction equipment and vehicles.*
- Effects related to train operations over the NS and UP line segments adjoining the connection, to the extent they meet the Board's thresholds for analysis.*
- Evaluation of the potential for air quality effects from fugitive dust emissions.*
- Air quality effects are considered to be adverse if the proposed construction would lead to long-term increases in pollutant emissions or excessive fugitive dust emissions.*

Air Quality Methodology

The increase in emissions for the proposed connection was calculated using the total gross ton increase expected on the connection and the length of the connection. These values, when multiplied together, will provide the gross ton-mile increase for that connection. Next, the increase in total gallons of diesel fuel consumed for the connection will be obtained by dividing the gross ton-mile increase by the fuel efficiency factor 702.9 gross ton-miles per gallon on the NS system. The corresponding annual emission increases will be estimated by multiplying the annual fuel consumption for the connection by emission factors. Criteria pollutant emission factors were obtained from emission rates provided in USEPA’s “Emission Standards for Locomotives and Locomotive Engines; Proposed Rule”¹⁶ dated February 11, 1997. This proposed rule provides emission rates for line haul and switch locomotives which were used by USEPA to determine the emission standards in the proposed rule. The emission rates for line haul locomotives were converted to units of pounds of pollutant per 1000 gallons of diesel fuel consumed, and are provided below:

<i>Hydrocarbons (HC)¹</i>	<i>21.0</i>	
<i>Carbon Monoxide (CO)¹</i>	<i>62.9</i>	
<i>Nitrogen Oxides (NO_x)¹</i>	<i>566.4</i>	
<i>Sulfur Dioxide (SO₂)¹⁷</i>	<i>36.7</i>	
<i>Particulate Matter (PM₁₀)¹</i>	<i>14.3</i>	
<i>Lead (Pb)¹⁸</i>		<i>0.0012</i>

This methodology will be employed for all criteria pollutants on this proposed connection since it will experience an increase in activity equal to or greater than the STB thresholds.

The following sample calculation for a rail line segment illustrates the emission estimation procedure for hydrocarbons:

$$\begin{aligned}
 & [16.0 \text{ miles (segment length)}] \times \left[\frac{45.17 \times 10^6 \text{ gross tons (increase)}}{\text{year}} \right] \times \\
 & \left[\frac{1 \text{ gallon}}{702.9 \text{ gross ton miles}} \right] = 1.03 \times 10^6 \frac{\text{gallons diesel fuel consumption (increase)}}{\text{year}}
 \end{aligned}$$

¹⁶United States Environmental Protection Agency, February 11, 1997. 40 CFR Parts 85, 89 and 92. Emission Standards for Locomotive and Locomotive Engines; Proposed Rule. The emission factors incorporate a fuel efficiency of 0.37 lbs of fuel per HP-hr and a density of 7.05 lbs per gallon.

¹⁷SO₂ emissions are based on a fuel sulfur content of 0.26 percent by weight and a density of 7.05 lbs per gallon.

¹⁸Lead emissions are based on Table 1.3-11 of AP-42 (8.9 lbs Pb/10¹² Btu.) The heat content of the fuel is 140,000 Btu per gallon.

$$\left[1.03 \times 10^6 \frac{\text{gallons}}{\text{year}} \right] \times \left[\frac{21 \text{ lbs (HC)}}{1000 \text{ gallons}} \right] \times \left[\frac{1 \text{ ton}}{2000 \text{ lb}} \right] = 10.80 \frac{\text{tons(HC)}}{\text{year}}$$

Emission Calculation Assumptions:

- *A fuel efficiency factor of 702.9 gross ton-miles per gallon will be used on the NS system.*
- *The density of the fuel is 7.05 lbs per gallon.*
- *The fuel sulfur content is 0.26 percent by weight.*
- *The fuel heat content is 140,000 Btu per gallon.*
- *The fuel efficiency factor is 0.37 lbs of fuel per HP-hr.*
- *Emission factors for HC, CO, NO_x, and PM₁₀ are based on emission rates provided in USEPA's proposed rule on locomotive emission standards. It is conservatively assumed that all particulate matter emissions represent PM₁₀.*
- *Lead emissions are based on the AP-42 emission factor of 8.9 lbs of lead per 10¹² Btu.*

Potential impacts to air quality are discussed below.

