

# BUSINESS AND TECHNOLOGY STRATEGIES (BTS)

## SUBJECT MATTER EXPERTS

\*Jim Spiers, Russell Tucker, Craig Miller, Paul McCurley, Venkat Banunarayanan, Paul Breakman and Keith Dennis can address questions on all topic areas.

### Analytics, Resiliency & Reliability

*David Pinney*

- Dynamic and Static Modeling
- Volt-VAR Optimization, Solar, DR, and Storage Planning Models and Innovative Co-op Deployments
- Cost and Engineering Analysis of Distributed Energy Resources
- Software Development and Database Design

### Broadband Infrastructure Development

*Paul Breakman, Russell Tucker*

- Business models and solutions
- Technology plans, roadmaps
- Broadband Due Diligence
- Resources and tools
- Advanced communications infrastructure solutions
- Economic analysis

### Cybersecurity

*Cynthia Hsu*

- Rural Cooperative-Cybersecurity Capabilities Program (RC3)
- Self assessments and risk assessments
- Research and development projects

*Moin Shaikh*

- Frameworks and best practices
- Cybersecurity for Industrial Control Systems
- Technical and policy issues
- Military cybersecurity standards

*Doug Lambert*

- Research and development projects

*Tony Thomas*

- Cybersecurity for Industrial Control Systems
- Cybersecurity and MultiSpeak Standard

*Patti Metro*

- Cybersecurity and Reliability Standards

*Cynthia Hsu, Moin Shaikh, Adaora Ifebigh, Lauren Khair*

Cybersecurity training and outreach

*Meredith Miller*

- Data Scientist

### Distributed Energy Resources

*Brian Sloboda, Michael Leitman,*

*Jan Ahlen, Keith Dennis, Maria Kanevsky*

- Beneficial Electrification
- Measurement and Verification
- Pre-Pay Programs
- Electric Vehicles
- DSM Business Models (direct load, behavioral, time of use rates)
- Utility Connected Home
- Role of DER in meeting Environmental Objectives

*Michael Leitman, Jan Ahlen, Fathalla Eldali*

- Solar PV Technical and Economic Assessment
- Energy Storage Systems, Current State and Future
- Renewable Generation and Integration
- Developing Solar Strategies
- The Consumer-Centric Utility
- Co-op Renewable Resources

*Robert Harris, Fathalla Eldali*

- DER Interconnection and Operation Standards

### Generation, Environment & Carbon

*Dan Walsh*

- Asset Management
- Carbon capture & utilization
- Multi-pollutant control technologies for power plants
- Impact of cycling on power plants
- Integrated Test Center— Carbon (ITC-C)
- Fast and flexible generation options
- Utility scale energy storage
- Natural gas-fired combined cycle gas turbines
- Utility scale wind and solar energy

Mergers and Consolidations

*Kim Christiansen, Henry Cano*

- Merger strategic business case analysis
- Municipal acquisition strategic business case analysis
- Merger/Consolidation planning
- Governance and operations transition support service

# BUSINESS AND TECHNOLOGY STRATEGIES (BTS)

## SUBJECT MATTER EXPERTS

\*Jim Spiers, Russell Tucker, Craig Miller, Paul McCurley, Venkat Banunaryanan, Paul Breakman and, Keith Dennis can address questions on all topic areas.

### Generation, Environment & Carbon cont.

*Lauren Khair, Michael Leitman*

- EIA-860: Annual Generator Report Data
- EIA-861: Annual Electric Power Industry Report Data
- EIA-923: Power Plant Operations Report Data
- Co-op Generation Resources

### Human Capital

*Delaine Orendorff, Ginny Beauchemin, Leigh Taylor, Beth Wray*

- Executive Coaching
- Vision/Mission/Values Development
- Strategic Planning/Operational Action Planning
- Culture Alignment
- Organizational Development
- Leadership Development
- Change Management
- Developing High Performing Teams
- Training & Development Programs
- Succession Planning
- Career Paths

### Executive Search

*Leigh Taylor, Ginny Beauchemin, Delaine Orendorff*

- Executive and Senior Staff Searches
- Leadership Competency Model
- Interviewing
- Goal Setting and Appraisals
- New CEO Transitions
- Executive Coaching
- Orientation and Onboarding Analysis
- Leadership and Talent Assessments
- Resume/Interview Coaching

### Leadership and Organizational Development

*Leigh Taylor, Ginny Beauchemin, Delaine Orendorff*

- Succession Planning
- Performance Management

### Governance

*Kim Christiansen, Ginny Beauchemin*

- Governance Assessment
- Enterprise Risk Management
- Policy and Bylaw Review
- Director Compensation Benchmarking

### Resource Adequacy & Markets

*Paul McCurley, Patti Metro*

- Resource Adequacy
- Power System Planning and Operations
- Electricity Markets
- RTOs/ISOs
- Reliability

