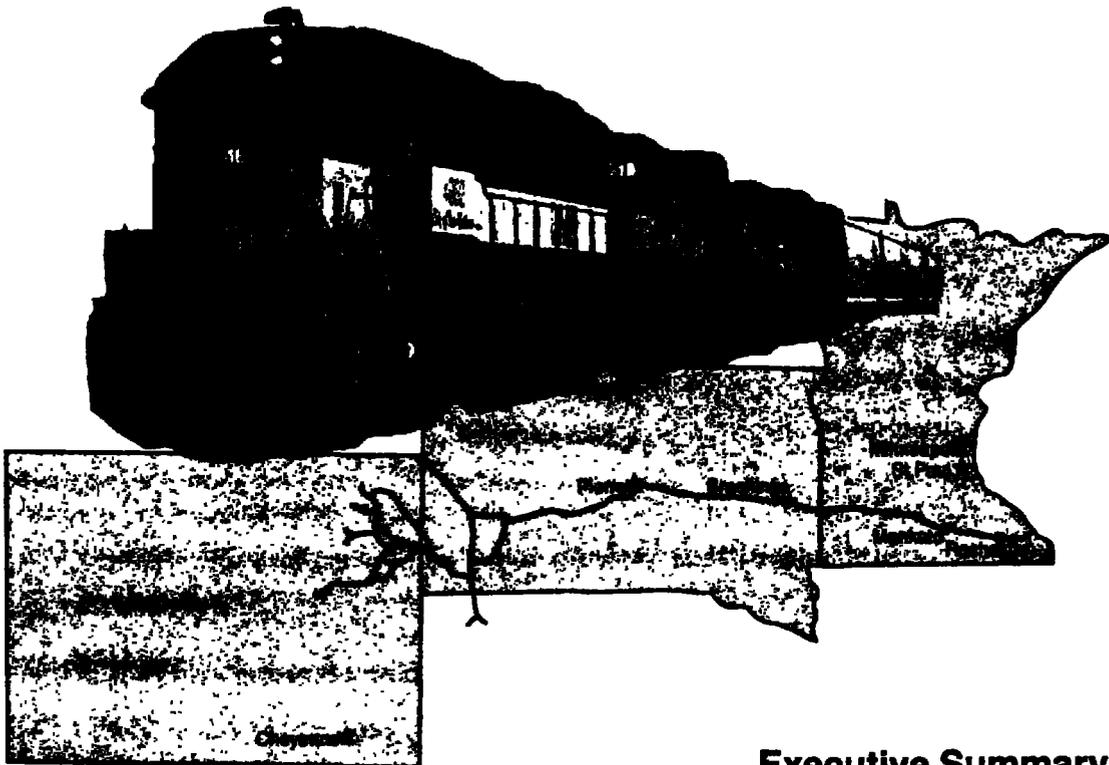


# FINAL ENVIRONMENTAL IMPACT STATEMENT

Finance Docket No. 33407 - Dakota, Minnesota & Eastern Railroad Corporation

## Construction into the Powder River Basin POWDER RIVER BASIN EXPANSION PROJECT



### Executive Summary

**Lead Agency:**  
Surface Transportation Board,  
Section of Environmental Analysis

**Information Contacts:**  
Victoria J. Rutson, Chief  
1-877-404-3044

**Cooperating Agencies:**  
USDA Forest Service  
USDI Bureau of Land Management  
US Army Corps of Engineers  
USDI Bureau of Reclamation  
US Coast Guard



**SURFACE TRANSPORTATION BOARD**  
**Washington, DC 20423**

***Section of Environmental Analysis***

November 19, 2001

**Re: STB Finance Docket No. 33407 – Dakota, Minnesota & Eastern Railroad Corporation Construction into the Powder River Basin: Release of Final Environmental Impact Statement**

**Dear Reader:**

The Section of Environmental Analysis (SEA) is pleased to provide you with the enclosed Final Environmental Impact Statement (Final EIS) on the proposed Powder River Basin Expansion Project (PRB Expansion Project) of the Dakota, Minnesota & Eastern Railroad (DM&E). The Final EIS was prepared in cooperation with five Federal agencies: the U.S. Department of Agriculture, Forest Service; the U.S. Department of Interior, Bureau of Land Management; the U.S. Army Corps of Engineers; the U.S. Department of Interior, Bureau of Reclamation; and the U.S. Coast Guard.