Construction

During construction, the air quality in the vicinity of the proposed construction could be affected by fugitive dust and vehicle emissions. Increases in fugitive dust could occur due to grading and other earthwork necessary for rail bed preparation or removal activities. Emissions from heavy equipment and construction vehicles would also occur. These effects on air quality would be temporary and limited to the period of construction or abandonment. Additionally, the emissions from the small number of vehicles and equipment would be insignificant compared to the overall train and vehicle emissions in the project areas. Potential impacts would be minimized by good construction practices that would include dust control and vehicle maintenance measures.

Operation

The amount of train traffic operating over the proposed project site meets or exceeds STB thresholds for air quality; therefore air pollutant emissions were evaluated.

Maintenance

Right-of-way maintenance activities would result in emissions from vehicles and equipment used to perform maintenance activities. Maintenance activities would be confined to the rail line and occur sporadically for short periods throughout the year. Emissions during maintenance activities would be insignificant compared to the existing emissions in the area and would not significantly impact air quality.

NOISE

Construction

The proposed project would consist of construction activities that last for, at most, a few months. Temporary increases in noise level would occur during these operations, but the noise level would be similar to that of normal track maintenance procedures. Thus, the construction activities are not expected to result in significant adverse noise impacts.

Noise Level Thresholds

The STB regulations specify that noise studies be done for all connections where traffic will increase by at least 100% as measured by annual gross tons miles or at least 8 trains per day.

The noise increase is to be quantified for all sensitive receptors (schools, libraries, residences, retirement communities and nursing homes) that are in the project area where these thresholds will be surpassed.

The Day-Night Sound Level, abbreviated L_{dn} or DNL, represents an energy average of the A-weighted noise levels occurring during a complete 24-hour period. An increase in L_{dn} of 3 dBA could result from 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. Nighttime noise often dominates L_{dn} because of a weighting factor added to nighttime noise to reflect most people being more sensitive to nighttime noise. In calculating L_{dn} , the nighttime adjustment makes one event, such as a freight train passby, occurring between 10 p.m. and 7 a.m., equivalent to ten of the same events during the daytime hours.

There are some track segments where the STB threshold for a noise study is exceeded, but the total change in noise exposure would be insignificant. The approach taken was to analyze those areas where the projected increase in train volume or change in train mix would be expected to cause: (1) more than a marginal change in noise exposure, and (2) cause a significant increase in the number of noise sensitive receptors within the L_{dn} 65 contour. For this study, any increase in L_{dn} less than 2 dBA was considered insignificant. A 2 dBA threshold was selected because:

- 1. Near railroad facilities, a plus or minus 2 dBA variation in L_{dn} is common because of the normal variation in factors such as: operating condition, operating procedures, weather, time of day, and equipment maintenance.*
- 2. In most cases, a 2 dBA increase in noise exposure would cause only a small change (approximately 10%) in the number of residences within the L_{dn} 65 contour. This is because noise impacts from train operations tend to be localized to the residences closest to the tracks. The acoustic shielding provided by the first row or two of residences is usually sufficient to keep noise exposure below L_{dn} 65 at residences that are farther away.*

3. *Although a 2 dBA increase in noise exposure is often considered an insignificant change, it was selected as a conservative screening level for this study and for previous studies.*

Evaluation Criteria

The following criteria was used to determine potential impacts from the proposed project:

- *Identification of noise-sensitive land uses where changes in operation could result in noise exposure increases.*
- *Identification of noise sensitive receptors (e.g. residences, schools, hospitals, libraries).*

Approach

The overall goal of the noise study is to identify noise sensitive land uses where the projected change in operations could result in noise exposure increases that meet or exceed the STB thresholds. This assessment provides estimates of the number of noise-sensitive receptors where there will be a significant increase in noise exposure and the STB thresholds will be exceeded.

Following is an outline of the approach that has been used for the assessment of potential noise impacts:

1. *Develop noise models: Models for estimating rail line noise have been defined for significant noise sources. For connections, the dominant noise sources are the normal noise from freight and passenger train operations and the audible warning signals at grade crossings. Curves with small enough radii for substantial wheel squeal are normally lubricated to control wear and noise.*
2. *Identify sensitive receptors and existing noise conditions: Noise sensitive land uses were identified through review of USGS maps, aerial photographs and site visits.*
3. *Project existing and future noise exposure: Information on distances and propagation paths to sensitive receptors and existing and future operation plans have been used to estimate noise exposure in terms of the L_{dn} . Instead of doing noise projections for each sensitive receptor, L_{dn} 65 contours were drawn on the maps or aerial photographs. For all of the rail segment noise projections, the average train was assumed to be 5000 feet long.*

It was assumed that train horns are sounded starting ¼ mile before all grade crossings and continuing until the locomotive is through the grade crossing.