*Lauren Khair*

- Economic Modeling
- Department of Defense Initiatives
- EIA: Short Term Energy Outlook Forecasts
- EIA: Annual Energy Outlook Projections
- Energy Imbalance Market (EIM)

*Madelyn Roche*

- Co-op Distribution Data
- G&T Co-op Data
- G&T Equity and Capex Survey

*Michael Leitman*

- Demographic Analysis
- Co-op Economics & Development
- Policy & Regulatory Analysis

*Katherine Loving*

- Geographic Information Systems (GIS)
- Spatial Data Analysis

*Joseph Goodenbery*

- Economic Modeling
- Policy Impacts
- Levelized Cost of Energy

*Joseph Goodenbery, Michael Leitman*

- Economic Modeling and Forecasting
- Market Fundamentals
- Economic Drivers of Co-op Performance
- Policy & Regulatory Analysis

### Sourcing Strategies

*Paul Breakman, Lauren Khair*

- Sourcing and procurement solutions
- Approaches and methods
- Technology considerations
- Lessons learned, case studies

### Safety Performance

*Bud Branham, Jasmyne Montague, Henry Cano*

- RESAP
- Committee to Zero Contacts
- Transformational cultural change
- Culture assessment

- Safety improvement planning
- Targeted safety improvement initiatives

### Market Research

*Mike Sassman, Ginny Beauchemin, Beth Wray*

- *Market Segmentation*
- Consumer and Employee Surveys
- Business to Business Surveys
- Actionable Data Analytics

OPTIMIZE

TRANSFORM

OPER

BUSINESS  
AND

# BUSINESS AND TECHNOLOGY STRATEGIES (BTS)

## SUBJECT MATTER EXPERTS

\*Jim Spiers, Russell Tucker, Craig Miller, Paul McCurley, Venkat Banunaryanan, Paul Breakman and Keith Dennis can address questions on all topic areas.

### Transmission & Distribution

*Venkat Banunaryanan, Fathalla Eldali*

- Energy Storage Systems Technology
- Impacts of High-Penetration Solar
- Smart Grid Demonstration Project
- Substation of the Future
- Technology Developments – T&D Systems
- DER Economics and DSO Considerations
- Unmanned Aerial Vehicles
- Conservation Voltage Reduction
- Distribution Optimization

*Tony Thomas*

- Product Quality and Reliability Benchmarking
- Utility Automation Systems
- Communication Networks
- MultiSpeak®
- Cyber Security for Industrial Control Systems

*Patti Metro*

- NERC Regulations and Standards
- FERC/NERC Grid Reliability Standards, Compliance and Enforcement
- Rural Utilities Services (RUS) and NRECA Transmission & Distribution Engineering Committee (TDEC)
- Avian Issues
- Geomagnetic Disturbance (GMD) and Electromagnetic Pulse (EMP)

*Robert Harris, Fathalla Eldali*

- IEEE 1547– DER Interconnection
- National Electrical Safety Code (NESC)
- System Planning
- Rural Utilities Services (RUS) and NRECA Transmission & Distribution Engineering Committee (TDEC)

*James Carter, Will Cox*

- Treated Wood Poles and Crossarms
- Wood Preservatives
- Pole and other utility wood product inspections
- RUS wood product specifications
- General wood treatment processes and related business

### Technology, Data Strategy and Utility Analytics

*Henry Cano, Stan McHann, Tony Thomas*

- Technology Planning
- Technology Business Case Evaluation
- Technology Deployment Support Services
- Data Strategy Plan
- Applied Utility Analytics
- Operations Analysis
- Operating Metrics and Benchma