This Final EIS reflects SEA's independent analysis and incorporates input from agencies, elected officials, Tribes, organizations, businesses, and members of the public. It includes SEA's final recommendations for mitigating as many of the potentially significant adverse environmental impacts associated with the proposed project as possible. These measures, 147 conditions in all, address concerns of the communities through which the DM&E line would operate, as well as issues ranging from grade crossing safety to wayside noise to community and Tribal liaisons. Because of the unique circumstances of the PRB Expansion Project, SEA and the cooperating agencies believe this case warrants more far-reaching and extensive environmental mitigation than is typically imposed by the Board. Therefore, SEA recommends that the Board require DM&E to implement the environmental mitigation measures included in Chapter 12 of this Final EIS as conditions in any final decision approving the project.

In making its final decision on the proposed expansion project, the Board will consider the entire environmental record, including all public comments, the Draft EIS, the Final EIS, and SEA's final recommended environmental mitigation. Congress has not established a statutory

time frame within which the Board's final decision must be issued, and in recognition of the complexity of this controversial proceeding, the Board has not yet announced a date for issuance of its final decision. It will, however, act as promptly as possible, and any party may file an administrative appeal within 20 days of service of its final written decision.

The entire Final EIS has been mailed to key reviewing agencies, Tribes, Governors, elected officials, and appropriate county offices, as well as the parties of record. It is also available to all interested persons for review in the reference section of over 80 public libraries. For information on where to view a copy of the Final EIS, call SEA's toll-free Environmental Hotline at 1-877-404-3044. The entire document is also available on the Board's website (<http://www.stb.dot.gov>), under "Decisions & Notices," and listed as "Environmental Review" by Service Date (November 19, 2001), Docket Number (FD 33407), or Docket Prefix (FD).

SEA appreciates the efforts of all interested parties who reviewed and commented on the Draft EIS. Thank you for your interest and participation in the environmental review process.

Sincerely,

A handwritten signature in black ink, appearing to read "Victoria J. Rutson". The signature is fluid and cursive, with the first name being the most prominent.

Victoria J. Rutson  
Environmental Project Director  
Section of Environmental Analysis

# **SURFACE TRANSPORTATION BOARD**

Finance Docket No. 33407

## **Dakota, Minnesota & Eastern Railroad Corporation Powder River Basin Expansion Project**

### **GUIDE TO THE FINAL ENVIRONMENTAL IMPACT STATEMENT**

This Final Environmental Impact Statement (Final EIS) evaluates the potential environmental effects that could result from the Dakota, Minnesota & Eastern Railroad Corporation's (DM&E) proposed Powder River Basin Expansion Project (PRB Expansion Project). The project involves construction of new rail for a total of nearly 300 miles and rehabilitation of approximately 600 miles of DM&E's existing rail line. The Surface Transportation Board's Section of Environmental Analysis (SEA), in cooperation with U.S. Department of Agriculture, Forest Service (USFS); U.S. Department of Interior, Bureau of Land Management (BLM); U.S. Army Corps of Engineers (COE); U.S. Department of Interior, Bureau of Reclamation (Reclamation); and U.S. Coast Guard, has prepared this document in accordance with the requirements of the National Environmental Policy Act (NEPA), 42 U.S.C. 4321, Council on Environmental Quality (CEQ) regulations implementing NEPA, the Board's environmental rules (49 CFR Part 1105), and other applicable environmental statutes and regulations.

The Final Environmental Impact Statement (Final EIS) includes the following:

- **Executive Summary**—An overview summarizing results of SEA's additional analysis in response to comments on the Draft EIS. It also presents SEA's recommendations on preferred alternatives for the project components and mitigation for the project.