4. *Count noise sensitive receptors:* Approximate counts were made of the number of residences, schools, and churches within the L_{dn} 65 contour for both the pre- and post-construction train volumes using site visits. The final result of this analysis is an estimate of the total number of sensitive receptors likely to be affected by increased noise exposure by projected NS operations.

Measurement Data Used for Noise Models

Noise measurements of existing NS equipment were taken to provide a solid basis for the noise projections. The measurements included train noise from line-haul rail lines, and noise near grade crossings to document noise levels due to sounding train horns prior to grade crossings.

Controlled noise tests were conducted on NS using a level stretch of track in China Grove, NC. This single track has high freight traffic and is located next to an open level field. Noise measurements were made over a four-day period while trains were operated at a speed specified for the day, i.e., 20, 35, and 50 mph. Speeds were verified with a radar gun for each train.

Measurements were made at a second location on the fourth day to measure the influence of grade. Engineers were allowed to operate their trains at their normal speed and a radar gun was used to clock the train speed.

All instruments are state-of-the-art. The entire measurement setup was properly field calibrated prior to measurements.

Noise levels of the entire train were measured at four perpendicular distances from the track using an array of microphones at 50, 100, 150, & 200 feet from the track centerline. Microphones were mounted on tripods and their AC outputs were cabled to a nearby trailer where a four-channel Hewlett Packard Dynamic Analyzer was used to measure the L_{eq} of each train. This microphone array was used to determine the wavefront spreading rate [rate of noise reduction versus distance]. This rate was used in conjunction with a reference location to predict the distance from the track to the L_{dn} 65 dBA contour.

This microphone array was supplemented with two precision sound level meters that measured the L_{eq} s and SELs of the locomotives and also of the cars at 150 feet from the track. This was a supplementary measurement that was not used in the model but it was used for cross-checks on the train noise data.

The definition of the SEL is:

$$SEL = L_{eq} + 10\text{Log}(t)$$

where:

SEL = Single Event Level, dBA

L_{eq} = Equivalent Energy Level, dBA

t = time, seconds

The L_{eq} represents the average sound pressure level that contains the same equivalent energy as the fluctuating sound level of the event. In simple terms, the high and lows of the fluctuating noise are characterized by a single average number. For example, as a train passes by, the noise will vary as the locomotives and cars go by. This fluctuating noise is characterized by a single sound level that is representative for the entire train. This averaging process is done on a logarithmic basis since decibels are involved.

The SEL represents the total energy contained in the event. For example, a train can be characterized by the L_{eq} and the amount of time that it takes to pass a measurement point. When the SEL is computed, it represents the total energy of the train. For example if two otherwise identical trains passed by, but one was longer than the other, the longer one would have a larger SEL. If one train was twice the length of another train, the SEL would be 3 dBA larger. This assumes that all locomotives and individual cars produce the same noise level. Again, the logarithmic averaging process is involved, i.e., a doubling produces a 3 dBA change.

The L_{eq} corresponds to the loudness of the event whereas the SEL does not. The effects of speed, loudness, time duration, and fluctuating level are conveniently represented by a single number. The SEL is convenient for the computation of the L_{dn} . Alternately, the L_{eq} and time duration could be used with equal ease and their combination would yield the same L_{dn} result.

Measurements were made by the firm of William R. Thornton, Ph.D., P.E. in association with Earshen & Angevine Acoustical Consultants Inc. All work was done by two noise control engineers who are full members of the Institute of Noise Control Engineers, INCE.

Horn noise was measured at a rail crossing in another part of China Grove at a distance of 150 feet from the track. Measurements were made at the midpoint between the ¼-mile marker and the rail crossing. The SEL and L_{eq} of the horn were measured as the train approached and departed this measurement station. This situation represents the worst case for noise for a person living near a crossing.

