Monday – RAILROAD FUNDAMENTALS

8:00 am ON-SITE REGISTRATION & CONTINENTAL BREAKFAST

8:30 am THE RAILROAD INDUSTRY AND RAILROAD SAFETY

- Welcome and Introduction to the Course – Lakofsky
- US Railroad Industry – Structure & Organization – Gallamore
- Organization and Management of Railroad Companies – Gallamore
- Overview of Railroad Safety – Zarembski
- Principles of Safe Train Operations – Zarembski

12 noon Lunch Break

1:00 pm GOVERNMENT AGENCIES DEALING WITH RAILROADS

- Government Agencies Dealing with Railroad Safety: Federal Railroad Administration, Pipeline and Hazardous Materials Safety Administration, National Transportation Safety Board - Gallamore
- Surface Transportation Board - Gallamore
- National Mediation Board and the Railway Labor Act – Gallamore
- Other Government Agencies Dealing with Railroads – Gallamore
- Association of American Railroads and American Shortlines and Regional Railroad Association- Gallamore

4:30 pm Adjourn

Tuesday – RAILROAD ECONOMICS AND FINANCE

8:30 am ECONOMIC AND FINANCIAL MATTERS

- Ten Principles of Transportation – Gallamore
- *American Railroads: Decline and Renaissance in the Twentieth Century* – Gallamore (Highlights from Brookings Presentation)
• Understanding Railroad Financial Statements – Gallamore
• Industry Analysis – Industry Structure – Gallamore
• Measures and Metrics for Railroad Analyses – Gallamore

12 noon Lunch Break

1:00 pm ECONOMIC AND FINANCIAL MATTERS (continued)
• Overview of RR Merger History and Economics – Gallamore
• Economic Evaluation of Projects – Gallamore

2:00 pm RAILROAD INTERACTION WITH CUSTOMERS (Marketing Principles, Carload Traffic and Intermodal Services) -McClellan

4:30 pm Adjourn

Wednesday – INTRODUCTION TO RAILROAD TECHNOLOGY ISSUES

8:30 INTRODUCTION TO RAILROADS AND RAILROAD TECHNOLOGY
• Introduction to the Physics of Railroading – Zarembski
• Railroad Track and Structures – Zarembski
• Railroad Rolling Stock and Mechanical Structures- Zarembski

12:00 Lunch Break

1:00 INTRODUCTION TO RAILROAD TECHNOLOGY (Cont)
• Heavy Axle Loads – Zarembski
• AAR vs UIC Standards – Zarembski

2:30 pm NEW TECHNOLOGIES – Zarembski and Gallamore
• PTC/NextGen Train Control – Gallamore
  o Positioning/Track Mapping
  o Communicating Authority
  o Braking Algorithms
  o Fixed vs. Moving Block
  o Operating Rules Enforcement
• New Generation Inspection Technologies
Thursday – CURRENT RAILROAD ISSUES

8:30 am  SOME OLD AND NEW PASSENGER RAILROAD ISSUES
• How Amtrak Came to Be – Gallamore
• How Amtrak works with its host railroads – Gallamore
• Current and Future Organization and Finance Issues Regarding Amtrak – Gallamore
• Commuter Railroads -Gallamore

12 noon  Lunch

1:00 pm  SOME CURRENT FREIGHT RAILROAD ISSUES
• Alternatives to Coal Traffic for Railroads – Short-haul Intermodal? – Gallamore
• Network Flows and the Service reliability Imperative – Gallamore
• Which will be First: Driverless Trains or Trucks- Gallamore

3:00 pm  The Challenge of Strategic Leadership – Lafferty

4:30 pm  Adjourn

Friday – STRATEGIC LEADERSHIP FOR RAILROADERS

8:30 am  STRATEGIC LEADERSHIP – Lafferty
• Conceptual Capacity
• Interpersonal Skills
• Leading Effective Teams
• Leading Change
<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>11:30 am</td>
<td>WRAP-UP – Zarembski, Lafferty, Gallamore</td>
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<tr>
<td>12 noon</td>
<td>Adjourn</td>
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