#### **Volume I: Chapters 1-4**

- **Chapter 1: Introduction**—An overview of the NEPA and EIS processes for the PRB Expansion Project, as well as a discussion of the decision-making procedures of the lead and cooperating agencies. Information on the organization of this Final EIS.
- **Chapter 2: Purpose and Need**—Information on the need for the proposed project beyond that included in the Draft EIS, including increased demand for electricity and PRB coal, and increased and improved rail infrastructure.
- **Chapter 3: Rail Line Extension**—Additional analysis and recommended conclusions on DM&E's proposed construction and operation of a new rail line extension into the PRB. It addresses rail line Extension Alternatives, Spring Creek Alternatives, Hay Canyon Alternatives, and mine loop alternatives. It also discusses existing conditions in the rail line extension area and potential environmental impacts of alternatives; evaluates additional alternatives raised during the Draft EIS comment period, including the Railroad Rehabilitation and Improvement Financing Program and revisions to Alternative D.

- **Chapter 4: Existing Rail Line, Rail Yards, and Sidings**—Additional analysis related to DM&E's proposed rehabilitation and increased rail operations along its existing rail line. Discusses additional analysis of proposed new rail yards, including existing conditions, potential environmental impacts of alternatives, and SEA's recommendations.

### Volume II: Chapters 5-9

- **Chapter 5: Pierre, South Dakota**—Additional analysis and recommended conclusions on the proposed Pierre bypass, including existing environment, additional analysis of potential impacts of the bypass, rehabilitating the existing rail line, and crossing the Missouri River.
- **Chapter 6: Brookings, South Dakota**—Additional analysis and recommended conclusions on the proposed Brookings bypass, including additional analysis of existing conditions and potential impacts of the bypass alignment evaluated in the Draft EIS, discussion of the revised bypass alignment submitted during the Draft EIS comment period, and rehabilitation of the existing rail line.
- **Chapter 7: Mankato, Minnesota**—Additional analysis and recommended conclusions on proposed new connecting track at Mankato, including discussions of existing conditions, alternatives, and potential impacts of each alternative.
- **Chapter 8: Owatonna, Minnesota**—Additional analysis and recommended conclusions related to proposed connecting track between DM&E and I&M Rail Link at Owatonna. It also includes SEA's response to comments on this project component, a summary of information contained in the Draft EIS, and SEA's recommendations for the I&M connection.
- **Chapter 9: Rochester, Minnesota**—Additional analysis and evaluation of the proposed Rochester bypass, including existing conditions of the bypass area and Rochester, as well as additional discussion of potential environmental impacts of the proposed bypass, rehabilitation of the existing rail line, the No-Action Alternative, and SEA's recommended conclusions for this part of the overall project.

### Volume III: Chapters 10-12

- **Chapter 10: Cumulative Impacts** – Additional analysis of potential cumulative impacts of the project, including Mississippi River barge traffic, air emissions, grade crossing delay, grade crossing safety, and other system-wide or regional rail related impacts.
- **Chapter 11: Public Outreach** – This Chapter discusses the additional public outreach SEA conducted following release of the Draft EIS.

- **Chapter 12: Recommended Environmental Conditions** – This Chapter presents SEA's final recommended mitigation measures and discusses modifications to the preliminary mitigation in the Draft EIS. There are both general and local and site-specific mitigation measures. Mitigation measures are recommended for both the construction and operation of the new rail line and DM&E's existing rail line, with several measures dependent on the level of coal transportation DM&E achieves. Chapter 12 also includes the estimated cost of complying with SEA's recommended mitigation and the permitting requirements of the cooperating agencies. Finally there is a list of those who prepared the Final EIS and a list of references used in SEA's additional analysis.

#### **Volume IV: Appendices**

- **Appendices** – Technical and support materials SEA used and developed as part of the additional analysis necessary for the Final EIS, including:
  - A: Draft EIS Index**– Includes index for important terms used in the Draft EIS.
  - B: Draft EIS Comments and Responses** – Summary report of comments on the Draft EIS and SEA's or the cooperating agencies' responses to these comments.
  - C: Additional Correspondence** – This appendix contains correspondence pertinent to SEA's analysis in the Final EIS.
  - D: Grade Crossing Mitigation Plan** – This appendix includes a plan developed by DM&E and submitted to SEA as voluntary grade crossing mitigation. SEA is recommending a condition requiring DM&E to comply with the Grade Crossing Mitigation Plan if the Board gives final approval to the PRB Expansion Project.
  - E: Negotiated Agreements** – This appendix includes a list of the Negotiated Agreements submitted to SEA. SEA is recommending a condition requiring DM&E to comply with the Negotiated Agreements if the Board gives final approval to the PRB Expansion Project.
  - F: Memorandum of Agreement** – This appendix contains the Final Memorandum of Agreement involving issues of concern for Tribes for execution by the Board, DM&E and the Tribes.
  - G: Programmatic Agreement** – This appendix includes the Final Programmatic Agreement and Identification Plan involving cultural resources for execution by the Board, Advisory Council, State Historic Preservation Officers, DM&E, and Tribes.

