Some format issues inherent in the e-media version may also appear in this print version.
# Table of Contents

## Extreme Events

- **Systematic Plan for Re-Constructing the TVA Transmission System: April 27, 2011**
  
  Clayton L. Clem and Brenda Hall

- **April’s Fury: Alabama Power’s Transmission Organization Battles Historic Losses after April 27th Storms**
  
  Sarah J. Barnes and Frank W. Agnew

- **500 kV Broadford-Sullivan Storm Restoration**
  
  J. Kelly Bledsoe, Keith Yamatani, Drew Glover, Mary Jane McMillen, Page Wilson, Dale Williams, and John Edwards

- **Vulnerability of Lattice Towers to Blast Induced Damage Scenarios**
  
  Daniel D. McClure and Arash E. Zaghi

## Line Design

- **But It’s Just a Distribution Line!**
  
  Otto J. Lynch

- **What a Transmission Line Design Engineer Needs to Know about HVDC**
  
  Ronald Carrington

- **Curbing It at the Source: Tehachapi Renewable Transmission Project—Segments 4-11**
  
  Jason Weller, Harinee Trivedi, and Clinton Y. W. Char

- **Transmission Line Rating, Re-Rating, and Upgrading, a Utility Perspective: Experiences at Public Service Company of New Mexico (PNM)**
  
  E. B. Dohleman and B. G. Forbes

## Structure Design

- **Development and Validation of “Forged Rings” for Base Plate Material Use**
  
  Dick Aichinger

- **A Comparison of Tubular Steel Pole Fabrication Technologies—Roll Formed vs. Press Broken Shapes**
  
  Wesley J. Oliphant

- **V-String Swing Angle Derivation, Design Considerations, and Structure Design Impacts**
  
  D. M. Boddy

## Substation Design

- **Mitigation and Monitoring of Structural Distress in the Whitely Electrical Substation Due to Mine Subsidence**
  
  Michael Horn, Paul Cass, and Enrique Bazan-Zurita

- **Static Analysis of a Substation Rigid Bus Using the Finite Element Program**
  
  Prapon Somboonyanon

- **Substation Expansion on a Challenging Site—Case Study**
  
  Casey Allums, Jerry Landis, and Joseph Godwin

## Structure Loading

- **The Effect of Broken Wire Loads on EHV Transmission Structure Design**
  
  Bruce Freimark, Robert Nickerson, Eddie Hannah, Anne Vitale, Kelly Bledsoe, Dave Parrish, and Nancy Zhu

- **Risk Assessment of a Transmission System under Earthquake Loading**
  
  J. M. Eidinger and L. Kempner, Jr.

- **Behaviour of Guyed Transmission Line Structures under Tornado Wind Loads—Case Studies**
  
  A. A. El Damatty and A. Hamada

- **Limiting the Effects of Longitudinal Loads on Small Angle Lattice Transmission Towers**
  
  Philip Joel Bryant

## Foundations

- **ETT/CREZ Direct Embedded Pole Foundation Load Tests**
  
Pipe Pile Foundations with Grouted Inner Steel Pipe for a Transmission Line in an Environmentally Sensitive Area of Southeastern Virginia  
Bruce L. Roth, Robert B. Smith, and Steven S. Miller  

Unique Solution for 230kV Transmission Tower Grillage Foundation Corrosion  
Harry V. Durden, Jr., Jonathan M. Maddox, and Stacy S. Sprayberry  

Design and Analysis  
Effect of the Dynamic Soil-Structure Interaction on Rigid Transmission Line Towers Subjected to Wind and Impulse Loads  
A. Jendoubi and F. Legeron  

Aeolian Vibration of Conductors: Theory, Laboratory Simulation, and Field Measurement  
Robert Whapham  

Transmission Towers with Cruciform Legs  
David E. O’C laire and David M. Hesse  

Full Scale Testing  
Tower Testing—Why Bother?  
Kelly Bledsoe, Mary Jane McMillen, Robert Nickerson, Dave Parrish, and Nancy Zhu  

Load Tests of Transmission Line Structures and Structural Components  
C. Jerry Wong  

Historical Perspective of Full-Scale Latticed Steel Transmission Tower Testing  
Juan Nuño, Michael Miller, and Leon Kempner, Jr.  

Construction Challenges  
Building "Constructability" into the Design  
Michael E. Roos and Kenneth Kallis  

Avian Impact on Overhead Transmission Line Construction  
Darel Tracy, Lynn Askew, Ben Bainbridge, and Dave Dean  

Construction Challenges on Trans-Allegheny Interstate Line (TrAIL) Project  
Brian Berkebile, James Buckner, and Ryan Townsend  

Executing Energized Re-Conductoring of Transmission Line Projects  
Hans Candia, Gregory Bell, and David Elizondo  

Case Studies  
500 kV Lattice Tower Development for Energy Gateway  
Joe C. Hallman and Chuck L. Wright  

Case Study: 220 kV Y-Frames for Southern California Edison  
Kunjal Pathak and William Gundy  

Brazilian Transmission System: A Race for the Future  
Rogerio P. Guimarães and Michael D. Miller  

Poster Display  
Design Guidelines for Steel Pole Drilled Pier Foundations  
M. M. ElZayat  

Applying the 2010 ASCE 7 Wind and Ice Requirements to Transmission Line Design  
Adam J. Beyer