

## Record of Professional Development Hours

Please enter the amount of PDH credits earned for each session in the **PDH Earned** column. The total PDH credits earned for the 2016 Annual Conference & Exposition will be shown at bottom.

**FORM SUBMITTAL DEADLINE – SEPTEMBER 30, 2016**

PLEASE NOTE FORMS MUST BE RECEIVED BY THE DEADLINE OR IT WILL NOT BE PROCESSED. THANK YOU.

Time	Session Description	PDH Credit	PDH Earned
<b>Monday   August 29, 2016</b>			
10:00 am	<b>Communications &amp; Signals Presentation</b> Advancing a Fast Tracked SEPTA-CSX Separation Project		
10:30 am	<b>Structures Presentation</b> CSX National Gateway 2		
11:00 am	<b>Track Presentation</b> The Development and Evaluation of Special Trackwork Foundations		
11:30 am	<b>Passenger &amp; Transit Presentation</b> Utilizing Unmanned Aerial Vehicles on Rail Projects		
12:00 pm	<b>Engineering Services Presentation</b> Rutherford Intermodal Facility Expansion		
12:30 pm	<b>Maintenance Presentation</b> Article on the New Handbook of Conventional Maintenance Practices		
<b>TOTAL for Monday General Session</b>		<b>3.0</b>	
<b>Tuesday   August 30, 2016</b>			
<b>Technical Sessions: Communications &amp; Signals</b>			
8:00 am	The Connected Locomotive: Leading IT Technology		
8:30 am	Development of an Internal Hump Process Control System		
9:00 am	Compatibility of HVDC Transmission Lines with Signal Systems		
9:30 am	Lightning 101 – Railroads vs. Mother Nature		
10:30 am	Approaches, Challenges, and Solutions for PTC Systems Management		
11:00 am	Obsolescence Engineering Risk		
11:30 am	PCB "No-Clean" - The Misnomer		
<b>TOTAL for Communications &amp; Signals Technical Session</b>		<b>3.5</b>	

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**Tuesday | August 30, 2016** (Continued)

**Technical Sessions: Engineering Services**

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- 8:00 am Implementation of Rail Temperature Predictions on Amtrak
- 8:30 am Successful Design and Construction of Industrial Sidetracks
- 9:00 am Detection of Concrete Tie Rail Seat Deterioration
- 9:30 am "DC2RVA": Engineering Collaboration and Decision Support through ArcGIS Online
- 10:30 am Over the Marsh and Through the Golf Course, BNSF Railway, La Crosse, Wisconsin
- 11:00 am Rail Lifecycle Improvement through the Application of Dynamic Grind Pattern Generation on a Heavy Haul Railroad in Brazil
- 11:30 am Harnessing Undergraduate Students as Rail Industry Technology Developers/Problem-Solvers
- 2:00 pm Restoration of the Lake State Railway Huron Subdivision
- 2:30 pm Relieving a Bottleneck in the Twin Cities
- 3:00 pm Go-Transit's Comprehensive Hi-Rail Track Inspection Vehicles

**TOTAL for Engineering Services Technical Session 5.0**

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**Technical Sessions: Maintenance**

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- 8:00 am Amtrak's Oakington Road Case Study: Constraints, Analysis, and Solution
- 8:30 am New Inspection Criteria for Rapid Structural Condition Assessment of Culverts
- 9:00 am Assessment of Manufactured Rail Seat Deterioration Detection Using FRA DOTX 218
- 9:30 am Conformal Frog Evolution at CSX
- 10:30 am Next Generation Tie Program and Tie Gang Efficiencies with Automated Inspection
- 11:00 am Development and Execution of a Comprehensive Second Hand Rail Removal and Sale Program at BNSF
- 11:30 am Laboratory Investigation of Geogrid Reinforced Railroad Ballast Performance on Particle Movement by "SmartRock"
- 2:00 pm Various Cost Effective Maintenance Practices for Conventional Track Structure
- 2:30 pm Effects of Superelevation & Speed on Vehicle Curving in Heavy Axle Load Service
- 3:00 pm Development of High Performance Pearlitic Rail(SP4) for Heavy Haul Railways
- 3:30 pm How Track Geometry Defects Affect the Development of Rail Defects
- 4:00 pm Snapshot Proposed Revision to RWP Rule  
Presentation is One Hour

**TOTAL for Maintenance Technical Session 6.5**

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**Tuesday | August 30, 2016** (Continued)**Technical Sessions: Passenger & Transit**