- H: Biological Assessment** – Biological Assessment and the U.S. Fish and Wildlife Service Biological Opinion.
- I: USFS Roads Inventory** – Technical report by the U.S. Forest Service containing and addressing the inventory of roads crossed by the proposed project on the Buffalo Gap and Thunder Basin National Grasslands.
- J: DM&E Rail Siding Plan** – Overview maps of DM&E's existing system and proposed new construction showing, approximately every five miles, milepost locations along DM&E's existing system and proposed new construction alternatives. Also includes a summary chart of milepost locations for proposed rail sidings under each Extension Alternative.
- K: Safety** – Technical data supporting additional analysis related to calculation of grade crossing accident frequencies.
- L: Transportation** – Technical data supporting additional analysis related to the calculation of vehicle delay at grade crossings.
- M: Technical Reports** – Technical reports containing and addressing SEA's additional evaluation of the potential environmental issues.
- N: Environmental Justice** – Methodology and technical data supporting additional analysis related to the identification of potential environmental justice communities and determining whether or not they would be disproportionately adversely affected by the proposed project.
- O: Public Outreach Materials** – Information on SEA's additional public outreach since release of the Draft EIS.

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**FINAL ENVIRONMENTAL IMPACT STATEMENT**

**POWDER RIVER BASIN EXPANSION PROJECT**

November 19, 2001

**Abstract**

**Lead Agency:**

**Surface Transportation Board**  
1925 K. Street NW  
Washington, D.C. 20423-0001  
Contact: Victoria J. Rutson, Attorney  
Toll Free Environmental Hotline 1-877-404-3044

**Cooperating Agencies:**

**U.S. Department of Agriculture, Forest Service**  
Including the **Medicine Bow-Routt National Forest**  
**Douglas Ranger District and Thunder Basin National Grassland**  
Forest Supervisors's Office - Mary H. Peterson, Forest Supervisor  
2468 Jackson Street  
Laramie, Wyoming 82070-6535  
Contact: Wendy Schmitzer, Project Coordinator (307) 358-4690

and the **Nebraska National Forest**  
**Fall River Ranger District / W. Half Buffalo Gap National Grassland**  
Forest Supervisors's Office - Don Bright, Forest Supervisor  
125 North Main Street  
Chadron, Nebraska 69337-2118  
Contact: Wendy Schmitzer, Project Coordinator (307) 358-4690

**U.S. Department of the Interior, Bureau of Land Management**  
Newcastle Field Office  
1101 Washington Blvd.  
Newcastle, Wyoming 82701-2968  
Contact: Bill Carson (307) 746-6607

**U.S. Army Corps of Engineers, Omaha District**  
106 South 15<sup>th</sup> Street  
Omaha, Nebraska 68102  
Contact: Chandler Peter (307) 772-2300

**U.S. Army Corps of Engineers, St. Paul District**  
190 5<sup>th</sup> Street East  
St. Paul, Minnesota 55101-1638  
Contact: Timothy J. Fell (651) 290-5360

**U.S. Department of the Interior, Bureau of Reclamation**  
Dakotas Area Office  
P.O. Box 1017  
304 E. Broadway  
Bismark, North Dakota 58502  
Contact: Jeffrey Nettleton, Office Manager (605) 394-9757

**U.S. Department of Transportation, Coast Guard**  
Commander (OBR)  
Eighth Coast Guard District  
1222 Spruce Street  
St. Louis, MO 63103-2832  
Contact: Bruce L. McLaren (314) 539-3724