Measurements were also made at a nearby section of 0.9 percent grade to determine the effects of grade on noise emissions.

The detailed results of the train passby noise measurements at the four microphone positions are given in Table N-1. Measurement results of the 0.9 percent grade train passbys and the train horn measurements are listed in Tables N-2 and N-3, respectively. Finally, all measured NS noise levels are summarized in Table N-4, energy-averaged and normalized to a distance of 100 feet from track centerline.

The results from the noise survey of NS trains showed that the average attenuation rate was 4.8 dBA per doubling of distance. In other words, the noise level from a train passby 200 feet from the track would be 4.8 dBA less than the noise level 100 feet from the track. This represents the attenuation of noise caused by the dissipating effects of the atmosphere and ground. This is consistent with the attenuation rate that would be expected for train noise propagating over soft ground.

Noise from train horns were found to be relatively consistent for the six trains that were measured. At 150 feet from the track, the average L_{eq} was 93 dBA, the average duration was 15.6 seconds, and the energy average SEL was 108 dBA.

Table N-1
Noise Data for NS Trains

Event Time	Speed (mph)	Duration (seconds)	No. of Loco-motives	No. of Rail Cars	Measured L_{eq} at Distance from Tracks (dBA)			
					50 ft	100 ft	150 ft	200 ft
919	20	60	2	14	79.8	75.7	73.1	70.9
1023	19	207	2	93	81.2	77.6	75.2	73.9
1053	20	202	??	100	79.8	76.0	73.3	72.0
1214	20	166	3	61	72.8	69.4	66.9	65.7
1243	20	58	2	24	73.1	69.7	67.2	66.4
1353	18	145	2	67	80.3	76.9	73.8	72.1
1624	20	316	2	128	77.9	74.8	72.1	70.9
1731	19	239	2	85	78.4	74.6	72.6	70.4
1752	20	269	3	97	78.9	74.7	72.6	71.0
1802	20	167	2	45	71.5	67.8	65.8	64.3
1913	18	160	2	86	79.7	76.0	73.2	71.9
--	20	240	2	80	79.3	74.2	72.9	70.1
Average:	20	185	2	73	78.6	74.8	72.3	70.7
1035	25	90	2	38	76.0	71.8	68.8	67.2
1204	33	163	3	127	84.0	79.9	76.5	74.7
1226	32	50	2	36	74.6	70.6	67.3	65.8
1307	30	92	2	37	81.6	77.8	74.8	73.0
1326	34	39	2	39	79.6	75.8	72.6	70.9
1424	34	30	3	69	84.9	81.5	79.2	77.1
1453	33	101	2	97	81.2	76.8	73.3	71.2
1610	34	119	2	91	84.8	80.9	78.3	76.5
1724	35	143	2	124	82.9	78.9	76.4	74.1
1949	35	130	2	76	80.8	77.4	74.9	72.7
2000	35	104	3	57	84.8	80.7	78.2	75.9
2027	33	130	3	97	84.0	79.7	76.3	73.6
Average:	33	99	2.3	74	82.6	78.7	75.9	73.8
1036	50	54	2	71	84.0	80.5	77.1	75.0
1154	43	122	4	136	87.2	84.0	80.2	77.7
1301	42	102	4	110	88.1	85.2	82.0	79.3
1322	47	23	3	28	85.6	82.4	78.8	76.5

Event Time	Speed (mph)	Duration (seconds)	No. of Locomotives	No. of Rail Cars	Measured L_{eq} at Distance from Tracks (dBA)			
					50 ft	100 ft	150 ft	200 ft
1339	47	38	2	47	86.7	82.8	77.8	74.8
1347	45	80	4	76	82.4	79.5	76.7	74.7
1447	44	76	5	92	87.3	84.2	81.1	79.4
1503	48	41	2	33	85.3	81.7	78.2	74.9
1523	49	51	1	56	80.7	77.2	73.8	71.6
1535	45	111	4	121	89.5	86.2	82.6	79.7
1910	45	80	2	70	83.2	79.4	76.6	74.1
1921	41	154	2	138	87.1	83.1	80.1	78.1
Average:	46	78	2.9	87	86.2	82.9	79.4	77.0