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- 8:00 am    TEX Rail: 27.2-miles of Commuter Rail
- 8:30 am    A Technology-based Approach to Assessing the Feasibility of Bi-level Trains
- 9:00 am    The Return of Passenger Service to Roanoke, Virginia
- 9:30 am    Long Bridge - Present & Future: A Multimodal Analysis
- 10:30 am   Successful Delivery of a Passenger Rail Construction Program - Lessons Learned
- 11:00 am   Level Boarding in Mixed Fleets & Service
- 11:30 am   Vibration Mitigation for the Regional Connector Transit Corridor
- 2:00 pm    RTD's North Metro Rail Line – Carving Out a New Corridor in Denver's Landscape
- 2:30 pm    North Carolina's Piedmont Improvement Program
- 3:00 pm    Information Technology - Help Point (Passenger Assistance) Phone System

**TOTAL for Passenger & Transit Technical Session    5.0**

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**Technical Sessions: Structures**

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- 8:00 am    Innovative Foundations Reduce Cost and Track Time
- 8:30 am    Targeted Field Monitoring to Determine Live Load Levels of 127-yr-old Pin-Connected Truss
- 9:00 am    UPRR Bridge 183.67 Springfield Sub over 9th Street (Springfield, IL)
- 9:30 am    Design Challenges of Galveston Causeway Railroad Bridge Replacement
- 10:30 am   Bridge 9.6 - U1 Pinned Truss Joint Repair
- 11:00 am   Application of Large-Diameter Circular Reinforced Concrete Filled Tube (RCFT) Shaft Foundation for Seismic Design of Railroad Bridges
- 11:30 pm   Emergency Repair of Flood-damaged Bridge Pier Foundations with Pressed-in Piles
- 2:00 pm    Specialty Precast Solutions
- 2:30 pm    A New Way to Detect, Monitor and Manage Scour Critical Railway Bridges
- 3:00 pm    Replacement of BNSF Bridges 106.58 near Princeton, IL & 110.26 near Wyanet, IL
- 3:30 pm    After 100 Years, Is It Time to Use Lightweight Concrete on Railroad Bridges?
- 4:00 pm    Fundamental Evaluation of Knee Brace Behavior for Rail Traffic on Through Plate Girders
- 4:30 pm    Effects of Short Cars on Track and Bridges

**TOTAL for Structures Technical Session    6.5**

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**Tuesday | August 30, 2016** (Continued)**Technical Sessions: Track**

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- 8:00 am Rail Post Weld Heat Treatment to Improve the Softened Heat Affected Zones of Electric Flash Butt Welds
- 8:30 am Soft Soil Embankment Stabilization in a Railway Environment
- 9:00 am Field Imaging Based Assessment of In-Service Ballast Condition
- 9:30 am Integrating Technology into Shortline Maintenance Planning
- 10:30 am Joint Rail Grinding Operations
- 11:00 am Design and Performance of Three Remediated Bridge Approaches
- 11:30 am Field Measurements and Proposed Analysis of Concrete Crosstie Bending Moments
- 2:00 pm Quantification and Comparison of Lateral Forces in Concrete Crosstie Fastening Systems Under Heavy Haul Loading Conditions

**TOTAL for Track Technical Session 4.0**

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**Wednesday | August 31, 2016**

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- 8:45 am **Passenger & Transit Presentation**  
The Gateway Program
- 9:15 am **Maintenance Presentation**  
Understanding Broken Rails and Derailments at Switches and Crossings
- 9:45 am **Communications & Signals Presentation**  
Driver Behavior at Highway-Rail Grade Crossings Using Naturalistic Driving Study
- 10:45 am **Engineering Services Presentation**  
CREATE Update
- 11:15 am **Structures Presentation**  
OCCI-UPRR Br 24.75 Emergency Replacement Sioux City Sub-Total Bridge Replacement
- 11:45 am **Track Presentation**  
Superelevation Optimization for Mixed Freight and Higher-Speed Passenger Trains

**TOTAL for Wednesday General Session 3.0**

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**TOTAL PDH Credits Earned**

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PLEASE NOTE: COMPLETED FORMS MUST BE RETURNED TO AREMA BY SEPTEMBER 30, 2016.

Return this form to AREMA via fax or e-mail. Your PDF Certificate will be mailed to you after the September 30, 2016 deadline.

For questions regarding this form, please contact Desirée Knight at [dknight@arema.org](mailto:dknight@arema.org).

Full Name			Member ID
Title			
Organization			
Address			
City	State/Province	Country	Postal Code
Phone	Fax	E-Mail Address	
I certify that I attended the sessions indicated above.			
Signature			Date

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