**Responsible officials:**

1. Surface Transportation Board Members  
**Surface Transportation Board**
  2. Rick Cables, Regional Forester, Region 2  
**U.S.D.A. Forest Service**
  3. Al Pierson, State Director, Wyoming  
**U.S.D.I. Bureau of Land Management**
  4. Lt. Colonel (P)\* Kurt F. Ubbelohde  
**U.S. Army Corps of Engineers, Omaha District**
  5. Colonel Robert L. Ball  
**U.S. Army Corps of Engineers, St. Paul District**
  6. Dennis E. Bretzman, Area Manager  
**U.S.D.I. Bureau of Reclamation**
  7. District Commander  
**Eighth U.S. Coast Guard District**
- \* (P) Pending Promotion

**Abstract**

This Final Environmental Impact Statement (Final EIS) documents the environmental analysis, including analysis of alternatives, developed to address applications the Dakota, Minnesota & Eastern Railroad Corporation (DM&E) has, or will, submit to the Surface Transportation Board, the U.S.D.A. Forest Service, the U.S.D.I. Bureau of Land Management, the U.S. Army Corps of Engineers, U.S.D.I. Bureau of Reclamation, and the U.S. Coast Guard. The project proposed by DM&E is known as the "Powder River Basin Expansion Project." DM&E's applications are for (1) authority from the Surface Transportation Board to construct and operate new rail line facilities in South Dakota, Wyoming and Minnesota, pursuant to 49 U.S.C. 10901 (Finance Docket No 33407); (2) an easement from the U.S.D.A. Forest Service under the Federal Land Policy and Management Act of 1976, 43 U.S.C. 1737, to cross portions of the Thunder Basin National Grasslands in Wyoming and portions of the Buffalo Gap National Grasslands in South Dakota, as proposed for the Powder River Railroad Expansion Project; (3) a U.S.D.I. Bureau of Land Management right-of-way under the Federal Land Policy and Management Act of 1976, 43 U.S.C. 1761, to cross public lands administered by the BLM in Wyoming and South Dakota, as proposed for the Powder River Basin Expansion Project; (4) permits from the U.S. Army Corps of Engineers under Sections 10/404 of the Clean Water Act for dredging and filling activities within waters of the United States, and other Corps of Engineers permits required associated with the Powder River Basin Expansion Project; (5) U.S.D.I. Bureau of Reclamation authority for an easement from the United States, pursuant to the Reclamation Act of June 17, 1902 (32 Stat-388), Acts amendatory thereto, and 43 CFR Part 429, to cross Bureau of Reclamation facilities within the Angostura Irrigation District, South Dakota; and (6) authority under the General Bridge Act of 1946, as amended (60 Stat. 847; 33 USC 525 et seq.) and the Department of Transportation Act (Public Law 89-670, 80 Stat. 931-950, 49 USC 1651-1659) from the U.S. Coast Guard for activities related to major modification or replacement of the rail bridge over the Missouri River.

A Draft Environmental Impact Statement (Draft EIS) was issued by the Surface Transportation Board's Section of Environmental Analysis (SEA) in September of 2000 and a Final EIS was issued in November of 2001. SEA invited written comments on the Draft EIS during a 90 day comment period (later expanded an additional 60 days). In addition to inviting written comments, SEA conducted a series of public meetings at locations along the proposed Powder River

Basin Project route which allowed members of the public to present comments in person before representatives from SEA and the cooperating agencies. Several alternatives for the various components of the project were analyzed in detail in the Draft and Final EISs. In the Draft EIS, where appropriate, the agencies identified preferred alternative(s). In other cases, the agencies requested additional public input concerning the analysis presented in the Draft EIS before identifying a preferred alternative or alternatives in this Final EIS. The selection of a preferred alternative in the Draft or Final EIS is not legally binding. The preferred alternative(s) ultimately selected by the agencies may change based on comments received from the public, other agencies, Tribes, and through the lead and cooperating agencies' various deliberative processes.

Members of the public were also invited to comment on related materials included in the Draft EIS. Such materials included the U.S. Forest Service Forest Plans Amendments, the Biological Assessment, the Memorandum of Agreement, the Programmatic Agreement, and the Identification Plan. In addition, DM&E submitted two permit applications under Section 404 of the Clean Water Act to the Army Corp of Engineers. Comments on DM&E's 404 permits were directed to the U.S. Army Corps of Engineers, St. Paul District when pertaining to Minnesota, and U.S. Army Corps of Engineers, Omaha District, when pertaining to South Dakota or Wyoming.