# BUSINESS AND TECHNOLOGY STRATEGIES (BTS)

## WORK GROUPS

BTS Work Group	Work Groups	Mobile Phone	Email
<b>Analytics, Resiliency &amp; Reliability (A/R/R)</b>	David Pinney- Lead Venkat Banunarayanan Paul Breakman Robert Harris Adaora Ifebigh Lauren Khair	607-339-3506 703-907-6129 703-907-5844 571-205-3189 703-907-5849 703-907-6845	david.pinney@nreca.coop venkat.banunarayanan@nreca.coop paul.breakman@nreca.coop robert.harris@nreca.coop adaora.ifebigh@nreca.coop lauren.khair@nreca.coop
	Tony Thomas	703-850-4718	tony.thomas@nreca.coop
<b>Cybersecurity (CS)</b>	Cynthia Hsu- Lead Adaora Ifebigh Lauren Khair Stan McHann Patti Metro Craig Miller Moin Shaikh Tony Thomas Russell Tucker	703-907-6663 703-907-5849 703-907-6845  703-907-5817 703-626-9683 703-907-5899 703-850-4718 703-907-5823	cynthia.hsu@nreca.coop adaora.ifebigh@nreca.coop lauren.khair@nreca.coop stanley.mchann@nreca.coop patti.metro@nreca.coop craig.miller@nreca.coop moin.shaikh@nreca.coop tony.thomas@nreca.coop russell.tucker@nreca.coop
<b>Distributed Energy Resources (DER)</b>	Brian Sloboda - Lead Maria Kanevsky Jan Ahlen Venkat Banunarayanan Paul Breakman Keith Dennis Adaora Ifebigh Michael Leitman Fathalla Eldali	703-946-2812 703-907-6243 703-907-5859 703-907-6129 703-907-5844 571-289-5615 703-907-5849 703-907-5864 703-907-6549	<a href="mailto:brian.sloboda@nreca.coop">brian.sloboda@nreca.coop</a> maria.kanevsky@nreca.coop jan.ahlen@nreca.coop venkat.banunarayanan@nreca.coop paul.breakman@nreca.coop keith.dennis@nreca.coop adaora.ifebigh@nreca.coop <a href="mailto:michael.leitman@nreca.coop">michael.leitman@nreca.coop</a> <a href="mailto:Fathalla.Eldali@nreca.coop">Fathalla.Eldali@nreca.coop</a>
<b>Generation, Environment &amp; Carbon (G/E/C)</b>	Dan Walsh- Lead Lauren Khair - Second Venkat Banunarayanan Paul Breakman Katherine Loving Jan Ahlen Joseph Goodenbery Paul McCurley Michael Leitman Madelyn Roche Maria Kanevsky Patti Metro	571-205-7112 703-907-6845 703-907-6129 703-907-5844 703-907-5833 703-907-5859 703-907-5893 703-907-5867 703-907-5864 703-907-6147 703-907-6243 571-334-8890	daniel.walsh@nreca.coop lauren.khair@nreca.coop venkat.banunarayanan@nreca.coop paul.breakman@nreca.coop <a href="mailto:katherine.lovings@nreca.coop">katherine.lovings@nreca.coop</a> <a href="mailto:jan.ahlen@nreca.coop">jan.ahlen@nreca.coop</a> joseph.goodenbery@nreca.coop paul.mccurley@nreca.coop michael.leitman@nreca.coop <a href="mailto:madelyn.roche@nreca.coop">madelyn.roche@nreca.coop</a> <a href="mailto:maria.kanevsky@nreca.coop">maria.kanevsky@nreca.coop</a> patti.metro@nreca.coop
<b>Transmission &amp; Distribution (T&amp;D)</b>	Patti Metro- Lead Bud Branham Henry Cano Fathalla Eldali Robert Harris Paul McCurley Stan McHann Brian Sloboda Tony Thomas	571-334-8890 561-670-3502 602-621-3905 703-907-6549 571-205-7112 703-907-5867 571-302-0479 703-946-2812 703-850-4718	<a href="mailto:Patti.metro@nreca.coop">Patti.metro@nreca.coop</a> bud.branham@nreca.coop henry.cano@nreca.coop <a href="mailto:Fathalla.Eldali@nreca.coop">Fathalla.Eldali@nreca.coop</a> Robert.harris@nreca.coop paul.mccurley@nreca.coop stan.mchann@nreca.coop brian.sloboda@nreca.coop <a href="mailto:tony.thomas@nreca.coop">tony.thomas@nreca.coop</a>
<b>Resource Adequacy &amp; Markets (RA/M)</b>	Michael Leitman - Lead Allison Hamilton - Second Jan Ahlen Venkat Banunarayanan Katherine Loving Paul Breakman Keith Dennis Joseph Goodenbery Lauren Khair Patti Metro Paul McCurley Madelyn Roche Dan Walsh	703-907-5864 703-907-5824 703-907-5859 703-907-6129 703-907-5833 703-907-5844 571-289-5615 703-907-5893 703-907-6845 571-334-8890 703-907-5867 703-907-6147 571-205-7112	michael.leitman@nreca.coop allison.hamilton@nreca.coop jan.ahlen@nreca.coop <a href="mailto:venkat.banunarayanan@nreca.coop">venkat.banunarayanan@nreca.coop</a> Katherine.lovings@nreca.coop paul.breakman@nreca.coop keith.dennis@nreca.coop joseph.goodenbery@nreca.coop lauren.khair@nreca.coop patti.metro@nreca.coop paul.mccurley@nreca.coop madelyn.roche@nreca.coop daniel.walsh@nreca.coop
<b>Consulting Services</b>	Ginny Beauchemin Bud Branham Henry Cano Kim Christiansen Jasmyne Montague Delaine Orendorff Mike Sassman Leigh Taylor Beth Wray	703-907-5744 561-670-3502 602-621-3905 571-424-4068 703-907-6440 571- 289-9023 712-477-2617 571-326-9547 703-907-5668	ginny.beauchemin@nreca.coop bud.branham@nreca.coop henry.cano@nreca.coop <a href="mailto:kim.christiansen@nreca.coop">kim.christiansen@nreca.coop</a> jasmyne.montague@nreca.coop delaine.orendorff@nreca.coop mike.sassman@nreca.coop leigh.taylor@nreca.coop beth.wray@nreca.coop