Table N-2
Noise Data from NS Trains on a 0.9 Percent Grade

Event Time	Speed (mph)	Duration (sec)	No. of Locomotives	No. of Rail Cars	Direction of Travel	Measured L_{eq} at Distance from Tracks (dBA)			
						50 ft	100 ft	150 ft	180 ft
1019	30	120	1	95	--	80.2	78.1	76.0	75.8
1226	53	70	3	44	--	76.8	75.5	73.1	73.0
1257	48	50	2	42	--	79.0	78.7	76.0	75.4
1315	27	166	3	59	--	78.3	76.7	74.6	73.9
1406	33	106	2	59	uphill	78.9	77.7	75.9	77.2
1636	31	161	3	87	uphill	81.3	80.3	76.9	77.2
1450	43	72	3	70	downhill	80.0	77.5	75.4	75.5
1722	42	164	2	132	downhill	79.6	77.6	74.9	74.6

Table N-3
Horn Noise Data from NS Trains
(all measurements taken 150 ft from track centerline)

Time	Direction	L_{eq} (dBA)	L_{max} (dBA)	SEL (dBA)	Duration (seconds)
1030	South	93.0	99.0	105.0	16.0
1049	North	91.5	99.5	103.5	15.7
1222	South	92.0	101.0	104.0	16.0
1238	North	94.7	100.9	107.0	17.0
1304	South	91.2	96.6	101.1	9.3
1400	South	95.4	102.3	108.3	19.6

Table N-4
Average Values Calculated from NS Train Noise Data
(all sound levels normalized to 100 ft from track centerline)

Source	# of Trains	Energy Average Sound Level, dBA	
		Noise Metric	Average Level
Train Horns	6	L_{max}	103
		SEL	108
		L_{eq}	96
Train Passby on level track, 20 mph (no horn)	12	L_{eq}	75
Train Passby on level track, 35 mph (no horn)	12	L_{eq}	78
Train Passby on level track, 50 mph (no horn)	12	L_{eq}	82
Train Passby up 0.9% grade, 31 mph (no horn)	2	L_{eq}	79
Train Passby down 0.9% grade, 45 mph (no horn)	2	L_{eq}	78

The NS noise model was based on SEL and L_{dn} levels measured in the field at different speeds, train lengths, numbers of locomotives, different grades, and train horns.

Noise from rail line construction and operation has the potential to impact noise receptors along the rail line. Sensitive noise receptors include residences, schools, churches, libraries and hospitals. Residences within 500 feet and other sensitive noise receptors (schools, churches, hospitals, libraries) within 1,250 feet (0.25 mile) of the proposed project were identified since these would be the most likely affected by noise from construction activities and any subsequent rail operations. For construction projects expected to exceed STB noise thresholds, the number of noise receptors experiencing average daily noise levels (L_{dn}) of 65 decibels or greater was determined.

CULTURAL RESOURCES

In order to evaluate the potential impacts to historic and cultural resources, the Illinois State Historic Preservation Officer (SHPO) was sent a letter requesting information on known historic properties or archaeological sites potentially affected by the project. The SHPO was asked to indicate whether further actions are needed to identify historic properties. Documentation of historic and cultural resources in the project area was requested and a determination of the potential impacts of the project on any NRHP eligible structures was requested.

In accordance with 49 CFR 1105.8, the proposed construction is shown on USGS topographic maps on which urban or rural characteristics of the surrounding areas are depicted, as well as the location, if available, of documented historic properties.

Evaluation Criteria

Impacts to historic and archaeological resources would be considered adverse (as defined in 36 CFR 800.9) if any site listed or eligible for listing on the NRHP would experience destruction of the site; alteration of site characteristics or setting; neglect resulting in deterioration or destruction; or transfer, lease, or sale of the property on which the site occurs if adequate restrictions or conditions are not included to ensure preservation of the property's significant historic features.

ENERGY

The proposed project would allow NS to use shorter rail routes between destinations, increasing the efficiency of their systems. Shorter, more direct routes would reduce the overall fuel consumption of locomotives. The tonnage expected to operate over the connection was estimated assuming 5400 trailing tons per train. This was multiplied by the reduction in route length that would be realized from the connection to determine the reduction in ton miles. Multiplying ton miles by the fuel consumption per ton-mile provides the number of gallons of fuel saved. The proposed project would have an overall positive impact on energy use and encourage diversion of truck traffic to more fuel efficient rail transport.

APPENDIX E

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