Additional public input was used by SEA to determine resource areas described in the Draft EIS that required further analysis. This Final EIS reflects the results of additional analysis conducted by SEA.

### **Civil Rights Statement**

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age disability, political beliefs and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-5964 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14<sup>th</sup> and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice or TDD). USDA is an equal opportunity employer.

Agencies must include a current nondiscrimination statement in new information items, as well as in reprints or revisions to the existing publications and websites. The above statement supersedes any and all previous nondiscrimination statements that USDA has required to be included in its public information materials. Note that the requirement to include the statement does not apply to material that will be published in the Federal Register.

#### **To file a discrimination complaint:**

**To the Board:** Office of the Secretary  
Case Control Unit  
Finance Docket No. 33407  
Surface Transportation Board  
1925 K Street NW  
Washington, DC 20423-0001  
(202) 565-1592 (voice) or  
1-(800) 877-8339 (TDD/TDY)

**To the Forest Service:** Secretary of Agriculture  
U.S. Dept. of Agriculture  
Washington, DC 20250  
(202) 720-7327 (voice) or  
(202) 720-1127 (TTD)

**To the Bureau of Land Management:** Secretary of the Interior  
U.S. Department of the Interior  
1849 C Street NW  
Washington, D.C. 20240  
(202) 208-3171

**To the Army Corps of Engineers:**

**U.S. Army Corps of Engineers  
GAO Building  
441 G Street NW  
Washington, DC 20314-1000  
(202) 761-0095**

**To the Bureau of Reclamation:**

**Secretary of the Interior  
U.S. Department of the Interior  
1849 C Street NW  
Washington, D.C. 20240  
(202) 208-3171**

**To the Coast Guard:**

**Secretary of Transportation  
U.S. Department of Transportation  
400 Seventh Street SW  
Washington, D.C. 20590  
(202) 267-6023**

## **MAJOR RECOMMENDED CONCLUSIONS**

The Surface Transportation Board's (Board's) Section of Environmental Analysis (SEA) and its cooperating agencies have conducted an extensive and detailed evaluation of the potential environmental impacts that could result from the proposed Powder River Basin Expansion Project. SEA and the cooperating agencies evaluated the potential impacts of numerous action alternatives, as well as the No-Action Alternative, on human and natural resources, rail safety, transportation, geology, soils, land use, paleontological resources, water resources, wetlands, air quality, noise and vibration, vegetation, wildlife, Federally-listed threatened and endangered species, cultural resources, aesthetics, socioeconomics, and environmental justice. For the reasons discussed in the Final Environmental Impact Statement (Final EIS), based on all the information collected and analysis conducted to date, SEA makes the following recommended conclusions if the Board decides to approve the proposed project:

- With SEA's recommended mitigation for the portion of this project that involves construction and operation of a new rail line from the end of DM&E's existing line in South Dakota west into Wyoming's Powder River Basin, Alternative C combined with the Phiney Flat Alternative, WG Divide Alternative, Black Thunder North Mine Loop, and North Antelope East Mine Loop represents the environmentally preferable alternative.
- The No-Action Alternative (Alternative A) would prevent impacts to a variety of resources but would result in potentially significant impacts of its own, and would not meet the purpose and need for the project.
- The Forest Service, one of the cooperating agencies, has concluded that, had it been acting on its own, it would support the No-Action Alternative. However, the Forest Service has indicated that if the Board should find DM&E's proposal to be in the national interest, it would support Alternative C.
- In its comments on the Draft EIS, the Department of the Interior (which houses two of the cooperating agencies, the Bureau of Land Management and the Bureau of Reclamation) stated that it would support the No-Action Alternative because this alternative avoids substantial and, in some cases, unmitigable adverse environmental impacts associated with all the action alternatives. Since that time, SEA and Interior have been working to resolve the issues and concerns raised in its comments. A revised Departmental position may be developed after Interior has had the opportunity to review the Final EIS and the mitigation measures incorporated therein.
- Rehabilitation of the existing rail line would result in safety improvements to existing rail operations and other impacts, including noise, could be reduced through SEA's recommended mitigation. Therefore, SEA recommends the Action

Alternative (rehabilitation of DM&E's existing line), if the Board determines that the proposed new rail line meets the statutory criteria.

- As for project-related rail yards where there are alternatives, Option B for the Middle East Staging and Marshalling Yard would be environmentally preferable because it avoids the Minneopa State Park near Mankato, Minnesota. For the West Staging and Marshalling Yard, Option B would be environmentally preferable because it avoids impacts to Thunder Basin Natural Grassland.
- Both the Rochester bypass and rehabilitation of DM&E's existing route through the City would have potentially significant impacts, albeit to different resources. However, because of the potential threat of sinkholes associated with the Rochester bypass, and the fact that the mitigation to fill sinkholes would have its own potentially significant effects, SEA cannot recommend the bypass route (Alternative R-4). Accordingly, SEA has developed extensive mitigation for the existing line in Rochester, including two grade separated crossings and noise mitigation. Should the Board approve the PRB Expansion Project, the route through the City of Rochester (Alternative R-2) would be the environmentally preferable route.
- The proposed Pierre, South Dakota bypass would have significant environmental and engineering constraints and is therefore not a reasonable and feasible alternative. Even though nearly all the commenters from Pierre and Fort Pierre indicated that a bypass was necessary, SEA's analysis showed that the proposed bypass would not be workable. Because upgrading DM&E's existing line through Pierre and Fort Pierre would cause significant disruptions, SEA is recommending extensive mitigation, including a grade separated crossing in Pierre, and noise mitigation.
- In addition to the bypass originally proposed by the City of Brookings, South Dakota (Alternative B-4), SEA considered the Railco Bypass Alternative, which was submitted as a comment to the Draft EIS, to respond to the City's claim that the second bypass would minimize potentially significant impacts. SEA determined that both the bypasses would have greater effects on environmental resources than reconstruction of the existing rail line. Because neither bypass is measurably better than the proposed rehabilitation of the existing line, SEA identifies rehabilitation of the existing line, with mitigation, as the preferred alternative for Brookings.

- For Mankato, Minnesota, both Alternatives M-2 (new construction south of Mankato) and M-3 (the existing corridor route involving construction of a new rail line within UP's right-of-way) would have potentially significant environmental impacts, although to different resources. While Alternative M-3 would have fewer significant impacts than M-2, Alternative M-3 could not be built without an agreement between UP and DM&E. Absent such an agreement, Alternative M-2 is the only feasible action alternative in Mankato. Because it cannot be known at this time which Alternative could be constructed, this Final EIS contains mitigation for both Alternative M-2 and M-3.
- For Owatonna, Minnesota, Alternative O-5 (replacing an existing rail diamond switch with a "Y" connection to connect DM&E's rail line with the I&M Rail Link) would be environmentally preferable because it would require minimal upgrading of the existing line. However, Alternative O-5 could not be implemented without an agreement between UP and DM&E. Therefore, SEA recommends Alternative O-4 (construction and operation of a 1.7-mile loop to connect with I&M) in the absence of an agreement between UP & DM&E.
- Rehabilitation of DM&E's existing rail bridge across the Missouri River at Pierre, South Dakota appears to have fewer environmental impacts than building a new bridge.

SEA recognizes that these action alternatives would have potentially significant impacts on a variety of environmental resources, not all of which are fully mitigable. In many cases, DM&E has submitted Negotiated Agreements with communities and other entities to address these environmental impacts and other specific concerns. Where Negotiated Agreements were not reached, SEA identified reasonable and appropriate environmental mitigation to address, to the maximum extent possible, the environmental issues of concern. Because of the unique circumstances of this extremely complex and controversial project, SEA believes that more far-reaching mitigation is warranted here than the Board typically imposes. SEA's environmental mitigation, 147 conditions in all, addresses twelve environmental issue areas and includes local and site-specific mitigation, as well as general mitigation. As discussed in detail in Chapter 12, SEA has estimated the total cost of mitigation (including the measures that would be needed for DM&E to comply with the permitting requirements of the cooperating agencies) could exceed \$140 million, approximately 10 percent of the total estimated cost of construction and rehabilitation associated with the project.

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